

Industrial supply
Tools catalogue

English | Catalogue no. 20

Premium grinding tools since 1919
www.tyrolit.com

Four steps to the **right product**

1. Select the application

e.g. cutting, grinding, etc.

2. Select the machine

e.g. angle grinder, straight grinder, etc.



3. Which material is being machined?

Each performance level is further subdivided into different materials, such as stainless steel, steel, etc.

Items with grey lettering are only available on request.

4. Performance level

We offer 3 different performance levels: PREMIUM***, STANDARD** and BASIC*



Other search options

Product finder P.625ff



Index pages P.634ff



TYROLIT Group
A global company

As one of the world's leading manufacturers of bonded grinding, cutting, sawing, drilling and dressing tools and a system supplier of tools and machines for the construction industry, the family-run TYROLIT company has been synonymous with superior quality, innovative spirit and outstanding service since 1919.

Day in, day out the experts at TYROLIT are busy working on solutions that accommodate the individual requirements of customers around the world; thus contributing to their business success. Some 80,000 available products set the standard in various industrial sectors.



Business units

TYROLIT offers its customers cost-efficient and “green” solutions in four business units. Moreover, with its global sales network and a team of experienced application engineers, TYROLIT provides top-quality service.



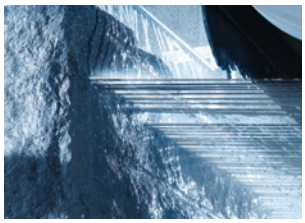
Trade

Thanks to its global sales network, in addition to premium product solutions in the three core areas of cutting, grinding and finishing, TYROLIT’s Trade business unit guarantees truly customer-focused marketing support.



Construction

In the Construction business unit TYROLIT is a leading system supplier of sophisticated drilling systems, wall and wire saws, floor saws and for grinding uneven surfaces such as motorways made of concrete.



Stone – Ceramics – Glass

Our customised diamond tools and grinding solutions in the Stone – Ceramics – Glass business unit cannot fail to impress through their exceptional performance and quality.



Metal / Precision

From precision machining in the engine and gear industry to the production of cut-off wheels with diameters up to 2 000 mm for the steel industry – the TYROLIT product range in the Metal & Precision business unit includes high-tech tools for a huge variety of applications.

Quality and Innovation

TYROLIT is one of the world’s market leaders in this sector. For us, maximum precision is paramount – both in the quality of the manufactured products and where innovation is concerned. Continuous further development and improvement of products in all business units is one of our primary corporate objectives.

Expertise for our customers

TYROLIT offers its customers a first-class service in the form of ongoing advice and support. In each of our business units a team of specialists with years of experience in the industry assists and supports our customers worldwide with individual on-site expertise.

Customised products

TYROLIT has a huge and varied product range for numerous fields of application. These include both standard products for everyday use and individually adapted, made-to-order products for customer-specific processes. Together with our customers, we find the most cost-effective solution for the task with which we are entrusted.

International production and sales locations

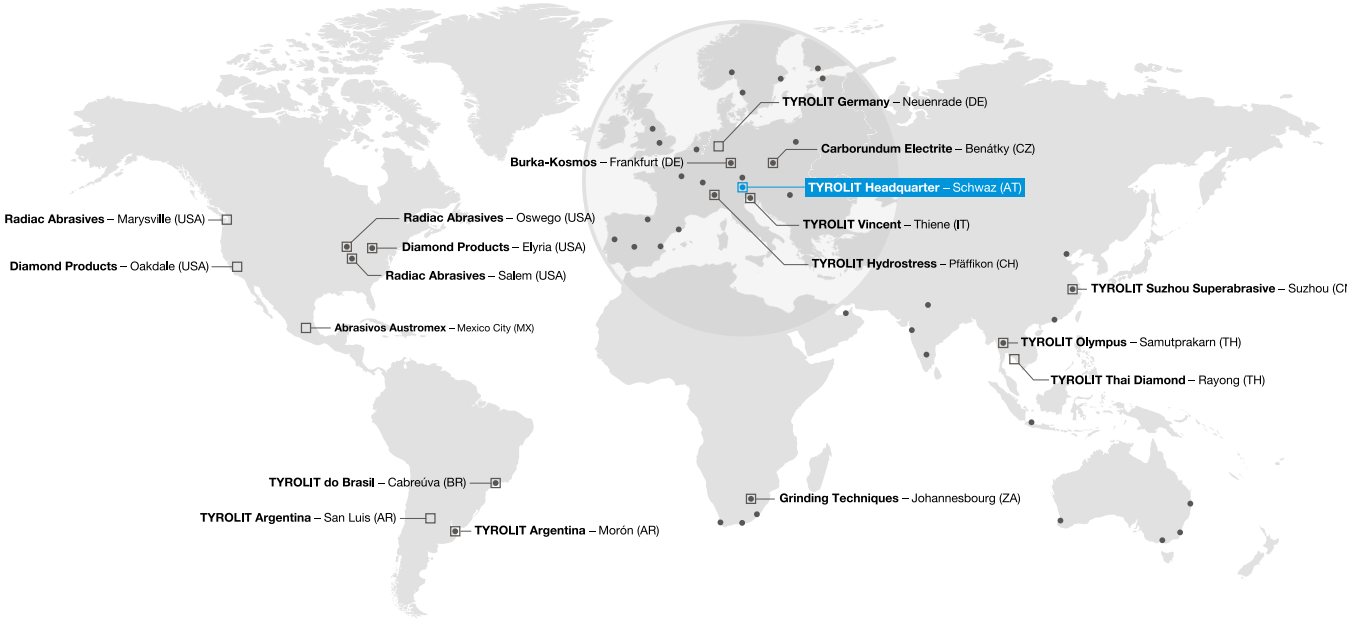
TYROLIT is represented in 29 countries through its own production and sales companies and cooperates in a further 65 countries with local partners.

Everyday our several hundred field service colleagues are working hard in the market alongside our end customers, in order to be able to provide them with advice and support whenever they need it. Of course, with these countless visits we constantly witness new challenges for application technology, which we view as opportunities for new products.



Sales companies in Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, India, Indonesia, Italy, Netherlands, Norway, Poland, Portugal, South Africa, Spain, Sweden, Switzerland, Thailand, UK, UAE and the USA.

Distributors in more than 65 countries across the globe



Global focus

TYROLIT believes in thinking and acting globally. With a worldwide sales network currently in 65 countries and with production plants in 12 countries, we offer our customers all the advantages of a globally active company.

Local availability

Think globally, act locally – in your local language and right on your premises. This is the principle we follow as we grow hand-in-hand with our customers. Local contacts and technical distribution in numerous countries guarantee you the best possible customer support.

Customer service

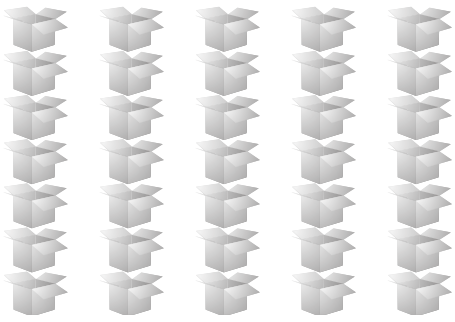
A coordinated supply chain – from production to delivery – guarantees on-time delivery for customers. Moreover, the use of modern planning systems and a team of specialised customer service employees ensures orders are processed quickly and smoothly.

Global logistics

With 10 warehouses around the world, we ensure the best possible product availability for customers 365 days a year.

TYROLIT warehouses

- Argentina
- Brazil
- France
- Spain
- Thailand
- Czech Republic
- Great Britain
- USA
- Austria
- South Africa



3 300 000
consignments leave the Benatky site every year.

7 700 000
consignments leave the Schwaz site every year.

From a good idea
to an excellent product

What happens at TYROLIT
when we get a good idea for a new product?

First of all, our product management team gets to grips with it. We have to find out precisely what is involved. Once our product managers have analysed all aspects and consider them to be good enough, a well-established process is initiated in which they take a leading role.



Of course, we do not leave our product managers to deal with this mammoth task on their own. To assist them, there are no fewer than 100 colleagues on hand in Research & Development. From fundamental research in the chemistry lab to questions pertaining to physics, whether theoretical or in the form of actual tests in the workshop, our employees in this department are constantly looking for new solutions.

Thus there are over 400 different abrasive types and combinations availableto our product managers, which we can integrate in several hundred different bond systems.

From this unimaginable wealth of possibilities, the first test wheels are then produced. We prefer to try out many variations so that we can work on a solution in a truly comprehensive way.

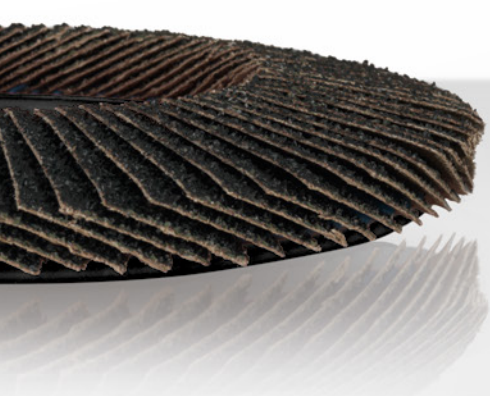
Then testing begins. Not only is the work result tested, but also whether the relevant solution can later be produced in larger quantities. We test whether the prospective products can be produced to a consistently high level of quality, as well as important aspects such as imbalance, lateral load and bursting speed values, to ensure we produce products for our customers that not only demonstrate high quality, but are also safe.

And finally it comes to the material. But not just any material. Here too we are very precise, in order to achieve reliable and above all comparable results. Every test material therefore needs a test certificate.

Once comprehensive testing both off-hand and also with stationary machines has been completed, and the best abrasive grain and bond system have been found, we can start with production.

It is not enough for us to simply start well with a new product, we want to guarantee a consistently high level of quality. We owe that to our name and to our customers. For this reason, we continue to take and test samples from every production batch in order to guarantee our high quality standards.

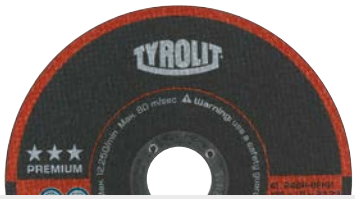
Ultimately it is our most important promise to our customers that we can regularly offer new and excellent innovations at the highest quality level, because that is what the name TYROLIT represents.



Quality lines

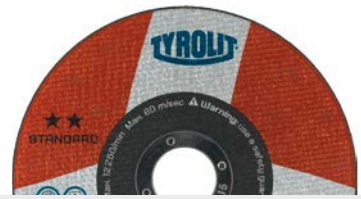
TYROLIT has been one of the leading manufacturers of tools for every professional and application for almost 100 years.

To make your search for the ideal tool easier, we have divided our range into three performance levels. This enables us to offer the perfect solution for every application!



★★★
PREMIUM

- Maximum cutting ability and stock removal rate
- Above-average lifetime
- The best work results
- Maximum economic efficiency
- Extensive product range – the perfect product for every application
- Use of the most innovative technology and the best raw materials
- Maximum comfort for the user thanks to low vibration and noise levels



★★
STANDARD

- Excellent cutting ability and stock removal rate
- Excellent service life
- Exceptional work results
- High level of economic efficiency
- Large product range – for the most important applications



★
BASIC

- Good cutting ability and stock removal rate
- Good service life
- Good work results

Symbols

Safety


Wear gloves


Wear protective clothing


Do not use damaged wheels



Free from Fe, S, Cl, F


Wear eye protection


Observe the instructions


Not permitted for side grinding


Wear ear protection


Only permitted for wet grinding


Off-hand and hand- guided grinding not permitted


Wear a mask


Not permitted for wet grinding



Free from Fe, S, Cl

Material


Steel



2in1 steel /stainless steel



High-speed steel


Universal


Abrasive materials



2in1 aluminium / stone


Rails



All in One


Asphalt



3in1 cast iron / steel / stainless steel


Tiles



Stainless steel



2in1 aluminium / stainless steel



Carbide metal


Concrete


Paint / lacquer


Gel coat



Plastic


Marble


Wood


Cast iron


Stone



Titanium


Engineering bricks


Hard stone


Composites



Nonferrous metals

Machines

Dry core drill

Joint cutter

Straight grinder

Hand held grinding

Wet core drill

Dual action sander

Stationary cutting machine

Tool grinding

Belt grinder

Portable belt grinder

Table saw

Saw sharpening

Floorstand grinder

Pneumatic angle grinder

Burnishing machine

Dressing and sharpening

Angle grinder with cup wheel

Petrol cutting saw

External-cylindrical grinding

Electrical hand saw

Angle grinder with brush

Mini belt grinder

Internal-cylindrical grinding

Pedestal / pendular grinding

Angle grinder

Hand-guided grinding

Surface grinding


TYROLIT
WORK WEAR
TYROLIT



Cutting

Cutting information
Angle grinders
Straight grinders
Petrol cutting saws
Stationary cutting machines

Grinding

Grinding information
Angle grinders
Straight grinders
Pedestal and pendular grinding

Brushes

Brushes information
Angle grinder
Straight grinder
Floorstanding grinder
Hand-guided grinding

Precision grinding

Precision grinding information
External cylindrical grinding
Surface grinding
Rectification plane
Internal cylindrical grinding
Hand-guided grinding
Bench grinders
Saw sharpening
Tool grinding

Coated abrasives

Grinding information
Angle grinder
Straight grinder
Belt grinder
Hand sanding and super finishing
Dual action sander
Burnishing machine
Floorstanding grinder

Diamond tools

Information diamond tools
Angle grinder
Petrol saws
Hand- and ring sawing
Table sawing
Floor sawing
Core drilling

Notes

Safety
Quick product search
General

Symbols

Safety
Material
Machines



Catalogue 20
Cutting

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Specific information
Resin-bonded cut-off wheels

Cut-off wheels product label



Maximum operating speed and maximum allowable speed

Performance level

Application and safety pictograms

EN safety standards

oSa safety guidelines

Type number

Material suitability

Registered trademark

Expiry date

Special application (not available everywhere)

Shape and specification

Dimensions DxTxH in mm and inches

EAN code

Colour codes

						
Label	Steel	2in1/3in1	INOX	Nonferrous metals	Cast iron	Stone
Colour code	BLUE	BLUE	RED	ORANGE	PURPLE	GREEN
Material	Steel	2in1 = Steel and stainless steel, 3in1 = Steel, stainless steel and cast iron	Stainless steel	Aluminium, copper, zinc, brass, bronze, stone	Cast materials	Stone

Cut-off wheels specification

A 46 N-B F X A

A	External reinforcement: with external reinforcement	
X	TYROLIT internal designation	
F	Fibre-reinforced: fibre glass (safety, lateral load, operating speed)	
B	Bond: V = vitrified bonded, B = resin bonded, E = elastic bonded, G = galvanic bonded	
N	Designation of hardness: N = soft, T = hard	
46	Grit size indication in mesh (sieve size per inch)	grit size in mesh
	14–36	COARSE
	46–60	MEDIUM
	80–220	FINE
	800–1 200	VERY FINE
A	Abrasive: A = regular aluminium oxide, C = silicon carbide, ZA = zirconia alumina, CA = ceramic	

Machines



Angle grinder



Straight grinder



Petrol cutting saw



Stationary cutting machines


TYROLIT

1.1 Angle grinder
Cut-off wheels





Cut-off wheels **for angle grinders**

Working with an angle grinder is one of the most important processes in the handicraft and industrial sectors for machining all types of metals. TYROLIT offers the ideal cut-off wheels for convenient and quick use with small and large angle grinders.

The benefits of our cut-off wheels in terms of innovation and economy can be clearly seen when it comes to cutting thin metal sheets and profiles. Our PREMIUM products in particular offer you the ultimate performance and lifetime, very clean cutting areas and low thermal load. This means there is only a limited amount of rework required, saving you time and money.
However, the highest priority here at TYROLIT is the health of our customers. TYROLIT cut-off wheels therefore meet the highest safety standards and contribute significantly to improving your working conditions. Reduced vibration and noise considerably improve your level of comfort while working.
On the following pages you will find the perfect tool for your requirements thanks to the uniform colour code for all materials.

Shapes

41 Cut-off wheels
(straight design)

42 Cut-off wheel
(depressed-centre design)

27 EC und 27CC
CUT AND GRIND
(depressed-centre design)

Application recommendation

Performance level	Specification	Design	Steel	Stainless steel	2in1	NF metals	Cast iron	NF metals/ stone	Page
★★★ PREMIUM	A60S-BFP	LONGLIFE	●						21
	A46S-BFP	LONGLIFE	●						21
	A30S-BFP	LONGLIFE	●						21
	A30S-BFXA	LONGLIFE	●						22
	A60Q-BFP				●				24
	A46Q-BFP				●				24
	A30Q-BFP				●				24
	A30Q-BFXA				●				24
	A60Q-BFXA				●				24
	A46Q-BFXA				●				24, 29
	A30Q-BFXA				●				24, 25, 30
	CA60Q-BFKA	CERABOND			●				26
	CA46Q-BFKA	CERABOND			●				26
	CA30Q-BFKA	CERABOND			●				26
	TA60P-BFXA				●				27
	A60Q-BFKA				●				24, 28
	A60R-BFP			●					32
	A60R-BFKA			●					32
	A46R-BFP			●					32, 33
	A60R-BFXA			●					32, 33
	A46R-BFXA			●					33
	A30R-BFP			●					33
	A30R-BFXA			●					33
	A60N-BFP					●			35
	A46N-BFP					●			35
	A30N-BFP					●			35
	C46S-BFP							●	36
	ZA30R-BFXA						●		38
	ZA30P-BFXA						●		38
	DC CI						●		38

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Performance level	Specification	Design	2in1	Steel	Stainless steel	Stone	Page
★★ STANDARD	A30S-BF			●			22, 23
	A60S-BFS			●			22
	A46S-BFS			●			22
	A30-BFS			●			22
	A60Q-BFS	2in1	●				29
	A46Q-BFS	2in1	●				29
	A30Q-BFS	2in1	●				29
	A60R-BFS				●		34
	A46R-BFS				●		34
	A30R-BFS				●		34
	A46R-BFINOX				●		34
	A30R-BFINOX				●		34
	C30S-BF					●	37
★ BASIC	A60Q-BFB	2in1	●				30
	A46Q-BFB	2in1	●				30, 31
	A30Q-BFB	2in1	●				30, 31
	A60Q-BFB	2in1	●				30
	A46Q-BFB	2in1	●				30, 31
	A30Q-BF	2in1	●				30, 31
	A60R-BFB				●		34
	C30S-BF					●	37

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★★★
PREMIUM

Cut-off wheels

Super-thin LONGLIFE cut-off wheels for steel

+ **Enhanced economic efficiency**
Significant increase in lifetime and cutting ability, which is particularly evident in their first-cut perShapeance. The wheel delivers the best results with shorter cutting times right from the very first cut.

+ **Reduced working times**
A low load on the workpiece and short cutting times allow you to quickly achieve the best result. No supplementary reworking, such as cleaning or deburring.



+ **Maximum comfort while working**
The tool operates consistently and without a jamming tendency, producing 30 % less cutting dust. Additional sound and vibration damping are features that make the super-thin TYROLIT cut-off wheels a safe and convenient tool.

TYROLIT Film

The product film can be found on YouTube at.
www.youtube.com/TYROLITgroup

The next generation of TYROLIT PREMIUM*** cut-off wheels achieves a better performance than other PREMIUM wheels, and with considerably reduced tool wear. In thicknesses of 1.0 to 1.6 mm, these super-thin cut-off wheels are suitable for all types of steel and impress with exceptional results without compromise. As well as a clear improvement in productivity, these cut-off wheels also promote environmentally friendly use thanks to reduced waste production.

★★★
PREMIUM

Cut-off wheels

Super-thin LONGLIFE cut-off wheels for steel

	Shape	Type no. new	Type no. old	Dimension	Specification	PU
	41	34332576	16118	115x1.0x22.23	A60S-BFP	25
		34332755	51825	115x1.6x22.23	A46S-BFP	25
		34332754	16121	125x1.0x22.23	A60S-BFP	25
		34332756	51838	125x1.6x22.23	A46S-BFP	25
		34332757	34194857	150x1.2x22.23	A46S-BFP	25
		34332758		150x1.6x22.23	A46S-BFP	25
		34332759	34194859	178x1.6x22.23	A46S-BFP	25
		34332760	183113	230x1.9x22.23	A46S-BFP	25
		34332771	34194860	230x2.0x22.23	A30S-BFP	25

Items with grey lettering are only available on request.

★★★ PREMIUM

Cut-off wheels
LONGLIFE for steel

In standard widths, this high-performance tool not only offers a cost-efficient solution, but also the highest safety standards. This is provided by the longest lifetime and stability of the PREMIUM*** LONGLIFE. The tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material. The assortment of LONGLIFE cut-off wheels ranges from 1.6 to 1.9 mm for quick and convenient operation with the longest lifetime, and from 2.5 to 3.0 mm for the longest lifetime and stability.



Shape		Type no.	Dimension	Specification	PU
	41	637066	115x2.0x22.23	A30S-BFXA	25
		637067	125x2.0x22.23	A30S-BFXA	25
		637068	150x2.0x22.23	A30S-BFXA	25
		785339	178x2.0x22.23	A30S-BFXA	25
		637069	178x2.5x22.23	A30S-BFXA	25
		637070	230x2.5x22.23	A30S-BFXA	25
	42	637071	115x2.5x22.23	A30S-BFXA	25
		637072	125x2.5x22.23	A30S-BFXA	25
		637073	178x3.0x22.23	A30S-BFXA	25
		637074	230x3.0x22.23	A30S-BFXA	25

★★ STANDARD

Cut-off wheels
For steel

This tool not only offers a cost-efficient solution for your everyday work, but also the safety standards customers have come to expect from TYROLIT. This is provided by the excellent lifetime and stability of the STANDARD** cut-off wheel. The tool is particularly suitable for cutting solid material. The assortment of STANDARD** cut-off wheels for steel ranges from 2.5 to 3.0 mm. It offers a long lifetime and is suitable for universal use.



Shape		Type no.	Dimension	Specification	PU
	41	368009	100x2.5x16	A30S-BF	25
		34332840	115x1x22.23	A60S-BFS	25
		34332852	115x1.6x22.23	A46S-BFS	25
		367565	115x2.5x22.23	A30S-BF	25
		34332851	125x1x22.23	A60S-BFS	25
		34332853	125x1.6x22.23	A46S-BFS	25
		367569	125x2.5x22.23	A30S-BF	25
		34332854	150x1.6x22.23	A46S-BFS	25
		367574	150x2.5x22.23	A30S-BF	25
		34332892	178x1.6x22.23	A46S-BFS	25
		367578	178x3.0x22.23	A30S-BF	25
		34332856	230x1.9x22.23	A46S-BFS	25
		34332857	230x2x22.23	A30S-BFS	25
		367583	230x3.0x22.23	A30S-BF	25

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	Shape		Type no.	Dimension	Specification	PU
		42	368010	100x2.5x16	A30S-BF	25
			367781	115x2.5x22.23	A30S-BF	25
			367785	115x3.0x22.23	A30S-BF	25
			367786	125x2.5x22.23	A30S-BF	25
			367789	125x3.0x22.23	A30S-BF	25
			367800	178x3.0x22.23	A30S-BF	25
			367803	230x3.0x22.23	A30S-BF	25

★★★
PREMIUM

Cut-off wheels

Super-thin 2in1 cut-off wheels for steel and stainless steel

+ **Enhanced economic efficiency**
Significant increase in lifetime and cutting ability, which is particularly evident in their first-cut performance. The wheel delivers the best results with shorter cutting times right from the very first cut.

+ **Reduced working times**
A low load on the workpiece and short cutting times allow you to quickly achieve the best result. No supplementary reworking, such as cleaning or deburring.



+ **Maximum comfort while working**
The tool operates consistently and without a jamming tendency, producing 30 % less cutting dust. Additional sound and vibration damping are features that make the super-thin TYROLIT cut-off wheels a safe and convenient tool.

With the next generation PREMIUM*** 2in1 cut-off wheels you can enhance performance while significantly reducing tool wear. In thicknesses of 1.0 to 1.6 mm, these super-thin 2in1 cut-off wheels have been developed for machining steel and stainless steel.
The chemical purity makes this tool ideal for machining stainless steel. In this way, impairments to the material, such as corrosion, pitting corrosion or a reduction in the fatigue strength, can be avoided. As well as a clear improvement in productivity, these cut-off wheels also promote environmentally friendly use thanks to reduced waste production.

▶

Items with grey lettering are only available on request.

Cut-off wheels

★★★ PREMIUM

Super-thin 2in1 cut-off wheels for steel and stainless steel



Shape		Type no. new	Type no. old	Dimension	Specification	PU
	41		34040608	115x1.0x22.23	A60Q-BFKA	10 Tin
			34040609	125x1.0x22.23	A60Q-BFKA	10 Tin
		34332791	773268	115x1.0x22.23	A60Q-BFP	25
		34332793	14082	115x1.6x22.23	A46Q-BFP	25
		34332792	773269	125x1.0x22.23	A60Q-BFP	25
		34332794	14085	125x1.6x22.23	A46Q-BFP	25
		34332795	34165055	150x1.2x22.23	A46Q-BFP	25
		34332796	920351	150x1.6x22.23	A46Q-BFP	25
		34332797	34165056	178x1.6x22.23	A46Q-BFP	25
		34332798	920353	230x1.9x22.23	A46Q-BFP	25
		34332799	34165057	230x2.0x22.23	A30Q-BFP	25
	42		87215	115x1.0x22.23	A60Q-BFXA	25
			87216	125x1.0x22.23	A60Q-BFXA	25

Cut-off wheels

★★★ PREMIUM

2in1 for steel and stainless steel

This high-performance tool has been designed to be used on both steel and stainless steel and its standard widths offer a cost-efficient solution. This is provided by the longest lifetime and stability of the PREMIUM*** 2in1. The tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material.

The assortment of 2in1 PREMIUM*** cut-off wheels ranges from 1.6 to 1.9 mm for quick and convenient operation with the longest lifetime, and from 2.5 to 3.0 mm for the longest lifetime and stability.



Shape		Type no.	Dimension	Specification	PU
	41	872338	115x2.5x22.23	A30Q-BFXA	25
		872339	125x2.5x22.23	A30Q-BFXA	25
		872340	150x2.5x22.23	A30Q-BFXA	25
		872341	178x2.5x22.23	A30Q-BFXA	25
		872342	178x3.0x22.23	A30Q-BFXA	25
		872343	230x2.5x22.23	A30Q-BFXA	25
		872344	230x3.0x22.23	A30Q-BFXA	25
	42	872346	115x2.5x22.23	A30Q-BFXA	25
		912603	115x3.0x22.23	A30Q-BFXA	25
		872347	125x2.5x22.23	A30Q-BFXA	25

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	Shape		Type no.	Dimension	Specification	PU
		42	872348	125x3.0x22.23	A30Q-BFXA	25
			907800	125x3.5x22.23	A30Q-BFXA	25
			872349	150x3.0x22.23	A30Q-BFXA	25
			872350	178x3.0x22.23	A30Q-BFXA	25
			121878	230x2.5x22.23	A30Q-BFXA	25
			872351	230x3.0x22.23	A30Q-BFXA	25
			872352	230x3.5x22.23	A30Q-BFXA	25

★★★
PREMIUM

CERABOND Cut-off wheel

2in1 for steel and stainless steel

+ **Shorter work processes**
Working times are substantially reduced through improved abrasiveness.

+ **Improved productivity**
A special structural composition offers maximum system performance.



+ **Lower production costs**
The unique bond technology, optimised for ceramic grain, prevents the grain break-out and leads to a longer lifetime for the tool.

TYROLIT Film

The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

The CERABOND bond system developed by TYROLIT combines an easy cutting ceramic grain with a unique bond structure. This prevents premature break-out of the grain and increases the abrasiveness many times over. The CERABOND cut-off wheel range is particularly suitable for optimum machining of extremely hard, sophisticated workpieces and solid materials. The range stands for a long lifetime and shorter working processes with maximum economic efficiency. Through the introduction of the 1.0 mm cut-off wheel with CERABOND system, the product family has been extended by a powerful member. The CERABOND product line has thus been completed and is now available in the specialist retail worldwide

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★★★ PREMIUM

CERABOND

2in1 for steel and stainless steel



Shape		Type no.	Dimension	Specification	PU
	41	34241344	115x1.0x22.23	CA60Q-BFKA	15
		34256272	115x1.3x22.23	CA60Q-BFKA	15
		34256157	115x1.6x22.23	CA46Q-BFKA	15
		34256280	115x2.0x22.23	CA30Q-BFKA	15
		34256282	115x2.5x22.23	CA30Q-BFKA	15
		34241345	125x1.0x22.23	CA60Q-BFKA	15
		34256273	125x1.3x22.23	CA60Q-BFKA	15
		34256266	125x1.6x22.23	CA46Q-BFKA	15
		34256281	125x2.0x22.23	CA30Q-BFKA	15
		34256283	125x2.5x22.23	CA30Q-BFKA	15
		34256274	150x1.3x22.23	CA60Q-BFKA	15
		34256268	150x1.6x22.23	CA46Q-BFKA	15
		34256275	178x1.6x22.23	CA46Q-BFKA	15
		34256276	230x2.0x22.23	CA30Q-BFKA	15
	42	34256277	115x1.3x22.23	CA60Q-BFKA	15
		34256269	115x1.6x22.23	CA46Q-BFKA	15
		34256284	115x2.0x22.23	CA30Q-BFKA	15
		34256285	115x2.5x22.23	CA30Q-BFKA	15
		34256278	125x1.3x22.23	CA60Q-BFKA	15
		34256270	125x1.6x22.23	CA46Q-BFKA	15
		34256286	125x2.0x22.23	CA30Q-BFKA	15
		34256287	125x2.5x22.23	CA30Q-BFKA	15
		34256279	150x1.3x22.23	CA60Q-BFKA	15
		34256271	150x1.6x22.23	CA46Q-BFKA	15

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★★★
PREMIUM

Cut-off wheels

2in1 with DEEP CUT PROTECTION for steel and stainless steel

+ **Enhanced safety**
The DEEP CUT PROTECTION metal bushing we have developed prevents the crown being removed from the wheel and thus a break out of the bore.

+ **Greater economic efficiency**
The longer range of application means that wheel changes are reduced.



+ **Versatile application options**
It is ideal for small sheet metal, profile and pipe cross-sections. Rods and metal reinforcements can also be cut effortlessly.

Using newly developed technology and new materials we have succeeded in taking another step towards improved user safety. The PREMIUM*** cut-off wheel with DEEP CUT PROTECTION enables the user to achieve maximum insertion depths into the workpiece without damaging the wheel.
There is no risk of sharp workpiece edges removing the crown.

★★★
PREMIUM

Cut-off wheels

2in1 with DEEP CUT PROTECTION for steel and stainless steel

	Shape		Type no.	Dimension	Specification	PU
		41	384142	115x1.2x22.23	TA60P-BFXA	25
			384143	125x1.2x22.23	TA60P-BFXA	25
			401205	150x1.2x22.23	TA60P-BFXA	50
		42	34042238	115x1.2x22.23	TA60P-BFXA	25
			34042239	125x1.2x22.23	TA60P-BFXA	25
			34042240	150x1.2x22.23	TA60P-BFXA	25

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★★★
PREMIUM

Cut-off wheels

ACCU 2in1 for steel and stainless steel

+ **Universal application options**
With the PREMIUM*** ACCU you obtain a tool that can be used for a range of applications on steel and stainless steel.

+ **Reduced downtimes**
Thanks to the short-term and efficient application options, downtimes for the operator can be significantly reduced.



+ **Cordless work**
Using this cut-off wheel you can work on smaller tasks in hard-to-reach application areas, benefiting from the usual TYROLIT quality but without requiring a power source.

The super-thin PREMIUM*** cut-off wheel has been specially designed for battery-powered angle grinders and enables smaller repairs to be carried out without requiring a power source. This therefore makes it considerably easier to use on scaffolding, in difficult-to-reach terrain or workplaces.
These products have been optimised for battery-powered angle grinders and are ideal for cutting thin-walled metal sheets, profiles and pipes. They also make light work of machining small cross-sections, rods and reinforced steel.

★★★
PREMIUM

Cut-off wheels

ACCU 2in1 for steel and stainless steel

	Shape		Type no.	Dimension	Specification	PU
		41	34022958	115x1.0x22.23	A60Q-BFKA	25
			34022959	125x1.0x22.23	A60Q-BFKA	25

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★★
STANDARD

Cut-off wheels

2in1 for steel and stainless steel

The STANDARD** 2in1 wheel is suitable for cutting metal sheets, profiles, pipes, rods and solid material and has been designed to be used on both steel and stainless steel. The standard widths offer a cost-efficient solution to your everyday needs excellent lifetime and stability are guaranteed.

The STANDARD** cut-off wheels range from 1.0 to 2.0 mm and guarantee quick and easy operation with the longest tool lifetime.

	Shape		Type no.	Dimension	Specification	PU
		41	34332859	115x1x22.23	A60Q-BFS	25
			34332860	125x1x22.23	A60Q-BFS	25
			34332861	115x1.6x22.23	A46Q-BFS	25
			34332862	125x1.6x22.23	A46Q-BFS	25
			34332863	150x1.6x22.23	A46Q-BFS	25
			34332893	178x1.6x22.23	A46Q-BFS	25
			34332865	230x1.9x22.23	A46Q-BFS	25
			34332866	230x2x22.23	A30Q-BFS	25

★★★
PREMIUM

CUT AND GRIND

With DEEP CUT PROTECTION for steel and stainless steel

With the introduction of the PREMIUM*** CUT AND GRIND it has become possible to perform applications such as grinding, deburring and shaping as well as cutting and plunging with only one tool. TYROLIT has now refined this technology. The wheels now have a thinner width of 2.0 mm and offer additional safety for the user with the new DEEP CUT PROTECTION. The risk of sharp workpiece edges removing the crown from the wheel and the consequent break out of the bore is prevented.

	Shape		Type no.	Dimension	Specification	PU
		27EC	34042756	115x2.0x22.23	A46Q-BFXA	25
			34042757	125x2.0x22.23	A46Q-BFXA	25

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★★★ PREMIUM

CUT AND GRIND

2in1 for steel and stainless steel

With the introduction of the PREMIUM*** CUT AND GRIND it has become possible to perform applications such as grinding, deburring and shaping as well as cutting and plunging with only one tool. The design of the wheel guarantees the highest performance right from the start without compromising on safety.
While it provides versatile application options, the CUT AND GRIND complies with the highest safety standards.

	Shape	Type no.	Dimension	Specification	PU
	27EC	743946	150x3.0x22.23	A30Q-BFXA	25
		743947	178x3.5x22.23	A30Q-BFXA	25

★ BASIC

CUT AND GRIND

2in1 for steel and stainless steel

The BASIC* CUT AND GRIND makes it possible to perform applications, such as grinding, deburring and shaping as well as cutting and plunging, with only one tool. The design of the wheel guarantees good performance right from the start without compromising on safety.

While it provides versatile application options, the CUT AND GRIND complies with the highest safety standards.

	Shape	Type no.	Dimension	Specification	PU
	27CC	743938	100x2.5x16	A30Q-BF	25
		743942	115x2.5x22.23	A30Q-BF	25
		757089	125x2.8x22.23	A30Q-BF	25
		743944	178x3.5x22.23	A30Q-BF	25

★ BASIC

Cut-off wheels

2in1 for steel and stainless steel

This tool is designed for use on both steel and stainless steel. Our BASIC* cut-off wheel 2in1 has an excellent lifetime and stability. The tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material.
The 1.6 mm cut-off wheel available in the BASIC* assortment is particularly suitable for fast, convenient and low-burr work.

The stable cut-off wheels in thicknesses between 2.0 and 3.0 mm have a very long lifetime and are suitable for universal use.

	Shape	Type no. new	Type no. old	Dimension	Specification	PU
	41		222996	100x2.5x16	A30Q-BF	25
		34332870	34051373	115x1.0x22.23	A60Q-BFB	25
		34332872	222899	115x1.6x22.23	A46Q-BFB	25
			222997	115x2.5x22.23	A30Q-BF	25
		34332871	34051374	125x1.0x22.23	A60Q-BFB	25
		34332873	222900	125x1.6x22.23	A46Q-BFB	25
			222998	125x2.5x22.23	A30Q-BFB	25
			34354703	150x1,2x22,23	A60Q-BF	25
		34332874	34051375	150x1.6x22.23	A46Q-BFB	25

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	Shape		Type no. new	Type no. old	Dimension	Specification	PU
		41		222999	150x2.5x22.23	A30Q-BF	25
			34332875	633506	178x1.6x22.23	A46Q-BFB	25
				250165	178x2.5x22.23	A30Q-BF	25
				223000	178x3.0x22.23	A30Q-BF	25
			34332876	633509	230x1.9x22.23	A46Q-BFB	25
			34332877	291949	230x2.0x22.23	A30Q-BFB	25
				250169	230x2.5x22.23	A30Q-BF	25
				223002	230x3.0x22.23	A30Q-BF	25
		42		223020	100x2.5x16	A30Q-BF	25
				223021	115x2.5x22.23	A30Q-BF	25
				223022	125x2.5x22.23	A30Q-BF	25
				291948	125x3.0x22.23	A30Q-BF	25
				223023	178x3.0x22.23	A30Q-BF	25
				222044	230x3.0x22.23	A30Q-BF	25
				291947	230x3.5x22.23	A30Q-BF	25

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★★★
PREMIUM

Cut-off wheels

Super-thin cut-off wheels for stainless steel

+ **Enhanced economic efficiency**
Significant increase in lifetime and cutting ability, which is particularly evident in their first-cut performance. The wheel delivers the best results with shorter cutting times right from the very first cut.

+ **Reduced working times**
A low load on the workpiece and short cutting times allow you to quickly achieve the best result. No supplementary reworking, such as cleaning or deburring.



+ **Maximum comfort while working**
The tool operates consistently and without a jamming tendency, producing 30 % less cutting dust. Additional sound and vibration damping are features that make the super-thin TYROLIT cut-off wheels a safe and convenient tool.

With the next generation PREMIUM*** cut-off wheels for stainless steel you can enhance performance while significantly reducing tool wear. Super-thin cut-off wheels can be obtained from TYROLIT in thicknesses from 0.75 to 1.6 mm. They are particularly suitable for thin-walled metal sheets, profiles and pipes, as well as reinforced steel.
Even for small stainless steel cross-sections and rods, and corrosion-resistant or acid-resistant stainless steel these cut-off wheels offer effortless machining. The chemical purity of this tool is a requirement of machining stainless steel in order to avoid impairments to the material, such as corrosion, pitting corrosion or a reduction in the fatigue strength.

★★★
PREMIUM

Cut-off wheels

Super-thin cut-off wheels for stainless steel





	Shape	Type no. new	Type no. old	Dimension	Specification	PU
	41		34040606	115x1.0x22.23	A60R-BFKA	10 Tin
			34040607	125x1.0x22.23	A60R-BFKA	10 Tin
			651998	100x1.0x16	A60R-BFXA	25
		34332800	610935	115x0.75x22.23	A60R-BFP	25
		34332802	674471	115x1.0x22.23	A60R-BFP	25
		34332804	51841	115x1.6x22.23	A46R-BFP	25
		34332801	610937	125x0.75x22.23	A60R-BFP	25
		34332803	674473	125x1.0x22.23	A60R-BFP	25

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	Shape		Type no. new	Type no. old	Dimension	Specification	PU
		41	34332805	51844	125x1.6x22.23	A46R-BFP	25
			34332806	34060382	150x1.2x22.23	A46R-BFP	25
			34332807	291583	150x1.6x22.23	A46R-BFP	25
			34332808	34059901	178x1.6x22.23	A46R-BFP	25
			34332809		230x1.9x22.23	A46R-BFP	25
			34332810	34059902	230x2.0x22.23	A30R-BFP	25
		42		282149	115x0.75x22.23	A60R-BFXA	25
				282150	125x0.75x22.23	A60R-BFXA	25
				291587	150x1.6x22.23	A46R-BFXA	25
				291588	178x1.6x22.23	A46R-BFXA	25

★★★ PREMIUM

Cut-off wheels
For stainless steel




The chemical purity of this tool is a requirement of machining stainless steel in order to avoid impairments to the material, such as corrosion, pitting corrosion or a reduction in the fatigue strength. The tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material.
The assortment of these cut-off wheels ranges from 1.6 to 1.9 mm for quick and convenient operation with the longest lifetime, and from 2.5 to 3.0 mm for the longest lifetime and stability.

	Shape		Type no.	Dimension	Specification	PU
		41	41489	115x2.0x22.23	A30R-BFXA	25
			41491	115x2.5x22.23	A30R-BFXA	25
			41492	125x2.0x22.23	A30R-BFXA	25
			41493	125x2.5x22.23	A30R-BFXA	25
			41494	125x3.0x22.23	A30R-BFXA	25
			41495	150x2.0x22.23	A30R-BFXA	25
			41499	178x2.0x22.23	A30R-BFXA	25
			35946	178x2.5x22.23	A30R-BFXA	25
			35950	230x2.5x22.23	A30R-BFXA	25
			41501	230x3.0x22.23	A30R-BFXA	25
		42	35937	115x2.0x22.23	A30R-BFXA	25
			41504	115x2.5x22.23	A30R-BFXA	25
			35944	125x2.0x22.23	A30R-BFXA	25
			41505	125x2.5x22.23	A30R-BFXA	25
			41506	125x3.0x22.23	A30R-BFXA	25
			41507	150x2.0x22.23	A30R-BFXA	25
			41508	150x3.0x22.23	A30R-BFXA	25
			41509	178x2.5x22.23	A30R-BFXA	25
			41510	178x3.0x22.23	A30R-BFXA	25
			41511	230x2.5x22.23	A30R-BFXA	25
			41513	230x3.5x22.23	A30R-BFXA	25

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★★ STANDARD

Cut-off wheels
For stainless steel

The chemical purity of this tool is a requirement of machining stainless steel in order to avoid impairments to the material, such as corrosion, pitting corrosion or a reduction in the fatigue strength. The tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material.
The assortment of these cut-off wheels ranges from thicknesses of 1.0 to 1.9 mm for fast, convenient and low-burr cutting. The stable cut-off wheels in thicknesses between 2.0 and 2.5 mm have a very long lifetime and are suitable for universal use.

	Shape		Type no. new	Type no. old	Dimension	Specification	PU
		41		368016	100x1.6x16	A46R-BFINOX	25
			34332830	367562	115x1.0x22.23	A60R-BFS	25
			34332833	367561	115x1.6x22.23	A46R-BFS	25
			34332832	367568	125x1.0x22.23	A60R-BFS	25
			34332834	367567	125x1.6x22.23	A46R-BFS	25
				408496	125x2.0x22.23	A46R-BFINOX	25
			34332835		150x1.6x22.23	A46R-BFS	25
				367776	150x2.0x22.23	A30R-BFINOX	25
				367575	150x2.5x22.23	A30R-BFINOX	25
			34332891	367576	178x1.6x22.23	A46R-BFS	25
				367777	178x2.0x22.23	A30R-BFINOX	25
				367577	178x2.5x22.23	A30R-BFINOX	25
			34332838	367581	230x1.9x22.23	A46R-BFS	25
			34332839	367780	230x2.0x22.23	A30R-BFS	25
				367582	230x2.5x22.23	A30R-BFINOX	25
		42		368017	100x2.0x16	A30R-BFINOX	25
				367783	115x2.0x22.23	A30R-BFINOX	25
				367788	125x2.0x22.23	A30R-BFINOX	25
				367791	178x2.5x22.23	A30R-BFINOX	25
				367802	230x2.5x22.23	A30R-BFINOX	25

★ BASIC

Cut-off wheels
For stainless steel

The BASIC* cut-off wheel for stainless steel can be used to cut metal sheets, profiles, pipes, rods with small diameters and solid material. The chemical purity of this tool is a requirement of machining stainless steel in order to avoid impairments to the material, such as corrosion, pitting corrosion or a reduction in the fatigue strength.

The 1.0 mm thick cut-off wheels are particularly suitable for quick, comfortable and low-burr cutting.

	Shape		Type no. new	Type no. old	Dimension	Specification	PU
		41	34354594	456491	100x1.0x10	A60R-BFB	25
			34354597	222893	100x1.0x16	A60R-BFB	25
			34332868	222894	115x1.0x22.23	A60R-BFB	25
			34332869	222896	125x1.0x22.23	A60R-BFB	25

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★★★
PREMIUM

Cut-off wheels

Super-thin cut-off wheels for nonferrous metals

+ **Enhanced economic efficiency**
Significant increase in lifetime and cutting ability, which is particularly evident in their first-cut performance. The wheel delivers the best results with shorter cutting times right from the very first cut.

+ **Reduced working times**
Cutting times are reduced when used on aluminium, aluminium bronze, aluminium base alloys, copper, bronze, brass, nickel silver and titanium.



+ **Maximum comfort while working**
The tool operates consistently and without a jamming tendency, producing 30 % less cutting dust. Additional sound and vibration damping are features that make the super-thin TYROLIT cut-off wheels a safe and convenient tool.

The next generation of TYROLIT PREMIUM*** cut-off wheels achieves a better performance than other PREMIUM wheels, and with considerably reduced tool wear. In order to cut nonferrous metals, the tool must have a high cutting ability. To this end, TYROLIT has developed a special formula and production method in order to achieve short cutting times with NF metals too.
New specifications prevent the clogging and dulling of the grinding wheel which used to be a common result of material abrasion.

★★★
PREMIUM

Cut-off wheels

Super-thin cut-off wheels for nonferrous metals

	Shape		Type no. new	Type no. old	Dimension	Specification	PU
		41	34332821	840247	115x1.0x22.23	A60N-BFP	25
			34332823	623553	115x1.6x22.23	A46N-BFP	25
			34332822	257533	125x1.0x22.23	A60N-BFP	25
			34332824	739982	125x1.6x22.23	A46N-BFP	25
			34332825	34025004	230x2.0x22.23	A30N-BFP	25

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Cut-off wheels
For nonferrous metals

★★★ PREMIUM

In order to cut nonferrous metals, the tool must have a high cutting ability. To this end, TYROLIT has developed a special formula and production method in order to achieve short cutting times with NF metals too.

New specifications prevent the clogging and dulling of the grinding wheel which used to be a common result of material abrasion.



Shape		Type no.	Dimension	Specification	PU
41		39624	115x2.5x22.23	A30N-BFXA	25
		39321	125x2.5x22.23	A30N-BFXA	25
		62726	150x2.5x22.23	A30N-BFXA	25
		525355	178x2.0x22.23	A30N-BFXA	25
		32141	178x2.5x22.23	A30N-BFXA	25
		32142	230x2.5x22.23	A30N-BFXA	25
42		82646	115x2.5x22.23	A30N-BFXA	25
		366888	125x2.5x22.23	A30N-BFXA	25
		468182	150x2.5x22.23	A30N-BFXA	25
		5485	178x3.0x22.23	A30N-BFXA	25
		651544	178x3.5x22.23	A30N-BFXA	25
		30741	230x3.0x22.23	A30N-BFXA	25

Cut-off wheels
For nonferrous metals and stone

★★★ PREMIUM

This PREMIUM*** cut-off wheel reduces the work of the operator due to its excellent cutting ability. When used on tiles, ceramics, clinker and nonferrous metals, the wheel impresses by achieving clean cutting edges and excellent cutting quality. Machine wear is significantly reduced by low wheel thicknesses.
The advantages are topped off by its environmentally-friendly operation, thanks to the reduction in cutting waste.



Shape		Type no. new	Type no. old	Dimension	Specification	PU
41		34332827	337383	115x1.0x22.23	C46S-BFP	25
		34332828	342978	125x1.0x22.23	C46S-BFP	25
		34332829	320335	178x1.6x22.23	C46S-BFP	25

** Super-thin cut-off wheels*

Items with grey lettering are only available on request.

★★ STANDARD

Cut-off wheels
For stone

This STANDARD** cut-off wheel reduces the work of the operator due to its excellent cutting ability. When used on stone materials, the wheel impresses by achieving clean cutting edges and good cutting quality. Reworking is no longer required.



Shape		Type no.	Dimension	Specification	PU
	41	367566	115x2.5x22.23	C30S-BF	25
		367572	125x2.5x22.23	C30S-BF	25
		367580	178x3.0x22.23	C30S-BF	25
		367585	230x3.0x22.23	C30S-BF	25
	42	368012	100x2.5x16	C30S-BF	25
		367782	115x2.5x22.23	C30S-BF	25
		367787	125x2.5x22.23	C30S-BF	25
		367801	178x3.0x22.23	C30S-BF	25
		367804	230x3.0x22.23	C30S-BF	25

★ BASIC

Cut-off wheels
For stone

The BASIC* cut-off wheel reduces the work of the operator due to its good cutting ability. When used on common building materials, the wheel impresses by achieving clean cutting edges and good cutting quality. The BASIC* version of the 2.5 to 3.0 mm thick wheels offer a long lifetime and can be used for universal applications.
The advantages are topped off by its environmentally-friendly operation, thanks to the reduction in cutting waste.



Shape		Type no.	Dimension	Specification	PU
	41	223010	100x2.5x16	C30S-BF	25
		223012	115x2.5x22.23	C30S-BF	25
		223015	125x2.5x22.23	C30S-BF	25
		223016	150x2.5x22.23	C30S-BF	25
		222042	178x3.0x22.23	C30S-BF	25
		223019	230x3.0x22.23	C30S-BF	25
	42	223024	100x2.5x16	C30S-BF	25
		223025	115x2.5x22.23	C30S-BF	25
		223027	125x2.5x22.23	C30S-BF	25
		223029	178x3.0x22.23	C30S-BF	25
		223031	230x3.0x22.23	C30S-BF	25

Items with grey lettering are only available on request.

★★★ PREMIUM

FOCUR SA

Diamond cut-off wheel for grey and spheriodal cast iron

FOCUR SA diamond cut-off wheels from TYROLIT are the optimum tool for machining grey and spheroidal cast iron. These products combine a long lifetime with maximum economic efficiency. FOCUR SA cut-off wheels are available in diameters from 115 to 230 mm.

	Shape		Type no.	Dimension	Specification	PU
		UC3	34213575	115x2.8x22.23	DC CI	1
			34192268	125x3.0x22.23	DC CI	1
			102811	180x3.0x22.23	DC CI	1
			102813	230x3.0x22.23	DC CI	1

★★★ PREMIUM

Cut-off wheels

FOCUR Extra for cast iron

The PREMIUM*** FOCUR Extra cut-off wheel offers maximum abrasiveness coupled with the best cutting ability. Innovative production technology combined with high-quality zirconium aluminium oxide makes this possible. The assortment of these cut-off wheels ranges from 2.5 to 3.5 mm. This high-performance tool has been developed for use on all cast materials.

	Shape		Type no.	Dimension	Specification	PU
		42	929885	115x2.5x22.23	ZA30R-BFXA	25
			929886	125x2.5x22.23	ZA30R-BFXA	25
			929887	178x3.5x22.23	ZA30R-BFXA	25
			929889	230x3.5x22.23	ZA30R-BFXA	25
			904019	178x3.5x22.23	ZA30P-BFXA*	25
			635268	230x3.0x22.23	ZA30P-BFXA*	25
			855818	230x3.5x22.23	ZA30P-BFXA*	25

** Fe, S, Cl free.*

Accessories

For cut-off wheels

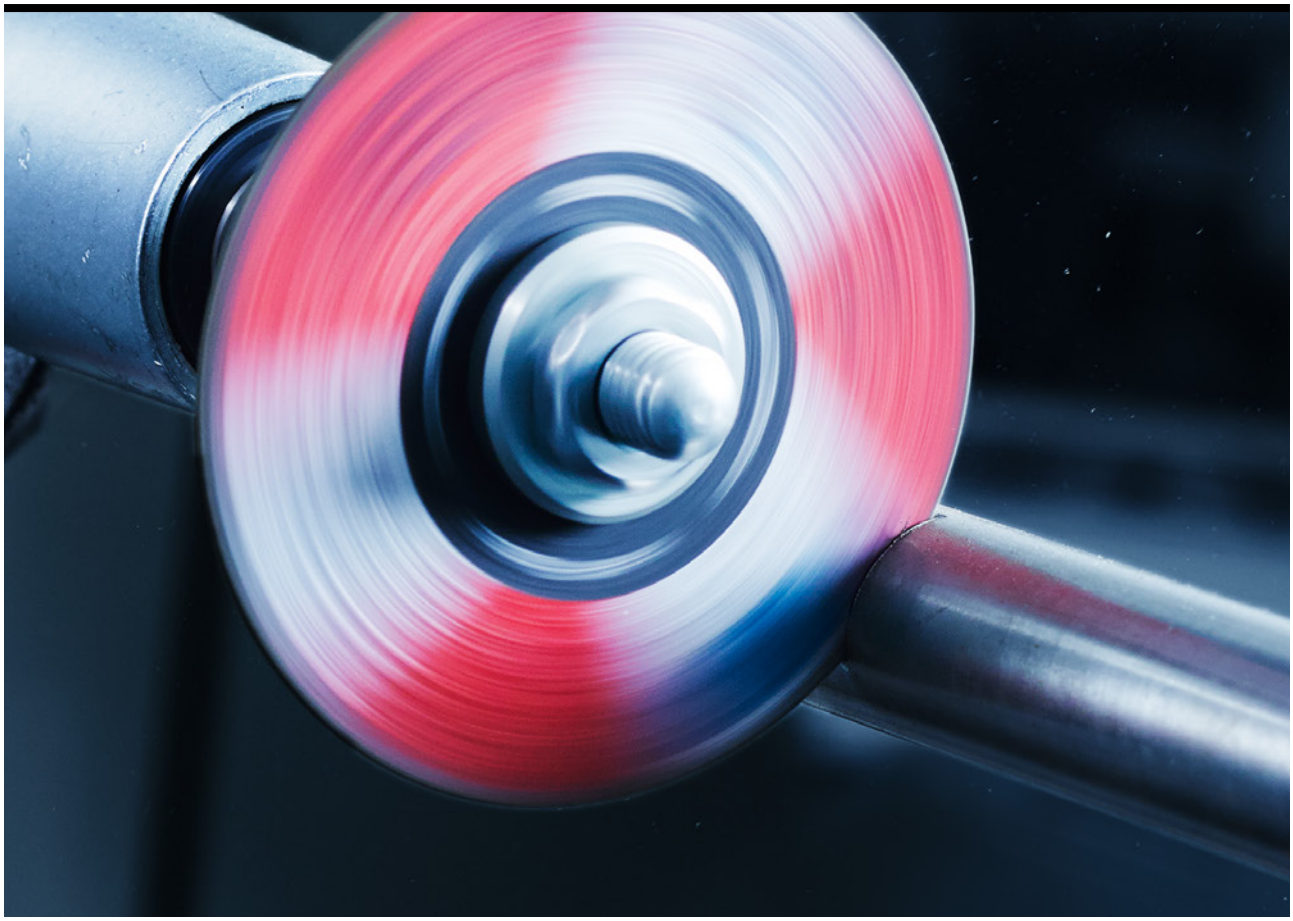
Using these accessories you can significantly increase lateral stability. This means more precise cutting and enhanced first-cut performance are achieved. These special accessories are made of tempered tool steel and are suitable for angle grinders with an M14 drive screw. It is recommended for super-thin cut-off wheels in a straight design and a diameter of 178 and 230 mm in particular.

	Shape	Type no.	Dimension	PU
	100SFL	614644	76 mm	1

Items with grey lettering are only available on request.

1.2 Cut-off wheels **for straight grinders**





Cut-off wheels **for straight grinders**

Straight grinders are always in high demand when precise results are required on difficult-to-access areas. Their versatile application options make straight grinders a popular tool.

In order to fulfil the high standards it sets for itself, TYROLIT has developed wheels for particularly quick low-burr cutting with maximum lifetimes. These high-performance tools are perfect for cutting metal sheets, profiles, pipes and rods even in difficult-to access locations. For TYROLIT, the most stringent safety standards for our cut-off wheels - as with all of our products - are of the highest priority. Reduced vibration and noise considerably improve your level of comfort while working.

On the following pages you will find the perfect tool for your requirements thanks to the uniform colour code for all materials.

Shapes

41 Cut-off wheels
(straight design)

Application recommendation

Performance level	Specification	Steel	Stainless steel	Page
★★★ PREMIUM	A100-BFM	●		42
	A60R-BFXA		●	42
	A46R-BFXA		●	42

Items with grey lettering are only available on request.

Cut-off wheels
For Steel

★★★ PREMIUM

The quality of the PREMIUM*** cut-off wheel ensures the longest lifetime and cost-effective operation. By using the grit size 100, a particularly low burr result is achieved. The cut-off wheel in small diameters is designed for use on straight grinders.
This tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material.

	Shape	Type no.	Dimension	Specification	PU
	41	699330	63x1.0x10	A100-BFM	100
		704198	63x2.0x10	A100-BFM	100
		325212	75x1.0x10	A100-BFM	100

Cut-off wheels
For stainless steel

★★★ PREMIUM

The chemical purity of this tool is a requirement of machining stainless steel in order to avoid impairments to the material, such as corrosion, pitting corrosion or a reduction in the fatigue strength. The PREMIUM*** cut-off wheel in small diameters is designed for use on straight grinders.
This tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material.

	Shape	Type no.	Dimension	Specification	PU
	41	323976	50x1x6	A60R-BFXA	100
		323978	50x1.0x10	A60R-BFXA	100
		323970	50x2.0x6	A46R-BFXA	100
		299269	63x1.0x10	A60R-BFXA	100
		324404	63x1.6x10	A46R-BFXA	100
		324402	63x2.0x6	A46R-BFXA	100
		324303	63x2.0x10	A46R-BFXA	100
		325228	75x1.0x8	A60R-BFXA	100
		299270	75x1.0x10	A60R-BFXA	100
		325222	75x1.6x10	A46R-BFXA	100
		325224	75x2.0x8	A46R-BFXA	100
		325219	75x2.0x10	A46R-BFXA	100

Accessories
For cut-off wheels with a small diameter

These accessories enable cut-off wheels with small diameters to be clamped onto straight grinders. Easy handling and the highest possible levels of safety are guaranteed for the operator. Please observe the maximum permissible speed.

	Type no.	Dimension	Specification	PU
	803404	S6/H10/M10	SS171	1
	846442	S6/H6/M6	SS174	1

Items with grey lettering are only available on request.

1.3 Cut-off wheels **for petrol cutting saws**





Cut-off wheels
for petrol cutting saws

Cutting materials on building sites with no electricity or limited infrastructure is a common challenge. Whether the material is reinforced steel, pipes or rails, a petrol-powered cut-off grinder provides a quick and efficient solution. Petrol cutting saws are particularly popular machines for cutting large cross-sections and are frequently used tools.

TYROLIT offers the perfect tools for these varied cutting tasks. Whether for use on steel, stainless steel, stone or rails, thanks to the clear colour coding and application tips, you will always be able to find the right product for your application and the material to be cut. TYROLIT guarantees optimum cutting results and maximum levels of safety in all situations.

Shapes

41H Cut-off wheels (straight design)

Application recommendation

Performance level	Specification	Steel	Rails	Stone	Page
★★★ PREMIUM	A30O-BF02A2	●			46
	A30P5BF71A2	●			46
	A30Q-BF02A2	●			46
	A30Q4BF71A2	●			46
	M85A30P4BF91A2	●			46
	A30N-BF02A2	●			46
	MA30Q4BF97M2	●			46
	A24Q-BF		●		47
	A24Q-BF100		●		47
	ZZA24R-BF 100		●		48
	C24O-BF02A2			●	49
	C30P4BF71A2			●	49
	1C24R6BF38A2			●	49
	C247O4BF33A2			●	49
★★ STANDARD	A30S-BF	●			46
	A30S-BF100	●			46
	A30S-BF RAIL		●		49
	A30S-BF RAIL100		●		49
	C30S-BF			●	50
	C30S-BF100			●	50
★ BASIC	A30S-BF	●			47
	A30S-BF100	●			47
	C30S-BF			●	50
	C30S-BF100			●	50

Items with grey lettering are only available on request.

★★★ PREMIUM

Cut-off wheels
For steel

TYROLIT provides the optimal tools for use on large cut-off machines in trade and industry. These include the PREMIUM*** cut-off wheel for steel in large diameters. This special tool is ideal for cutting workpieces with large cross-sections. As with all TYROLIT PREMIUM*** cut-off wheels, this tool has been optimised to achieve the best possible cutting ability and lifetime.

Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.



Shape	Type no.	Dimension	Specification	PU
41H	255451	300x3.5x20	A30O-BF02A2	10
	75020	300x3.5x20	A30P5BF71A2	10
	307876	300x3.5x20	A30Q-BF02A2	10
	181071	300x3.5x22.23	A30O-BF02A2	10
	141512	300x3.5x22.23	A30Q-BF02A2	10
	83618	300x3.5x22.23	A30Q4BF71A2	10
	514745	300x3.5x22.23	M85A30P4BF91A2	10
	363478	300x3.5x25.4	A30O-BF02A2	10
	366794	300x3.5x30	A30Q-BF02A2	10
	419688	350x4.0x30	A30N-BF02A2	10
	623097	400x4.5x40	MA30Q4BF97M2	10

★★ STANDARD

Cut-off wheels
For steel

TYROLIT provides the optimal tools for use on large cut-off machines in trade and industry. These include the STANDARD** cut-off wheel for steel in large diameters. This special tool is ideal for cutting workpieces with large cross-sections. Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.



Shape	Type no.	Dimension	Specification	PU
41H	384753	300x3.5x20	A30S-BF	10
	384754	300x3.5x22.23	A30S-BF	10
	384755	300x3.5x25.4	A30S-BF	10
	384756	350x4.0x20	A30S-BF100	10
	384757	350x4.0x22.23	A30S-BF100	10
	384758	350x4.0x25.4	A30S-BF100	10
	386002	400x4.5x20	A30S-BF100	10

Items with grey lettering are only available on request.

★ BASIC

Cut-off wheels
For steel

The BASIC* cut-off wheel for steel is suitable for cutting profiles, solid material and large cross-sections due to its design with two external reinforcements. With the BASIC* wheel, you can achieve reduced cutting times coupled with minimal effort.

Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.



Shape		Type no.	Dimension	Specification	PU
	41H	223035	300x3.5x20	A30S-BF	10
		223037	300x3.5x22.23	A30S-BF	10
		223039	300x3.5x25.4	A30S-BF	10
		223040	300x3.5x32	A30S-BF	10
		223042	350x4.0x20	A30S-BF100	10
		223043	350x4.0x22.23	A30S-BF100	10
		222045	350x4.0x25.4	A30S-BF100	10

★★★ PREMIUM

Cut-off wheels
For rails

This wheel has been developed specially based on specifications for cutting rails. Despite extreme application conditions, such as humidity, cold and temperature fluctuations, the rail cut-off wheel from TYROLIT offers short cutting times coupled with minimal effort. Exceptionally clean, non-discoloured surfaces reduce reworking tasks and working times.

Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.



Shape		Type no.	Dimension	Specification	PU
	41H	665900	300x3.2x22.23	A24Q-BF	10
		676423	300x3.5x22.23	A24Q-BF100	10
		671093	350x3.8x22.23	A24Q-BF100	10
		34329909	350x4x22,2	A24Q-BF	10
		671108	350x3.8x25.4	A24Q-BF100	10
		671090	400x4.3x22.23	A24Q-BF100	10
		676428	400x4.3x25.4	A24Q-BF100	10

Items with grey lettering are only available on request.

★★★
PREMIUM

Cut-off wheels

For rails for guided off-hand cutting

+ **High abrasiveness**
The zirconium aluminium oxide grain in a rigid bond system enables an aggressive cutting performance.

+ **Reduced load**
Thanks to its abrasiveness and short cutting times, this PREMIUM*** wheel reduces the strain on the operator.



+ **Long lifetime**
This innovative rail cut-off wheel enables you to perform more cuts than ever before.

The newly developed rail cut-off wheel has been designed to be durable and abrasive. The zirconium aluminium oxide grain enables easy cutting and improves performance for the operator.
These special rail cut-off wheels must only be fixed to the rail using a suitable clamping device for guided off-hand cutting. Never use in pure off-hand applications.

★★★
PREMIUM

Cut-off wheels

For rails for guided off-hand cutting

	Shape	Type no.	Dimension	Specification	PU
	41	34202533	300x3.5x20	ZZA24R-BF 100	10
		34202534	350x3.8x20	ZZA24R-BF 100	10
		34202538	400x4.3x20	ZZA24R-BF 100	10
		34200374	300x3.5x22.23	ZZA24R-BF 100	10
		34176155	350x3.8x22.23	ZZA24R-BF 100	10
		34200375	400x4.3x22.23	ZZA24R-BF 100	10
		34202549	300x3.5x25.4	ZZA24R-BF 100	10
		34202550	350x3.8x25.4	ZZA24R-BF 100	10
		34202561	400x4.3x25.4	ZZA24R-BF 100	10

Items with grey lettering are only available on request.

★★ STANDARD

Cut-off wheels
For rails

Despite extreme application conditions, such as humidity, cold and temperature fluctuations, the stone cut-off wheel from TYROLIT offers reduced cutting times coupled with minimal effort. Clean, non-discoloured surfaces reduce reworking tasks and working times.

Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.



Shape	Type no.	Dimension	Specification	PU
41H	75937	300x3.5x20	A30S-BFRAIL	10
	75938	300x3.5x22.23	A30S-BFRAIL	10
	75939	300x3.5x25.4	A30S-BFRAIL	10
	75934	350x4.0x20	A30S-BFRAIL100	10
	75935	350x4.0x22.23	A30S-BFRAIL100	10
	75936	350x4.0x25.4	A30S-BFRAIL100	10
	355251	400x4.3x25.4	A30S-BFRAIL100	10

★★★ PREMIUM

Cut-off wheels
For stone

This PREMIUM*** cut-off wheel achieves the best results due to its excellent cutting ability that reduces the work of the operator. The cut-off wheel delivers the optimum cutting performance on solid material and large cross-sections.

Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.



Shape	Type no.	Dimension	Specification	PU
41H	255450	300x3.5x20	C24O-BF02A2	10
	183592	300x3.5x22.23	C24O-BF02A2	10
	9292	300x4.0x20	C30P4BF71A2	10
	410277	300x4.0x22.23	1C24R6BF38A2	10
	732088	300x4.0x25.4	C247O4BF33A2	10
	668570	350x4.0x20	C24O-BF02A2	10
	548170	350x4.0x25.4	C24O-BF02A2	10

Items with grey lettering are only available on request.

★★ STANDARD

Cut-off wheels
For stone

The technology from TYROLIT makes it possible to use two external reinforcements for cutting solid material and large cross-sections. This STANDARD** cut-off wheel achieves the best results due to its excellent cutting ability that reduces the work of the operator.

Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.

	Shape		Type no.	Dimension	Specification	PU
		41H	384759	300x3.5x20	C30S-BF	10
			384760	300x3.5x22.23	C30S-BF	10
			384761	300x3.5x25.4	C30S-BF	10
			384762	350x4.0x20	C30S-BF100	10
			384763	350x4.0x22.23	C30S-BF100	10
			384764	350x4.0x25.4	C30S-BF100	10
			386001	400x4.5x20	C30S-BF100	10

★ BASIC

Cut-off wheels
For stone

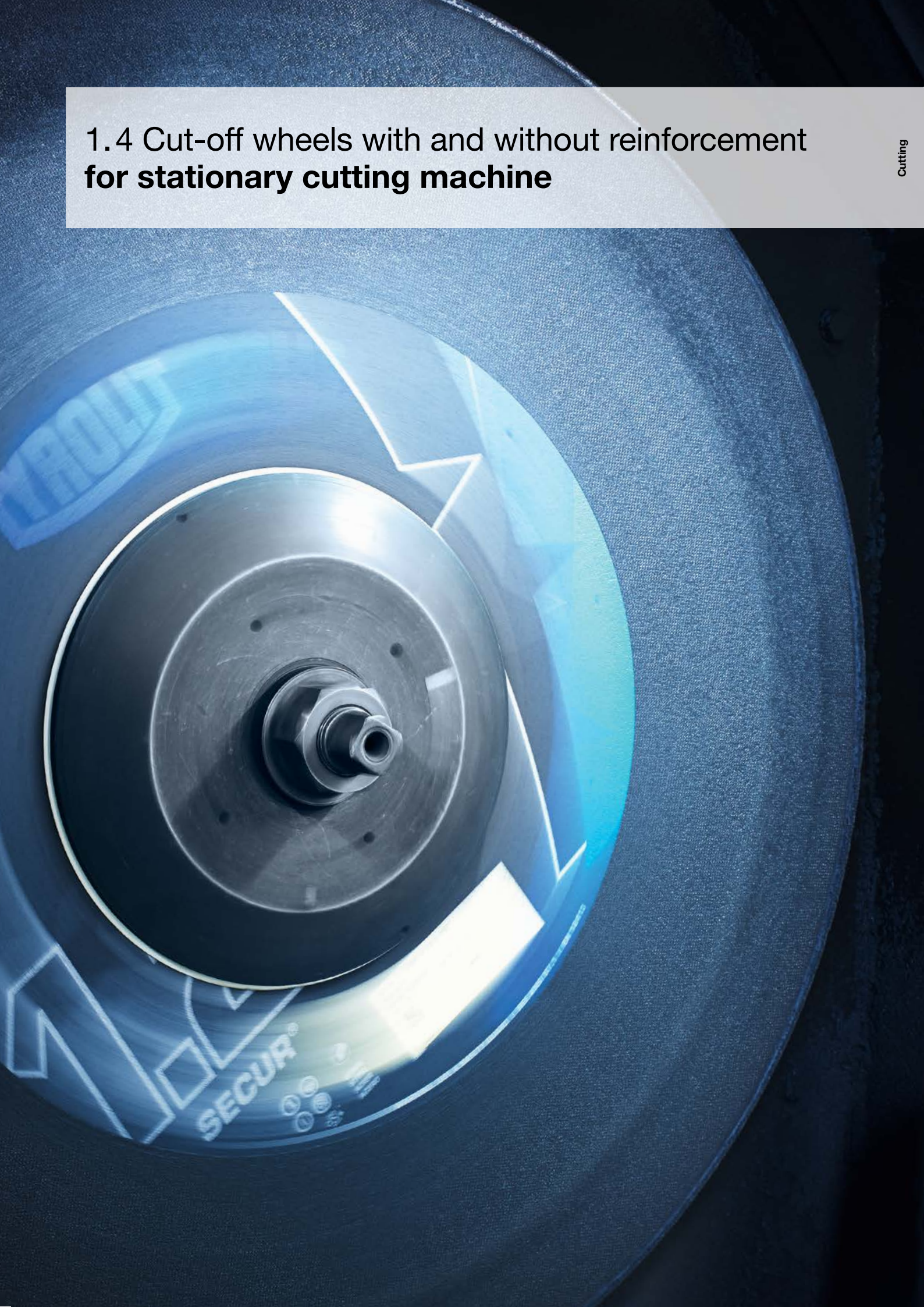
The technology from TYROLIT makes it possible to use two external reinforcements for cutting solid material and large cross-sections. The BASIC* cut-off wheel therefore offers good stability and cutting ability, reducing the work of the operator.

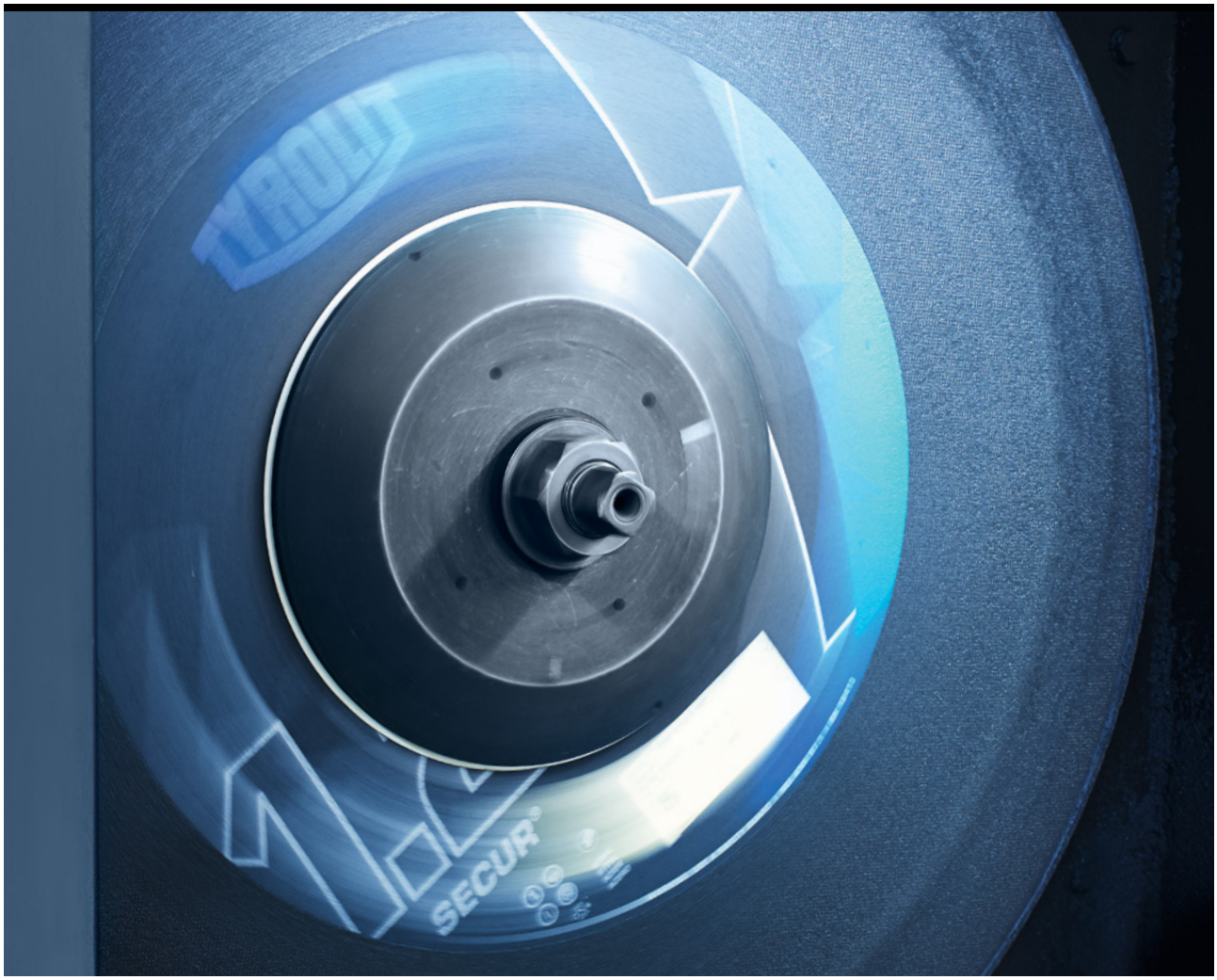
Developed for use on manual cut-off machines with electric or petrol engines. Suitable for pure off-hand and guided off-hand applications.

	Shape		Type no.	Dimension	Specification	PU
		41H	223129	300x3.5x20	C30S-BF	10
			223131	300x3.5x22.23	C30S-BF	10
			223132	300x3.5x25.4	C30S-BF	10
			223134	350x4.0x20	C30S-BF100	10
			223135	350x4.0x22.23	C30S-BF100	10
			223136	350x4.0x25.4	C30S-BF100	10

Items with grey lettering are only available on request.

1.4 Cut-off wheels with and without reinforcement **for stationary cutting machine**





Cut-off wheels
for stationary cutting machines

Stationary cutting machines are most commonly used in workshops. They ensure precision cutting of all materials, regardless of diameter.

TYROLIT offers two types of cut-off wheel for this application. Firstly, cut-off wheels with reinforcement that can be used to cut profiles, pipes and solid material. Secondly, non-reinforced cut-off wheels for laboratory cutting, for cutting and saw sharpening, and for cutting high speed steel.

Whether for use on steel, stainless steel, stone or rails, thanks to the clear colour coding and application tips, you will always be able to find the right product for your application and the material to be cut. TYROLIT guarantees optimum cutting results and maximum levels of safety in all situations.

Shape

41H Cut-off wheels (straight design)

42 Cut-off wheel (depressed-centre design)



1 Saw sharpening

1A1R Cut-off wheels with continuous rim

41N non-reinforced cut-off wheel

Application recommendation

Performance level	Specification	Steel	Stainless steel	NF metals	Stone	Cast iron	Page
★★★ PREMIUM	… BF71 …	●					54
	… BF02 …	●					54
	…BF14…	●					54
	… BF97 …		●				56
	… BF68 …		●				56
	… BFXM …		●				56
	… BF98 …		●				56
	… BF59 …			●			56
	… BF33 …				●		57
	C…BF71…				●		57
	DC CI					●	57
★★ STANDARD	A46S-BF	●					55
★ BASIC	A46S-BF	●					55

Items with grey lettering are only available on request.

★★★ PREMIUM

Cut-off wheels

For steel

TYROLIT provides the optimal tools for use on stationary cutting machines in chop cut. These include the PREMIUM*** cut-off wheel for steel in diameters from 300 to 500 mm. This special tool is ideal for cutting workpieces with large cross-sections, as well as solid material and profiles.

As with all TYROLIT PREMIUM*** cut-off wheels, this tool has been optimised to achieve the best possible cutting ability and lifetime.



Shape	Type no.	Dimension	Specification	PU
41	779426	300x2.5x25.4	A36N4BF71A2	10
	641977	300x3.0x22.23	A30P4BF71M100	10
	630117	300x3.5x22.23	A30P4BF71M100	10
	636399	300x3.5x25.4	A30P4BF71M100	10
	643371	300x3.5x25.4	A30N-BF02M	10
	630116	300x3.5x32	A30P4BF71M100	10
	140022	300x3.5x30	A30Q-BF02M	10
	151301	300x3.5x32	A30Q-BF02M	10
	598487	300x3.2x22.23	A36N5BF71M	10
	615549	350x2.5x25.4	A46N4BF71M	10
	779428	350x2.5x25.4	A36N4BF71A2	10
	780935	350x3.5x25.4	A36N5BF71M	10
	408229	350x3.5x25.4	A30N-BF02M	10
	309469	350x3.5x25.4	A24P-BF02M	10
	84363	350x3.5x25.4	A30O4BF71M	10
	633286	350x4.0x25.4	A30N-BF02M	10
	780938	400x3.5x25.4	A36N5BF71M	10
	639076	400x4.0x25.4	A30N-BF02M	10
	396678	400x4.0x40	A30N-BF02M	10
	196324	400x4.0x32	A30Q-BF02M	10
	136777	400x4.0x40	A30Q-BF02M	10
	272894	400x4.0x40	A24P-BF02M	10
	37348	400x4.0x25.4	A24Q4BF71M	10
	829562	400x4.0x51	A30N4BF71A2100	10
	630537	400x4.0x51	A30P5BF71M100	10
	514338	500x5.5x40	A24O4BF71M100	10
	722981	500x5.0x25.4	A24Q4BF71M	10
	647252*	250x2.5x25.4	M102A24P3BF14A2	10
	647256*	350x3.5x40	M102A24P4BF71M	10
	647258*	400x4.0x40	M102A24P4BF71M	10
	647259*	500x5.0x40	M101A24O4BF71M	10
	647260*	600x6.0x60	M101A24O4BF71M2	10
42	647685*	400x5.0x60	M102A24P4BF71M	10

Items with grey lettering are only available on request.
** Also for inox and cast iron*

★★★ PREMIUM

Cut-off wheels
For steel

TYROLIT provides the optimal tools for use on stationary cutting machines in chop cut. This special tool is ideal for cutting workpieces with large cross-sections, as well as solid material and profiles. The internal reinforcement and rough side surfaces enable low burr cutting of workpieces.

As with all TYROLIT STANDARD** cut-off wheels, this tool has been optimised to achieve excellent cutting ability and lifetime.



Shape		Type no.	Dimension	Specification	PU
	41	390531	300x2.5x25.4	A46S-BF	10
		390532	350x2.8x25.4	A46S-BF	10
		384756	350x4x20	A30-BF	10

★ BASIC

Cut-off wheels
For steel

This special tool is ideal for cutting workpieces with large cross-sections, as well as solid material and profiles. The internal reinforcement and rough side surfaces enable low burr cutting of workpieces.

As with all TYROLIT BASIC* cut-off wheels, this tool has been optimised to achieve excellent cutting ability and lifetime.



Shape		Type no.	Dimension	Specification	PU
	41	223032	300x2.5x25.4	A46S-BF	10
		223033	350x2.8x25.4	A46S-BF	10

Items with grey lettering are only available on request.

★
BASIC

Cut-off wheels
For stainless steel



TYROLIT provides the optimal tools for use on stationary cutting machines in chop cut. The tool is suitable for cutting metal sheets, profiles, pipes, rods and solid material. Despite its versatile use, the tool offers maximum cutting ability and the longest lifetime.
The chemical purity of this tool is a requirement of machining stainless steel in order to avoid impairments to the material, such as corrosion, pitting or a reduction in the fatigue strength.



Shape		Type no.	Dimension	Specification	PU
	41	647224*	250x2.5x25.4	A24Q4-BF97A2	10
		559743	300x2.5x25.4	A46N4BF68M	10
		66490	300x3x25.4	A24O-BFXM	10
		647229*	300x3.5x32	A24Q4-BF97M	10
		519232	350x2.5x25.4	A46N4BF68M	10
		66491	350x3.5x25.4	A24O-BFXM	10
		94110	350x3.5x32	A24O-BFXM	10
		647216*	350x3.5x40	A24Q4-BF97M	10
		538503	400x2.5x25.4	A46N4BF68M	10
		551616	400x3.0x25.4	A46N4BF68M	10
		66493	400x4.0x40	A24O-BFXM	10
		647218*	400x4.0x40	A24Q4-BF97M	10
		460744*	500x5.0x40	A24P4-BF97M	10
		793077*	500x5.5x25.4	A241P4-BF98M	10
		647232*	600x6.0x60	A24O4-BF97M2	10
	42	647684*	400x5.0x60	A24Q4-BF97M	10
		647389*	500x6.0x60	A24P4-BF97M	10
		647377*	600x7.0x60	A24O4-BF97M2	10

★★★
PREMIUM

Cut-off wheels
For nonferrous metals



In order to cut nonferrous metals, the tool must have a high cutting ability. To this end, TYROLIT has developed a special formula and production method in order to be able to perform stationary cutting on NF metals too. New specifications prevent the clogging and dulling of the grinding wheel which used to be a common result of material abrasion.
As with all TYROLIT PREMIUM*** cut-off wheels, this tool has been optimised to achieve the best possible cutting ability and lifetime.



Shape		Type no.	Dimension	Specification	PU
	41	58157	300x3.5x25.4	A30P4BF59M	10
		309471	350x3.5x25.4	A30O4BF59M	10
		800035	400x4.0x40	A30O4BF59M	10
		56918	500x5.0x25.4	A30P4BF59M100	10
		422374	500x5.5x40	A24N5BF59M2	10

Items with grey lettering are only available on request.

Cut-off wheels
For stone

With this tool you obtain the ideal solution for stationary cutting of common building materials. This PREMIUM*** cut-off wheel achieves the best results for large cross-sections due to its excellent cutting ability that reduces the work of the operator.

As with all TYROLIT PREMIUM*** cut-off wheels, this tool has been optimised to achieve the best possible cutting ability and lifetime.

	Shape		Type no.	Dimension	Specification	PU
		41	1649	350x4.0x25.4	C20O4BF33M	10
			28692	400x4.0x30	C20O4BF33M	10
			639799	500x5.0x25.4	C20P4BF71M	10

FOCUR SA
Diamond cut-off wheel for grey and spheriodal cast iron

FOCUR SA diamond cut-off wheels from TYROLIT are the optimum tool for machining grey and spheroidal cast iron. These products combine a long lifetime with maximum economic efficiency.

FOCUR SA cut-off wheels are available in diameters from 178 to 600 mm.

	Shape		Type no.	Dimension	Specification	PU
		UC3	102814	300x3.0x40	DC CI	1
			102831	350x3.5x40	DC CI	1
			102850	400x4.0x60	DC CI	1
			102855	450x4.0x60	DC CI	1
			102856	500x5.0x60	DC CI	1
			102859	600x5.0x60	DC CI	1

Accessories for stationary cutting
Reduction bushes

Reduction bushes minimise tool diversity and save on storage space. Bushes for stationary cut-off wheels are supplied to our customers on request.

Always observe the recommended safety instructions during use.

		Type no.	Dimension	Specification	PU
	100RR	332480	40x3.0x32	1	10
		332479	40x3.2x25.4	1	10
		332459	60x6.0x40	1	10

Items with grey lettering are only available on request.

Ordering Example

Dimensions of the cut-off wheel: 250x1.5x32 mm
Material to be cut: Tool steel workpiece Wst.nr. 1.2312 (40CrmnmoS8–6)

Hardness: 440 hV / 44.5 hRC
Result: Type 167205



Hardness		Recommended specification		
Vickers hardness	Rockwell	Hard	Medium	Soft
1 000 HV	72.3 HRC			
700 HV	60.5 HRC			
500 HV	49.1 HRC			
350 HV	35.5 HRC			
250 HV	22.0 HRC			
150 HV				
120 HV				
80 HV				
50 HV				
30 HV				

Dimension	Type No.	Type No.	Type No.
432x3.0x32	167352	167351	167344
400x3.0x32	167340	167339	167338
350x2.5x32	169477	167334	167333
300x2.0x32	169479	167226	167225
250x1.5x32	167207	167205	165940
230x1.5x32	167219	167215	167214
Specification	A80-BH	A80-BM	A80-BS

★★★ PREMIUM

LAB

Laboratory for nonferrous metals, plastics and titanium

Application guidelines
- Use sufficient coolant with 2–3 % anti-corrosion additive
- Avoid applying too much pressure to prevent any cut deviation
- For larger workpiece dimensions, we recommend using the next softest specification



Dimension	Type No. NF metals	Type No. Plastics	Type No. Titanium
432x3.0x32	167354	167351	
400x3.0x32	167432	167354	
350x2.5x32	167335	167335	167336
300x2.0x32	167229	167229	
250x1.5x32	167210	167210	167211
230x1.5x32	167220	167220	167221
Specification	C80-BN	C80-BN	C80-BT

vs _< 50 m/sec (higher speed on request)

★★★ PREMIUM

LAB
For steel and stainless steel

The PREMIUM*** laboratory cut-off wheel is a high-performance cut-off wheel for ferrous metals such as steel and stainless steel. It is used for cutting laboratory samples that have to be cut quickly and without structural alterations, workpiece deformations or cracks. Assembly is usually carried out on wet cutting systems with a manual or automatic feed, at a maximum operating speed of 50 m/s.
The workpiece must be fixed during machining and the wheel must not be exposed to lateral load. Laboratory cut-off wheels are available in various specifications:
- soft for 60.5–72.3 HRC
- medium for 22.0–60.5 HRC
- hard up to 22.0 HRC



Shape	Type no.	Dimension	Specification	Classification	PU
41N	167219	230x1.5x32	A80-BH50	Hard	10
	167215	230x1.5x32	A80-BM50	Medium	10
	167214	230x1.5x32	A80-BS50	Soft	10
	167207	250x1.5x32	A80-BH50	Hard	10
	167205	250x1.5x32	A80-BM50	Medium	10
	165940	250x1.5x32	A80-BS50	Soft	10
	596848	250x1.8x32	89A60L5B17/50	Very easy cutting	10
	169479	300x2.0x32	A80-BH50	Hard	10
	167226	300x2.0x32	A80-BM50	Medium	10
	167225	300x2.0x32	A80-BS50	Soft	10
	597041	300x2.0x32	89A60L5B17/50	Very easy cutting	10
	169477	350x2.5x32	A80-BH50	Hard	10
	167334	350x2.5x32	A80-BM50	Medium	10
	167333	350x2.5x32	A80-BS50	Soft	10
	597383	350x2.5x32	89A60J5B17/50	Very easy cutting	10
	167340	400x3.0x32	A80-BH50	Hard	10
	167339	400x3.0x32	A80-BM50	Medium	10
	167338	400x3.0x32	A80-BS50	Soft	10
	167352	432x3.0x32	A80-BH50	Hard	10
	167351	432x3.0x32	A80-BM50	Medium	10
	167344	432x3.0x32	A80-BS50	Soft	10

★★★ PREMIUM

LAB
For titanium, nonferrous metals and plastic

The PREMIUM*** laboratory cut-off wheel is a high-performance cut-off wheel for nonferrous metals, titanium and plastic. It is used for cutting laboratory samples that have to be cut quickly and without structural alterations, workpiece deformations or cracks. Assembly is usually carried out on wet cutting systems with a manual or automatic feed, at a maximum operating speed of 50 m/s.

Sufficient coolant with 2–3 % anti-corrosive must be used for machining, and feed values must not be too high in order to prevent a cut deviation. The workpiece must be fixed during machining and the wheel must not be exposed to lateral load.



Shape	Type no.	Dimension	Specification	Classification	PU
41N	167220	230x1.5x32	C80-BN50	Nonferrous / Plastice	10
	167221	230x1.5x32	C80-BT50	Titanium	10
	167210	250x1.5x32	C80-BN50	Nonferrous / Plastice	10
	167211	250x1.5x32	C80-BT50	Titanium	10

▶

Items with grey lettering are only available on request.

★★★ PREMIUM LAB

For titanium, nonferrous metals and plastic



Shape		Type no.	Dimension	Specification	Classification	PU
41N		167229	300x2.0x32	C80-BN50	Nonferrous / Plastice	10
		167335	350x2.5x32	C80-BN50	Nonferrous / Plastice	10
		167336	350x2.5x32	C80-BT50 A2	Titanium	10
		167342	400x3.0x32	C80-BN50	Nonferrous / Plastice	10
		167354	432x3.0x32	C80-BN50	Nonferrous / Plastice	10

★★★ PREMIUM Cut-off wheels for cutting and saw sharpening

For steel und HSS

This PREMIUM*** wheel is a non-reinforced high-performance cut-off wheel for stationary machines and automatic saw sharpening machines. As these cut-off wheels are manufactured without reinforcement, they are only suitable for wet cutting on stationary machines.

The workpiece must be fixed during machining and the wheel must not be exposed to lateral load.



Shape		Type no.	Dimension	Specification	PU
1		591080*	150x3.0x20	A60O5B68	10
		655529*	200x2.0x25	89A60M5B0	10
41N		529392	100x1.0x20	A80N4B2	10
		202159	100x1.0x20	A80N4B68	10
		46633	100x1.0x20	A80O4B43	10
		722408	100x1.5x20	A80N4B2	10
		6673	100x2.0x20	A80N4B2	10
		88461**	120x2.0x51	A60N4B2	10
		282077	120x2.0x51	A60N5B68	10
		608409	120x2.0x51	A60P4B68	10
		1197	120x2.0x51	A60O5B43	10
		596269	125x1.0x16	A60O5B68	10
		25590	125x1.0x20	A60O5B43	10
		282079	125x1.0x20	A60N5B68	10
		35917	125x1.0x20	A80O5B43	10
		282080	125x1.0x20	A80N5B68	10
		282078	125x1.5x20	A60N5B68	10
		614686	150x1.0x16	A60P5B68	10
		282110	150x1.0x20	A60N5B68	10
		1211	150x1.0x20	A60O5B43	10
		591103	150x1.0x20	A60O5B68	10
		282111	150x1.0x20	A80N5B68	10

** For saw sharpening only. **Also suitable for saw sharpening.*

Items with grey lettering are only available on request.



Shape		Type no.	Dimension	Specification	PU
	41N	13695	150x1.0x20	A80O5B43	10
		594360	150x1.0x20	A80O5B68	10
		75306	150x1.0x30	97A54P5B71	10
		39110	150x1.0x32	A80O5B43	10
		8833	150x1.5x20	A60O5B43	10
		282085	150x1.5x20	A60N5B68	10
		591104	150x1.5x20	A60O5B68	10
		282105	150x1.5x20	A80N5B68	10
		79957	150x1.5x20	A80O5B43	10
		73385	150x1.5x20	97A54Q5B43	10
		662430	150x1.5x32	A80N5B68	10
		42808	150x1.6x20	A60P4B43	10
		227165	150x1.6x32	A60O5B43	10
		58158	150x1.6x32	A60P4B43	10
		15685	150x2.0x20	A60O5B43	10
		32023	150x2.0x20	A60N4B2	10
		282112	150x2.0x20	A60N5B68	10
		594362	150x2.0x20	A60O5B68	10
		594356	150x2.0x30	A60O5B68	10
		33436	150x2.0x30	A60N4B2	10
		594357	150x2.0x30	A60Q5B68	10
		39594	150x2.0x30	97A54P5B71	10
		648577	150x2.0x32	A60O4B68	10
		80143	150x2.0x32	A80N4B2	10
		223516**	150x2.5x20	A60N4B2	10
		598971	150x2.5x20	A60O5B68	10
		591680	150x2.5x30	A60Q5B68	10
		47636	175x1.7x16	A60Q5B43	10
		596520	175x2.0x51	A60P4B68	10
		607744	175x3.0x51	A60P4B68	10
		675283	180x1.0x32	A60O5B43	10
		493199	180x1.6x32	A60O5B68	10
		282113	200x1.5x20	A60N5B68	10
		1254	200x1.5x20	A60O5B43	10
		282114	200x1.5x32	A60N5B68	10
		6718	200x1.5x32	A60O4B43	10
		42809	200x1.6x25.4	A60P4B43	10
		230691	200x1.6x32	A60M4B43	10

**For saw sharpening only. **Also suitable for saw sharpening.*

Items with grey lettering are only available on request.

★★★ PREMIUM

Cut-off wheels for cutting and saw sharpening

For steel and HSS



Shape		Type no.	Dimension	Specification	PU
	41N	205822	200x1.6x32	A60P4B43	10
		6710**	200x2.0x20	A60N4B2	10
		96205**	200x2.0x32	A60N4B2	10
		62874	200x2.0x32	A60N4B43	10
		97442	200x2.5x32	A60N4B2	10
		12970**	200x3.0x32	A60N4B2	10
		863284	200x3.0x32	A60P4B68	10
		599666	230x1.5x22.2	89A60N4B68	10
		373520	250x1.5x25.4	A60O5B71	10
		834839	250x1.6x32	89A80L4B43	10
		549002	300x2.0x31.75	89A80L4B43	10
		60572	300x2.0x32	A80O5B71	10
		220394	400x2.8x25.4	89A60L4B59	10

** For saw sharpening only. **Also suitable for saw sharpening.*

Cutting rotating tools

For HSS

The high-performance cut-off wheel for HSS achieves a perfect cutting performance thanks to its innovative bond system and tailored grain quality. Avoid feed values that are too high during machining, to prevent a cut deviation.

Assembly is usually carried out on wet cutting systems with a manual or automatic feed, at a maximum operating speed of 50 m/s.



Shape		Type no.	Dimension	U-X	Specification	PU
	1A1R	788700	125x1.0x20	1–5	B126 C75 B	1
		164485	125x1.0x20	1–5	B151 C100 B	1
		494701	150x1.0x20	1–5	B151 C100 B	1

Items with grey lettering are only available on request.

Cutting rotating tools

For tungsten carbide

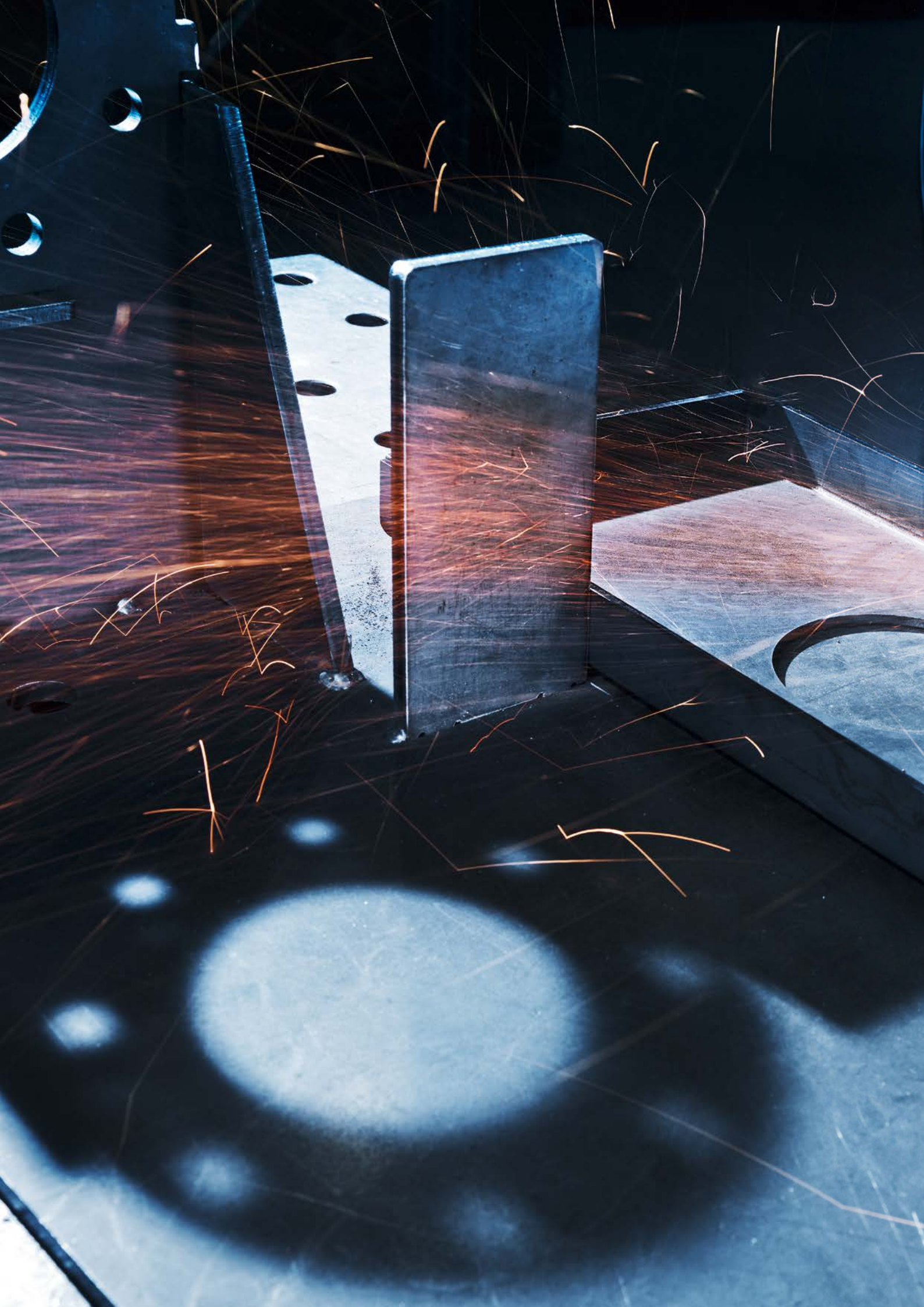
The high-performance cut-off wheel for tungsten carbide achieves a perfect cutting performance thanks to its innovative bond system and tailored grain quality. Avoid feed values that are too high during machining, to prevent a cut deviation.

Assembly is usually carried out on wet cutting systems with a manual or automatic feed, at a maximum operating speed of 50 m/s.



Shape		Type no.	Dimension	U-X	Specification	PU
	1A1R	299109	75x1.0x20	0.8–5	D151 C75 B	1
		157800	75x0.8x20	0.8–5	D126 C75 B	1
		119395	100x0.8x20	0.8–5	D126 C100 B	1
		100660	100x1.0x20	41030	D126 C100 B	1
		108728	100x1.5x20	1.5–5	D126 C75 B	1
		101000	125x1.0x20	41030	D126 C100 B	1
		148132	150x1.0x20	41030	D126 C100 B	1
		317532	150x1.0x20	41030	D126 C75 B	1
		278979	150x1.0x20	41030	D151 C100 B	1
		667995	200x1.0x22	41030	D126 C100 B	1
		858531	200x1.2x20	1.2–7	D126 C100 B	1
		603284	200x1.2x30	1.2–7	D151 C100 B	1

Items with grey lettering are only available on request.





Catalogue 20
Grinding

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Specific information
Resin-bonded grinding wheels

Grinding wheels product label



Maximum operating speed and maximum allowable speed

Performance level

Application and safety pictograms

EN safety standards

oSa safety guidelines

Type number

Material suitability

Registered trademark

Expiry date

Special application (not available everywhere)

Shape and specification

Dimensions DxTxH in mm and inches

EAN code

Colour codes

						
Label	Steel	2in1 / 3in1	INOX	Nonferrous metals	Cast iron	Stone
Colour code	BLUE	BLUE	RED	ORANGE	PURPLE	GREEN
Material	Steel	2in1 = Steel and stainless steel, 3in1 = Steel, stainless steel and cast iron	Stainless steel	Aluminium, copper, zinc, brass, bronze, stone	Cast materials	Stone

Specification

A 24 Q - B F X

X	TYROLIT internal designation	
F	Fibre-reinforced: fibre glass (safety, lateral load, operating speed)	
B	Bond: V = vitrified bonded, B = resin bonded, E = elastic bonded, G = galvanic bonded	
Q	Designation of hardness: N = soft, T = hard	
24	Grit size indication in mesh (sieve size per inch)	grit size in mesh
	14–36	coarse
	46–60	medium
	80–220	fine
	800–1 200	very fine
A	Abrasive: A = regular aluminium oxide, C = silicon carbide, ZA = zirconia alumina, CA = ceramic	

Machines



Angle grinder



Pneumatic angle grinder



Angle grinder with cup wheel

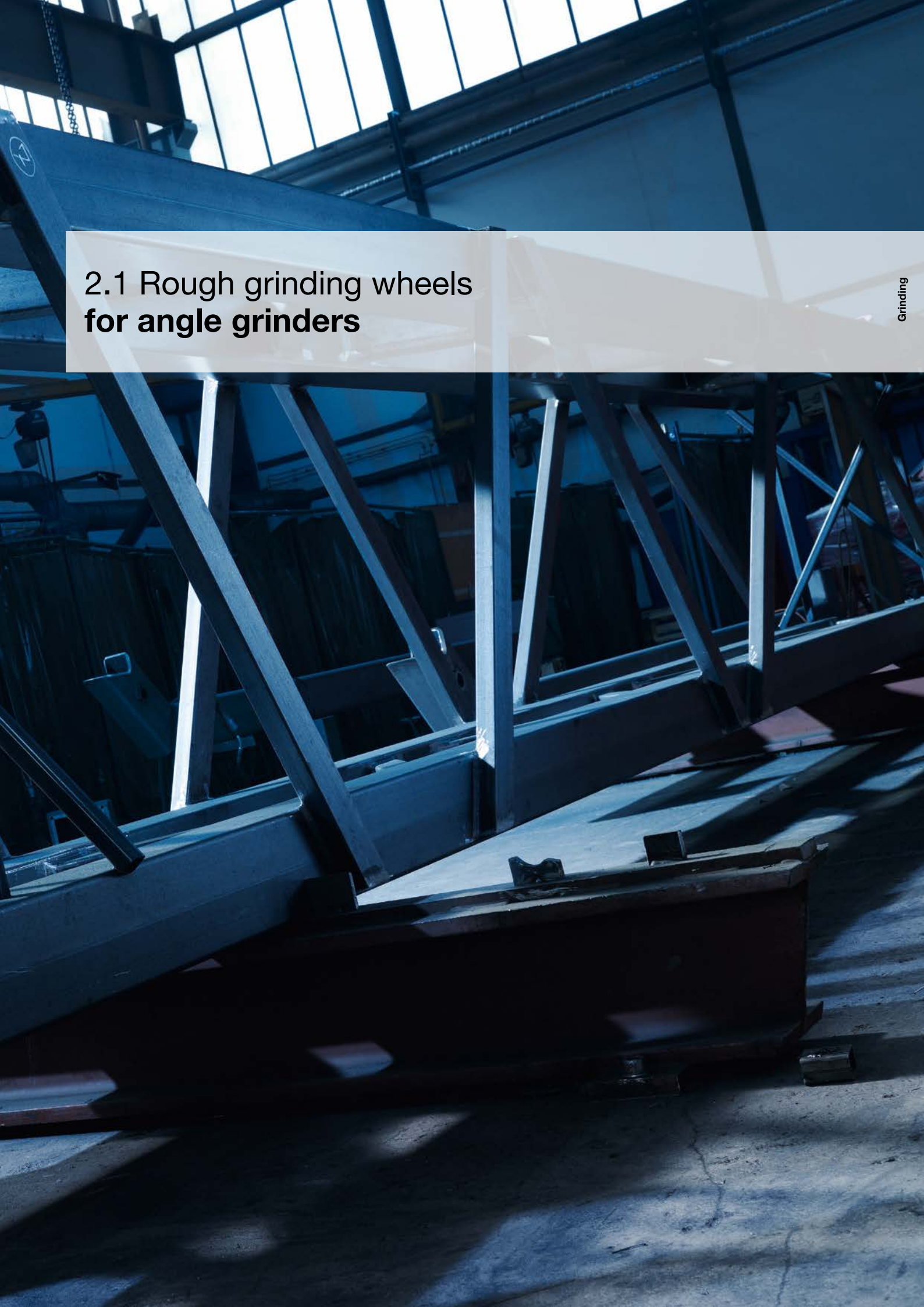


Straight grinder



Pedestal / pendular grinding





2.1 Rough grinding wheels **for angle grinders**



Rough grinding wheels **for angle grinders**

Working with an angle grinder is one of the most important processes in the handicraft and industrial sectors for machining all types of metals. TYROLIT offers the perfect rough grinding wheels for convenient and quick use with small and large angle grinders.

The TYROLIT range of rough grinding wheels meets the most stringent demands for cost-effective working, high stock removal rates, simple handling and above-average lifetimes. Our high-performance rough grinding wheels deliver the best results in both standard and special applications.

Continuous developments, such as the introduction of the “Comfort Start” edge, with which every user can achieve optimum results right from the start, make our rough grinding wheels one of the most advanced tools in the sector.

Working safety and comfort, provided for example by the vibration-damped VIBSTAR rough grinding wheel and the noise reducing SILENTIO, are also of great importance to us.

All TYROLIT rough grinding wheels are manufactured and tested in accordance with EN12413. Uniform colour coding helps you to find the appropriate product for your application.

Shapes



27 rough grinding wheel



27V rough grinding wheel (VIBSTAR vibration-damped)



27SI rough grinding wheel (SILENTIO noise-reduced)



28CON rough grinding wheel (CONFLEX)

Application recommendation

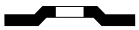
Shapeance Level	Specification	Design	Steel	Stainless steel	2in1	NF metals	Cast iron	3in1	Stone	Stainless steel/NF metals	Pages
★★★ PREMIUM	ZA24S-BFX	LONGLIFE	●								72
	CA24Q-BFK	CERABOND			●						73
	A30Q-BFX				●						74, 75, 76, 77
	A24Q-BFX				●						74, 75
	A24O-BFX				●						75
	A30P-BFX	FASTCUT			●						75
	A30Q-BFX	SILENTIO			●						76
	A30Q-BFX	CONFLEX			●						77
	ZA30Q-BFR							●			78
	A30R-BFX			●							79, 80, 81, 82
	A30R-BFX	VIBSTAR		●							80
	A30R-BFX	SILENTIO		●							81
	A30R-BFX	CONFLEX		●							82
	A36N-BFX					●					82, 83
	A36L-BFX					●					83
	ZZA24T-BFK	T-GRIND	●				●				84
	DCCI	FOCUR SA	●				●				84
	ZA24N-BFX	FOCUR EXTRA					●				85
	ZA24P-BFX	FOCUR EXTRA					●				85
	ZZA24R-BFX	FOCUR EXTRA					●				85
	ZZA24S-BFX	FOCUR EXTRA					●				85, 86
	ZA24N-BFX	FOCUR EXTRA VIBSTAR					●				85
	ZA24P-BFX	FOCUR EXTRA VIBSTAR					●				85
	ZZA24R-BFX	FOCUR EXTRA VIBSTAR					●				85
	ZZA24S-BFX	FOCUR EXTRA VIBSTAR					●				85, 86
	C30S-BFX								●		86
★★ STANDARD	A24S-BF		●								72
	A30R-BFINOX			●							82
	ZA30O-BF	FOCUR					●				86
	C30S-BF								●		87
★ BASIC	A30Q-BF				●						77, 78
	A30Q-BF PIPE	PIPELINER			●						78
	A30-BF PIPE	PIPELINER			●						78
	A30P-BF	FASTCUT			●						78
	AC30N-BF						●				86
	C30S-BF								●		87
	WA46R-BF	TOUCH								●	87

Items with grey lettering are only available on request.

★★★ PREMIUM

Rough grinding wheel
LONGLIFE for steel

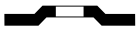
The PREMIUM*** LONGLIFE is a high-performance rough grinding wheel for surface and edge grinding. The 4 mm thick rough grinding wheel achieves the highest stock removal rates, such as required PIPELINE construction applications.
The 7, 8 and 10 mm thick LONGLIFE rough grinding wheels offer enhanced dimensional stability for welding and root welding.

	Shape		Type no.	Dimension	Specification	PU
		27	34353701	115x4.0x22.23	ZA24S-BFX	10
			34353683*	115x7.0x22.23	ZA24S-BFX	10
			34353702	125x4.0x22.23	ZA24S-BFX	10
			34353684*	125x7.0x22.23	ZA24S-BFX	10
			34353704	150x4.0x22.23	ZA24S-BFX	10
			34353686*	150x7.0x22.23	ZA24S-BFX	10
			34353705	178x4.0x22.23	ZA24S-BFX	10
			34353687*	178x7.0x22.23	ZA24S-BFX	10
			34353688*	178x8.0x22.23	ZA24S-BFX	10
			34353706*	230x4.0x22.23	ZA24S-BFX	10
			34353689*	230x7.0x22.23	ZA24S-BFX	10

★★ STANDARD

Rough grinding wheel
for steel

The STANDARD** rough grinding wheel is a powerful rough grinding wheel for surface and edge grinding. The tool boasts optimised cutting ability and a long lifetime.
Even with low pressure, the wheel is abrasive and easy to handle.

	Shape		Type no.	Dimension	Specification	PU
		27	368002*	100x6.0x16	A24S-BF	10
			367377*	115x6.0x22.23	A24S-BF	10
			367771*	125x6.0x22.23	A24S-BF	10
			367772*	150x6.0x22.23	A24S-BF	10
			367773*	178x6.0x22.23	A24S-BF	10
			367775*	230x6.0x22.23	A24S-BF	10

** With Comfort Start edge*

Items with grey lettering are only available on request.

★★★
PREMIUM

Rough grinding wheel

CERABOND 2in1 for steel and stainless steel



Rough grinding wheel with and without "Comfort Start".

TYROLIT film

The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

+ **Improved productivity**
A special structural composition offers maximum system performance.

+ **Shorter work processes**
Working times are substantially reduced through improved abrasiveness.



+ **Lower production costs**
The unique bond technology, optimised for ceramic grain, prevents the grain break-out and leads to a longer lifetime for the tool.

The TYROLIT CERABOND system brings almost 100 years of experience to a new generation of highest performance tools. With the rough grinding wheels from the CERABOND family, we have succeeded in achieving an ideal combination of specially treated ceramic grain and bond structure.

Thus it is possible to keep the abrasiveness and the lifetime of the wheel at the highest level. The unique bond system prevents premature grain break-out in order to guarantee the full grinding power of the individual grains. This rough grinding wheel is particularly suitable for steel and stainless steel applications.

★★★
PREMIUM

Rough grinding wheel

CERABOND 2in1 for steel and stainless steel

	Shape		Type no.	Dimension	Specification	PU
		27	34060373	115x4.0x22.23	CA24Q-BFK	5
			34019874*	115x7.0x22.23	CA24Q-BFK	5
			34060374	125x4.0x22.23	CA24Q-BFK	5
			34019876*	125x7.0x22.23	CA24Q-BFK	5
			34060375	150x4.0x22.23	CA24Q-BFK	5
			34019877*	150x7.0x22.23	CA24Q-BFK	5
			34060376	178x4.0x22.23	CA24Q-BFK	5
			34019878*	178x7.0x22.23	CA24Q-BFK	5
			34060377	230x4.0x22.23	CA24Q-BFK	5
			34019879*	230x7.0x22.23	CA24Q-BFK	5

** With Comfort Start edge*

Items with grey lettering are only available on request.

★★★
PREMIUM

Rough grinding wheel

2in1 for steel and stainless steel



Rough grinding wheel with and without "Comfort Start".

+ **Enhanced economic efficiency**
High abrasiveness coupled with a significantly longer lifetime.

+ **Less work required**
The destruction of the workpiece as a result of plunging with the tool is prevented, thus avoiding rework.



TYROLIT film

The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

+ **Enhanced comfort while working**
With the "Comfort Start" function, plunging into the workpiece is prevented, thus making the start of the process simpler and more convenient.

This rough grinding wheel is particularly suitable for steel and stainless steel applications. Due to its softer design, the PREMIUM*** 2in1 is quick and convenient to use and requires minimal effort. This is made possible by a new bond with coarser grain and a new layer composition.

What makes our 2in1 rough grinding wheel so unique is the bevelled and defined edge of the tool. With the "Comfort Start" edge, the user can achieve a pleasant start to grinding and the level of comfort while working is increased many times over.

★★★
PREMIUM

Rough grinding wheel

2in1 for steel and stainless steel







Shape		Type no.	Dimension	Specification	PU
	27	5270	75x6.0x9.5	A30Q-BFX	10
		23875	100x4.0x16	A30Q-BFX	10
		34046119*	100x6.0x16	A24Q-BFX	10
		5287	115x4.0x22.23	A30Q-BFX	10
		34046120*	115x7.0x22.23	A24Q-BFX	10
		5308	125x4.0x22.23	A30Q-BFX	10
		34046131*	125x7.0x22.23	A24Q-BFX	10
		734378	150x4.0x22.23	A30Q-BFX	10
		34046132*	150x7.0x22.23	A24Q-BFX	10

** With Comfort Start edge*

▶

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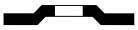
	Shape		Type no.	Dimension	Specification	PU
		27	5349	178x4.0x22.23	A30Q-BFX	10
			34046133*	178x7.0x22.23	A24Q-BFX	10
			34046135*	178x8.0x22.23	A24Q-BFX	10
			5406	230x4.0x22.23	A30Q-BFX	10
			34046134*	230x7.0x22.23	A24Q-BFX	10
			34046136*	230x8.0x22.23	A24Q-BFX	10
			34046137*	230x10.0x22.23	A24Q-BFX	10
			545254**	178x7.0x22.23	A24O-BFX	10
			545255**	230x7.0x22.23	A24O-BFX	10
			545256**	230x10.0x22.23	A24O-BFX	10

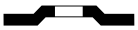
** With Comfort Start edge*
*** For very hard materials*

★★★ PREMIUM

Rough grinding wheel
FASTCUT 2in1 for steel and stainless steel



The PREMIUM*** FASTCUT rough grinding wheel optimises the cutting ability and, together with its unique “Comfort Start” edge, realises the highest level of comfort plus an excellent lifetime. All of these features guarantee economical and efficient methods for the operator with regard to the comfortable machining of steel and stainless steel. You can see for yourself the performance and abrasiveness of the FASTCUT rough grinding wheel.

	Shape		Type no.	Dimension	Specification	PU
		27	5293*	115x7.0x22.23	A30P-BFX	10
			5313*	125x7.0x22.23	A30P-BFX	10
			5330*	150x7.0x22.23	A30P-BFX	10
			1421*	178x7.0x22.23	A30P-BFX	10
			5382*	178x8.0x22.23	A30P-BFX	10
			5412*	230x7.0x22.23	A30P-BFX	10
			5428*	230x8.0x22.23	A30P-BFX	10
			60474*	230x10.0x22.23	A30P-BFX	10

** With Comfort Start edge*

Items with grey lettering are only available on request.

★★★
PREMIUM

Rough grinding wheel

SILENTIO 2in1 for steel and stainless steel

+ **Enhanced economic efficiency**
Maximum stock removal rate and a long lifetime for stainless steel applications.

+ **Enhanced work safety**
The sound insulation reduces lasting physical strain.



+ **Univeral use**
The PREMIUM*** SILENTIO rough grinding wheel is equally suitable for surface and edge grinding on steel and stainless steel.

The PREMIUM*** SILENTIO sets new milestones in terms of noise reduction. With a reduction of 10 decibels, noise perception is minimised by 50 %. This increases the user's level of comfort while working, avoiding lasting physical harm. This rough grinding wheel has been developed for stainless steel applications and is suitable for use with both steel and stainless steel.

★★★
PREMIUM

Rough grinding wheel

SILENTIO 2in1 for steel and stainless steel

	Shape		Type no.	Dimension	Specification	PU
		27SI	285439*	230x8.0x22.23	A30Q-BFX	10

** With Comfort Start edge*

Items with grey lettering are only available on request.

★★★ PREMIUM

Rough grinding wheel
CONFLEX for steel and stainless steel

With the PREMIUM*** CONFLEX the optimum grinding angle is already preset due to the wheel shape. This makes horizontal machine guiding possible, facilitating the user's work.

Using the optimal angle makes it possible to achieve consistent wear of the tool and an even surface. This rough grinding wheel is particularly suitable for steel and stainless steel applications.

	Shape		Type no.	Dimension	Specification	PU
		28CON	5267*	178x7.0x22.23	A30Q-BFX	10

★ BASIC

Rough grinding wheel
2in1 for steel and stainless steel

This rough grinding wheel is particularly suitable for steel and stainless steel applications due to its softer design. In addition, the BASIC* 2in1 is quick and convenient to use and requires minimal effort.

This tool can be used universally and is equally suitable for surface and edge grinding applications.

	Shape		Type no.	Dimension	Specification	PU
		27	34257181	100x4.0x16	A30Q-BF	10
			222854*	100x6.0x16	A30Q-BF	10
			34257184	115x4.0x22.23	A30Q-BF	10
			222858*	115x6.0x22.23	A30Q-BF	10
			34257187	125x4.0x22.23	A30Q-BF	10
			222860*	125x6.0x22.23	A30Q-BF	10
			34176633	150x4.0x22.23	A30Q-BF	10
			222861*	150x6.0x22.23	A30Q-BF	10
			34257201	178x4.3x22.23	A30Q-BF	10
			222863*	178x6.0x22.23	A30Q-BF	10
			222868*	178x8.0x22.23	A30Q-BF	10
			34257206	230x4.3x22.23	A30Q-BF	10
			222865*	230x6.0x22.23	A30Q-BF	10
			222870*	230x8.0x22.23	A30Q-BF	10

** With Comfort Start edge*

Items with grey lettering are only available on request.

★ BASIC

Rough grinding wheel
FASTCUT 2in1 for steel and stainless steel

This rough grinding wheel is particularly suitable for steel and stainless steel applications. Due to its soft design, the BASIC* FASTCUT 2in1 is optimised in its cutting ability in order to achieve high stock removal rates in the shortest possible time.

This tool can be used universally and is equally suitable for surface and edge grinding applications.



Shape		Type no.	Dimension	Specification	PU
27		297324	100x6.0x16	A30P-BF	10
		297325	115x6.0x22.23	A30P-BF	10
		297327	125x6.0x22.23	A30P-BF	10
		297329	150x6.0x22.23	A30P-BF	10
		297331	178x6.0x22.23	A30P-BF	10
		718030	178x8.0x22.23	A30P-BF	10
		297333	230x6.0x22.23	A30P-BF	10

** With Comfort Start edge*

★ BASIC

Rough grinding wheel
PIPELINER 2in1 for steel and stainless steel

The BASIC* PIPELINER has been developed for V-groove applications. Specifically in PIPELINE construction, it is necessary to chamfer the pipe ends in order to subsequently weld them together. As they only comprise one grain layer, they provide for even wear on the workpiece.

The PIPELINER is a 2in1 rough grinding wheel and is therefore equally suitable for steel and stainless steel.



Shape		Type no.	Dimension	Specification	PU
27		734693	178x7.0x22.23	A30Q-BF PIPE	10
		34307835	230x7.0x22.23	A30Q-BF PIPE	10

** With Comfort Start edge*

★★★ PREMIUM

Rough grinding wheel
3in1 for steel, stainless steel and cast iron

With the PREMIUM*** 3in1 rough grinding wheel with zirconium aluminium oxide you can impress on three levels. High performance on steel, stainless steel and cast materials, as well as chemical purity distinguish the product. This tool does not contain iron, sulphur, chlorine and fluorine, and leaves workpiece surfaces in a neutral condition.

The abrasiveness and long lifetime enable high stock removal rates within the shortest possible time. Thanks to its chemical purity; free of iron, sulphur, chlorine and fluorine, the wheel is particularly suited to special application areas such as nuclear power stations.



Shape		Type no.	Dimension	Specification	PU
27		466744*	115x7.0x22.23	ZA30Q-BFR	10
		466749*	125x7.0x22.23	ZA30Q-BFR	10
		466754*	178x7.0x22.23	ZA30Q-BFR	10
		466762*	230x7.0x22.23	ZA30Q-BFR	10

** With Comfort Start edge*
Items with grey lettering are only available on request.

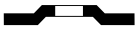
★★★ PREMIUM

Rough grinding wheel
For stainless steel

The high-performance rough grinding wheel has been specially designed for stainless steel applications. The PREMIUM*** INOX rough grinding wheel combines a long lifetime and the best cutting ability.

To achieve this a special mixture of regular aluminium oxide and zirconium aluminium oxide is used. This rough grinding wheel is specially designed for stainless steel applications.



Shape		Type no.	Dimension	Specification	PU
	27	117058*	100x6.0x16	A30R-BFX	10
		117064	115x4.0x22.23	A30R-BFX	10
		117065*	115x7.0x22.23	A30R-BFX	10
		117068	125x4.0x22.23	A30R-BFX	10
		117070*	125x7.0x22.23	A30R-BFX	10
		34042874	150x4.0x22.23	A30R-BFX	10
		34042875*	150x7.0x22.23	A30R-BFX	10
		117071	178x4.0x22.23	A30R-BFX	10
		117072*	178x7.0x22.23	A30R-BFX	10
		117073	230x4.0x22.23	A30R-BFX	10
		117074*	230x7.0x22.23	A30R-BFX	10

** With Comfort Start edge*

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★★★
PREMIUM

Rough grinding wheel

VIBSTAR for stainless steel

+ **More even surfaces**
Vibrations from the tool can also impair the surface finish; the PREMIUM*** VIBSTAR helps to prevent this.

+ **Enhanced work safety**
A significant reduction in the vibrational load prevents occupational illnesses.


TYROLIT
PREMIUM
VIB STAR
EDGE PROTECTION
EN 12413
RISTON
RISTON
RISTON

★★★
PREMIUM

Rough grinding wheel

SILENTIO for stainless steel

+ **Enhanced economic efficiency**
Maximum stock removal rate and a long lifetime for stainless steel applications.

+ **Enhanced work safety**
The sound insulation reduces lasting physical strain.



+ **Universal use**
The PREMIUM*** SILENTIO rough grinding wheel is equally suitable for surface and edge grinding on stainless steel.

The PREMIUM*** SILENTIO sets new milestones in terms of noise reduction. With a reduction of 10 decibels, noise perception is minimised by 50 %. This increases the user's level of comfort while working, avoiding lasting physical harm. This rough grinding wheel with a unique wheel shape has been specially designed for stainless steel applications.

★★★
PREMIUM

Rough grinding wheel

SILENTIO for stainless steel

	Shape		Type no.	Dimension	Specification	PU
		27SI	515988	178x7.0x22.23	A30R-BFX	10
			515989	230x8.0x22.23	A30R-BFX	10

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★★★ PREMIUM

Rough grinding wheel
CONFLEX for stainless steel

With the PREMIUM*** CONFLEX the optimum grinding angle is already preset due to the wheel shape. This makes horizontal machine guiding possible, facilitating the user's work.

Using the optimal angle makes it possible to achieve consistent wear of the tool and an even surface. This rough grinding wheel is specially designed for stainless steel applications.

	Shape		Type no.	Dimension	Specification	PU
		28CON	13616	230x7.0x22.23	A30R-BFX	10

★★ STANDARD

Rough grinding wheel
For stainless steel

The powerful rough grinding wheel has been specially designed for stainless steel applications. The STANDARD** INOX rough grinding wheel combines a long lifetime and the best cutting ability.

This is achieved through the use of regular aluminium oxide. This rough grinding wheel is specially designed for stainless steel applications.

	Shape		Type no.	Dimension	Specification	PU
		27	368014*	100x6.0x16	A30R-BFINOX	10
			367545*	115x6.0x22.23	A30R-BFINOX	10
			367548*	125x6.0x22.23	A30R-BFINOX	10
			367550*	150x6.0x22.23	A30R-BFINOX	10
			367551*	178x6.0x22.23	A30R-BFINOX	10
			367553*	178x8.0x22.23	A30R-BFINOX	10
			367554*	230x6.0x22.23	A30R-BFINOX	10
			367556*	230x8.0x22.23	A30R-BFINOX	10

** With Comfort Start edge*

★★★ PREMIUM

Rough grinding wheel
For nonferrous metals

The PREMIUM*** rough grinding wheel developed specifically for non-ferrous metals prevents clogging of the tool in order to reduce loading or dulling. Even at very low pressure, the wheel achieves extremely high abrasiveness.
TYROLIT's formula and production methods enable exceptionally high stock removal rates to be obtained for nonferrous metal applications. These rough grinding wheels are available in the hard N grade for surface and edge grinding, or in the softer cutting L grade for surface grinding.

	Shape		Type no.	Dimension	Specification	PU
		27	45919*	100x6.0x16	A36N-BFX	10
			5289	115x4.0x22.23	A36N-BFX	10
			5295*	115x7.0x22.23	A36N-BFX	10
			636789	125x4.0x22.23	A36N-BFX	10
			5316*	125x7.0x22.23	A36N-BFX	10

** With Comfort Start edge*

▶

Items with grey lettering are only available on request.

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Shape		Type no.	Dimension	Specification	PU
	27	913338	150x4.0x22.23	A36N-BFX	10
		47763*	150x7.0x22.23	A36N-BFX	10
		5351	178x4.0x22.23	A36N-BFX	10
		5365*	178x7.0x22.23	A36N-BFX	10
		46586	230x4.0x22.23	A36N-BFX	10
		5416*	230x7.0x22.23	A36N-BFX	10
		576049*	115x7.0x22.23	A36L-BFX	10
		647549*	125x7.0x22.23	A36L-BFX	10
		576050*	178x7.0x22.23	A36L-BFX	10
		647550*	230x7.0x22.23	A36L-BFX	10

** With Comfort Start edge*

★★★
PREMIUM

Rough grinding wheel

T-GRIND for steel and cast iron

+ **High productivity**
The combination of a long lifetime and high abrasiveness significantly increases the productivity of this rough grinding wheel.

+ **Cost-effective**
Due to the above-average lifetime of the T-GRIND, purchase and disposal costs are reduced.



+ **Highest demands**
Meets the highest demands of powerful pneumatic angle grinders.

The PREMIUM*** T-GRIND has been developed for the high demands exerted when using turbine and vane-type pneumatic grinders. The long lifetime ensures this rough grinding wheel provides a vast reduction in abrasive waste, making it an environmentally-friendly product. At the same time, the aggressive stock removal rate ensures more comfort and relief for the user while working.

▶

Items with grey lettering are only available on request.

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★★★ PREMIUM

Rough grinding wheel
T-GRIND for steel and cast iron

	Shape		Type no.	Dimension	Specification	PU
		27	701518*	125x7x22.23	ZZA24T-BFK	10
			701439*	178x7x22.23	ZZA24T-BFK	10
			701515*	230x7x22.23	ZZA24T-BFK	10

** With Comfort Start edge*

★★★ PREMIUM

FOCUR SA

Diamond rough grinding wheel for grey and spheroidal cast iron

+ **Enhanced safety**
The use of a steel core minimises the potential risk of wheel breakage.

+ **Long tool lifetimes**
The reduced number of wheel changes makes this tool the more economical option.



+ **Enhanced user comfort**
Fewer wheel changes make this tool the more economical option.

+ **Low risk to health**
Less dust generation when using this diamond rough grinding wheel lowers the health risk to the user.

FOCUR SA rough grinding wheels from TYROLIT are the optimum tool for machining grey and spheroidal cast iron components. This product combines a long tool life with maximum economic efficiency.
A low level of dust formation significantly increases user comfort compared to conventional rough grinding wheels.

★★★ PREMIUM

FOCUR SA
Diamond rough grinding wheel for grey and spheroidal cast iron

	Shape		Type no.	Dimension	Specification	PU
		4S2	34213572	115x2x22.23	DCCI	1
			34200772	125x2x22.23	DCCI	1
			34200773	180x2x22.23	DCCI	1
			34200775	230x2.5x22.23	DCCI	1

Items with grey lettering are only available on request.

★★★ PREMIUM

Rough grinding wheel
FOCUR EXTRA for cast iron

The PREMIUM*** FOCUR EXTRA offers maximum stock removal rates coupled with the longest lifetime. Innovative production technology combined with high-quality zirconium aluminium oxide makes this possible. This high-performance tool has been developed for application on all cast materials and can be used for surface grinding, deburring work and rendering. ZA24N-BFX: particularly for surface grinding, ZA24P-BFX: universal type, ZZA24R-BFX: the deburring specialist and ZZA24S-BFX: for long lifetimes.



Shape		Type no.	Dimension	Specification	PU
	27	233756*	125x7.0x22.23	ZA24N-BFX	10
		233757	178x4.0x22.23	ZA24N-BFX	10
		233759*	178x7.0x22.23	ZA24N-BFX	10
		233760	230x4.0x22.23	ZA24N-BFX	10
		233762*	230x7.0x22.23	ZA24N-BFX	10
		233765*	125x7.0x22.23	ZA24P-BFX	10
		233768*	178x7.0x22.23	ZA24P-BFX	10
		233771*	230x7.0x22.23	ZA24P-BFX	10
		233773*	125x7.0x22.23	ZZA24R-BFX	10
		233774	178x4.0x22.23	ZZA24R-BFX	10
		233776*	178x7.0x22.23	ZZA24R-BFX	10
		233777	230x4.0x22.23	ZZA24R-BFX	10
		233778*	230x7.0x22.23	ZZA24R-BFX	10
		929017	178x4.0x22.23	ZZA24S-BFX	10
		929018*	178x7.0x22.23	ZZA24S-BFX	10
		929019	230x4.0x22.23	ZZA24S-BFX	10
		929020*	230x7.0x22.23	ZZA24S-BFX	10

** With Comfort Start edge*

★★★ PREMIUM

Rough grinding wheel
FOCUR EXTRA VIBSTAR for cast iron

The vibration damping developed and patented by TYROLIT allows professional users to achieve exceptionally gentle grinding. The multi-layer structure and the permanently attached plastic flange reduce vibrations by up to 50 %. The PREMIUM*** VIBSTAR technology helps to prevent occupational illnesses, such as muscular and skeletal damage, and neurological illnesses and circulatory problems, such as vibration white finger. ZA24N-BFX: particularly for surface grinding, ZA24P-BFX: universal type, ZZA24R-BFX: the deburring specialist and ZZA24S-BFX: for long lifetimes.



Shape		Type no.	Dimension	Specification	PU
	27V	474527*	178x7.0x22.23	ZA24N-BFX	10
		474532*	230x7.0x22.23	ZA24N-BFX	10
		474528*	178x7.0x22.23	ZA24P-BFX	10
		474533*	230x7.0x22.23	ZA24P-BFX	10
		474529*	178x7.0x22.23	ZZA24R-BFX	10
		474534*	230x7.0x22.23	ZZA24R-BFX	10

** With Comfort Start edge*
Items with grey lettering are only available on request.

▶

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★★★ PREMIUM

Rough grinding wheel
FOCUR EXTRA VIBSTAR for cast iron



Shape		Type no.	Dimension	Specification	PU
	27V	474531*	178x7.0x22.23	ZZA24S-BFX	10
		474535*	230x7.0x22.23	ZZA24S-BFX	10

** With Comfort Start edge*

★★ STANDARD

Rough grinding wheel
FOCUR for cast iron

With the STANDARD** FOCUR rough grinding wheel you will obtain a tool that has been optimised in terms of its cutting ability and offers a high level of dimensional stability. Even with low pressure, the tool is abrasive and durable.

This powerful tool has been developed for application on all cast materials and can be used for surface grinding, deburring work and rendering.



Shape		Type no.	Dimension	Specification	PU
	27	154544*	178x7.0x22.23	ZA30O-BF	10
		154545*	230x7.0x22.23	ZA30O-BF	10

** With Comfort Start edge*

★ BASIC

Rough grinding wheel
For cast iron

With the BASIC* rough grinding wheel for cast iron you will obtain a tool that has been specially designed for rendering and offers a high level of dimensional stability. Even with low pressure, the tool is easy cutting and durable.

This tool has been developed for application on all cast materials and is particularly suitable for smoothing cast materials.



Shape		Type no.	Dimension	Specification	PU
	27	567352*	178x8.0x22.23	AC30N-BF	10
		567353*	230x8.0x22.23	AC30N-BF	10

** With Comfort Start edge*

★★★ PREMIUM

Rough grinding wheel
For stone

The abrasive PREMIUM*** rough grinding wheel for stone is quick and convenient to use and requires minimal exertion. It is ideal for soft to hard stone, natural and artificial stone and concrete.

This rough grinding wheel with silicon carbide is specifically for stone and short-chipping materials.



Shape		Type no.	Dimension	Specification	PU
	27	5368*	178x7x22.23	C30S-BFX	10
		5425*	230x7x22.23	C30S-BFX	10

** With Comfort Start edge*

Items with grey lettering are only available on request.

★★ STANDARD

Rough grinding wheel
For stone

The abrasive STANDARD** rough grinding wheel for stone is quick and convenient to use and requires minimal exertion. It is ideal for soft to hard stone, natural and artificial stone and concrete.

This rough grinding wheel with silicon carbide is specifically for stone and short-chipping materials.



Shape		Type no.	Dimension	Specification	PU
	27	368008*	100x6.0x16	C30S-BF	10
		367546*	115x6.0x22.23	C30S-BF	10
		367549*	125x6.0x22.23	C30S-BF	10
		367552*	178x6.0x22.23	C30S-BF	10
		367557*	230x6.0x22.23	C30S-BF	10

** With Comfort Start edge*

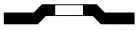
★ BASIC

Rough grinding wheel
For stone

The abrasive BASIC* rough grinding wheel for stone is quick and convenient to use and requires minimal exertion. It is ideal for soft to hard stone, natural and artificial stone and concrete.

This rough grinding wheel with silicon carbide is specifically for stone and short-chipping materials.



Shape		Type no.	Dimension	Specification	PU
	27	222872*	100x6.0x16	C30S-BF	10
		222873*	115x6.0x22.23	C30S-BF	10
		222889*	125x6.0x22.23	C30S-BF	10
		222892*	150x6.0x22.23	C30S-BF	10
		222043*	178x6.0x22.23	C30S-BF	10
		222898*	230x6.0x22.23	C30S-BF	10

** With Comfort Start edge*

★ BASIC

Grinding wheel
TOUCH for stainless steel and nonferrous metals

The semi-flexible BASIC* TOUCH combines the advantages of various products in one tool. The “waffle” structure enables cool grinding with good chip transport. In addition, the risk of material discolouration is reduced. The unique structure and low weight of the TOUCH suppresses vibrations, ensuring quiet operation and sound reduction.

The wheel also facilitates ideal adaptation to workpieces for grinding, deburring and shaping work. It is also possible to cut nonferrous metals.



Shape		Type no.	Dimension	Specification	PU
	29T	236317	100x16	WA46R-BF	25
		236318	115x22.23	WA46R-BF	25
		236319	125x22.23	WA46R-BF	25
		236320	178x22.23	WA46R-BF	25

Items with grey lettering are only available on request.



2.2 RONDELLER®
for angle grinders





RONDELLER®
for angle grinders

Working with an angle grinder is one of the most important processes in the handicraft and industrial sectors for machining all types of metals. TYROLIT has developed a special tool for use on an angle grinder that combines the product advantages of different grinding tools. It is not necessary to use any special accessories with the RONDELLER®, so simple handling is guaranteed.

Its unique geometry and stud pattern enable outstanding stock removal, cool, material-protecting grinding and ergonomic working. Vibration-free working and perfect adaptation to the workpiece is guaranteed when grinding, deburring and shaping curved surfaces.

Shapes

29 RON
RONDELLER®

Application recommendation

Performance Level	Specification	2in1	Stone	Plastic	NF metals	Pages
★★★ PREMIUM	A...Q-BF	●				91
	C...S-BF		●	●		91
	A...N-BF				●	92

Items with grey lettering are only available on request.

RONDELLER®

2in1 for steel and stainless steel

+ **High level of comfort while working**
These tools make vibration-free, ergonomic use possible and protect both user and machine.

+ **Universal use**
Ideal for use on steel and stainless steel, as well as for all grinding, deburring and shaping applications on curved surfaces.



+ **Simple handling**
Easy assembly - no need to use special accessories, such as back up pads and clamping nuts.

The TYROLIT PREMIUM*** RONDELLER® combines the product advantages of different grinding tools with the easiest handling. The unique geometry of the RONDELLER® enables cool, ergonomic grinding that is kind to materials.
Absolutely vibration-free use and optimal adaptation to the workpiece for all grinding, deburring and shaping applications means that curved surfaces can be perfectly machined.

★★★ PREMIUM

RONDELLER®

2in1 for steel and stainless steel



Shape		Type no.	Dimension	Specification	PU
	29RON	57004	115x22.23	A24Q-BF	25
		908225	115x22.23	A36Q-BF	25
		908226	115x22.23	A60Q-BF	25
		57005	125x22.23	A24Q-BF	25
		908227	125x22.23	A36Q-BF	25
		908229	125x22.23	A60Q-BF	25
		33199	125x22.23	A80Q-BF	25
		170599	150x22.23	A36Q-BF	25
		57006	178x22.23	A24Q-BF	25
		908230	178x22.23	A36Q-BF	25
		908231	178x22.23	A60Q-BF	25

Items with grey lettering are only available on request.

★★★ PREMIUM

RONDELLER®

For stone

The TYROLIT PREMIUM*** RONDERLLER® combines the product advantages of different grinding tools with the easiest handling. The unique geometry and stud pattern of the RONDERLLER® enables ergonomic grinding that protects materials.

Absolutely vibration-free use and optimal adaptation to the workpiece for all grinding jobs means that curved surfaces can be perfectly machined.

	Shape		Type no.	Dimension	Specification	PU
		29RON	908233	115x22.23	C36S-BF	25
			948218	115x22.23	C60S-BF	25
			908220	178x22.23	C36S-BF	25
			908221	178x22.23	C60S-BF	25
			908223	178x22.23	C100S-BF	25
			908224	178x22.23	C180S-BF	25

★★★ PREMIUM

RONDELLER®

For nonferrous metals

With the TYROLIT PREMIUM*** RONDELLER® you get a tool that combines the benefits of a rough grinding, flap and fibre disc in one product. The new development means that it is now also possible to machine nonferrous metals such as aluminium, copper, brass and bronze. The tools are used in tool making, metalware production, foundries and in apparatus engineering and ship building. The cool grinding action of the RONDELLERS® reduces the risk of overheating, particularly with soft materials. TYROLIT has also developed special formulas and production methods for processing nonferrous metals in order to achieve high stock removal values and short grinding times. A specification developed in-house prevents clogging and dulling of the wheel as a result of material abrasion. This increases the lifetime of the wheel, while waste and wheel consumption are significantly reduced.

	Shape		Type no.	Dimension	Specification	PU
		29RON	34300411	115x22.23	A36N-BF	25
			34300412	125x22.23	A36N-BF	25
			34300413	150x22.23	A36N-BF	25
			34300416	178x22.23	A36N-BF	25

Items with grey lettering are only available on request.

2.3 Cup wheels **for angle grinders**





Cup wheels
for angle grinders

Working with an angle grinder is one of the most important processes in the handicraft and industrial sectors for machining all types of metals. The use of cup wheels is recommended when grinding large and heavy components in particular, as they are exceptionally robust and durable.

It is particularly important to ensure that cup wheels are only used on angle grinders for 178 mm diameters. Smaller machines rotate too quickly, while larger ones rotate too slowly. In addition, a special protection cover is required to ensure sufficient levels of working safety.

With cup wheels from TYROLIT you can achieve high stock removal rates and long lifetime. The composition of the cup wheels makes them suitable for large-area machining of welding seams or for grinding imperfections on concrete surfaces. TYROLIT cup wheels can not only be used for metal machining, but also on marble, slate and granite.
Uniform colour coding helps you to find the appropriate product for your application.

Shapes



11BT Cup wheel



11ZB Cup wheel



11ZT Cup wheel



6ZB Cup wheel

Application recommendation

Performance Level	Specification	Steel	Stainless steel	Stone	Pages
★★★ PREMIUM	A...P4B84	●			96
	A...O4B84	●			96
	A...M4B2		●		96
	1C...L4B2			●	97
	1C...K4B2			●	97
	1C...J4B2			●	97
	1C...J4B0			●	97
★★ STANDARD	A...P-B	●			96
	C...J-B			●	96

Items with grey lettering are only available on request.

★★★ PREMIUM

Resin cup wheel
For steel

Cup wheels achieve maximum stock removal rates and lifetime for grinding jobs on large areas. The PREMIUM*** cup wheel for steel is ideal for edge grinding, bevelling and grinding welding seams.
There is a choice of bore design 22.23 and thread design M14 for fitting to the tool. Observe operating speed: max. 50 m/s.



Shape		Type no.	Dimension	Specification	PU	Max. speed
	11BT	310183	110/90x55x22.23	A16P4B84	2	8 680
		311096	110/90x55x22.23	A36O4B84	2	8 680
		351386	130/90x55x22.23	A16P4B84	2	7 340
		310997	130/90x55x22.23	A36O4B84	2	7 340
	11ZB	321395	110/90x55xM14	A16P4B84	2	8 680
		310184	110/90x55xM14	A36O4B84	2	8 680
		377664	130/90x55xM14	A36O4B84	2	7 340
	11ZT	241413	102/76x51x⅝"	A16P4B84	2	9 360
		23525	152/120x51x⅝"	A16P4B84	2	6 280

★★ STANDARD

Resin cup wheel
For steel

Cup wheels achieve excellent stock removal rates and lifetime for grinding jobs on large areas. The STANDARD** cup wheel for steel is ideal for edge grinding, bevelling and grinding welding seams.
There is a choice of bore design 22.23 and thread design M14 for fitting to the tool. Observe operating speed: max. 50 m/s.



Shape		Type no.	Dimension	Specification	PU	Max. speed
	11BT	895678	110/90x55x22.23	A16P-B	2	8 680
		895669	110/90x55x22.23	A36P-B	2	8 680

★★★ PREMIUM

Resin cup wheel
For stainless steel

Cup wheels achieve maximum stock removal rates and lifetime for grinding jobs on large areas. The PREMIUM*** cup wheel specially designed for stainless steel is also ideal for edge grinding, bevelling and grinding welding seams.
There is a choice of bore design 22.23 and thread design M14 for fitting to the tool. Observe operating speed: max. 50 m/s.



Shape		Type no.	Dimension	Specification	PU	Max. speed
	11ZT	23509	127/94x51x⅝"	A20M4B2	2	7 510
		275634	152/120x51x⅝"	A20M4B2	2	6 280

Items with grey lettering are only available on request.

★★★ PREMIUM

Resin cup wheel
For stone

Cup wheels achieve maximum stock removal rates and lifetime for grinding jobs on large areas. The stone cup wheel is particularly suitable for pre-grinding imperfections on concrete surfaces, bevelling and pre-grinding artificial stone and patio slabs, surface grinding on marble, slate and granite.

There is a choice of bore design 22.23 and thread design M14 for fitting to the tool. Observe operating speed: max. 50 m/s.



Shape		Type no.	Dimension	Specification	PU	Max. speed
	11BT	310980	110/90x55x22.23	1C16L4B2	2	8 680
		318070	110/90x55x22.23	1C24L4B2	2	8 680
		342583	110/90x55x22.23	1C46K4B2	2	8 680
		314463	110/90x55x22.23	1C60J4B2	2	8 680
		317307	110/90x55x22.23	1C120J4B0	2	8 680
	6ZB	89383	100x45xM14	1C24L4B2	2	9 540
		83585	100x45xM14	1C60J4B2	2	9 540
		56895	100x45xM14	1C120J4B2	2	9 540
		553403	100x45xM14	1C220J4B0	2	9 540
	11ZB	310992	110/90x55xM14	1C16L4B2	2	8 680
		310993	110/90x55xM14	1C24L4B2	2	8 680
		321211	110/90x55xM14	1C60J4B2	2	8 680
		320074	110/90x55xM14	1C120J4B0	2	8 680
		326214	110/90x55xM14	1C220J4B0	2	8 680
		310994	130/90x55xM14	1C16L4B2	2	7 340
		310995	130/90x55xM14	1C24L4B2	2	7 340
		320075	130/90x55xM14	1C60J4B2	2	7 340
		424846	130/90x55xM14	1C120J4B0	2	7 340
		336499	130/90x55xM14	1C220J4B0	2	7 340

★★ STANDARD

Resin cup wheel
For stone

Cup wheels achieve excellent stock removal rates and lifetime for grinding jobs on large areas. The stone cup wheel is particularly suitable for pre-grinding imperfections on concrete surfaces, bevelling and pre-grinding artificial stone and patio slabs, surface grinding on marble, slate and granite.

There is a choice of bore design 22.23 and thread design M14 for fitting to the tool. Observe operating speed: max. 50 m/s.

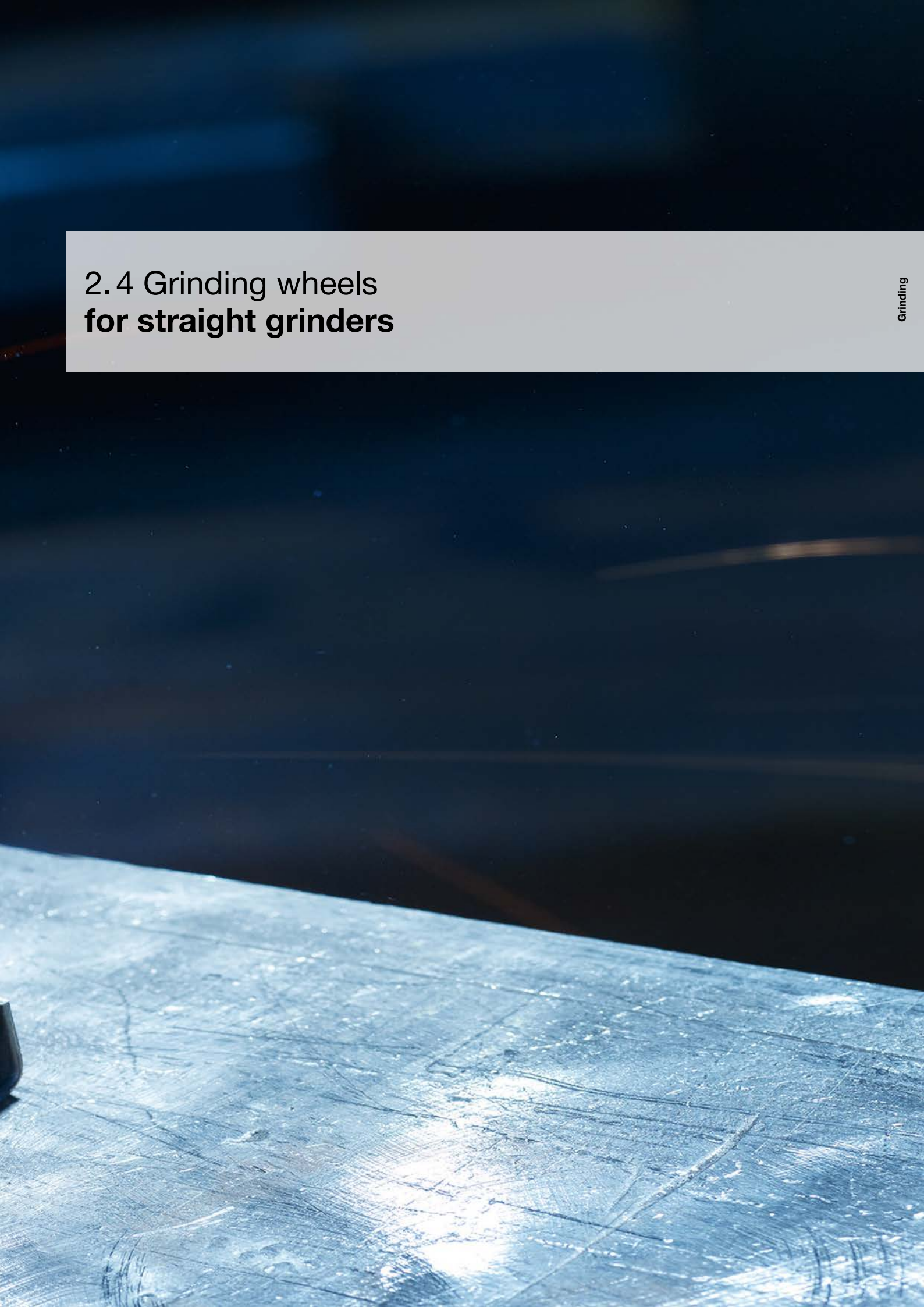


Shape		Type no.	Dimension	Specification	PU	Max. speed
	11BT	895679	110/90x55x22.23	C16J-B	2	8 680
		895670	110/90x55x22.23	C36J-B	2	8 680
		895671	110/90x55x22.23	C60J-B	2	8 680
	11ZB	895676	110/90x55xM14	C16J-B	2	8 680
		895677	110/90x55xM14	C60J-B	2	8 680

Items with grey lettering are only available on request.



2.4 Grinding wheels **for straight grinders**



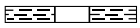


Grinding wheels **for straight grinders**

Straight grinders are always in high demand when precise results are required on difficult-to-access areas. Their versatile application options make them a popular tool. In order to fulfil the high standards TYROLIT sets for itself, great importance was attached to the low-vibration grinding properties of the products during their design.

The range easily meets the general demands of economic efficiency, high stock removal rates, simple handling and above-average lifetimes.
All TYROLIT rough grinding wheels are manufactured and tested in accordance with EN12413. Uniform colour coding helps you to find the appropriate product for your application.

Shapes



1F80
Rough grinding wheel

Application recommendation

Performance level	Specification	Steel	Stainless steel	NF metals	Cast iron	Pages
★★★ PREMIUM	A30S-BFX80	●				102
	A30R-BFX80		●			102
	A36N-BFX80			●		103
	ZA24P-BFX80				●	103

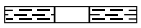
Items with grey lettering are only available on request.

★★★ PREMIUM

Grinding Wheels
1F80 for steel

The PREMIUM*** 1F80 high-performance rough grinding wheel is particularly suitable for universal grinding tasks on hard-to-reach areas. Using the wheel, flutes and notches can be added, and gears can be deburred. In addition, the wheel makes light work of maintaining turbine blades, and rough grinding curved surfaces in cavities and ridges. For diameters above 80 mm, we recommend using a protection cover.



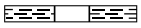
Shape		Type no.	Dimension	Specification	PU
	1F80	439061	50x6.0x6	A30S-BFX80	100
		441231	50x10.0x6	A30S-BFX80	100
		441207	50x10.0x10	A30S-BFX80	100
		441226	60x6.0x10	A30S-BFX80	100
		441219	60x10.0x10	A30S-BFX80	100
		441233	70x10.0x10	A30S-BFX80	100
		441223	75x6.0x10	A30S-BFX80	100
		441227	75x25.0x13	A30S-BFX80	100
		441238	100x6.0x8	A30S-BFX80	25
		441239	175x25.0x16	A30S-BFX80	20

★★★ PREMIUM

Grinding Wheels
1F80 for stainless steel

The PREMIUM*** 1F80 high-performance rough grinding wheel is particularly suitable for universal grinding tasks on hard-to-reach areas. Using the wheel, flutes and notches can be added, and gears can be deburred. In addition, the wheel makes light work of maintaining turbine blades, and rough grinding curved surfaces in cavities and ridges. For diameters above 80 mm, we recommend using a protection cover.



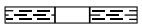
Shape		Type no.	Dimension	Specification	PU
	1F80	439059	50x6.0x6	A30R-BFX80	100
		441206	50x10.0x10	A30R-BFX80	100
		441245	50x19.0x10	A30R-BFX80	100
		441243	75x4.0x10	A30R-BFX80	100
		441224	75x15.0x10	A30R-BFX80	100
		441203	100x25.0x25	A30R-BFX80	25
		441204	125x25.0x25	A30R-BFX80	20
		441241	150x25.0x25	A30R-BFX80	20

Items with grey lettering are only available on request.

★★★ PREMIUM

Grinding Wheels
1F80 for nonferrous metals

The PREMIUM*** 1F80 high-performance rough grinding wheel is particularly suitable for universal grinding tasks on hard-to-reach areas. This product has been specially developed for nonferrous metals and is ideal for adding flutes and notches, as well as deburring gears.
In addition, the wheel makes light work of maintaining turbine blades, and rough grinding curved surfaces in cavities and ridges. For diameters above 80 mm, we recommend using a protection cover.

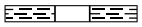
	Shape		Type no.	Dimension	Specification	PU
		1F80	441247	50x10.0x10	A36N-BFX80	100
			441248	75x6.0x10	A36N-BFX80	100
			441246	75x25.0x20	A36N-BFX80	100
			441230	100x12.0x22.2	A36N-BFX80	25
			441250	100x20.0x20	A36N-BFX80	25

★★★ PREMIUM

Grinding Wheels
1F80 for cast iron

The PREMIUM*** 1F80 high-performance rough grinding wheel is particularly suitable for universal grinding tasks on hard-to-reach areas. This product has been specially developed for cast iron and is ideal for adding flutes and notches.

In addition, the wheel makes light work of rough grinding curved surfaces in cavities and ridges. For diameters above 80 mm, we recommend using a protection cover.

	Shape		Type no.	Dimension	Specification	PU
		1F80	441353	150x25.0x25	ZA24P-BFX80	20

Accessories
For 1F80 rough grinding wheels

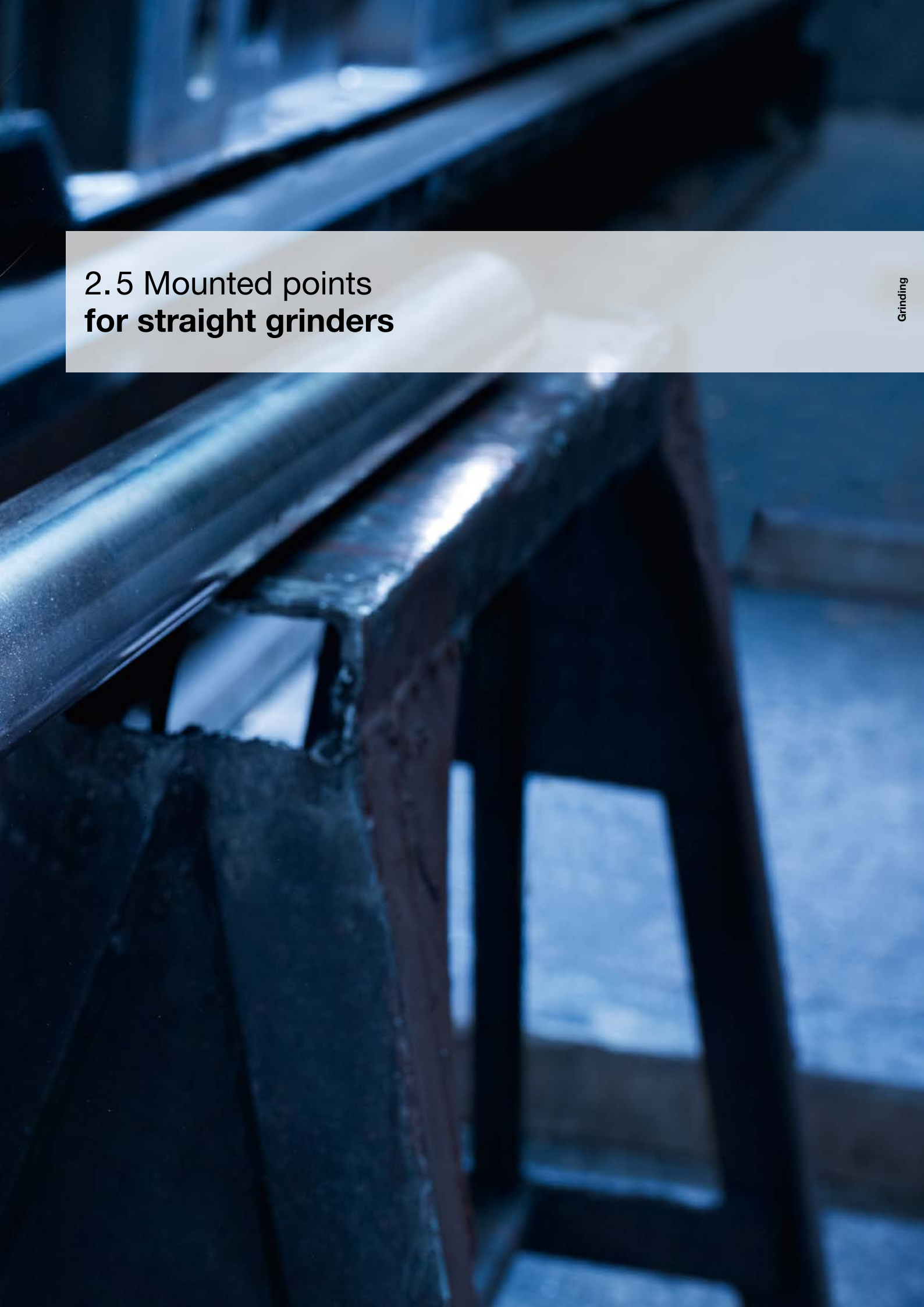
These accessories are suitable for clamping all rough grinding wheels available in the TYROLIT assortment for straight grinders.

Please observe the maximum permissible speed.

		Type no.	Dimension	Specification	PU
	100SS	803404	S6/H10/M10	SS171	1
		846442	S6/H6/M6	SS174	1

Items with grey lettering are only available on request.


TYROLIT



2.5 Mounted points **for straight grinders**



Mounted points **for straight grinders**

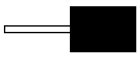
Straight grinders are always in high demand when precise results are required on difficult-to-access areas. Their versatile application options make straight grinders a popular tool. In order that there is always a solution at hand for the numerous applications, TYROLIT offers a wide range of mounted point shapes.

Our resin-bonded points offer you vibration-reducing solutions for the highest quality requirements. The wide range of applications also requires ceramic points that strike a perfect balance in terms of chip performance, surface finish and lifetime.

Ceramic points are often used in foundries and in mould making.

For fine machining, our range also includes elastic and polishing points tailored to your needs.

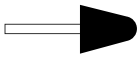
Shapes



52ZY / 52W Mounted point



52TO Mounted point



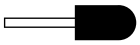
52KE Mounted point



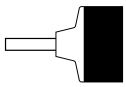
52KU Mounted point



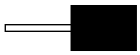
52SP Mounted point



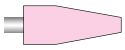
52WR Mounted point



52MS Mounted point



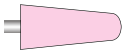
52W Mounted point



52A1 Mounted point



52A2 Mounted point



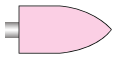
52A3 Mounted point



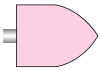
52A4 Mounted point



52A5 Mounted point



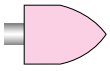
52A8 Mounted point



52A9 Mounted point



52A11 Mounted point



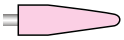
52A12 Mounted point



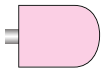
52A13 Mounted point



52A14 Mounted point



52A15 Mounted point



52A19 Mounted point



52A24 Mounted point



52A25 Mounted point



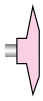
52A26 Mounted point



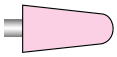
52A32 Mounted point



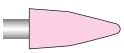
52A36 Mounted point



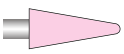
52A37 Mounted point



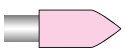
52-B44 Mounted point



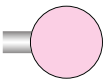
52B-52 Mounted point



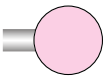
52B-53 Mounted point



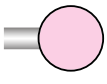
52B-54 Mounted point



52-B121 Mounted point



52-B122 Mounted point



52-B123 Mounted point



52-B135 Mounted point

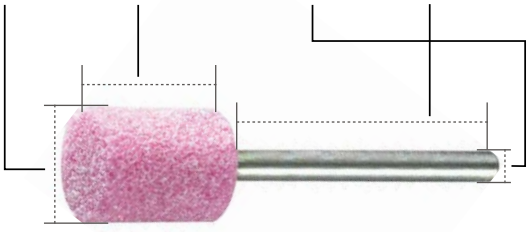
Application recommendation

Performance level	Specification	Steel	Stainless steel	NF metals	Cast iron	HSS	PVC	Pages
★★★ PREMIUM	**Resin points**							
	… B0		●					109
	… B84				●			109, 110
	Ceramic points							
	88A …	●						110, 111, 112, 113, 114
	89A …					●		115
	Elastic mounted points							
	… BE13	●	●	●			●	116
	… BE15	●	●	●			●	116
	… BE16	●	●	●			●	116
	… BE24	●	●	●			●	116

Items with grey lettering are only available on request.

Mounted point dimensions

16 x 20 – 6 x 40



★★★ PREMIUM

Resin bonded mounted points
For stainless steel

The PREMIUM*** resin mounted points have a vibration reducing effect due to their composition and therefore boast low impact sensitivity. Due to their special quality, these points are best suited to deburring, bevelling and edge breaking on stainless steel.

Due to their bond, they are specially suited to INOX materials. Maximum operating speed: 50 m/s.



Shape		Type no.	Dimension	Specification	PU
52ZY		682101	8x16–6x40	A36Q4B0	25
		682103	10x20–6x40	A36Q4B0	25
		34053928	10x32–6x40	A36Q4B0	25
		682104	13x25–6x40	A36Q4B0	25
		682105	16x32–6x40	A36Q4B0	25
		682106	20x32–6x40	A36Q4B0	25
		682107	20x40–6x40	A36Q4B0	25
		34053929	25x13–6x40	A36Q4B0	25
		682110	25x32–6x40	A36Q4B0	25
		34053930	32x16–6x40	A36Q4B0	25
		104962	32x40–6x40	A36Q4B0	25
		104968	40x10–6x40	A36Q4B0	25
		682111	40x20–6x40	A36Q4B0	25
		34053942	50x13–6x40	A36Q4B0	25
		682112	50x25–6x40	A36Q4B0	25

★★★ PREMIUM

Resin bonded mounted points
For cast iron

The PREMIUM*** resin mounted points (dark brown) have a vibration reducing effect due to their composition and therefore boast low impact sensitivity. Due to their special quality, these points are best suited to deburring, bevelling and edge breaking on cast iron materials.

Due to their bond, they are specially suited to casting. Maximum operating speed: 50 m/s.



Shape		Type no.	Dimension	Specification	PU
52ZY		108261	10x25–6x40	A36Q4B84	25
		2111	13x25–6x40	A36Q4B84	25
		108262	15x25–6x40	A36Q4B84	25
		104604	16x32–6x40	A36Q4B84	25
		105367	20x25–6x40	A36Q4B84	25
		2211	25x32–6x40	A36Q4B84	25
		379653	32x25–6x40	A46S4B84	25
		2249	32x40–6x40	A36Q4B84	25
		415841	40x4–6x40	A60S3B84	25
		45362	40x16–8x50	A24Q4B84	25
		2258	40x20–6x40	A36Q4B84	25

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Items with grey lettering are only available on request.

Resin bonded mounted points
For cast iron



Shape		Type no.	Dimension	Specification	PU
	52ZY	123696	40x25–6x40	A36Q4B84	25
		2284	50x25–6x40	A36Q4B84	25
	52W	21094	10x32–6x40	A46S4B84	25
		21125	13x40–6x40	A46S4B84	25
		21137	16x25–6x40	A46S4B84	25
		310504	16x50–6x40	A46S4B84	25
		21160	20x25–6x40	A46S4B84	25
		21166	20x40–6x40	A46S4B84	25
		21192	25x25–6x40	A46S4B84	25
		21202	25x40–6x40	A46S4B84	25
		169543	32x20–6x40	A46P4B84	25
		123644	32x32–6x40	A46P4B84	25
		21232	32x64–8x40	A20Q4B84	25
		21233	40x6–6x40	A46S4B84	25
		21239	40x13–6x40	A46S4B84	25
	52A-1	803833	20x63–6x40	A46P4B84	25
	52A-11	126460	22x50–6x40	A46P4B84	25
		20026	22x50–6x40	A46S4B84	25
	52A-3	129260	25x70–6x40	A46P4B84	25

Ceramic points
For steel

In foundries and mould making, using ceramic mounted points is often the only method of achieving improved surface results on hard-to-reach parts. TYROLIT PREMIUM*** mounted points offer the highest possible lifetime even for hardened steels.

These tools also strike a perfect balance in terms of chip performance and the intended surface finish. Maximum operating speed: 50 m/s.



Shape		Type no.	Dimension	Specification	PU
	52ZY	2010	3x6–3x30	88A90O5V38	25
		100757	3x6–6x40	88A90O5V38	25
		169096	3x9–3x30	88A90O5V38	25
		2017	4x8–3x30	88A90O5V38	25
		100758	4x8–6x40	88A60P5V38	25
		2021	4x8–6x40	88A90O5V38	25
		2026	5x10–3x30	88A60P5V38	25
		2027	5x10–3x30	88A90O5V38	25
		2031	5x10–6x40	88A60P5V38	25
		11362	6x10–3x30	88A60P5V38	25

Items with grey lettering are only available on request.



Shape		Type no.	Dimension	Specification	PU
52ZY		2039	6x10–6x40	88A60P5V38	25
		2046	6x13–3x30	88A60P5V38	25
		485338	6x13–3x30	88A90O5V38	25
		2048	6x13–6x40	88A60P5V38	25
		227450	6x20–3x30	88A60P5V38	25
		116725	6x20–6x40	88A60P5V38	25
		2055	8x10–3x30	88A60P5V38	25
		2058	8x10–6x40	88A60P5V38	25
		2060	8x16–3x30	88A60P5V38	25
		2062	8x16–6x40	88A60P5V38	25
		16044	10x2–3x30	88A90O5V38	25
		120033	10x10–3x30	88A60P5V38	25
		6879	10x10–6x40	88A60P5V38	25
		88905	10x13–3x30	88A60P5V38	25
		2072	10x13–6x40	88A60P5V38	25
		2078	10x20–3x30	88A60P5V38	25
		2081	10x20–6x40	88A60P5V38	25
		14364	10x25–6x40	88A60P5V38	25
		2090	10x32–6x40	88A60P5V38	25
		26567	13x3–3x30	88A90O5V38	25
		128618	13x10–6x40	88A60P5V38	25
		6896	13x16–6x40	88A60P5V38	25
		6898	13x20–6x40	88A60P5V38	25
		6899	13x25–6x40	88A60P5V38	25
		112542	13x40–6x40	88A60P5V38	25
		2117	16x4–6x40	88A60P5V38	25
		6920	16x20–6x40	88A60P5V38	25
		2125	16x25–6x40	88A60P5V38	25
		2133	16x32–6x40	88A36P5V38	25
		2134	16x32–6x40	88A60P5V38	25
		6928	16x50–6x40	88A60P5V38	25
		127347	20x6–6x40	88A60P5V38	25
		2145	20x10–6x40	88A60P5V38	25
		2148	20x20–6x40	88A60P5V38	25
		140351	20x25–6x40	88A24P5V38	25
		2163	20x25–6x40	88A36P5V38	25
		6932	20x25–6x40	88A46P5V38	25
		2165	20x25–6x40	88A60P5V38	25
		105009	20x32–6x40	88A60P5V38	25
		667629	20x40–6x40	88A24P5V38	25

Items with grey lettering are only available on request.

★★★ PREMIUM

Ceramic points
For steel

	Shape		Type no.	Dimension	Specification	PU
		52ZY	12836	20x40–6x40	88A36P5V38	25
			2189	20x40–6x40	88A60P5V38	25
			6941	25x6–6x40	88A60P5V38	25
			122868	25x10–6x40	88A60P5V38	25
			6943	25x13–6x40	88A60P5V38	25
			130009	25x25–6x40	88A36P5V38	25
			2201	25x25–6x40	88A46P5V38	25
			2202	25x25–6x40	88A60P5V38	25
			142682	25x32–6x40	88A24P5V38	25
			2209	25x32–6x40	88A46P5V38	25
			2204	25x32–6x40	88A60P5V38	25
			548169	25x40–6x40	88A36P5V38	25
			2238	32x8–6x40	88A60P5V38	25
			131231	32x10–6x40	88A60P5V38	25
			6959	32x16–6x40	88A46P5V38	25
			6961	32x20–6x40	88A46P5V38	25
			242270	32x20–6x40	88A60P5V38	25
			116973	32x32–6x40	88A36P5V38	25
			103394	32x32–6x40	88A46P5V38	25
			2248	32x40–6x40	88A46P5V38	25
			101508	40x6–6x40	88A60P5V38	25
			667632	40x10–6x40	88A24P5V38	25
			2256	40x10–6x40	88A60P5V38	25
			941497	40x13–6x40	88A30P5V38	25
			734828	40x13–6x40	88A36P5V38	25
			273756	40x20–6x40	88A24P5V38	25
			6967	40x20–6x40	88A46P5V38	25
			15383	40x20–6x40	88A60P5V38	25
			150085	40x25–6x40	88A46P5V38	25
			828192	40x40–6x40	88A36P5V38	25
			2276	50x13–6x40	88A60P5V38	25
			6974	50x25–6x40	88A46P5V38	25
		52B-44	169	6x10–3x30	88A60P5V38	25
		52B-53	39128	8x16–3x30	88A90O5V38	25
		52KE	6400	13x13–6x40, R=2	88A60P5V38	25
			6401	16x16–6x40, R=2.5	88A60P5V38	25
			6402	20x20–6x40, R=3	88A60P5V38	25

Items with grey lettering are only available on request.

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	Shape		Type no.	Dimension	Specification	PU
		52A-5	11481	20x29–6x40	88A36P5V38	25
			116	20x29–6x40	88A46P5V38	25
			20023	20x29–6x40	88A60P5V38	25
		52KE	330772	20x32–6x40, R=3	88A60P5V38	25
			892	25x25–6x40, R=4	88A60P5V38	25
		52A-2	88504	25x32–6x40	88A46P5V38	25
		52A-3	11480	25x70–6x40	88A36P5V38	25
			6207	25x70–6x40	88A46P5V38	25
			104894	25x70–6x40	88A60P5V38	25
		52A-4	113	32x32–6x40	88A46P5V38	25
			20020	32x32–6x40	88A60P5V38	25
		52B-135	151928	6x13–3x30	88A60P5V38	25
		52A-32	131	25x16–6x40	88A60P5V38	25
		52TO	1175	32x25–6x40	88A60P5V38	25
		52SP	1119	5x10–6x40	88A60P5V38	25
		52B-54	132438	6x13–3x30	88A60P5V38	25
		52A-15	97785	6x27–6x40	88A60P5V38	25
			89504	6x27–6x40	88A90O5V38	25
		52B-52	174	10x20–3x30	88A60P5V38	25
			75647	10x20–6x40	88A60P5V38	25
		52SP	6660	13x20–6x40, R=22	88A60P5V38	25
		52A-14	45422	18x22–6x40	88A60P5V38	25
		52A-12	121	18x32–6x40	88A46P5V38	25
			20037	18x32–6x40	88A60P5V38	25
		52SP	6661	20x32–6x40, R=36	88A60P5V38	25
		52A-8	146601	20x51–6x40	88A36P5V38	25
		52A-1	106372	20x63–6x40	88A36P5V38	25
			108	20x63–6x40	88A46P5V38	25
			109	20x63–6x40	88A60P5V38	25
		52A-11	148517	22x50–6x40	88A36P5V38	25
			118	22x50–6x40	88A46P5V38	25
			20031	22x50–6x40	88A60P5V38	25
		52A-13	45421	32x32–6x40	88A60P5V38	25
		52A-9	127775	32x51–6x40	88A36P5V38	25

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Items with grey lettering are only available on request.

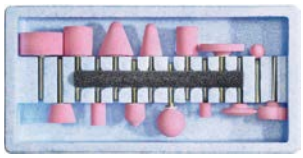
★★★ PREMIUM Ceramic points
For steel

	Shape		Type no.	Dimension	Specification	PU
		52KU	907	3–3x30	88A90O5V38	25
			6404	5–3x30	88A90O5V38	25
			910	8–3x30	88A60P5V38	25
			6405	8–6x30	88A60P5V38	25
		52B-122	191	10–3x30	88A60P5V38	25
		52B-121	62694	13–6x40	88A60P5V38	25
			190	13–3x30	88A60P5V38	25
		52A-26	130	16–6x40	88A60P5V38	25
		52KU	917	20–6x40	88A60P5V38	25
		52A-25	20047	25–6x40	88A60P5V38	25
		52KU	921	32–6x40	88A46P5V38	25
		52WR	1999	6x16–6x40	88A60P5V38	25
		52A-24	128	6x20–6x40	88A60P5V38	25
		52A-19	135853	32x51–6x40	88A36P5V38	25
		52A-37	139	32x6–6x40	88A60P5V38	25
		52A-36	138	40x10–6x40	88A60P5V38	25

★★★ PREMIUM Set ceramic points
For Steel

The PREMIUM*** ceramic mounted point set contains all the common mounted points for working on steel, including a roughing stone. The points provide the longest possible lifetime for deburring, bevelling and edging work.

These tools also strike a perfect balance in terms of chip performance and the intended surface finish.

SET	Type no.	Shape	Typen-Nr.	Dimension	PU
	74499	52ZY-W228	6961	32x20–6x40	1
		52ZY-W220	2201	25x25–6x40	1
		52A-4	113	32x32–6x40	1
		52A-5	20023	20x29–6x40	1
		52ZY-W205	2165	20x25–6x40	1
		52ZY-W236	101508	40x6–6x40	1
		52B-121	62694	13x6–6x40	1
		52A-32	131	25x16–6x40	1
		52ZY-W186	6898	13x20–6x40	1

Items with grey lettering are only available on request.

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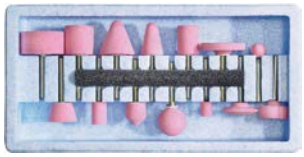
SET	Type no.	Shape	Typen-Nr.	Dimension	PU
	74499	52A-14	45422	18x22–6x40	1
		52A-25	20047	25x6–6x40	1
		52ZY-W176	2072	10x13–6x40	1
		52A-37	139	32x6–6x40	1
		52ZY-W217	122868	25x10–6x40	1
		9011	54222	16x150–6x40	1

★★★ PREMIUM

Ceramic points
For HSS

Tool steels display exceptional hardness and strength depending on their intended purpose. The PREMIUM*** mounted points for HSS offer the best prerequisites for machining workpieces up to the lowest tolerance ranges. These tools also strike a perfect balance in terms of chip performance and the intended surface finish. Maximum operating speed: 35 m/s.

	Shape		Type no.	Dimension	Specification	PU
		52ZY	2011	3x6–3x30	89A120M5V38	25
			2020	4x8–3x30	89A120M5V38	25
			2030	5x10–3x30	89A80M5V38	25
			29238	6x13–3x30	89A80M5V38	25
			13529	6x13–6x40	89A80M5V38	25
			2057	8x10–3x30	89A80M5V38	25
			6874	8x10–6x40	89A80M5V38	25
			113299	8x16–3x30	89A80M5V38	25
			120093	8x16–6x40	89A60M5V38	25
			6881	10x13–6x40	89A80M5V38	25
			15892	10x20–6x40	89A60M5V38	25
			6886	10x20–6x40	89A80M5V38	25
			6910	15x40–6x40	89A46L5V38	25
			36663	16x20–6x40	89A60M5V38	25
			121385	20x25–6x40	89A60M5V38	25
			2180	20x40–6x40	89A46L5V38	25
			124549	40x10–6x40	89A60M5V38	25
		52KE	441033	30x40–6x40, R=5	89A60M5V38	25

Items with grey lettering are only available on request.

★★★ PREMIUM

Mounted points

ELASTIC for nonferrous metals, PVC, steel and stainless steel

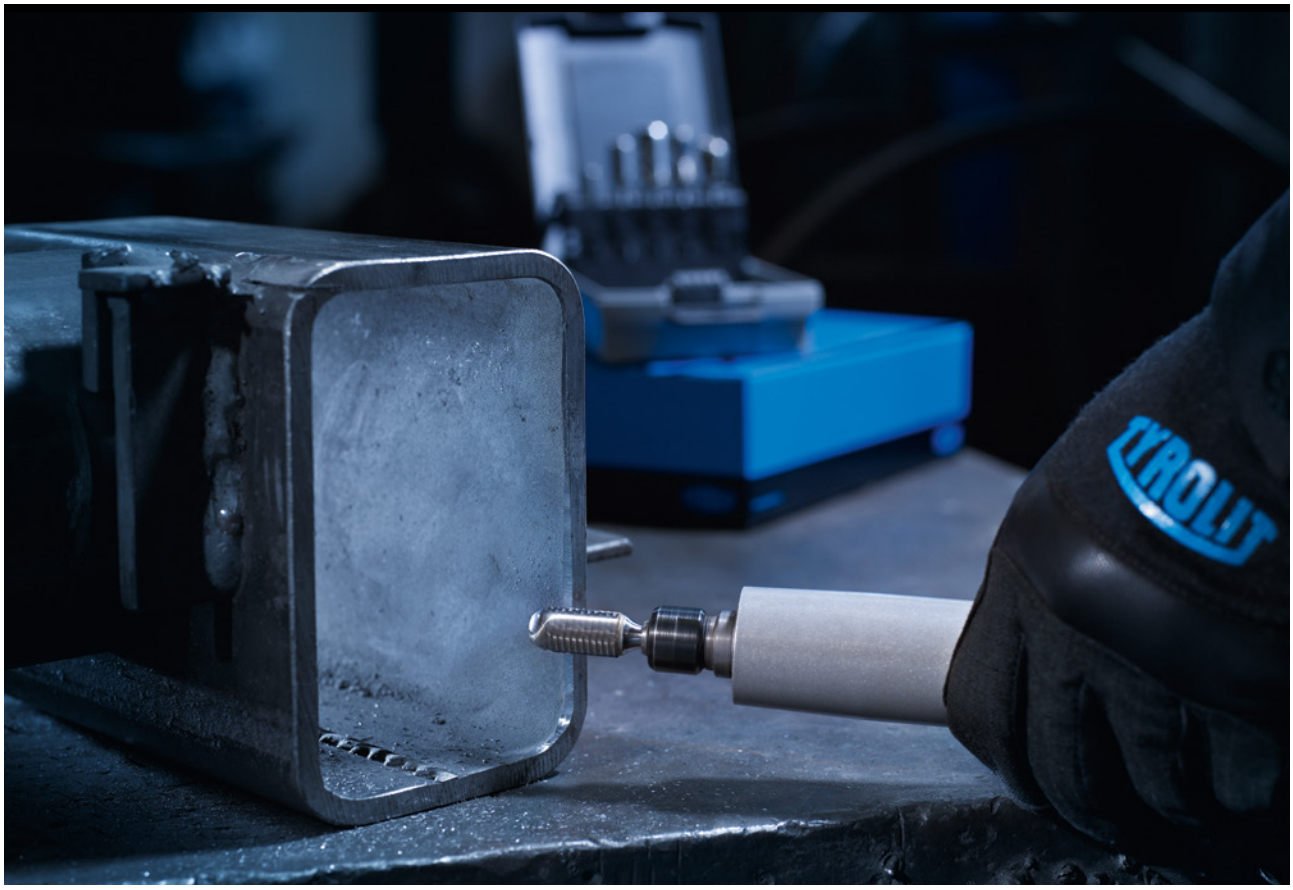
Coordinated light grey bond systems enable the ELASTIC mounted points to be put to both universal use and use tailored to the application. The assortment includes soft elastic points for curved surfaces and medium elastic points for straight surfaces.
Our range also includes fewer elastic points for working at higher speeds and mottling points for mottling surfaces. Maximum operating speed: BE13: 16 m/s; BE15: 20 m/s; BE16: 32 m/s.

	Shape		Type no.	Dimension	Specification	PU
		52ZY	938999	10x20–6x40	C240-BE16	10
			6884	10x20–6x40	C240-BE15	10
			267341	10x20–6x40	C240-BE24	10
			891126	16x20–6x40	C150-BE16	10
			54072	16x30–6x40	C80-BE16	10
			582369	20x20–6x40	C46-BE16	10
			274654	16x30–6x40	C80-BE24	10
			2155	20x20–6x40	C150-BE15	10
			2152	20x20–6x40	C46-BE15	10
			123432	20x30–6x40	A150-BE24	10
			6949	25x20–6x40	C80-BE15	10
			2224	30x30–6x40	C150-BE15	10
			2226	30x30–6x40	C240-BE15	10
			2221	30x30–6x40	C46-BE15	10
			162390	30x30–6x40	C46-BE24	10
			2222	30x30–6x40	C80-BE15	10
			13068	30x30–6x40	C80-BE24	10
		52MS	6411	30x30–6x40	C46-BE13	1
			923	30x30–6x40	C46-BE15	1
			6413	40x30–6x40	C46-BE13	1
			925	40x30–6x40	C46-BE15	1
			929	50x30–6x40	C46-BE15	1

Items with grey lettering are only available on request.

2.6 Tungsten carbide burrs **for straight grinders**





Tungsten carbide burrs **for straight grinders**

Straight grinders are always in high demand when precise results are required on difficult-to-access areas. Their versatile application options make straight grinders a popular tool. In order that there is always a solution at hand for the full spectrum of applications, TYROLIT offers a wide range of PREMIUM*** quality tungsten carbide burr shapes.

TYROLIT burrs are made from tried-and-tested, high-quality cemented carbide types on the most modern CNC grinding machines. Our tungsten carbide burrs are then used on a wide range of handheld, pneumatic and electronic machines, as well as on industrial robots. Thanks to their versatility, the cutters can be used on a variety of materials.

Application recommendation

Performance level	Specification	Steel	Stainless steel	NF metals	Cast iron	HSS	Tooth shape	Pages
★★★ PREMIUM	MY	●	●		●	●		124,125,126,127
	MX	●	●		●	●		124,125,126,127
	MXX	●	●		●	●		124,125,126,127
	MXC	●	●		●	●		125,126
	ALU			●				129
	SC	●						122
	IC		●					123

Items with grey lettering are only available on request.

Segmentations:

ALU: For aluminium machining (standard with 8 cutting edges)

ALU6: For aluminium machining (especially coarse with 6 cutting edges)

MXC: For cast steel, welding seams, hardened and cured steels (chip breaker)

MX: For high-alloyed steels, rust, acid and heat-resistant cast metals and plastics (diamond)

MXX: For high-alloyed steels, rust, acid and heat-resistant cast metals and plastics (fine diamond)

MY: For cast steel, welding seams, high-strength hardened and unhardened steels (standard)

SC: For cast steel, welding seams, high-strength hardened and unhardened steels (standard)

IC: For stainless steel

Shapes



52FLH Flame



52TRE Drop



52KEL Rounded cone



52WRC Ball cylinder



52KSK Conical countersink



52ZYA Cylinder



52KUD Ball



52ZYA-S Cylinder with face toothwork



52RBF Tree



52ZYA-R Cylinder with corner radius



52SKM Pointed cone



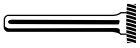
52SKM-N Pointed cone
Combined angled milling point and pointed cone



52SPG Bullet



52WKN Cone

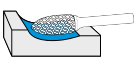


52RND Grooves



52KUD-N Cone/Ball

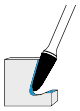
Areas of application



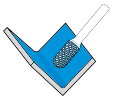
52FLH Flame



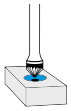
52TRE Drop



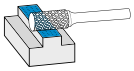
52KEL Rounded cone



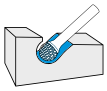
52WRC Ball cylinder



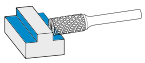
52KSK Conical countersink



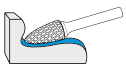
52ZYA Cylinder



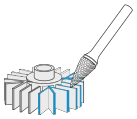
52KUD Ball



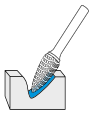
52ZYA-S Cylinder with face toothwork



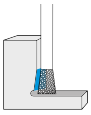
52RBF Tree



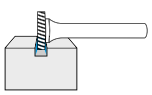
52SKM Pointed cone



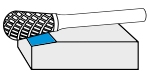
52SPG Bullet



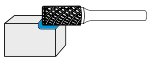
52WKN Cone



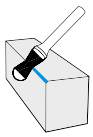
52RND Grooves



52KUD-N
Cone/ball



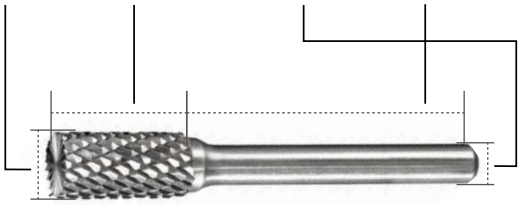
52ZYA-R Cylinder with corner radius



52SKM-N Pointed cone
Combined angled milling point and pointed cone

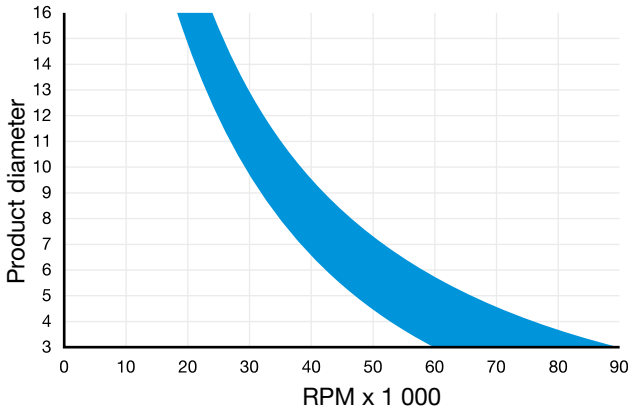
Tungsten carbide burr dimensions

16 x 20 – 6 x 70

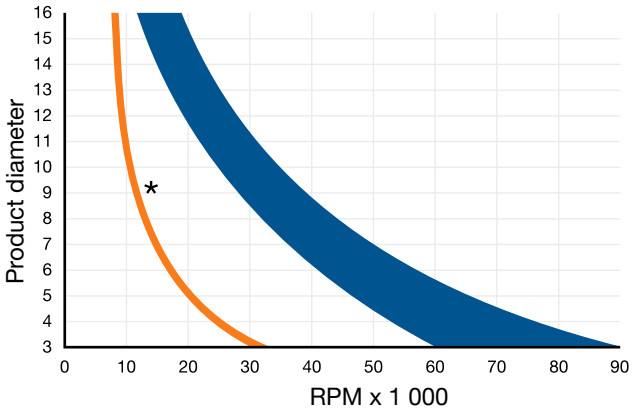


Recommended speeds

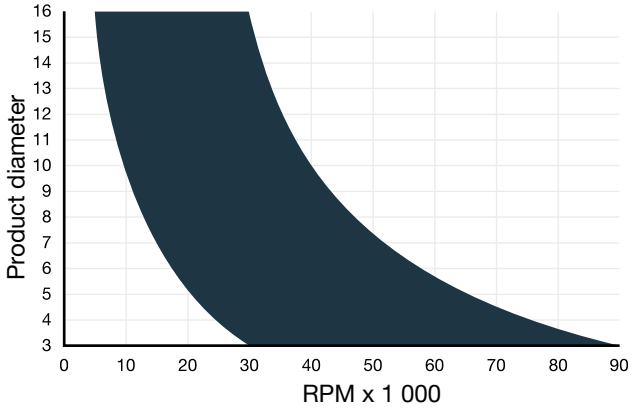
Unhardened steel



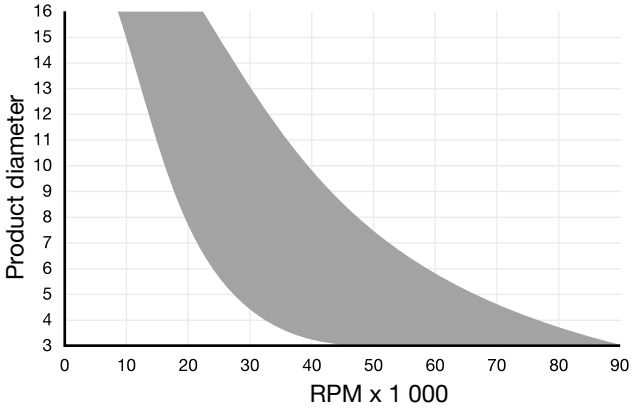
Ceramics, hardened steels, stainless steels, nickel-based alloy, titanium



Soft long-chipping materials, aluminium, fibre-glass-reinforced plastic, plastics, zinc-based alloy



Brass, cast iron, copper, bronze



★★★
PREMIUM

Tungsten carbide burrs

For Steel

+ **Increased lifetime**
Long tool lifetimes are achieved thanks to the specially developed geometry of the milling cutter.

+ **High abrasiveness**
The milling cutter is especially long-chipping during machining and delivers a higher stock removal rate in a shorter period of time.



+ **Universal use**
TYROLIT tungsten carbide burrs are used on a wide range of hand-operated pneumatic or electric machines and industrial robots.

TYROLIT film

The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

TYROLIT tungsten carbide burrs are produced on modern CNC grinding machines. The result is a highly efficient precision tool that achieves optimum grinding results. The specially developed wheel geometry ensures the longest lifetime and the best results on all types of steel. The abrasive cutter profile is especially long-chipping and ensures a high stock removal volume. Reduced generation of heat protects the milling cutter and the workpiece.

★★★
PREMIUM

Tungsten carbide burrs

For steel

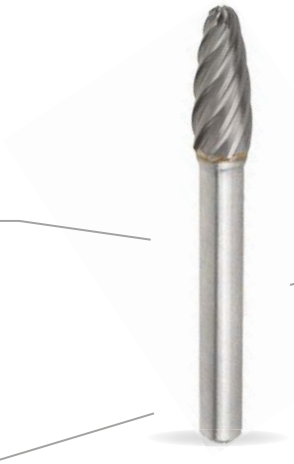
	Shape		Type no.	Dimension	Specification	PU
		52ZYAS	34213557	6x18–6x50	SC	1
			34213558	8x19–6x64	SC	1
			34213559	10x19–6x64	SC	1
			34213560	13x25–6x70	SC	1
		52WRC	34213581	6x18–6x50	SC	1
			34213583	8x19–6x64	SC	1
			34213584	10x19–6x64	SC	1
			34213585	13x25–6x70	SC	1
		52RBF	34213588	6x18–6x50	SC	1
			34213589	8x19–6x64	SC	1
			34213590	10x19–6x64	SC	1
			34213601	13x25–6x70	SC	1

Items with grey lettering are only available on request.

★★★
PREMIUM

Tungsten carbide burrs

For stainless steel



+ **Increased lifetime**
Long tool lifetimes are achieved thanks to the specially developed geometry of the milling cutter.

+ **Maximum stock removal**
The removal of especially long slivers enables results to be obtained quickly and easily.

+ **Universal use**
TYROLIT tungsten carbide burrs are used on a wide range of hand-operated pneumatic or electric machines and industrial robots.

TYROLIT film

The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

These tungsten carbide burrs have been specially developed for use on stainless steel and produced on the most modern CNC grinding machines. The newly developed geometry enables cool grinding with the longest tool lifetimes on hand-operated, pneumatic and electric machines.
The abrasive cutter profile is especially long-chipping and ensures a high stock removal volume. Reduced generation of heat protects the milling cutter and the workpiece.

★★★
PREMIUM

Tungsten carbide burrs
For stainless steel

	Shape		Type no.	Dimension	Specification	PU
		52ZYA	34213606	6x18–6x50	IC	1
			34213607	8x19–6x64	IC	1
			34213608	10x19–6x64	IC	1
			34213609	13x25–6x70	IC	1
		52WRC	34213610	6x18–6x50	IC	1
			34213621	8x19–6x64	IC	1
			34213622	10x19–6x64	IC	1
			34213623	13x25–6x70	IC	1
		52RBF	34213624	6x18–6x50	IC	1
			34213625	8x19–6x64	IC	1
			34213626	10x19–6x64	IC	1
			34213627	13x25–6x70	IC	1

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Tungsten carbide burrs

For cast iron, steel and stainless steel

Production of the TYROLIT PREMIUM*** burrs is performed on modern CNC grinding machines. The result is a highly efficient precision tool that achieves optimum grinding results. With this tungsten carbide burr you can achieve the longest lifetimes when used on practically any material.
By choosing the right machine, the correct revolutions per minute and operating speed, and the appropriate cutting and tooth profile, you will pave the way for PREMIUM*** results.

	Shape		Type no.	Dimension	Specification	PU
		52FLH	765657	3x8–3x38	MX	1
			801351	6x14–6x50	MX	1
			765996	8x19–6x65	MX	1
			768898	12x32–6x77	MX	1
			766046	12x32–8x77	MX	1
		52KEL	766932	3x8–3x38	MX	1
			801354	6x13–3x45	MX	1
			766934	6x16–6x50	MX	1
			902732	8x22–6x69	MX	1
			766068	10x19–6x65	MX	1
			766936	10x27–6x75	MX	1
			768894	12x30–6x75	MX	1
			766072	12x30–8x75	MX	1
			837619	12x30–8x75	MXX	1
			801355	16x33–8x78	MXX	1
		52KSK	769680	10x5–6x55	MY	1
			769683	16x8–6x60	MY	1
		52KUD	766050	3x2.7–3x38	MX	1
			766927	4x3.6–3x45	MX	1
			766051	6x5.4–3x38	MX	1
			768821	6x5.4–6x50	MX	1
			768824	8x7.2–6x52	MX	1
			768828	10x9–6x53	MX	1
			768832	12x10.8–6x55	MX	1
			768833	13x11.7–6x55	MXX	1
			768835	16x14.4–6x60	MX	1
			768834	16x14.4–6x60	MY	1
			768838	16x14.4–8x60	MX	1
			766062	19x17.1–8x63	MX	1
		52RBF	766155	3x13–3x38	MX	1
			766156	6x13–3x45	MX	1
			768841	6x16–6x50	MX	1
			902700	8x22–6x67	MX	1

▶

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	Shape		Type no.	Dimension	Specification	PU
		52RBF	768843	10x19–6x65	MX	1
			768846	12x25–6x70	MX	1
			768847	12x25–6x70	MXX	1
			766160	12x25–8x70	MX	1
			766929	16x25–8x70	MX	1
		52SKM	801365	3x11–3x38	MX	1
			902747	3x11–6x38	MXC	1
			766091	3x13–3x38	MX	1
			766092	6x13–3x45	MX	1
			902737	6x13–3x45	MY	1
			768913	6x19–6x50	MX	1
			768912	6x19–6x50	MY	1
			768916	10x16–6x65	MX	1
			910834	10x16–6x65	MXC	1
			766937	12x19–6x65	MX	1
			768919	12x22–6x70	MX	1
			768918	12x22–6x70	MY	1
		52SPG	766139	3x13–3x38	MX	1
			766140	6x13–3x45	MX	1
			768941	6x16–6x50	MX	1
			768942	6x16–6x50	MXX	1
			768944	10x19–6x65	MX	1
			766942	12x19–6x65	MX	1
			768948	12x25–6x70	MX	1
			902724	12x25–6x70	MXC	1
			768949	12x25–6x70	MXX	1
			766145	13x25–8x70	MX	1
			768951	16x25–6x70	MX	1
			766147	16x25–8x70	MX	1
		52TRE	766939	3x6–3x38	MX	1
			766150	6x10–3x42	MX	1
			768924	8x13–6x58	MX	1
			768926	10x16–6x60	MX	1
			768929	12x22–6x67	MX	1
			766154	16x25–6x70	MX	1
		52WRC	766126	3x13–3x38	MX	1
			766127	6x13–3x45	MX	1
			768874	6x19–6x50	MX	1
			910766	6x19–6x50	MXC	1
			768873	6x19–6x50	MY	1

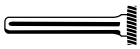
Items with grey lettering are only available on request.

Tungsten carbide burrs
For cast iron, steel and stainless steel

	Shape		Type no.	Dimension	Specification	PU
		52WRC	768878	8x19–6x65	MX	1
			768880	8x19–6x65	MXX	1
			768877	8x19–6x65	MY	1
			768881	10x19–6x65	MX	1
			766130	10x19–6x65	MY	1
			766930	12x25–6x70	MX	1
			766133	12x25–6x70	MXX	1
			766131	12x25–6x70	MY	1
			768887	12x25–8x70	MX	1
			768888	12x25–8x70	MXX	1
			801349	13x19–6x65	MX	1
			768891	16x25–6x70	MX	1
			766134	16x25–8x70	MX	1
		52ZYA	766099	3x13–3x38	MX	1
			766944	4x13–4x50	MX	1
			766100	6x13–3x45	MX	1
			768747	6x19–6x50	MX	1
			768750	8x19–6x65	MX	1
			766108	10x19–6x65	MX	1
			768752	10x19–6x65	MXX	1
			766945	12x25–6x70	MX	1
			801348	13x19–6x65	MX	1
			768754	16x25–6x70	MX	1
			766111	16x25–8x70	MX	1
		52ZYA-S	766112	3x13–3x38	MX	1
			902665	3x13–3x38	MY	1
			766113	6x13–3x45	MX	1
			768710	6x19–6x50	MX	1
			902668	6x19–6x50	MXC	1
			768712	8x19–6x65	MX	1
			766115	8x19–6x65	MY	1
			766116	10x19–6x65	MX	1
			766120	10x19–6x65	MY	1
			766949	12x19–6x65	MX	1

Items with grey lettering are only available on request.

◀

	Shape		Type no.	Dimension	Specification	PU
		52ZYA-S	766121	12x25–6x70	MX	1
			766117	12x25–6x70	MXX	1
			768718	12x25–8x70	MX	1
			768721	16x25–6x70	MX	1
			766119	16x25–8x70	MX	1
		52RND	801529	10x1.6–3x34	MY	1
			801530	12x2.6–6x48	MY	1
			801531	25x5.2–8x50	MY	1
		52SKM-N	20487	12x25–6x70	MY	1
		52KUD-N	34022392	12x20–6x63	MX	1
		52ZYA-R	20553	3x13–3x38	MX	1
			20555	6x16–6x50	MX	1
			20557	8x19–6x65	MX	1
			20565	10x19–6x65	MX	1
			20587	12x25–6x70	MX	1
			20590	16x25–6x70	MX	1

★★★ PREMIUM

Tungsten carbide burr SET

For cast iron, steel and stainless steel



The PREMIUM*** tungsten carbide burr set contains common burrs for machining cast iron, steel and stainless steel materials. Production on CNC machines results in a highly efficient precision tool that achieves optimum grinding results. With this tungsten carbide burr you can achieve the longest lifetimes when used on practically any material.

By choosing the right machine, the correct revolutions per minute and operating speed, and the appropriate cutting and tooth profile, you will pave the way for PREMIUM*** results.

	Type no.	Shape	Dimension	Specification	PU
	822725	52WRC	12x25	Cemented carbide milling point set: 5 parts with shaft S6x40	1
		52KEL	12x30		1
		52RBF	12x25		1
		52SPG	12x25		1
		52KUD	12x11.7		1

▶

Items with grey lettering are only available on request.

★★★ PREMIUM

Tungsten carbide burrs SET

For cast iron, steel and stainless steel



Type no.	Shape	Dimension	Specification	PU
845416	52FLH	8x19	Cemented carbide milling point set: 5 parts with shaft S6x40	1
	52KEL	10x19		1
	52SPG	6x16		1
	52SPG	10x19		1
	52TRE	8x13		1
	52WRC	6x19		1
	52WRC	8x19		1
	52WRC	10x19		1
	52ZYA	8x19		1
	52ZYA-S	10x19		1
822718	52KEL	12x30	Cemented carbide milling point set: 10 parts with shaft S6x40	1
	52WRC	12x25		1
	52SPG	12x25		1
	52SKM	12x22		1
	52KUD	12x11.7		1
	52ZYA-S	10x19		1
	52WRC	8x19		1
	52RBF	10x19		1
	52SPG	6x16		1
	52KUD	8x7.2		1
34022430	52SKM-N	12x25	Cemented carbide milling point set: 5 parts with shaft S6x40	1
	52KUD-N	12x20		1
	52ZYA-R	12x25		1
	52ZYA-R	10x19		1
	52ZYA-R	6x16		1

Items with grey lettering are only available on request.

★★★ PREMIUM

Tungsten carbide burrs
For nonferrous metals

Production of the TYROLIT PREMIUM*** burrs is performed on modern CNC grinding machines. The result is a highly efficient precision tool that has been specially developed for use on nonferrous metals. With these products you can achieve the longest lifetimes.
By choosing the right machine, the correct revolutions per minute and operating speed, and the appropriate cutting and tooth profile, you will pave the way for PREMIUM*** results.

	Shape		Type no.	Dimension	Specification	PU
		52KEL	766935	10x27–6x75	ALU	1
			768896	12x30–6x75	ALU	1
			801527	16x33–8x78	ALU	1
		52RBF	768845	10x19–6x65	ALU	1
			768848	12x25–6x70	ALU	1
			801524	16x25–8x70	ALU	1
		52WRC	768884	10x19–6x65	ALU	1
			768885	12x25–6x70	ALU	1
			801528	16x25–8x70	ALU	1
		52ZYA	806824	10x19–6x65	ALU	1
			806826	12x25–6x70	ALU	1
		52ZYA-S	768715	10x19–6x65	ALU	1
			768717	12x25–6x70	ALU	1

★★★ PREMIUM

Tungsten carbide burrs SET
For nonferrous metals

The PREMIUM*** tungsten carbide burr set contains common burrs for nonferrous metal applications. Production on CNC machines results in a highly efficient precision tool that achieves optimum grinding results. With this tungsten carbide burr you can achieve the longest lifetimes when used on practically any material.
By choosing the right machine, the correct revolutions per minute and operating speed, and the appropriate cutting and tooth profile, you will pave the way for PREMIUM*** results.

	Type no.	Shape	Dimension	Specification	PU
	822728	52WRC	10x19	Cemented carbide milling point set: 5 parts with shaft S6x40	1
		52WRC	12x25		1
		52RBF	10x19		1
		52RBF	12x25		1
		52KEL	12x30		1

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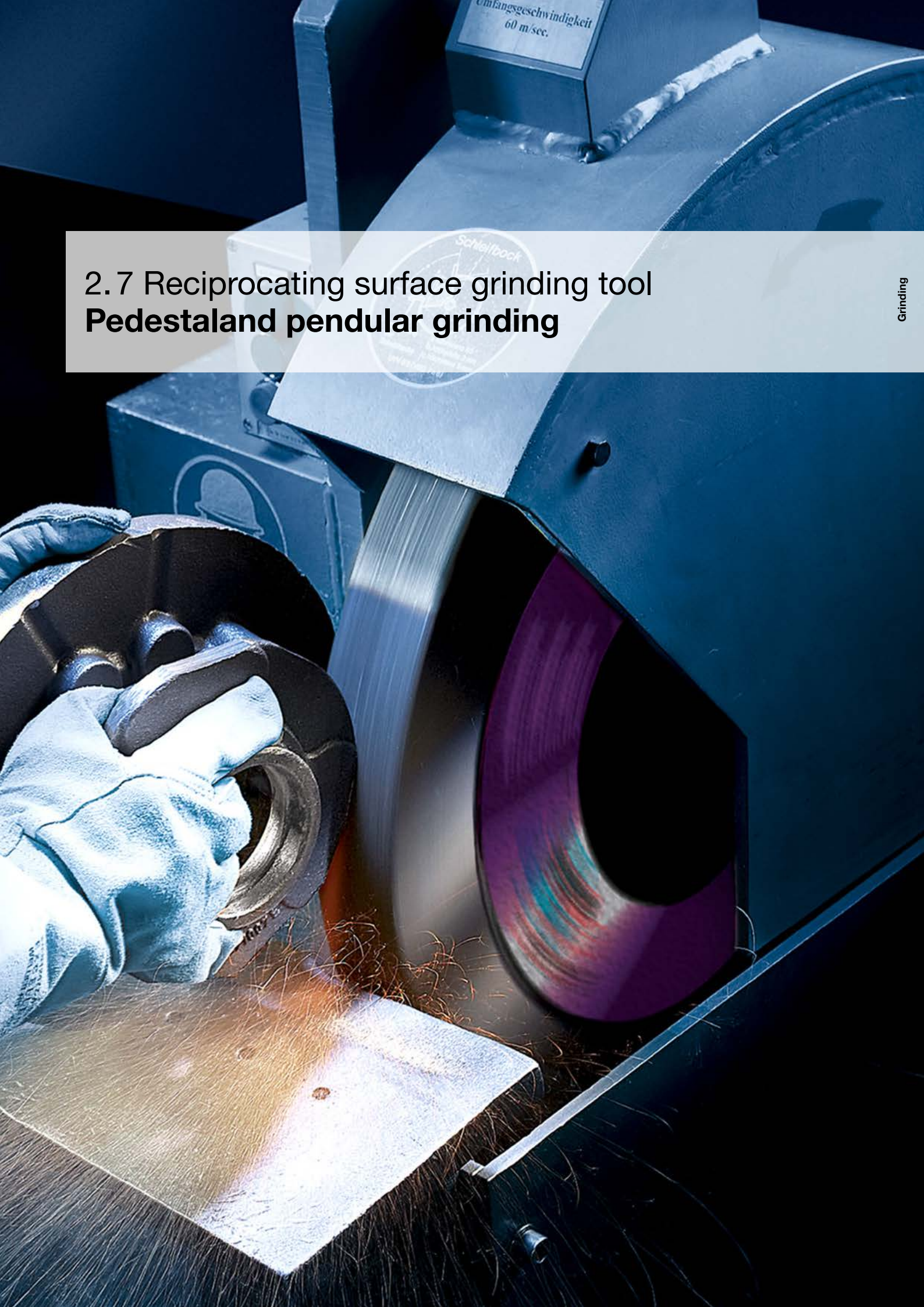
2.7 Reciprocating surface grinding tool
Pedestaland pendular grinding



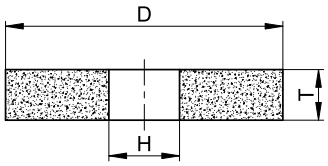


Pedestal and pendular grinding

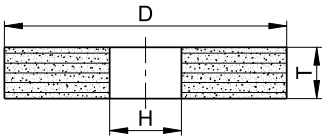
TYROLIT tools for pedestal and pendular grinding impress with their high performance and economic efficiency.

Due to their high cutting ability, the exertion on the part of the user is considerably reduced. Furthermore, they offer the highest safety standards for manual grinding applications. By choosing the appropriate specification, you can either deburr or machine large feeder cross sections and hard cast materials. We offer you individual applications engineering support in this regard.

Shapes



Shape 1 (without reinforcement)



Shape 1F63 (with reinforcement)

Application recommendation

Specification	Alu	Non and low-alloyed steels	High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
M112A 16 Q4 B26/63, M202 A16 P5 BF83/63		●		●	●		●			●	●		134

Breadth of product range*

	Standard recommendation			Long life	
	Shape 1 63 m/s without reinforcement	Shape 1F63 63 m/s	Shape 1F80 80 m/s	Shape 1F63 63 m/s	Shape 1F80 80 m/s
Nonferrous metals	M52A20M5B59	M52A20M5B59	M52A20M5BF88		
Cast steel	M52A165O5B83	M52A165O5B83	M52A165P5BF88	M202A165P5BF83	M52A165P5BF88
Grey cast iron, spheroidal cast iron	M202A165O5B83	M202A165O5B83	M202A165P5BF88	M205A165P5BF83	M205A165P5BF88
Mineralised cast iron	M80AC145O5B83	M80AC145O5B83	M80AC145P5BF88		

**Delivery time: 5–6 weeks; for production reasons, the minimum order quantity may differ from non-stock types.*

● Extremely suitable ● Limited suitability

★★★
PREMIUM

FOCUR EXTRA
for pedestal and pendular grinding

For cast iron

+ **Less exertion**
The high cutting ability of the wheel reduces physical exertion.

+ **Maximum safety**
Our pendular wheels offer the highest safety standards for manual applications.



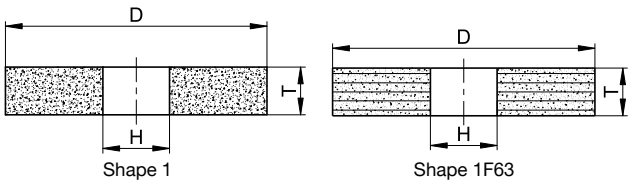
+ **Selection based on** individual requirements
The wheel is tailored to your specific grinding applications and is available in all common diameters.

Pendular grinding is primarily used for heavy, bulky cast parts. TYROLIT wheels ensure operation with less exertion and a higher stock removal rate. In most abrasive mixtures, zirconium aluminium oxide is used for grinding cast materials, enabling much shorter grinding times, higher stock removal rates and longer tool lifetimes to be achieved.

★★★
PREMIUM

FOCUR EXTRA for pedestal and pendular grinding

For cast iron

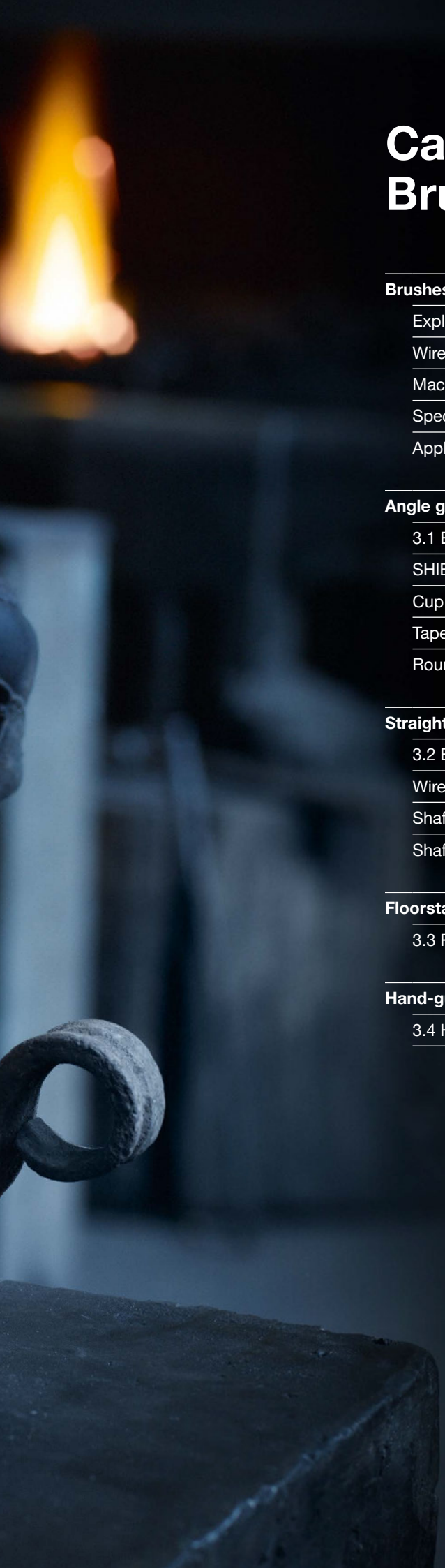


	Shape	Type no.	Dimension	Specification	PU
	1	339583	500x60x127	M112A 16 Q4 B26/63	1
	1F63	662442	600x60x203.2	M202 A16 P5 BF83/63	1

Items with grey lettering are only available on request.


ZA


TYROLIT



Catalogue 20
Brushes

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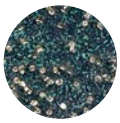
Specific information
Tool brushes

Brushes product label



Wire types

	Abbreviation	Description	Application
	DW	Knotted wire	Suitable for soft materials such as nonferrous metals, sensitive surfaces and slight impurities
	DZ	Twisted wire	Suitable for heavy work, severe dirt and removing layers of paint or varnish
	DK	Wire with grain	Suitable for deburring gears, valve parts, cutting edges of aluminium profiles and pipes

	Abbreviation	Description	Application
	DG	Straight wire	For cleaning workpieces with hand tools
	DE	Wire with plastic	Suitable for accurate work as splaying of wire is prevented; particularly helpful in automotive repairs

Pictograms Machines



Angle grinder with brush



Straight grinder



Floorstand grinder



Hand-guided grinding

Specification

6T DZ SH 0.5

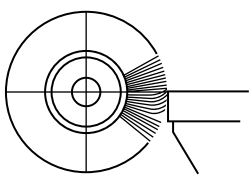
0.5	Thickness
SH	Specification (wire type)
DZ	Wire type
6T	Shape

S	Steel wire	**E**	Stainless steel wire	**M**	Brass wire	**PP**	Synthetic bristles
SH	Hardened steel wire	**EA**	Stainless, acid-resistant steel wire			**PA**	Plastic wire with abrasive grain
SZ	Hardened and tough steel wire					**C**	Wire with silicon carbide grain
SM	Brassed steel wire					**A**	Wire with aluminium oxide grain

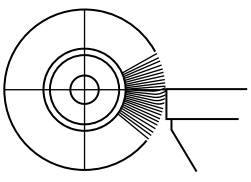
Pressure

Brushes need only light pressure, as the wire tips do all the work.
Heavy pressure does not improve the brushing result.
Heavy pressure shortens the lifetime and requires more force.

Excessive pressure



Correct pressure







3.1 Brushes
Angle grinder



Brushes
for angle grinders

Working with an angle grinder is one of the most important processes in the trade and industrial sectors for processing all types of metals. TYROLIT offers a comprehensive assortment of brushes for angle grinders.

Brushes are generally very versatile and can be used for a wide range of applications such as deburring, cleaning welding seams or the surfaces of virtually any material. he wide assortment of TYROLIT tool brushes has the right shape, wire type and specification for every job.

Application recommendations

Performance level	Specification	Design	Steel	Stainless steel	NF-metals	Pages
★★★ PREMIUM	SM..		●			145,147,149,150
	S...		●			145,146,147,149,150,152
	SH...	PIPELINER	●			146,147,150,152,153
	SZ...		●			146
	E... INOX	PIPELINER		●		147,148,151,152,153,154
	M...				●	148
★ BASIC	S...		●			147
	SM...		●			147,150
	SH...		●			147,150,153

Items with grey lettering are only available on request.

Shapes



11TDW/6TDW Cup brush
For removing rust, paint and dirt and for smooth finishing



11TDZ Cup brush
Ideal for preparing surfaces before painting, removing slag, rust, scale and concrete residues



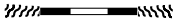
6TDZ Cup brush
For heavy work and removal of rust, paint, dirt or scale



28KDW Tapered brush
For hard-to-reach areas, for removal of rust, paint, dirt and for smooth finishing

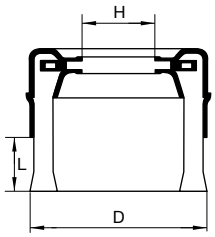


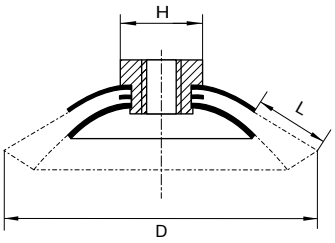
28KDZ Tapered brush
For hard-to-reach areas, for removal of slag, rust and scale

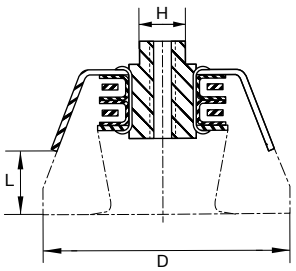


1RDZ Round brush
For welding and for removal of scale and paint

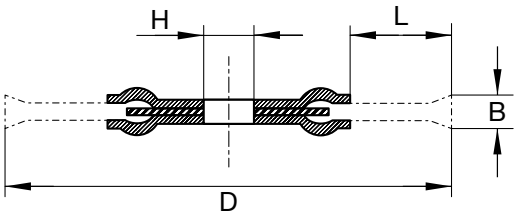
Dimensions cup and tapered brushes







Dimensions round brushes



Maximum speeds

The max. rpm is the speed at which the brushes can be safely used. This must not be exceeded.
In most cases it is advantageous to use a lower speed in order to achieve better results.

Caution: Before each use, compare the speeds of the tool and of the machine.

Ø	60	65	75	80	90	100	115	125	150	178	200
Round brush, twisted						11 000	11 000	9 000	9 000	8 500	6 500
Cup brush, knotted	11 000		11 000	9 000				6 500	6 500		
Cup brush, twisted shape 11		11 000	11 000	11 000	11 000	6–8 500		6 500			
Cup brush, twisted shape 6				6–8 500		6–8 500		6 500			
Tapered brush, knotted						11 000					
Tapered brush, twisted						11 000	11 000				

Optimum peripheral speed

Application	Peripheral speed in m/s							
	5	15	20	25	30	35	40	45
Deburring								
Processing of welding seams								
Descaling								
Polishing								
Processing of plastic								
Cleaning								
Rust removal								

Items with grey lettering are only available on request.

★★★
PREMIUM

SHIELD Cup brushes

For steel

+ **Enhanced user safety**
The protective plastic flaps provide protection from undesired wire breakages and dust.

+ **Broad assortment**
SHIELD cup brushes from TYROLIT are available in various shapes and wire types.



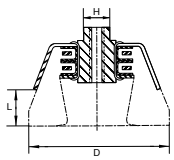
+ **No restriction**
The protection is transparent and therefore makes it easier to have a clear view of the surface being worked on. Even difficult-to-access areas are no longer a challenge thanks to the flexibility and pliability of the plastic.

With SHIELD cup brushes, TYROLIT offers a protective coating against dust and wire breakages combined with user-friendly use. The transparent protection allows the operator an unrestricted view of the workpiece even when performing edge and corner grinding. In addition, the plastic flaps offer a high level of flexibility, making it possible to machine difficult-to-reach places.
SHIELD brushes are available in various designs and wire types, and offer the highest safety levels when working on steel. Applications. Our products are also frequently used to clean welding seams.

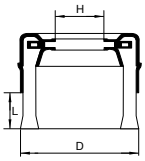
★★★
PREMIUM

SHIELD Cup brushes

For steel



Shape 11TDW



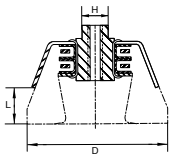
Shape 6TDW, 6TDZ

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		11TDW	34023780	75x20xM14–2	SM0.3	1	13 000
			34023778	65x20xM14–2	S0.5	1	15 000
		6TDW	34023827	80x30xM14–2	SM0.3	1	8 500
			34023828	100x30xM14–2	SM0.3	1	8 500
		6TDZ	34023823	80x25xM14–2	S0.5	1	8 500
			34023824	100x25xM14–2	S0.5	1	8 500

Items with grey lettering are only available on request.

★★★ PREMIUM

Cup brushes
For steel



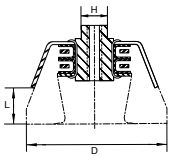
Shape 11TDW, 11TDZ

Wire brushes are universal tools for all applications. Cup brushes in particular are among the most commonly-used brush tools. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue. Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.

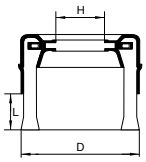
	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		11TDW	896157	60x16xM14	S0.3	1	11 000
			896158	60x16xM14	S0.5	1	11 000
			896160	75x20xM14	S0.3	1	9 000
			896161	75x20xM14	S0.5	1	9 000
			896162	100x30x22.2	S0.3	1	8 500
			896163	100x30x22.2	S0.5	1	8 500
			896164	100x30xM14	S0.3	1	8 500
			896165	100x30xM14	S0.5	1	8 500
			896250	125x35xM14	S0.3	1	6 500
			896252	125x35xM14	S0.5	1	6 500
			896253	150x55xM14	S0.3	1	6 500
			896255	150x55xM14	S0.5	1	6 500
		11TDZ	829292	80x35xM14	SH0.5	1	7 500
			829293	100x35xM14	SH0.5	1	7 500
			890868	100x45xM14	SZ0.35	1	7 500
		6TDZ	890860	65x20xM14	SH0.35	1	12 000
			890862	65x20xM14	SH0.5	1	12 000
			890863	80x25xM14	SH0.35	1	8 500
			890864	80x25xM14	SH0.5	1	8 500
			890865	100x25x22.2	SH0.35	1	8 500
			34042518	100x25x22.2	SH0.5	1	8 500
			890866	100x25xM14	SH0.35	1	8 500
			896289	100x25xM14	SH0.5	1	8 500
			896291	120x25xM14	SH0.35	1	6 500
			896290	120x25xM14	SH0.5	1	6 500
			896293	140x25xM14	SH0.35	1	5 500
			896292	140x25xM14	SH0.5	1	5 500

Items with grey lettering are only available on request.

★ BASIC Cup brushes
For steel



Shape 11TDW

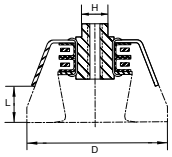


Shape, 6TDZ

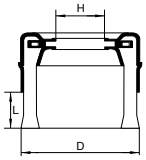
Wire brushes are universal tools for all applications. Cup brushes in particular are among the most commonly-used brush tools. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scale and concrete residue.
Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used for cleaning welding seams.

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		11TDW	34275595	60x16xM14	S0.5	1	12 500
			34275596	75x20xM14	S0.5	1	12 500
			34275599	100x30xM14	S0.5	1	8 500
			34275869	60x16xM14	SM0.3	1	12 500
			34275870	75x20xM14	SM0.3	1	12 500
			34275961	100x30xM14	SM0.3	1	8 500
		6TDZ	34275965	65x20xM14	SH0.5	1	12 500
			34275966	80x25xM14	SH0.5	1	8 500
			34275967	100x25xM14	SH0.5	1	8 500

★★★ PREMIUM SHIELD Cup brushes
For stainless steel



Shape 11TDW, 11TDZ



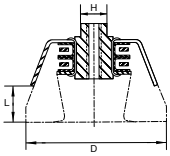
Shape 6TDW, 6TDZ

With SHIELD cup brushes, TYROLIT offers a protective coating against dust and wire breakages combined with user-friendly use. SHIELD brushes are available in various designs and wire types, and offer the highest safety levels when working on steel. Applications. Our products are also frequently used to clean welding seams.
The transparent protection allows the operator an unrestricted view of the workpiece even when performing edge and corner grinding. In addition, the plastic flaps offer a high level of flexibility, making it possible to machine difficult-to-reach places.

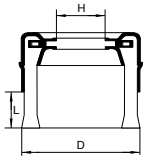
	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		11TDW	34023812	75x20xM14–2	E0.3INOX	1	13 000
		11TDZ	34023813	65x20xM14–2	E0.5INOX	1	15 000
		6TDW	34023829	80x30xM14–2	E0.3INOX	1	8 500
			34023830	100x30xM14–2	E0.3INOX	1	8 500
		6TDZ	34023825	80x25xM14–2	E0.5INOX	1	8 500
			34023826	100x25xM14–2	E0.5INOX	1	8 500

Items with grey lettering are only available on request.

★★★ PREMIUM Cup brushes
For stainless steel



Shape 11TDW

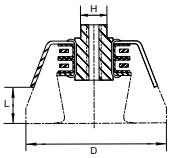


Shape 6TDZ

Wire brushes are universal tools for all applications. Cup brushes in particular are among the most commonly-used brush tools. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue. Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		11TDW	896167	60x16xM14	E0.3INOX	1	11 000
			896169	60x16xM14	E0.5INOX	1	11 000
			896170	75x20xM14	E0.3INOX	1	9 000
			896171	75x20xM14	E0.5INOX	1	9 000
			896172	100x30x22.2	E0.3INOX	1	8 500
			896173	100x30x22.2	E0.5INOX	1	8 500
			896174	100x30xM14	E0.3INOX	1	8 500
			896175	100x30xM14	E0.5INOX	1	8 500
		6TDZ	890851	65x20xM14	E0.35INOX	1	12 000
			890852	65x20xM14	E0.5INOX	1	12 000
			34042519	80x25xM14	E0.35INOX	1	8 500
			890853	80x25x22.2	E0.5INOX	1	8 500
			890854	80x25xM14	E0.5INOX	1	8 500
			890855	100x25x22.2	E0.35INOX	1	8 500
			890856	100x25x22.2	E0.5INOX	1	8 500
			890858	100x25xM14	E0.35INOX	1	8 500
			890859	100x25xM14	E0.5INOX	1	8 500

★★★ PREMIUM Cup brushes
For nonferrous metals



Shape 11TDW

PREMIUM*** cup brushes with brass wire are ideal for machining nonferrous metals. Due to its hardness, the brass wire achieves the best results on the brass workpiece. Their knotted wire design enables them to easily remove paint, dirt and varnish. They are ideal for fine work and thus make working on nonferrous metals easier.

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		11TDW	896943	60x16xM14	M0.3	1	11 000
			34042515	80x25xM14	M0.3	1	8 500
			34042517	100x30xM14	M0.3	1	8 500

Items with grey lettering are only available on request.

★★★
PREMIUM

SHIELD Tapered brushes

For steel

+ **Enhanced work safety**
The protective plastic flaps provide protection from undesired wire breakages and dust.

+ **Broad assortment**
Depending on the application, our brushes are available with twisted and knotted wire.



+ **No restriction**
The transparent protection enhances work safety whilst allowing the operator to work without restrictions. Difficult-to-reach places are no longer an issue thanks to the soft plastic flaps.

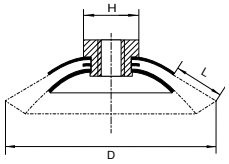
SHIELD tapered brushes offer a protective coating against dust and wire breakages due to their shape, combined with user-friendly use. The transparent protective coating also allows an unrestricted view of the workpiece. In addition, the plastic flaps offer a high level of flexibility, making it possible to machine edges and corners.

SHIELD brushes are available in various designs and wire types, and offer the highest safety levels when working on steel. This tool is also frequently used to clean welding seams.

★★★
PREMIUM

SHIELD Tapered brushes

For steel



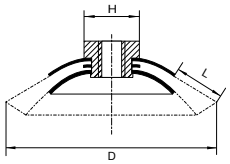
Shape 28KDW, 28KDZ

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		28KDW	34023819	100x20xM14–2	SM0.3	1	13 000
		28KDZ	34023817	100x20xM14–2	S0.5	1	15 000

Items with grey lettering are only available on request.

★★★ PREMIUM

Tapered brushes
For steel



Shape 28KDW, 28KDZ, 28KDZR

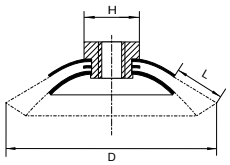
These PREMIUM*** wire brushes are particularly suitable for machining hard-to-reach parts due to their shape. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue.
Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.



Shape		Type no.	Dimension	Specification	PU	Max. RPM
	28KDW	829306	100x20xM14	S0.3	1	12 500
	28KDZR	896294	100x20xM14	SH0.35	1	12 500
		894595	100x20xM14	SH0.5	1	12 500
		34042520	115x27.5xM14	SH0.35	1	12 500
		894598	115x27.5xM14	SH0.5	1	12 500

★ BASIC

Tapered brushes
For steel



Shape 28KDW, 28KDZR

These BASIC* wire brushes are suitable for finishing hard-to-reach parts due to their shape. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scale and concrete residue.
Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used for cleaning welding seams.



Shape		Type no.	Dimension	Specification	PU	Max. RPM
	28KDZR	34276004	100x20xM14	SH0.5	1	12 500
		34276005	115x27.5xM14	SH0.5	1	12 500
	28KDW	34276006	100x20xM14	SM0.3	1	12 500
		34276007	115x27.5xM14	SM0.3	1	12 500

Items with grey lettering are only available on request.

★★★
PREMIUM

SHIELD Tapered brushes

For stainless steel

+ **Enhanced work safety**
The protective plastic flaps provide protection from undesired wire breakages and dust.

+ **Broad assortment**
Depending on the application, our brushes are available with twisted and knotted wire.

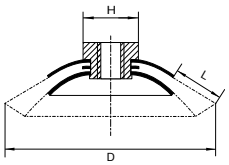


+ **No restriction**
The transparent protection enhances work safety whilst allowing the operator to work without restrictions. Difficult-to-reach places are no longer an issue thanks to the soft plastic flaps.

With SHIELD tapered brushes, TYROLIT offers a protective plastic coasting against undesired dust and wire breakages, combined with user-friendly use. The transparent protective coating also allows an unrestricted view of the workpiece. This tool is also frequently used to clean welding seams and for light deburring.
The tool shape enables easy machining of corners and edges. SHIELD brushes are available in various designs and wire types, and offer the highest safety levels when working on stainless steel.

★★★
PREMIUM

SHIELD Tapered brushes
For stainless steel



Shape 28KDW, 28KDZ, 28KDZR

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		28KDW	34023822	100x20xM14–2	E0.3INOX	1	13 000
		28KDZ	34023818	100x20xM14–2	E0.5INOX	1	15 000

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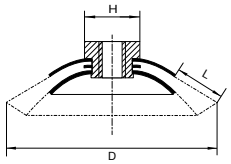
Tapered brushes
For stainless steel



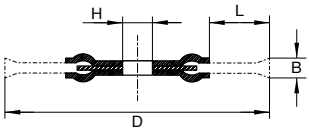
Shape 28KDW, 28KDZ, 28KDZR

These PREMIUM*** wire brushes are particularly suitable for machining hard-to-reach parts due to their shape. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue.
Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.



Shape		Type no.	Dimension	Specification	PU	Max. RPM
	28KDW	896260	100x20xM14	E0.3INOX	1	12 500
	28KDZR	829330	100x20xM14	E0.35INOX	1	12 500
		894602	100x20xM14	E0.5INOX	1	12 500
		938642	115x27.5xM14	E0.35INOX	1	12 500
		938646	115x27.5xM14	E0.5INOX	1	12 500

Round brushes
For steel



Shape 1RDZ

The PREMIUM*** round brushes are ideal for welding. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue.
Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.

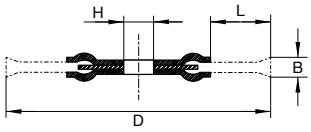


Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDZ	943976	100x11x22x22.2	SH0.5	1	11 000
	890618	100x11x22xM14	SH0.5	1	11 000
	310303	115x11x23x22.2	SH0.35	1	11 000
	894085	115x11x23x22.2	SH0.5	1	11 000
	960324	115x11x23xM14	S0.35	1	11 000
	938680	115x11x23xM14	SH0.5	1	11 000
	903406	125x12x25x22.2	SH0.35	1	12 000
	947205	125x12x25x22.2	SH0.5	1	12 000
	34042522	125x12x25xM14	SH0.35	1	12 000
	603818	125x12x25xM14	SH0.5	1	12 000
	34042525	178x15x44xM14	SH0.35	1	9 000
	34042524	178x15x44xM14	SH0.5	1	9 000
	829026	178x13x38x22.2	SH0.5	1	9 000

Items with grey lettering are only available on request.

★ BASIC

Round brushes
For steel



Shape 1RDZ

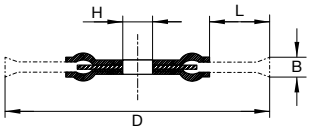
The BASIC* round brushes are ideal for finishing welding seams. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scale and concrete residue.



Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDZ	34275969	100x11x22x16	SH0.5	1	12 500
	34276001	115x11x23x22.2	SH0.5	1	12 500
	34276002	125x12x25x22.2	SH0.5	1	12 500
	34276003	178x15x44xM14	SH0.5	1	9 000

★★★ PREMIUM

Round brushes
For stainless steel



Shape 1RDZ

The PREMIUM*** round brushes are ideal for welding. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue. Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.



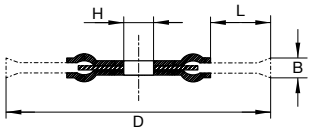
Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDZ	890623	100x11x22xM14	E0.5INOX	1	11 000
	310305	115x11x23x22.2	E0.35INOX	1	11 000
	890608	115x11x23x22.2	E0.5INOX	1	11 000
	16422	115x11x23xM14	E0.35INOX	1	11 000
	890626	115x11x23xM14	E0.5INOX	1	11 000
	890635	125x12x25x22.2	E0.35INOX	1	12 000
	34042526	125x12x25x22.2	E0.5INOX	1	12 000
	34042528	125x12x25xM14	E0.35INOX	1	12 000
	34042527	125x12x25xM14	E0.5INOX	1	12 000
	16425	178x15x44xM14	E0.35INOX	1	9 000
	942005	178x15x35x22.2	E0.5INOX	1	9 000
	16427	178x15x44xM14	E0.5INOX	1	9 000

Items with grey lettering are only available on request.

★★★ PREMIUM

PIPELINER Round brush

For steel



Shape 1RDZ

PIPELINER brushes were specially developed for quick cleaning of pipe connections. PIPELINEs are often subject to demanding requirements and are therefore welded in several steps. Individual welding seams must first be cleaned in order to superimpose additional welding seams.
Our PIPELINE brushes offer you a reliable and durable tool for this type of application.

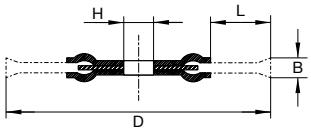


Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDZ	34313968	115x6x26x22.2	SH0.5	1	15 000
	34202827	125x6.0x21x22.2	SH0.5	1	12 500
	34313969	178x6x29x22.2	SH0.5	1	9 000

★★★ PREMIUM

PIPELINER Round brush

For stainless steel



Shape 1RDZ

The PIPELINER*** brushes were specially developed for quick cleaning of pipe connections made from stainless steel. PIPELINEs are often subject to demanding requirements and are therefore welded in several steps. Individual welding seams must first be cleaned in order to superimpose additional welding seams.
Our PIPELINE brushes offer you a reliable and durable tool for this type of application.



Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDZ	34202829	125x6.0x21x22.2	E0.5INOX	1	12 500

Items with grey lettering are only available on request.



3.2 Brushes
Straight grinder



Brushes
Straight grinder

Straight grinders are needed when precise results are required in hard-to-reach areas such as the inside of pipes. Their versatility makes them a popular tool.

That's why TYROLIT offers a comprehensive assortment of cup, round and wire brushes which can also be used on other machines, such as drilling machines.

The range of applications is very wide. Shaft mounted brushes are used for surface treatment such as cleaning rust, deburring, texturing and removing layers such as paint or rubber.

Application recommendations

Performance level	Specification	Steel	Stainless steel	NF-metals	All in One	Pages
★★★ PREMIUM	S...	●				159,160,162,164,165
	SM...	●				159,160,162,165
	SH...	●				165
	SZ...	●				159,160
	E... INOX		●			160,163,165,166
	EA... INOX		●			166
	M...			●		161,163,167
	C...				●	161,164,167
★ BASIC	S...	●				160,162
	SM...	●				160
	SZ...	●				160
	SM...	●				162
	E...INOX		●			166

Items with grey lettering are only available on request.

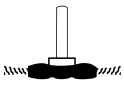
Shapes



52TDW Cup brushes
Suitable for cleaning work, such as removing paint or rust or for deburring



52RDW Round brushes
For removing rust, cleaning, smoothing, polishing, matting and roughening



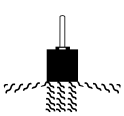
52RDZ Round brushes
Designed for welding and removing scale and paint



52RDK Round brushes
For matting and glazing, coated with grain

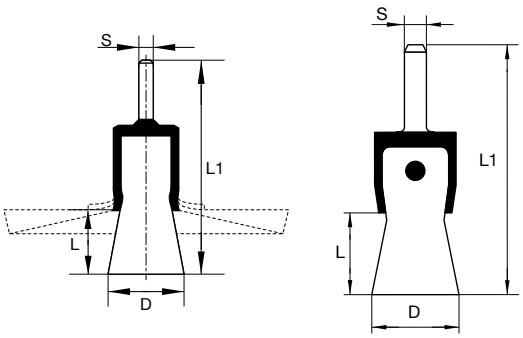


52PDE Wire brushes
Suitable for roughening, deburring, descaling and cleaning. The plastic coating ensures a long tool life

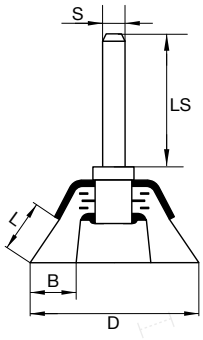


52PDZ Wire brushes
Suitable for roughening, deburring, descaling, matting and cleaning. These wire brushes are characterised by their high level of flexibility. The wire brush opens due to centrifugal force. They are also particularly suitable for cleaning the inside of pipes.

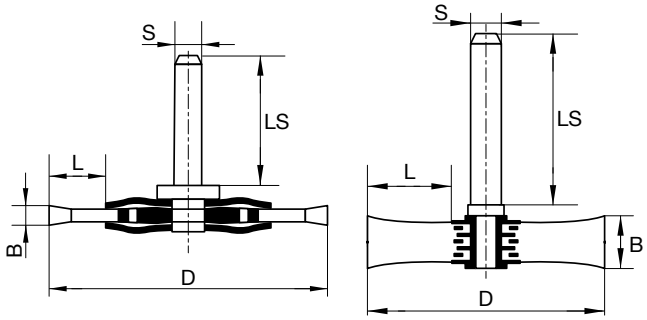
Dimensions wire brushes



Dimensions shaft mounted cup brushes



Dimensions shaft mounted round brushes



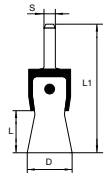
Optimum peripheral speed

Application	Peripheral speed in m/s							
	5	15	20	25	30	35	40	45
Deburring				■	■	■		
Processing of welding seams						■	■	■
Descaling						■	■	■
Polishing					■	■	■	
Processing of plastic		■	■					
Cleaning	■	■	■	■				
Rust removal	■	■	■	■				

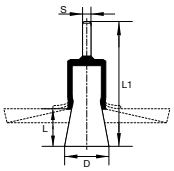
★★★ PREMIUM

Wire brushes

For steel

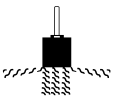


Shape 52PDW, 52PDE



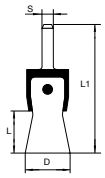
Shape 52PDZ

Wire brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Twisted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning. These wire brushes are characterised by their high level of flexibility. The wire brush opens due to centrifugal force.
They are also particularly suitable for cleaning the inside of pipes. Knotted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning. Also to remove burr, rust, rubber and other impurities in difficult-to-reach areas. Wire brushes with plastic achieve a longer lifetime.

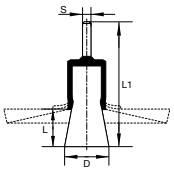
	Shape		Type no.	DxL-SxL1	Specification	PU	Max. RPM
		52PDW	903431	12x20–6x60	S0.2	25	20 000
			890719	12x20–6x60	S0.3	25	20 000
			903432	12x20–6x60	S0.5	25	20 000
			34043179	17x22–6x65	S0.2	25	18 000
			890721	17x22–6x65	S0.3	25	18 000
			52679	17x22–6x65	S0.5	25	18 000
			903429	24x25–6x68	S0.2	25	18 000
			903430	24x25–6x68	S0.3	25	18 000
			890722	24x25–6x68	S0.5	25	18 000
			58293	30x25–6x68	S0.2	25	15 000
			19012	30x25–6x68	S0.3	25	15 000
			890723	30x25–6x68	S0.5	25	15 000
		52PDZ	34043520	19x28–6x68	SZ0.25	25	20 000
			903357	19x28–6x68	SZ0.35	25	20 000
			34043541	19x28–6x68	SZ0.5	25	20 000
			34043542	22x28–6x68	SZ0.25	25	20 000
			34043543	22x28–6x68	SZ0.35	25	20 000
			34043544	22x28–6x68	SZ0.5	25	20 000
			939968	28x28–6x68	SZ0.25	25	20 000
			34043545	28x28–6x68	SZ0.35	25	20 000
			936422	28x28–6x68	SZ0.5	25	20 000
		52PDE	890649	10x25–6x60	SM0.3	25	20 000
			34043180	15x25–6x65	SM0.3	25	15 000
			890650	22x25–6x68	SM0.3	25	13 000
			34043181	28x25–6x68	SM0.3	25	13 000

Items with grey lettering are only available on request.

★ BASIC Wire brushes
For steel

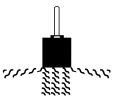


Shape 52PDW

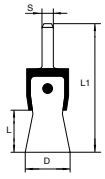


Shape 52PDZ

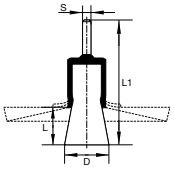
Wire brushes are ideal for finishing particularly hard-to-reach parts. With this product, you obtain a tool that can be used on both straight grinders and drilling machines. Twisted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning. These wire brushes are characterised by their high level of flexibility. The wire brush opens due to centrifugal force.
They are also particularly suitable for cleaning the inside of pipes. Knotted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning and also for removing burr, rust, rubber and other impurities in hard-to-reach areas.

	Shape		Type no.	DxL-SxL1	Specification	PU	Max. RPM
		52PDW	34276009	24x25–6x68	S0.3	1	4 500
			34276012	24x25–6x68	SM0.3	1	4 500
		52PDZ	34276015	28x28–6x68	SZ0.25	1	20 000

★★★ PREMIUM Wire brushes
For stainless steel

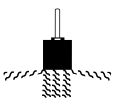


Shape 52PDW



Shape 52PDZ

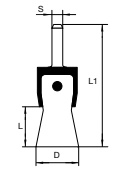
Wire brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Twisted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning. These wire brushes are characterised by their high level of flexibility. The wire brush opens due to centrifugal force.
They are also particularly suitable for cleaning the inside of pipes. Knotted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning. Also to remove burr, rust, rubber and other impurities in difficult-to-reach areas.

	Shape		Type no.	DxL-SxL1	Specification	PU	Max. RPM
		52PDW	897357	12x20–6x60	E0.3INOX	25	20 000
			890707	17x22–6x65	E0.3INOX	25	18 000
			890709	24x25–6x68	E0.3INOX	25	18 000
			903340	30x25–6x68	E0.3INOX	25	15 000
		52PDZ	890652	19x28–6x68	E0.25INOX	25	20 000
			890654	19x28–6x68	E0.35INOX	25	20 000
			890653	22x28–6x68	E0.25INOX	25	20 000
			890655	22x28–6x68	E0.35INOX	25	20 000
			934433	28x28–6x68	E0.25INOX	25	20 000
			16746	28x28–6x68	E0.35INOX	25	20 000

Items with grey lettering are only available on request.

★★★ PREMIUM

Wire brushes
For nonferrous metals



Shape 52PDW

Wire brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. They are also particularly suitable for cleaning the inside of pipes.
Knotted wire brushes are suitable for roughening, deburring, descaling, matting and cleaning. Also to remove burr, rust, rubber and other impurities in difficult-to-reach areas.

	Shape		Type no.	DxL-SxL1	Specification	PU	Max. RPM
		52PDW	890658	12x20–6x60	M0.2	25	20 000
			903343	12x20–6x60	M0.3	25	20 000
			890708	17x22–6x65	M0.2	25	18 000
			903350	17x22–6x65	M0.3	25	18 000
			890717	24x25–6x68	M0.3	25	18 000
			890718	30x25–6x68	M0.3	25	15 000

★★★ PREMIUM

Wire brushes
For universal use

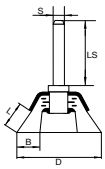
Wire brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. They are also particularly suitable for cleaning the inside of pipes. Wire brushes with silicon carbide are very hard and thus enable very high stock removal rates. Their use includes deburring work on various workpieces made of practically any material, such as steel, aluminium, stainless steel, copper, brass, etc. In addition, silicon carbide is used for wood structuring.

	Shape		Type no.	Dimension	Specification	PU	Max. RPM
		52PDK	34043547	17x22–6x65	C180	25	18 000
			34043548	24x25–6x68	C120	25	18 000
			34043549	24x25–6x68	C180	25	18 000
			34043550	24x25–6x68	C320	25	18 000
			34043552	30x25–6x68	C180	25	15 000

Items with grey lettering are only available on request.

★★★ PREMIUM

Shaft mounted cup brushes
For steel



Shape 52TDW

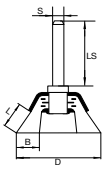
Shaft mounted cup brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Knotted shaft mounted cup brushes are suitable for cleaning work, such as removing paint, rust, scale, crust, or deburring.



Shape		Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
	52TDW	890753	40x10x15–6x30	S0.2	25	10 500
		890756	40x10x15–6x30	S0.3	25	10 500
		34043171	50x10x20–6x30	S0.2	25	10 500
		903359	50x10x20–6x30	S0.3	25	10 500
		903427	50x50x20–6x30	S0.2	25	10 500
		903428	50x50x20–6x30	S0.3	25	10 500
		890764	60x15x20–6x30	S0.2	25	4 500
		890763	60x15x20–6x30	S0.3	25	4 500
		890765	60x60x20–6x30	S0.2	25	4 500
		890766	60x60x20–6x30	S0.3	25	4 500
		890776	70x15x25–6x30	S0.2	25	4 500
		890774	70x15x25–6x30	S0.3	25	4 500
		890777	70x70x25–6x30	S0.2	25	4 500
		890778	70x70x25–6x30	S0.3	25	4 500

★ BASIC

Shaft mounted cup brushes
For steel



Shape 52TDW

Shaft mounted cup brushes are ideal for hard-to-reach parts. With this product, you obtain a tool that can be used on both straight grinders and drilling machines. Knotted shaft mounted cup brushes are suitable for cleaning work, such as removing paint, rust, scale, crust, or deburring.

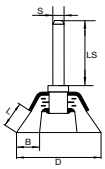


Shape		Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
	52TDW	34276010	70x15x25–6x30	S0.3	1	12 000
		34276013	70x15x25–6x30	SM0.3	1	12 000

Items with grey lettering are only available on request.

★★★ PREMIUM

Shaft mounted cup brushes
For stainless steel



Shape 52TDW

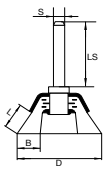
Shaft mounted cup brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Knotted shaft mounted cup brushes are suitable for cleaning work, such as removing paint, rust, scale, crust, or deburring.



Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
52TDW	890757	40x10x15–6x30	E0.2INOX	25	10 500
	890758	40x10x15–6x30	E0.3INOX	25	10 500
	34038259	50x10x20–6x30	E0.2INOX	25	10 500
	903877	50x10x20–6x30	E0.3INOX	25	10 500
	34038260	50x50x20–6x30	E0.2INOX	25	10 500
	903878	50x50x20–6x30	E0.3INOX	25	10 500
	890762	60x15x20–6x30	E0.2INOX	25	4 500
	890761	60x15x20–6x30	E0.3INOX	25	4 500
	890768	60x60x20–6x30	E0.2INOX	25	4 500
	890769	60x60x20–6x30	E0.3INOX	25	4 500
	890772	70x15x25–6x30	E0.2INOX	25	4 500
	890771	70x15x25–6x30	E0.3INOX	25	4 500
	890779	70x70x25–6x30	E0.2INOX	25	4 500
	890780	70x70x25–6x30	E0.3INOX	25	4 500

★★★ PREMIUM

Shaft mounted cup brushes
For nonferrous metals



Shape 52TDW

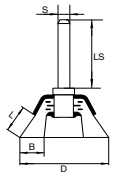
Shaft mounted cup brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Knotted shaft mounted cup brushes are suitable for cleaning work, such as removing paint, rust, scale, crust, or deburring.



Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
52TDW	34043172	40x10x15–6x30	M0.3	25	10 500
	199649	50x10x20–6x30	M0.2	25	10 500
	23470	50x10x20–6x30	M0.3	25	10 500
	34043173	50x50x20–6x30	M0.3	25	10 500
	23469	60x15x20–6x30	M0.3	25	4 500
	34043174	60x60x20–6x30	M0.3	25	4 500
	23471	70x15x25–6x30	M0.3	25	4 500
	34043175	70x70x25–6x30	M0.3	25	4 500

Items with grey lettering are only available on request.

★★★ PREMIUM Shaft mounted cup brushes
For universal use

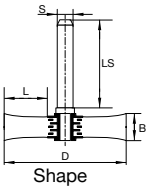


Shape 52TDK

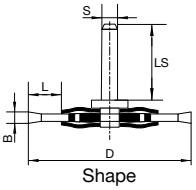
Shaft mounted cup brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines.
Shaft mounted cup brushes with silicon carbide are very hard and thus enable very high stock removal rates. Their use includes deburring work on various workpieces made of practically any material, such as steel, aluminium, stainless steel, copper, brass, etc. In addition, silicon carbide is used for wood structuring.

	Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
	 52TDK	34043177	50x10x20–6x30	C180	25	10 500
		34043178	60x15x20–6x30	C180	25	4 500
		34043546	70x15x25–6x30	C180	25	4 500

★★★ PREMIUM Shaft mounted round brushes
For steel



Shape 52RDW



Shape 52RDZ

Shaft mounted round brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Knotted wire brushes are suitable for removing rust, cleaning, smoothing, polishing, matting and roughening.
Twisted shaft mounted round brushes are designed for welding and removing scale and paint.

	Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
	 52RDW	890840	20x4x3–6x30	S0.2	25	20 000
		890841	30x6x6.5–6x30	S0.2	25	20 000
		890842	40x9x9–6x30	S0.2	25	18 000
		890843	40x9x9–6x30	S0.3	25	18 000
		903421	50x15x12.5–6x30	S0.15	25	15 000
		890844	50x15x12.5–6x30	S0.2	25	15 000
		890845	50x15x12.5–6x30	S0.3	25	15 000
		34043554	50x15x12.5–6x30	S0.5	25	15 000
		890846	60x10x17.5–6x30	S0.3	25	15 000
		903422	60x15x17.5–6x30	S0.15	25	15 000
		890847	60x15x17.5–6x30	S0.2	25	15 000
		903423	60x15x17.5–6x30	S0.3	25	15 000
		903424	70x15x19–6x30	S0.15	25	15 000
		34043555	70x15x19–6x30	S0.2	25	15 000
		890848	70x15x19–6x30	S0.3	25	15 000
		34043557	70x15x19–6x30	S0.5	25	15 000
		903425	80x15x19–6x30	S0.15	25	12 000
		890849	80x15x19–6x30	S0.3	25	12 000

Items with grey lettering are only available on request.

★★★ PREMIUM

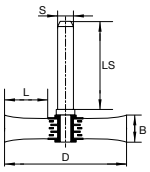
Shaft mounted round brushes
For steel



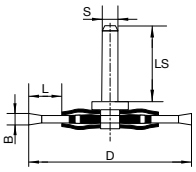
Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
52RDZ	890810	70x6x15–6x30	SH0.3	25	20 000
	34042794	80x10x15–6x30	SH0.35	25	20 000

★ BASIC

Shaft mounted round brushes
For steel



Shape 52RDW



Shape 52RDZ

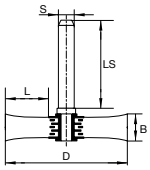
Shaft mounted round brushes are ideal for hard-to-reach parts. With this product, you obtain a tool that can be used on both straight grinders and drilling machines. Knotted wire brushes are suitable for removing rust, cleaning, smoothing, polishing, matting and roughening.
Twisted shaft mounted round brushes are designed for finishing welding seams and removing scale and paint.



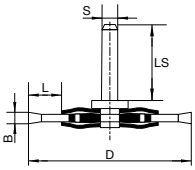
Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
52RDW	34276008	70x15x19–6x30	S0.3	1	15 000
	34276011	70x15x19–6x30	SM0.3	1	15 000
52RDZ	34276016	70x6.0x15–6x30	SH0.3	1	12 500

★★★ PREMIUM

Shaft mounted round brushes
For stainless steel



Shape 52RDW



Shape 52RDZ

Shaft mounted round brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Knotted wire brushes are suitable for removing rust, cleaning, smoothing, polishing, matting and roughening.
Twisted shaft mounted round brushes are designed for welding and removing scale and paint.



Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
52RDW	890812	20x4x3–6x30	E0.2INOX	25	20 000
	890813	30x6x6.5–6x30	E0.2INOX	25	20 000
	890814	40x9x9–6x30	E0.2INOX	25	18 000
	890815	40x9x9–6x30	E0.3INOX	25	18 000
	890817	40x13.5x9–6x30	E0.3INOX	25	18 000
	34043559	50x10x12.5–6x30	E0.2INOX	25	15 000
	890819	50x10x12.5–6x30	E0.3INOX	25	15 000

▶

Items with grey lettering are only available on request.

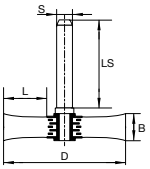
★★★ PREMIUM Shaft mounted round brushes

For stainless steel

	Shape		Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
		52RDW	890820	50x15x12.5–6x30	E0.2INOX	25	15 000
			890821	50x15x12.5–6x30	E0.3INOX	25	15 000
			890822	60x10x17.5–6x30	E0.2INOX	25	15 000
			890823	60x10x17.5–6x30	E0.3INOX	25	15 000
			890827	60x15x17.5–6x30	E0.2INOX	25	15 000
			890828	60x15x17.5–6x30	E0.3INOX	25	15 000
			895521	70x15x19–6x30	E0.2INOX	25	15 000
			890831	70x15x19–6x30	E0.3INOX	25	15 000
			890832	80x10x19–6x30	E0.3INOX	25	12 000
			890835	80x15x19–6x30	E0.3INOX	25	12 000
			917186	50x15x12.5–6x30	EA0.3INOX	25	15 000
			917189	70X15X19–6X30	EA0.3INOX	25	15 000
		52RDZ	890811	70x6x15–6x30	E0.35INOX	25	20 000

★ BASIC Shaft mounted round brushes

For stainless steel



Shape 52RDW

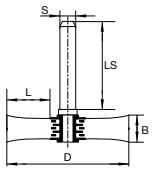
Shaft mounted round brushes are ideal for hard-to-reach parts. With this product, you obtain a tool that can be used on both straight grinders and drilling machines. Knotted wire brushes are suitable for removing rust, cleaning, smoothing, polishing, matting and roughening.

	Shape		Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
		52RDW	34276014	70x15x19–6x30	E0.3INOX	1	15 000

Items with grey lettering are only available on request.

Shaft mounted round brushes
For nonferrous metals

★★★ PREMIUM



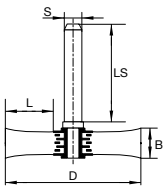
Shape 52RDW

Shaft mounted round brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Knotted shaft mounted round brushes are suitable for removing rust, cleaning, smoothing, polishing, matting and roughening.

	Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
	 52RDW	23472	40x9x9–6x30	M0.3	25	18 000
		23473	50x10x12.5–6x30	M0.3	25	15 000
		903337	50x15x12.5–6x30	M0.2	25	15 000
		34043560	50x15x12.5–6x30	M0.3	25	15 000
		23474	60x10x17.5–6x30	M0.3	25	15 000
		199648	70x15x19–6x30	M0.2	25	15 000
		903339	70x15x19–6x30	M0.3	25	15 000

Shaft mounted round brushes
For universal use

★★★ PREMIUM



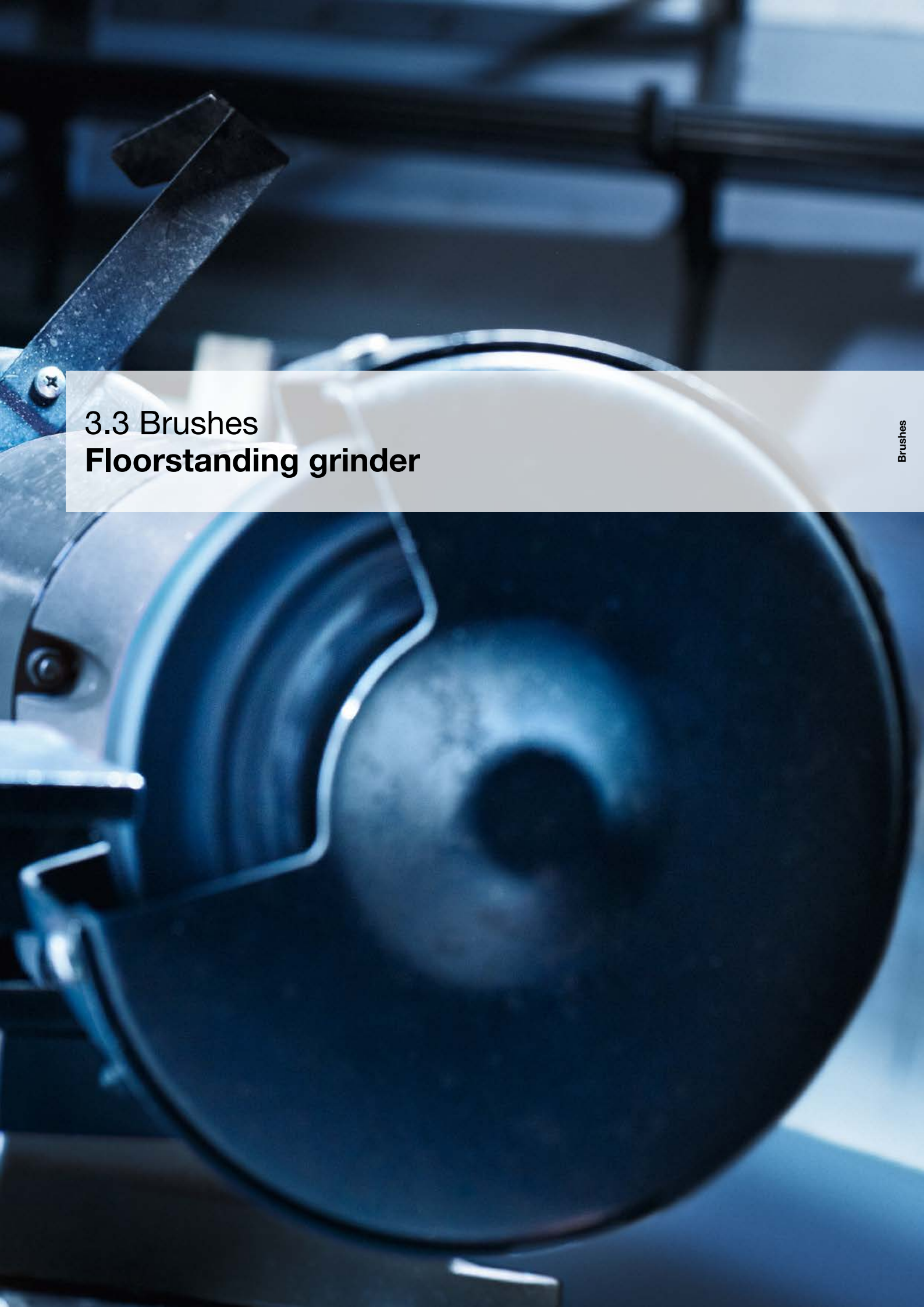
Shape 52RDK

Shaft mounted round brushes are ideal for machining hard-to-reach parts. With this product you will obtain a tool that can be used on both straight grinders and drilling machines. Shaft mounted round brushes with silicon carbide are very hard and thus enable very high stock removal rates. Their use includes deburring work on various workpieces made of practically any material, such as steel, aluminium, stainless steel, copper, brass, etc. In addition, silicon carbide is used for wood structuring.

	Shape	Type no.	DxBxL-SxLS	Specification	PU	Max. RPM
	 52RDK	34043572	50x20x12.5–6x30	C180	25	15 000
		903363	63x10x18–6x30	C320	25	15 000
		908265	70x20x19–6x30	C120	25	15 000
		908264	70x20x19–6x30	C180	25	15 000
		908263	70x20x19–6x30	C320	25	15 000

Items with grey lettering are only available on request.





3.3 Brushes
Floorstanding grinder



Brushes
for floorstanding grinders

A floorstanding grinder is a versatile machine used in many workshops to work on different materials. The wide assortment of TYROLIT tool brushes therefore has the right shape, wire type and specification for every application.

Knotted round brushes, with and without grain, are ideal for removing rust, cleaning, smoothing, polishing, matting and roughening. Twisted round brushes, on the other hand, are suitable for rough work such as welding and removing scale and paint.

Shapes



1RDW Round brushes
For removing rust, cleaning, smoothing, polishing, matting and roughening



1RDK Round brushes
For matting and glazing, coated with grain

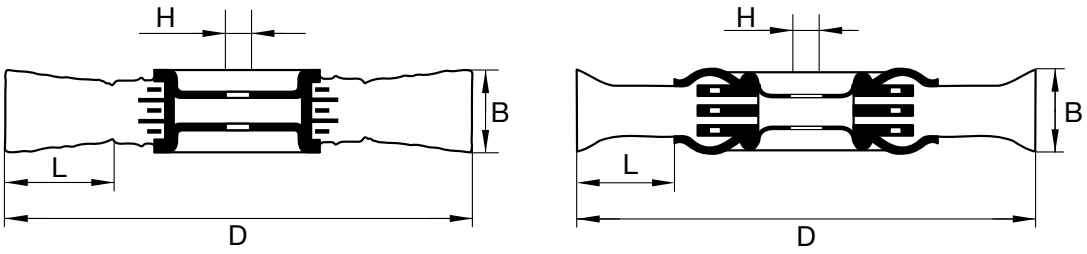
1RDZ Round brushes
For welding and for removal of scale and paint

Application recommendations

Performance level	Specification	Steel	Stainless steel	All in One	Pages
★★★ PREMIUM	S…	●			172
	SH…	●			172
	SZ…	●			172
	E… INOX		●		173
	C…			●	173
	A…			●	173

Items with grey lettering are only available on request.

Dimensions round brushes

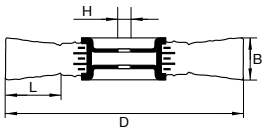


Optimum peripheral speed

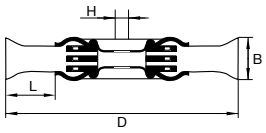
Application	Peripheral speed in m/s							
	5	15	20	25	30	35	40	45
Deburring				■	■	■		
Processing of welding seams						■	■	■
Descaling						■	■	■
Polishing					■	■	■	
Processing of plastic		■	■					
Cleaning	■	■	■	■				
Rust removal	■	■	■	■				

★★★ PREMIUM

Round brushes
For steel



Shape 1RDW



Shape 1RDZ

Round brushes for floorstanding grinders. TYROLIT will provide you with the appropriate wire brush for your application depending on the wire type. Twisted wire brushes are used for preparing surfaces and removing rust, scales and concrete residue. Wire brushes with knotted wire can also be used to remove rust and paint, as well as for fine grinding. Our products are also frequently used to clean welding seams.

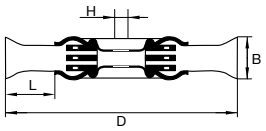
	Shape		Type no.	DxBxLxH	Specification	PU	Max. RPM
		1RDW	896630	80x22x20x12.5	S0.3	1	10 000
			896109	100x20x24x20	S0.3	1	6 000
			896237	100x20x24x20	S0.5	1	6 000
			896111	125x24x36x20	S0.3	1	6 000
			896238	125x24x36x20	S0.5	1	6 000
			896115	150x18x27x32	S0.3	1	6 000
			896239	150x18x27x32	S0.5	1	6 000
			896241	180x22x42x32	S0.3	1	6 000
			896243	180x22x42x32	S0.5	1	6 000
			927369	200x26x40x20	S0.3	1	4 500
			894770	200x26x40x32	S0.3	1	4 500
			896244	200x26x40x32	S0.5	1	4 500
			896121	200x36x40x32	S0.3	1	4 500
			896245	200x36x40x32	S0.5	1	4 500
			896123	200x45x40x32	S0.3	1	4 500
			896246	250x38x50x32	S0.3	1	3 600
			896247	250x38x50x32	S0.5	1	3 600
			943863	250x38x50x100	S0.5	1	3 600
			920436	250x42x50x100	S0.3	1	3 600
			938384	300x38x60x25.4	S0.3	1	3 000
			920824	300x38x60x100	S0.3	1	3 000
			923064	300x48x60x100	S0.3	1	3 000
		1RDZ	903404	100x18x22x16	SH0.35	1	11 000
			903409	100x18x22x16	SH0.5	1	11 000
			903407	180x18x34x22.2	SH0.35	1	9 000
			903411	180x18x34x22.2	SH0.5	1	9 000
			903408	200x22x44x40	SH0.35	1	8 500
			903413	200x22x44x40	SH0.5	1	8 500
			915557*	300x10x65x25.4	SZ0.5	1	4 500
			915555*	300x8x65x25.4	SZ0.5	1	4 500

**For floor sawing machine*

Items with grey lettering are only available on request.

★★★ PREMIUM

Round brushes
For stainless steel



Shape 1RDW

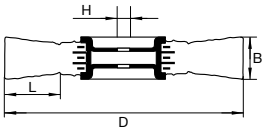
The versatile round brushes for floorstanding grinders are used in a variety of industries. These wire brushes with knotted wire can be used to remove rust and paint, as well as for fine grinding. They also come in useful for polishing and matting stainless steel workpieces.
TYROLIT wire brushes are manufactured to the highest standards to make work for the operator easier and safer.



Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDW	929849	100x20x24x10	E0.1INOX	1	6 000
	896110	100x20x24x20	E0.3INOX	1	6 000
	896113	125x24x36x20	E0.3INOX	1	6 000
	896116	150x18x27x32	E0.3INOX	1	6 000
	128345	180x22x42x32	E0.3INOX	1	6 000
	935157	200x26x40x20	E0.3INOX	1	4 500
	896119	200x26x40x32	E0.3INOX	1	4 500
	896122	200x36x40x32	E0.3INOX	1	4 500
	896124	200x45x40x32	E0.3INOX	1	4 500
	939696	250x60x50x50.8	E0.4INOX	1	3 600
	939697	300x60x60x50.8	E0.4INOX	1	3 600

★★★ PREMIUM

Round brushes
For universal use



Shape 1RDK

The versatile round brushes for floorstanding grinders are used in a variety of industries. Wire brushes with silicon carbide are very hard and thus enable very high stock removal rates. Their use includes deburring work on various workpieces made of practically any material, such as steel, aluminium, stainless steel, copper, brass, etc. In addition, silicon carbide is used for wood structuring.
Round brushes with aluminium oxide are somewhat softer and therefore less abrasive. They are primarily used in wood structuring, but also for light deburring if very small rounded edges are desired. TYROLIT wire brushes are manufactured to the highest standards to make work for the operator easier and safer.



Shape	Type no.	DxBxLxH	Specification	PU	Max. RPM
1RDK	34043575	100x11x22x20	C120	1	12 000
	34043576	100x11x22x20	C320	1	12 000
	34043577	125x13x22x20	C320	1	10 000
	34043578	150x13x34x32	C320	1	8 000
	916720	150x15x29x40	C320	1	8 000
	34043579	180x15x44x40	C320	1	6 000
	227435	200x13x43x50.8	C320	1	6 000
	898839	300x19x30x50.8	C120	1	3 000
	7213	300x19x30x50.8	A120	1	3 000

Items with grey lettering are only available on request.

Accessory wire brushes for floorstand grinder

Reduction bushes

The enclosed reduction bush set minimises the range of tools you need and also saves on storage space.

Reduction bushes are available free of charge for all floorstand grinder wire brushes, see table.



	Type no.	Application
100RR	109381	51x9x40
	638253	51x9x35
	911408	51x9x32
	822769	32x6x30
	76253	32x25,4x6
	822767	32x6x25
	822766	32x6x20
	76628	20x6x16
	76618	20x6x13
	79292	20x10x6
	261732	32x6x12
	76648	20x6x12

Items with grey lettering are only available on request.



3.4 Brushes
Hand-guided grinding



Hand-operated tool brushes

Brushes are suitable for universal use and can be employed in a very wide range of applications: deburring, cleaning welding seams or the surfaces of virtually any material.

With a large selection of shapes, it is possible to clean and work on hard-to-reach areas. Our range even includes a suitable hand brush for cleaning spark plugs. The TYROLIT range of brushes offers the right wire type and specification for every application.

Application recommendations

Performance level	Specification	Steel	Stainless steel	Aluminium	All in One	Pages
★★★ PREMIUM	S...	●				178,179,180,181,182,184,185
	E... INOX		●			178,179,180,182,183
	M...			●		178,181,182,183,184
	PP...				●	183
	PA...				●	185
	C...				●	185

Items with grey lettering are only available on request.

Shapes



90HDG Hand brush
Hand brush for universal use



90SDW Hand brush
For smooth finishing of profiled surfaces



90ZKDW Hand brush
Specially for cleaning spark plugs



90HKDG Hand brush
V-shaped, for cleaning hard-to-reach welding seams and fillet welds



90HFDW Hand brush
File brush for cleaning sensitive surfaces

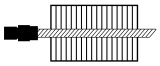
90FDG Hand brush
File brush for cleaning metal and wood files



90HBSDG Hand brush
Brushes for cleaning brake calipers



90HBDG Duster
For easy cleaning of all surfaces



18ROGDG Tube brush
Tube brush with drilling machine attachment

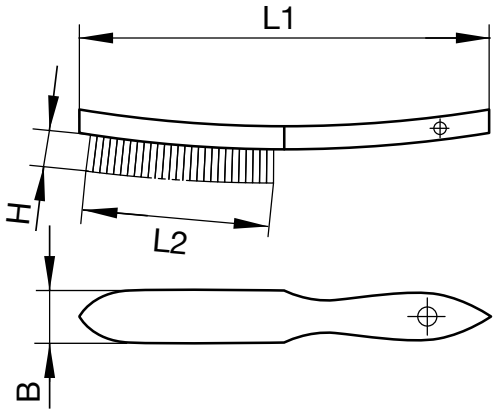


18ROODW/18ROODG
Cylindrical tube brush
For the manual cleaning of pipes and bores

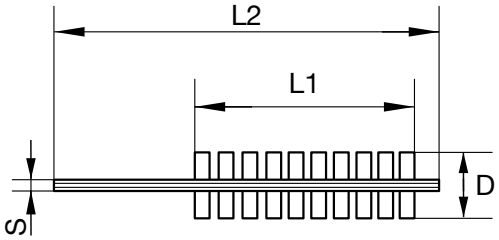


18RODK
Cylindrical tube brush
Tube brush with abrasive grain for cleaning bores

Dimensions hand brushes

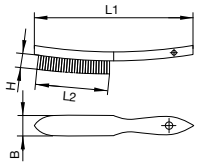


Dimensions tube brushes



★★★ PREMIUM

Universal hand brushes
For steel



90HDG

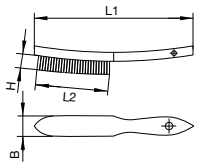
TYROLIT hand brushes are suitable for practically any application. This tool enables the deburring and cleaning of welding seams and surfaces.
The assortment consists of wire brushes with a varying number of wire sequences that can be used depending on the application. These products are equipped with a high-quality beech wood handle.



Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
	90HDG	895498	290x22x25x140	S0.3	12	2
		895576	290x28x25x140	S0.3	12	3
		895577	290x32x25x140	S0.3	12	4
		895578	290x38x25x140	S0.3	12	5
		199657	290x42x25x140	S0.35	12	6

★★★ PREMIUM

Universal hand brushes
For stainless steel



90HDG

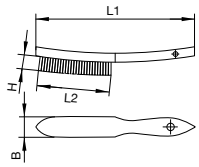
These brushes are stainless steel specialists when it comes to deburring and cleaning welding seams and surfaces.
The assortment consists of wire brushes with a varying number of wire sequences that can be used depending on the application. These products are equipped with a high-quality beech wood handle.



Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
	90HDG	895579	290x22x25x140	E0.3INOX	12	2
		895580	290x28x25x140	E0.3INOX	12	3
		896207	290x32x25x140	E0.3INOX	12	4
		896209	290x38x25x140	E0.3INOX	12	5

★★★ PREMIUM

Universal hand brushes
For nonferrous metals



Shape 90HDG

hand brushes are suitable for practically any application. This tool enables the deburring and cleaning of welding seams and surfaces.
The assortment consists of wire brushes with a varying number of wire sequences that can be used depending on the application. These products are equipped with a high-quality beech wood handle.



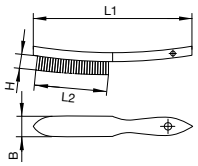
Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
	90HDW	896217	290x22x25x140	M0.3	12	2
		895581	290x28x25x140	M0.3	12	3
		896219	290x32x25x140	M0.3	12	4
		896220	290x38x25x140	M0.3	12	5

Items with grey lettering are only available on request.

Hand-operated wire brushes with scraper

★★★ PREMIUM

For steel



Shape 90HSDG

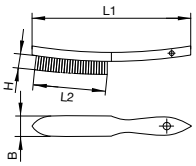
Hand brushes are a popular tool and are often used in the metal machining sector and on construction sites. The hand-operated wire brush with scraper is often used for brushing and scraping off heavy impurities.
For example, they are often used for the removal of cement spatter on construction sites - an application that can be performed quickly with this tool.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HSDG	34203491	290X32X25X140	S0.35	12	4

Fillet weld brush

★★★ PREMIUM

For steel



Shape 90HKDG

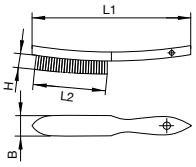
Hand brushes are a popular tool and are often used in the metal machining sector and on construction sites. TYROLIT fillet weld brush filaments are V-shaped to facilitate the removal of slag and scale from difficult-to-reach places. This tool is particularly suited to the cleaning of fillet welds.
This fillet weld brush is specially designed for use on steel and has a robust construction for heavy work

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HKDG	199682	290x35x35x135	S0.35	12	3

Fillet weld brush

★★★ PREMIUM

For stainless steel



Shape 90HKDG

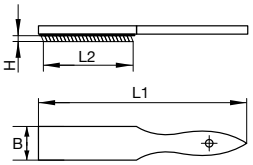
Hand brushes are a popular tool and are often used in the metal machining sector and on construction sites. This fillet weld brush is specially designed for use on stainless steel and has a robust construction for heavy work. The V-shaped filaments facilitate the removal of slag and scale from very difficult-to-reach places. This tool is particularly suited to the cleaning of
fillet welds.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HKDG	199689	290x35x35x135	E0.35INOX	12	3

Items with grey lettering are only available on request.

★★★ PREMIUM

File brush
For steel



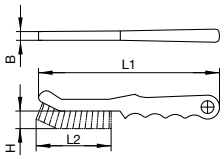
Shape 90FDG

TYROLIT file brushes are particularly suited to the cleaning of metal and wood files. The wire filaments are firmly adhered to the robust wooden body and are able to cope with challenging requirements.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90FDG	899851	300X30X25X135	S0.3	10	–

★★★ PREMIUM

All-purpose wire brush
For steel



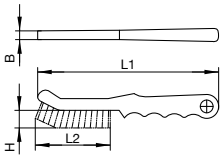
Shape 90SDW

TYROLIT hand brushes are suitable for practically any application. This tool enables the deburring and cleaning of welding seams and surfaces. These products are equipped with an ergonomic plastic handle.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90SDW	896223	260x10x28x135	S0.3	12	1

★★★ PREMIUM

All-purpose wire brush
For stainless steel



Shape 90SDW

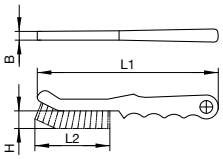
These brushes are stainless steel specialists when it comes to deburring and cleaning welding seams and surfaces. These products are equipped with an ergonomic plastic handle.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90SDW	896224	260x10x28x135	E.3INOX	12	1

Items with grey lettering are only available on request.

★★★ PREMIUM

All-purpose wire brush
For nonferrous metals



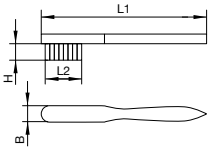
Shape 90SDW

TYROLIT hand brushes are suitable for practically any application. This tool enables the deburring and cleaning of welding seams and surfaces.
These products are equipped with an ergonomic plastic handle.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90SDW	199678	260x10x28x135	M0.3	12	1

★★★ PREMIUM

Spark brush
For steel



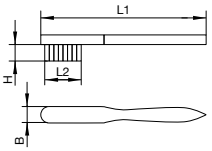
Shape 90ZKDW

Spark brushes are frequently used for precision work requiring a thin wire.
This spark brush has been specially designed for use on steel.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90ZKDW	903435	145x18x15x35	S0.15	12	3

★★★ PREMIUM

Spark brush
For nonferrous metals



Shape 90ZKDW

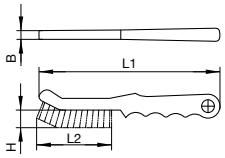
Spark brushes are frequently used for precision work requiring a thin wire. Cleaning of contact points; the soft brass filaments do not scratch the surface.
This spark brush has been specially designed for cleaning contact points.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90ZKDW	903434	145x18x15x35	M0.15	12	3

Items with grey lettering are only available on request.

★★★ PREMIUM

Brake caliper brush
For stainless steel



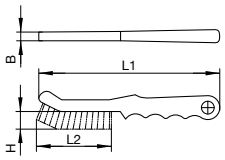
Shape 90HBSDG

The TYROLIT brake caliper brush has been developed in cooperation with the industry for the thorough removal of brake dust. The two-component handle makes this wire brush even easier to use for the operator. Despite its narrow filaments, it is an extremely powerful cleaning tool.
However, at the same time it does not damage
the brake calipers during machining. These wire brushes have been specially developed for machining stainless steel.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HBSDG	34203496	225x12x22x90	E0.35INOX	10	2

★★★ PREMIUM

Brake caliper brush
For steel



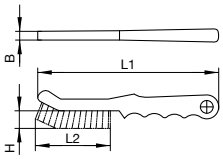
Shape 90HBSDG

This brake caliper brush has been developed in cooperation with the automotive industry for the thorough removal of brake dust. The two-component handle makes this wire brush even easier to use for the operator. These wire brushes have been specially developed for machining steel.
Despite its narrow filaments, it is an extremely powerful cleaning tool. However, at the same time it does not damage the brake calipers during machining.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HBSDG	34203494	225x12x22x90	S0.35	10	2

★★★ PREMIUM

Brake caliper brush
For nonferrous metals



Shape 90HBSDG

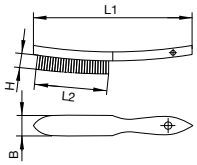
This brake caliper brush has been developed in cooperation with the automotive industry for the thorough removal of brake dust. These wire brushes have been specially developed for machining all types of nonferrous metal. Despite its narrow filaments, it is an extremely powerful cleaning tool.
However, at the same time it does not damage the brake calipers during machining.
The two-component handle makes this wire brush even easier to use for the operator.

	Shape		Type no.	Dimension	Specification	PU	Wire sequence
		90HBSDG	34203497	225x12x22x90	M0.25	10	2

Items with grey lettering are only available on request.

★★★ PREMIUM

File brushes
For stainless steel



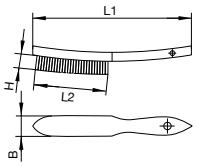
Shape 90HFDW

These wire brushes are also known as watchmakers' or goldsmiths' brushes and feature a large number of wire filaments.
They are particularly well suited to machining stainless steel workpieces and are often used for the application of solvents and cleaning agents.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HFDW	34203500	225x20x20x110	E0.15INOX	12	4

★★★ PREMIUM

File brushes
For nonferrous metals



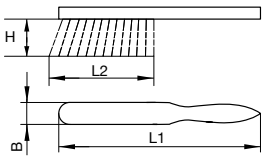
Shape 90HFDW

These wire brushes are also known as watchmakers' or goldsmiths' brushes and feature a large number of wire filaments.
They are particularly well suited to machining nonferrous metals and are often used for the application of solvents and cleaning agents.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HFDW	34203498	225x20x20x110	M0.15	12	4

★★★ PREMIUM

Duster
For universal use



Shape 90HBDG

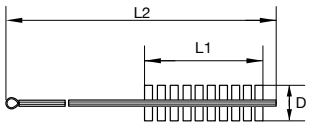
Dusters of this quality are ideally suited to the removal of coarse and slightly stubborn dirt. The smooth synthetic fibre filaments can be easily cleaned and so do not contaminate other surfaces.
The bristles do not absorb much water, and are therefore well suited to use in wet environments.

	Shape		Type no.	L1xBxHxL2	Specification	PU	Wire sequence
		90HBDG	34203514	320x35x70x175	PP0.4	12	4

Items with grey lettering are only available on request.

★★★ PREMIUM

Cylindrical tube brush
For steel



Shape 18ROODW

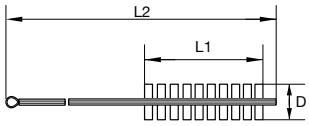
Tube brushes can adapt to the workpiece surface due to their flexibility. For example, the interior cleaning of bore holes and other difficult-to-reach places is no longer an issue.
They are composed of twisted-in galvanised wire and a simple filament spiral for easy handling.



Shape		Type no.	DxL1xL2	Specification	PU
	18ROODW	34203516	4x100–300	S0.1	10
		34203518	6x100–300	S0.1	10
		34203520	8x100–300	S0.1	10
		34203522	10x100–300	S0.15	10
		34203524	15x100–300	S0.15	10
		34203527	20x100–300	S0.15	10

★★★ PREMIUM

Cylindrical tube brush
For nonferrous metals



Shape 18ROODW

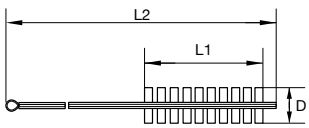
Tube brushes can adapt to the workpiece surface due to their flexibility. For example, the interior cleaning of bore holes and other difficult-to-reach places is no longer an issue. The cylindrical tube brush can be used to machine all types of nonferrous metal.
They are composed of twisted-in galvanised wire and a simple filament spiral for easy handling.



Shape		Type no.	DxL1xL2	Specification	PU
	18ROODW	34203529	4x100–300	M0.06	10
		34203530	6x100–300	M0.1	10
		34203541	8x100–300	M0.12	10
		34203542	10x100–300	M0.15	10
		34203543	15x100–300	M0.15	10
		34203544	20x100–300	M0.15	10

★★★ PREMIUM

Cylindrical tube brush
For universal use



Shape 18ROODG

Used to clean workpieces. Tube brushes can adapt to the workpiece surface due to their flexibility. For example, the interior cleaning of bore holes and other difficult-to-reach places is no longer an issue.
They are composed of twisted-in galvanised wire and a simple filament spiral for easy handling.

▶

Items with grey lettering are only available on request.

◀

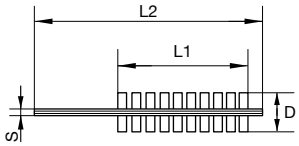
	Shape		Type no.	DxL1xL2	Specification	PU
		18ROODG	34203556	4x100–300	PA0.2	10
			34203557	6x100–300	PA0.2	10
			34203571	8x100–300	PA0.2	10
			34203572	10x100–300	PA0.25	10
			34203573	15x100–300	PA0.3	10
			34203575	20x100–300	PA0.3	10

★★★ PREMIUM

Tube brush

For universal use



Shape 18RODK

Interior brushes with abrasive grain filaments are especially suited to the deburring of bores or O-ring grooves. The polishing or cleaning of complex workpieces such as nozzles can also be carried out using this tool. Clamping in the drilling machine is only possible under consideration of the max. permissible speed. The wire brush must be clamped at a minimum of 10 mm and turned clockwise.
They are composed of twisted-in galvanised wire for easy handling. The sides of the abrasive bristles are also effective in rounding edges at bore interfaces.

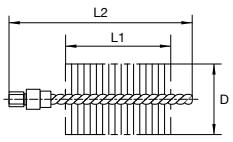
	Shape		Type no.	DxL1-SxL2	Specification	PU
		18RODK	34203595	10x65–3.7x125	C120	10
			34203596	16x65–5.2x125	C120	10
			34203597	20x65–5.7x125	C120	10
			34203598	25x65–5.7x125	C120	10

★★★ PREMIUM

Tube brush with external thread

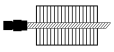
For steel



Shape 18ROGDG

These wire brushes are very popular for numerous applications. Its main tasks include the cleaning of tubes, gratings, sleeves and cylinders. It can also be used for the deburring of horizontal bore holes and regulation of flow velocities in tubing systems.
Thanks to their external thread, these brushes are extremely light and can be fixed to adapters and machines.
Please observe the maximum
permissible speed.

	Shape		Type no,	DxL2-L2 W1/2	Specification	PU	Max PRM
		18ROGDG	34203600	20x100–150 W1/2	S0.2	10	2 500
			34203601	25x100–150 W1/2	S0.25	10	2 500
			34203602	30x100–160 W1/2	S0.3	10	1 000
			34203603	40x100–160 W1/2	S0.35	10	1 000
			34203604	44x100–160 W1/2	S0.35	5	1 000
			34203605	50x100–160 W1/2	S0.35	5	1 000
			34203606	63x100–160 W1/2	S0.4	5	1 000
			34203607	75x100–160 W1/2	S0.4	5	1 000
			34203608	101x100–160 W1/2	S0.48	5	1 000

Items with grey lettering are only available on request.





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Precision grinding

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Precision tool specific **Information**

Product label



Flange ID

Dimensions DxTxH
Type number

Declaration of conformity,
EN safety standard

Registered trademark

Shape and specification

Production order
with item number

Observe maximum per-
missible operating speed,
max. speed, as well as
colour coding on grinding
wheel and accompanying
documentation



Type number

Shape

Specification

Registered trademark

Maximum permissible
operating speed

Production order with
item number

Precision tool specification
Conventional ceramic

89A 60 M 5 V 217

Bond designation	Internal code, which defines bond type
Bond	
V	vitrified bonded
B	resin bonded
E	elastic bonded
G	galvanic bonded
Structure	The higher the number, the more open the wheel
Hardness	Hardness ascends alphabetically e.g.
G	Soft
R	Hard
Grit size description	Grit size indication in mesh (sieve size per inch)
14 – 36	COARSE
46 – 60	MEDIUM
80 – 220	FINE
800 – 1 200	VERY FINE

Abrasive description	
10A	Regular aluminium oxide
50A	Mixture of 89A and 10A
52A	Semi-friable aluminium oxide
80A	Mixture of 88A and special aluminium oxide
87A	Mixture of 89A and 88A
88A	Pink aluminium oxide
89A	White aluminium oxide
91A	Red aluminium oxide
92A	Mixture of 89A and special aluminium oxide
93A	Mixture of 89A and 91A
97A	Special aluminium oxide
454A	Mixture of sintered aluminium oxide and 89A
455A	Mixture of sintered aluminium oxide and 89A
C	Green silicon carbide
1C	Black silicon carbide
50C	Silicon carbide mixture Green/black

Precision tool specification
CBN resin / Diamant

B 126 C50 B 54

Bond designation	Internal code, which defines bond type
Bond	
B	Resin bonded
M	Metal bonded
Concentration	The grain concentration shows the grain volume in carat per unit volume of the grinding layer
Grit size description	Grit size indication in µm (average grit diameter according to FEPA))
35 – 181 µm	
Abrasive description	
B	CBN
D	Diamond

Pictograms


External-cylindrical grinding


Internal-cylindrical grinding


Surface grinding


Floorstand grinder


Hand-guided grinding


Tool grinding


Saw sharpening


Dressing and sharpening

Delivery time

EXPLANATION OF TERMS	DELIVERY TIMES
Stock type All products in the chapter “Precision grinding” that are listed with type numbers are in stock.	Delivery 7 to 10 working days.
Recommended stock type A standard range created by a collaboration between our application engineers and marketing managers, which guarantees optimum grinding results for various grinding applications and the materials to be processed.	
Alternative stock type Existing stock products, which – based on our global market and product experience – also guarantee good grinding results, but which are replaced in the short to MEDIUM term by recommended stock types.	
Breadth of product range Precision is our business! However, if the specifications available in stock do not provide you with the perfect solution, modifications to the recommended product range (dimensions) can also be made, i.e. grit size, hardness and structure.	The corresponding delivery times can be found in the relevant chapters, or in our quote or order confirmation documentation.

Example for breadth of product range

C	**60**	**H**	**5**	**Stock type**	→	**Recommended standard specification**
C	46–180	F–I	5–8	5–6 weeks DT	→	Possible range of modifications for grit sizes, hardness and structure
C	80	F	8		→	Example of a possible modification

Modification on request

To ensure quicker delivery times in urgent cases, existing stock types (recommended stock types) can be modified to suit customer requirements. The current delivery time and price will be provided according to the enquiry.



Precision data sheet			Recorded by: on:	
Customer	ATDB no.:		**Country:**	
	Target group:		**Product family:**	
	Item requirements:			
	Customer: *		Classification:	
	Department:		Customer no.:	
	Contact:		Tel. / Fax:	
Customer	**Shape: ***		**1 set = item.:**	
	Dimensions (mm): *			
	Dimensions (mm):		Tolerance:	
	Specifications:			
	Manufacturer:		**Current price:**	
	Vs max. (m / s)*		Order quantity:	
Customer	**Grinding process:**			
	Machine manufacturer:			
	Vs (m / s):			
	Coolant / lubricant:			
	Dressing tool:			
	Dressing cycle:		Dressing amount:	
Workpiece	**Workpiece: ***		**Dimensions (mm): ***	
	Material group:*		**Stock (mm):**	
	Condition: *		**Hardness: ***	
Aim	**Surface roughness:**		**Contact time:**	
	Lifetime:			
	Addition:			
Probe	Specification:			
	Specification:			
	Specification:			
Info			Drawing:	
Distributor:				

* COMPULSORY fields are marked in grey



4.1 External cylindrical grinding
External cylindrical grinding tools



External cylindrical grinding

External cylindrical grinding is one of the most frequently used grinding processes, for example, in the automotive industry. In keeping with the requirements of our customers, we always offer the right tool.

The high-precision external cylindrical grinding tools from TYROLIT underlie an optimal quality assurance system and are produced using the most modern manufacturing technology and production facilities. We are therefore always able to comply with the requirements of our customers.

The decisive factor in the selection of the right product is the adaptation of the grinding wheel in the overall process to the specific requirements of the grinding application. Workpiece, tool, machine, parameters, cooling lubricant and the applied dressing technology contribute to the perfect grinding result. The choice of the correct specification, as well as adaptation of the process parameters, can be optimised by TYROLIT to suit customer requirements.

Application recommendation

Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened | Hardened	Unhardened | Hardened								
89A		●	● ●	●				●		●	196, 197
97A, 454A		●	●	●	●					●	197, 198
C			●	●	●	●		●		●	199
B		●	●	●	●					●	200
D						●	●			●	201

Application tips

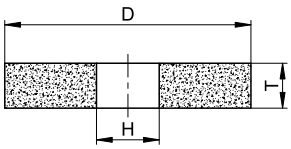
The key factor is the adjustment of the grinding wheel in the overall process (workpiece, tool, machine, parameters, coolant, dressing technology etc., as well as the specific requirements of the particular grinding applications.

- The choice of specification, such as the adjustment of process parameters, can be optimised by TYROLIT application engineers to suit customer requirements
- Recommended operating speed: 25–35 m/sec
  Workpiece peripheral speed: depends on workpiece diameter
- Overlap rate: 30–40 % of wheel width

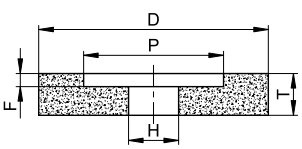
Diamond and CBN tool

- For optimised dressing, see page 310 to 319
- Longitudinal feed/overlap rate:
  30–50 % of thickness of diamond section width
- Workpiece peripheral speed: depends on workpiece diameter
- Recommended cutting speed for CBN grinding wheels for HSS and high-alloyed tool steel is 20–30 m/s
- Recommended cutting speed for diamond grinding wheels for cemented carbide and industrial ceramics is 15–25 m/s
- Concentrically trueing and sharpening of wheel before initial use with
  – unhardened structural steel shaft
  – silicon carbide grinding wheel
- Ensure good coolant supply

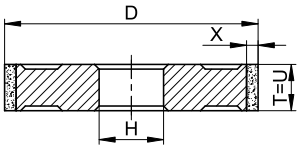
Shapes



Shape 1



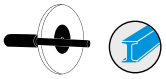
Shape 5



Shape 1A1

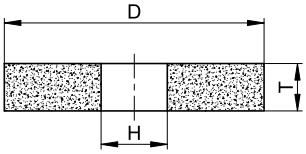
● Extremely suitable ● Limited suitability

External cylindrical grinding
Conventional ceramic
For non and low-alloyed steels

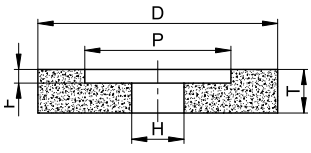


Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A		●		●	●	●				●		●

Recommended stock type



Shape 1



Shape 5

In many industries, external cylindrical grinding is one of the most frequently used grinding processes. In the automotive industry, for example, camshafts, crankshafts and gear shafts designed to meet the most stringent demands and requirements are produced. Use of aluminium oxide especially for non and low-alloyed steels.
The grade and structure of the wheel affect the grinding result and are tailored perfectly to use on non and low-alloyed steels. Our assortment also includes wheels for angled flute grinding.

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s	Comments
	1	690785	300x40x76.2		89A 802 J5A V217 50	50	
		889228	400x20x127		89A 802 J5A V217 50	50	
		881114	400x25x127		89A 802 J5A V217 50	50	
		39869	400x30x127		89A 802 J5A V217 50	50	
		620118	400x40x127		89A 802 J5A V217 50	50	
		71665	400x50x127		89A 802 J5A V217 50	50	
		70954	400x60x127		89A 802 J5A V217 50	50	Grit size 80 Ra approx. 0.20–0.35 µm
		655864	400x80x127		89A 802 J5A V217 50	50	
		713537	500x40x203.2		89A 802 J5A V217 50	50	
		655869	500x50x203.2		89A 802 J5A V217 50	50	
		39867	500x60x203.2		89A 802 J5A V217 50	50	
		655875	500x80x203.2		89A 802 J5A V217 50	50	
		655876	600x80x305		89A 802 J5A V217 50	50	
		119385	400x40x127		89A 120 K11 V3 50	50	Universal/angled flute grinding
		119392	500x50x203.2		89A 120 K11 V3 50	50	
	5	34172112	400x80x127	200x30	89A 802 J5A V217 50	50	Grit size 80 Ra approx. 0.20–0.35 µm
		34172113	400x60x127	200x10	89A 802 J5A V217 50	50	

Breadth of product range*

89A	80	J	5	Stock type
89A	46–120	I–K	5–8	5–6 weeks DT

**For production reasons, the minimum quantity ordered may differ from non-stock types.*

Precision grinding

▶

◀

Alternative stock type

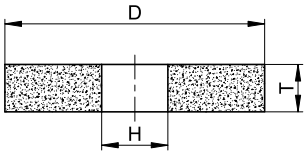
Shape	Type no.	DxTxH	Specification	Vmax m/s	Comments
1	44866	300x25x127	89A 602 K5A V217 50	50	
	66141	300x40x127	89A 602 K5A V217 50	50	
	690784	300x40x76.2	89A 602 K5A V217 50	50	
	34172115	300x30x127	89A 602 K5A V217 50	50	
	42216	350x40x127	89A 602 K5A V217 50	50	
	293034	356x50x127	89A 46 J6A V217 50	50	
	485430	356x50x127	89A 60 K5A V217 50	50	
	170606	350x32x127	89A 602 K5A V217 50	50	Grit size 60 Ra approx. 0.35–0.50 µm
	25473	400x40x127	89A 602 K5A V217 50	50	
	170608	400x32x127	89A 602 K5A V217 50	50	
	523430	450x50x203.2	89A 601 K5A V217 50	50	
	523437	450x25x203.2	89A 601 K5A V217 50	50	
	202294	500x60x203.2	89A 602 K5A V217 50	50	
	34273193	600x80x203.2	89A602K5AV217	50	
	523435	610x50x304.8	89A 601 K5A V217 50	50	

External cylindrical grinding
Conventional ceramic
For high-alloyed steels and HSS



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
97A, 454A			●		●	●	●					●

Recommended stock type



Shape 1

With this wheel we guarantee a tailored selection of high-performance aluminium oxides together with special bond systems. This ensures universal use on all high-alloyed steels and HSS.
With a sintered aluminium oxide mixture, for example 454A, it is possible to achieve the maximum stock removal rate for vitrified bonded grinding wheels. Improved performance can be achieved by resin-bonded CBN tools, such as the VIB STAR.

		Type no.	DxTxH	Specification	Vmax m/s	Comments
	1	664561	400x20x127	454A 802 J10 V3 50	50	
		655916	400x25x127	454A 802 J10 V3 50	50	
		655918	400x30x127	454A 802 J10 V3 50	50	Grit size 80 Ra approx. 0.20–0.35 µm
		655919	400x40x127	454A 802 J10 V3 50	50	
		216066	400x50x127	454A 802 J10 V3 50	50	

▶

◀

		Type no.	DxTxH	Specification	Vmax m/s	Comments
	1	655921	400x60x127	454A 802 J10 V3 50	50	
		655927	500x40x203.2	454A 802 J10 V3 50	50	
		655929	500x50x203.2	454A 802 J10 V3 50	50	
		216068	500x60x203.2	454A 802 J10 V3 50	50	
		655935	500x80x203.2	454A 802 J10 V3 50	50	
		655938	600x80x305	454A 802 J10 V3 50	50	
		34273200	350x50x127	97A802J5AV237	50	Grit size 80 Ra approx. 0.20–0.35 µm
		664564	400x20x127	97A 802 J5A V237 50	50	
		664571	400x25x127	97A 802 J5A V237 50	50	
		664573	400x30x127	97A 802 J5A V237 50	50	
		664575	400x40x127	97A 802 J5A V237 50	50	
		664578	400x50x127	97A 802 J5A V237 50	50	
		664583	500x40x203.2	97A 802 J5A V237 50	50	
		664585	500x50x203.2	97A 802 J5A V237 50	50	
		664587	500x60x203.2	97A 802 J5A V237 50	50	
		664588	500x80x203.2	97A 802 J5A V237 50	50	

Breadth of product range*

454A	80	J	10	Stock type	97A	80	J	5	Stock type
454A	80–120	I–K	6–10	5–6 weeks DT	97A	46–120	I–K	5–8	5–6 weeks DT

**For production reasons, the minimum quantity ordered may differ from non-stock types.*

Alternative stock type

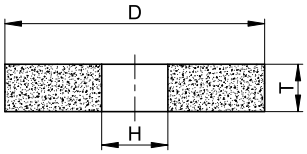
Shape	Type no.	DxTxH	Specification	Vmax m/s
20	36576	400/220x50/5x127	454A 701 J5 V3 50	50
	290670	400/220x40/5x127	89A 60 K5A V217 50	50
1	690233	400x40x127	92A 602 I5A V217 50	50
	293789	500x50x203.2	92A 60 I5A V217 50	50
	494259	250x13x76.2	454A 601 L7G V3 50	50
	494271	355x25x127	454A 601 L7G V3 50	50

External cylindrical grinding
Conventional ceramic
For tungsten carbide and grey cast iron



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C				●		●	●	●		●		●

Recommended stock type



Shape 1

This silicon carbide wheel is a cost-effective variant for machining tungsten carbide for secondary applications. It is primarily used for working on castings and nonferrous metals. This wheel is a good alternative for working on nitrified workpieces and wear-resistant thermal sprayed alloys in particular. Profiling is possible using Standard diamond dressing tools.

	Shape	Type no.	DxTxH	Specification	Vmax m/s
	1	655957	400x40x127	C 60 H5A V18 50	50
		655958	400x50x127	C 60 H5A V18 50	50
		656023	400x40x127	C 100 H5A V18 50	50
		656025	400x50x127	C 100 H5A V18 50	50

Breadth of product range*

C	60/100	H	5	Stock type
C	60–120	H–J	5–8	5–6 weeks DT

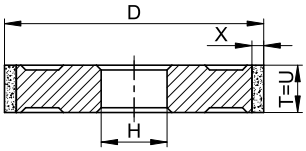
**For production reasons, the minimum quantity ordered may differ from non–stock types.*

VIB STAR External cylindrical grinding
CBN resin
For high-alloyed steels and HSS



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
B			●		●	●	●					●

Recommended stock type



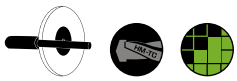
Shape 1A1

The VIB STAR external grinding wheel is made with a vibration-reducing core. This enables a consistent and quiet grinding process. A constant self-sharpening effect also guarantees consistent power consumption and therefore high economic efficiency of the tool.
Low wear results in a high level of dimensional accuracy on the workpiece, thereby reducing dimensional inspections to a minimum.

	Shape	Type no.	DxTxH	U-X	Specification	Vmax m/s
	1A1	914301	200x15x51	15-3	51B 126 C50 B VIB-STAR	63
		485142	250x15x51	15-3	51B 126 C50 B VIB-STAR	63
		394560	300x20x76.2	20-5	51B 126 C50 B VIB-STAR	63
		877158	300x20x76.2	20-3	51B 126 C50 B VIB-STAR	63
		885972	300x20x127	20-3	51B 126 C50 B VIB-STAR	63
		365327	350x20x127	20-5	51B 126 C50 B VIB-STAR	63
		366816	350x20x127	20-3	51B 126 C50 B VIB-STAR	63
		874510	350x20x127	20-3	51B 126 C75 B VIB-STAR	63
		473086	400x30x127	30-3	51B 126 C50 B VIB-STAR	63
		508495	400x20x127	20-5	51B 126 C50 B VIB-STAR	63
		872688	400x20x127	20-3	51B 126 C50 B VIB-STAR	63

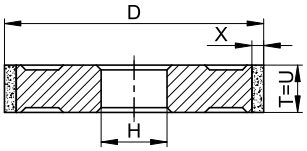
** Please find information on dressing and sharpening from page 310.*

VIB STAR External cylindrical grinding
Diamond resin
For tungsten carbide and industrial ceramics



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
D								●	●			●

Recommended stock type



Shape 1A1

The resin-bonded diamond wheel with VIB STAR core is a particularly cost-effective solution for machining tungsten carbide. Low wear and a high level of dimensional accuracy are achieved by a constant self-sharpening effect.
A high stock removal rate due to synthetic diamonds in resinoid bonds provides a significant advantage over less expensive silicon carbide wheels.

	Shape	Type no.	DxTxH	U-X	Specification	Vmax m/s
	1A1	914284	200x10x51	10-3	11D 126 C75 B VIB-STAR	63
		872702	250x15x51	15-3	11D 126 C75 B VIB-STAR	63
		897485	300x20x76.2	20-3	11D 126 C75 B VIB-STAR	63
		907436	300x15x127	15-3	11D 126 C75 B VIB-STAR	63
		914288	300x20x127	20-3	11D 126 C75 B VIB-STAR	63
		924298	350x20x127	20-3	11D 126 C75 B VIB-STAR	63
		914293	400x20x127	20-3	11D 126 C75 B VIB-STAR	63

** Please find information on dressing and sharpening from page 310.*



4.2 Reciprocating surface grinding
Reciprocating surface grinding tool



Reciprocating surface grinding

Reciprocating surface grinding is the most frequently used surface grinding process. Here, a high stock removal rate with an adequate surface finish is required. Due to the relatively large contact area between the grinding wheel and the workpiece, a special grinding wheel composition is necessary.

The high-precision reciprocating surface grinding tools from TYROLIT underlie an optimal quality assurance system and are produced using the most modern manufacturing technology and production facilities. We are therefore always able to comply with the requirements of our customers. The decisive factor in the selection of the right product is the adaptation of the grinding wheel in the overall process to the specific requirements of the grinding application. Workpiece, tool, machine, parameters, cooling lubricant and the applied dressing technology contribute to the perfect grinding result. The choice of the correct specification, as well as adaptation of the process parameters, can be optimised by TYROLIT to suit customer requirements.

Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
89A		●	●	●	●	●						●	206, 207, 208, 209, 212, 213
93A			●		●	●						●	207, 208, 209
F13A			●	●	●	●						●	207, 208
454A, 97A			●		●	●	●					●	210, 211, 212, 213, 214
80A		●	●	●	●		●					●	214
454A				●	●	●	●					●	214
C	●				●	●	●	●	●	●		●	215
B			●		●	●	●					●	216
D								●	●			●	217

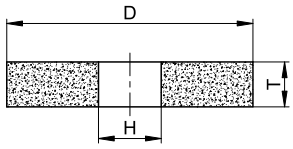
Application tips

- Recommended operating speed: 20–30 m/s
- Table traverse speed: 10–20 m/min
- Infeed when roughing: 0.01–0.03 mm/stroke
- Infeed when finishing: 0.002–0.004 mm/stroke
- Transverse stroke (contact width in %): 30–40 % of wheel width
- Finishing: 1–3 strokes (without infeed)

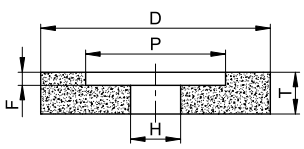
Diamond and CBN tool

- Table traverse speed: 10–20 m/min
- Transverse stroke/overlap rate: 30–40 % of thickness of diamond section
- Standard value for infeed: 1/10 of grinding grit size (e.g. D126 → infeed 12 µm)
- Recommended cutting speed for CBN grinding wheels for HSS and high-alloyed tool steel is 20–25 m/s
- Recommended cutting speed for diamond grinding wheels for cemented carbide and industrial ceramics is 15–25 m/s
- Concentrically trueing and sharpening of wheel before initial use with
  - unhardened structural steel block
  - AV500 dressing device with silicon carbide grinding wheel (see chapter “Dressing and sharpening”, page 310)
- Ensure good coolant supply

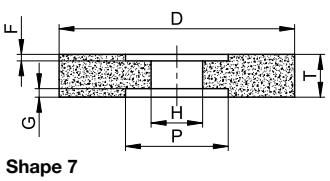
Shapes



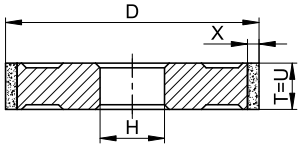
Shape 1



Shape 5



Shape 7



Shape 1A1

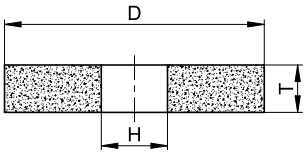
● Extremely suitable ● Limited suitability

Reciprocating surface grinding
Conventional ceramic
For non and low-alloyed steels

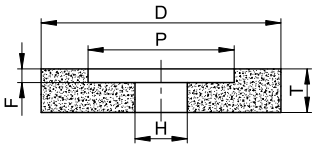


Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A		●	●	●	●	●						●
93A			●		●	●						●
F13A			●	●	●	●						●

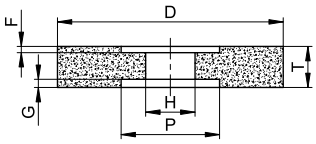
Recommended stock type



Shape 1



Shape 5



Shape 7

Reciprocating grinding wheels are primarily used for rough and FINE grinding in machine construction and mould making. The aim is to achieve even and straight workpiece surfaces. Using highly porous grinding wheels and special aluminium oxides leads to an optimum surface result and a high stock removal rate.

Exceptional grinding results are achieved thanks to grade and structure specifications tailored to non and low-alloyed steels.

	Shape	Type no.	DxTxH	PxF	Specification	Comments
	1	566308	205x13x31.75		89A 46 I8A V217	
		498701	225x25x51		89A 46 I8A V217	
		331692	250x25x76.2		89A 46 I8A V217	
		351901	300x30x76.2		89A 46 I8A V217	
		936929	300x50x127		89A 46 I8A V217	
		56484	350x50x127		89A 46 I8A V217	For rough grinding operations
		215986	350x40x127		89A 46 I8A V217	
		302416	355x50x127		89A 46 I8A V217	
		64598	400x50x127		89A 46 I8A V217	
		140088	400x60x127		89A 46 I8A V217	
		295600	400x80x127		89A 46 I8A V217	
		803992	400x40x127		89A 46 I8A V217	
		664544	205x13x31.75		89A 802 J8A V217	
		664545	225x25x51		89A 802 J8A V217	
		664546	250x25x51		89A 802 J8A V217	
		664548	250x25x76.2		89A 802 J8A V217	For finer surface finishes
		664549	300x30x76.2		89A 802 J8A V217	
		664552	300x50x76.2		89A 802 J8A V217	
		666533	350x40x127		89A 802 J8A V217	
		664558	350x50x127		89A 802 J8A V217	

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	Shape	Type no.	DxTxH	PxF	Specification	Comments
	1	666529	400x60x127		89A 802 J8A V217	For finer surface finishes
		666530	400x40x127		89A 802 J8A V217	
		666532	400x50x127		89A 802 J8A V217	
	1	441403	200x20x51		F13A 46 HH11 V	For rough grinding operations
		441401	225x25x51		F13A 46 HH11 V	
		441399	250x25x51		F13A 46 HH11 V	
		469827	250x25x76.2		F13A 46 HH11 V	
		365997	300x30x76.2		F13A 46 HH11 V	
		665267	300x50x76.2		F13A 46 HH11 V	
		665269	300x50x127		F13A 46 HH11 V	
		665282	350x40x127		F13A 46 HH11 V	
		665294	350x50x127		F13A 46 HH11 V	
		665295	400x40x127		F13A 46 HH11 V	
		665296	400x50x127		F13A 46 HH11 V	
	1	664563	225x25x51		93A 46 H8A V217	
		664566	250x25x76.2		93A 46 H8A V217	
		498402	250x25x51		93A 46 H8A V217	
		849597	300x30x76.2		93A 46 H8A V217	
		524016	350x40x127		93A 46 H8A V217	
		357751	355x50x127		93A 46 H8A V217	
		793338	400x60x127		93A 46 H8A V217	
		117241	400x50x127		93A 46 H8A V217	
	5	260141	300x50x76.2	155x10	89A 46 I8A V217	For rough grinding operations
		467466	350x50x127	200x10	89A 46 I8A V217	
		548613	400x50x127	200x10	89A 46 I8A V217	
		664574	300x50x127	190x10	89A 46 I8A V217	
		664584	300x50x76.2	155x10	89A 802 J8A V217	For finer surface finishes
		664626	300x50x127	190x10	89A 802 J8A V217	
		664632	400x60x127	200x10	89A 802 J8A V217	
	5	664478	300x50x76.2	155x10	F13A 46 HH11 V	For rough grinding operations
		593712	400x50x127	200x10	F13A 46 HH11 V	
		665297	350x50x127	200x10	F13A 46 HH11 V	

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Recommended stock type

	Shape	Type no.	DxTxH	PxF	Specification	Comments
	5	664642	300x50x127	190x10	93A 46 H8A V217	For rough grinding operations
		231513	350x50x127	200x10	93A 46 H8A V217	
		557153	400x50x127	200x10	93A 46 H8A V217	
		664643	400x60x127	200x10	93A 46 H8A V217	

	Shape	Type no.	DxTxH	PxF/G	Specification	Comments
	7	665281	300x50x76.2	155x10/10	89A 46 I8A V217	For rough grinding operations
		665287	350x50x127	200x10/10	89A 46 I8A V217	
		664646	400x80x127	190x15/15	89A 46 I8A V217	
		664647	400x100x127	200x20/30	89A 46 I8A V217	
		664645	400x60x127	200x10/10	89A 46 I8A V217 50	
		664648	300x50x76.2	155x10/10	89A 802 J8A V217	For finer surface finishes
		664656	400x80x127	190x15/15	89A 802 J8A V217	
	7	664506	300x50x76.2	155x10/10	F13A 46 HH11 V	
		665285	350x50x127	200x10/10	F13A 46 HH11 V	
		665278	400x80x127	190x15/15	F13A 46 HH11 V	
	7	109336	300x50x76.2	155x10/10	93A 46 H8A V217	For rough grinding operations
		664657	400x60x127	200x10/10	93A 46 H8A V217	
		664658	400x80x127	190x15/15	93A 46 H8A V217	
	5	34291848	500x100x203.2	300x25	93A 461 I9A V217 P3	

Breadth of product range*

89A	46	I	8	Stock type	89	80	J	8	Stock type
89A	46–100	H–J	5–9	5–6 weeks DT	89A	46–100	H–J	5–9	5–6 weeks DT

93A	46	H	8	Stock type	F13A	46	HH	11	Stock type
93A	46–100	H–J	5–9	5–6 weeks DT	F13A	46–120	FF–HH	11–12	5–6 weeks DT

89A	46	I	8	Stock type	89A	80	J	8	Stock type
89A	46–60	H–J	5–9	5–6 weeks DT	89A	70–100	H–J	5–9	5–6 weeks DT

**For production reasons, the minimum quantity ordered may differ from non-stock types.*

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Alternative stock type

Shape	Type no.	DxTxH	PxF	Specification
1	45701	300x30x76.2		87A 36 J7A V217
	96235	350x40x127		87A 36 J7A V217
	12950	400x50x127		87A 36 J7A V217
	33502	250x40x76.2		88A 46 J7A V217
	61571	350x50x127		88A 46 J7 V217
	32963	125x10x25		89A 46 I7 V217
	32965	150x13x32		89A 60 J7 V217
	228819	250x40x76.2		89A 46 J7A V217
	850504	180x13x31.75		89A 60 K5A V217
5	235262	350x50x127	190x10	87A 36 J8A V217
	235264	400x50x127	200x10	87A 36 J8A V217
	123064	400x50x127	200x10	89A 461 I8A V237 P22
	369514	350x50x127	190x10	89A 461 I8A V237 P22
	658122	400x50x127	190x10	93A 46 I8A V217

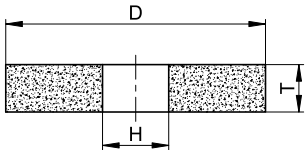
Alternative stock type

Shape	Type no.	DxTxH	PxF/G	Specification
7	8749	300x50x76.2	155x10/10	50A 36 J8A V217
	265130	300x50x76.2	154x10/15	88A 36 J7 V217
	641286	300x50x76.2	155x10/10	89A 601 I10A V217
	493780	400x63x127	200x10/10	89A 461 I10A V237
	34211468	400x100x127	190x40/10	89A 462 I8A V55 50
	67472	400x100x127	200x20/35	89A 46 H8A V217
	122991	400x75x127	200x10/20	89A 46 H8A V227
	235260	400x75x127	200x10/20	89A 461 I8A V237 P22
	63824	400x100x152.4	220x15/15	89A 461 I8A V237 P22
	235261	400x75x127	200x10/20	93A 46 I8A V217
	34291849	600x100x304.8 3	90x15/15	93A 461 I8A V237 P3

Reciprocating surface grinding
Conventional ceramic
For high-alloyed steels and HSS

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
454A, 97A		●		●		●	●					●

Recommended stock type



Shape 1

This reciprocating grinding wheel can be used universally on all high-alloyed steels and HSS. This is achieved by using special aluminium oxides and mixtures with sintered aluminium oxides combined with special bond systems.
Maximum stock removal rates can be achieved with sintered aluminium oxide mixtures such as 454A. The next highest quality line is the resin-bonded VIB STAR CBN wheel from TYROLIT.

	Shape	Type no.	DxTxH	PxF	Specification
	1	34074250	200x13x32		454A 601 J10 V3
		306283	200x20x32		454A 601 J10 V3
		34074562	200x20x51		454A 601 J10 V3
		162057	200x25x76.2		454A 601 J10 V3
		664623	205x13x31.75		454A 602 J10 V3
		487597	225x20x51		454A 601 J10 V3
		664383	225x25x51		454A 602 J10 V3
		664384	250x25x51		454A 602 J10 V3
		664389	250x25x76.2		454A 602 J10 V3
		664390	300x30x76.2		454A 602 J10 V3
		664393	300x50x127		454A 602 J10 V3
		664391	300x50x76.2		454A 602 J10 V3
		494874	350x40x127		454A 602 J10 V3
		664394	350x50x127		454A 602 J10 V3
		664396	400x40x127		454A 602 J10 V3
		664397	400x50x127		454A 602 J10 V3
		333396	400x60x127		454A 602 J10 V3
		664398	400x80x127		454A 602 J10 V3
	1	85536	250x25x51		97A 462 H8A V237
		441342	200x20x51		97A 462 H8A V237
		664401	205x13x31.75		97A 462 H8A V237
		664405	205x13x31.75		97A 801 H8A V237
		228481	225x25x51		97A 462 H8A V237
		664406	225x25x51		97A 801 H8A V237
		664407	250x25x51		97A 801 H8A V237
		248826	250x25x76.2		97A 462 H8A V237
		664409	250x25x76.2		97A 801 H8A V237

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	Shape	Type no.	DxTxH	PxF	Specification
	1	664402	300x30x76.2		97A 462 H8A V237
		664410	300x30x76.2		97A 801 H8A V237
		441348	300x50x127		97A 462 H8A V237
		664412	300x50x127		97A 801 H8A V237
		635305	300x50x76.2		97A 462 H8A V237
		311791	300x50x76.2		97A 801 H8A V237
		441350	350x40x127		97A 462 H8A V237
		664419	350x40x127		97A 801 H8A V237
		441351	350x50x127		97A 462 H8A V237
		664420	350x50x127		97A 801 H8A V237
		524159	400x40x127		97A 462 H8A V237
		664423	400x40x127		97A 801 H8A V237
		630054	400x50x127		97A 462 H8A V237
		664426	400x50x127		97A 801 H8A V237
		476380	400x80x127		97A 462 H8A V237
	5	664451	300x50x127	190x10	454A 602 J10 V3
		664452	350x50x127	200x10	454A 602 J10 V3
		664453	400x50x127	200x10	454A 602 J10 V3
		664455	400x60x127	200x10	454A 602 J10 V3
	5	664459	300x50x127	190x10	97A 462 H8A V237
		664456	300x50x76.2	155x10	97A 462 H8A V237
		664465	300x50x76.2	155x10	97A 801 H8A V237
		441352	350x50x127	200x10	97A 462 H8A V237
		664474	350x50x127	200x10	97A 801 H8A V237
		593711	400x50x127	200x10	97A 462 H8A V237
		664476	400x50x127	200x10	97A 801 H8A V237
		664463	400x60x127	200x10	97A 462 H8A V237
		664477	400x60x127	200x10	97A 801 H8A V237
	Shape	**Type no.**	**DxTxH**	**PxF/G**	**Specification**
	7	664485	300x50x76.2	155x10/10	454A 602 J10 V3
		664490	400x60x127	200x10/10	454A 602 J10 V3
		664493	400x80x127	190x15/15	454A 602 J10 V3
		359403	300x50x76.2	155x10/10	97A 462 H8A V237
		664498	300x50x76.2	155x10/10	97A 801 H8A V237
		566387	350x50x127	200x10/10	97A 462 H8A V237
		512393	400x80x127	190x15/15	97A 462 H8A V237
		664497	400x60x127	200x10/10	97A 462 H8A V237
		664504	400x80x127	190x15/15	97A 801 H8A V237
		34291850	400x75x127	200x10/20	97A 462 H8A V237
		34291911	450x76x203.2	280x10/20	97A 462 H8A V237

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Breadth of product range*

454A	60	J	10	Stock type	97A	46	H	8	Stock type
454A	46–80	I–K	8–11	5–6 weeks DT	97A	46–100	H–J	5–9	5–6 weeks DT

97A	80	H	8	Stock type
97A	46–100	H–J	5–9	5–6 weeks DT

**For production reasons, the minimum quantity ordered may differ from non-stock types.*

Alternative stock type

Shape	Type no.	DxTxH	PxF	Specification
1	305234	180x13x32		454A 120 I5 V3
	34074549	180x13x32		454A 601 J10 V3
	34074261	180x16x32		454A 601 J10 V3
	34074262	180x20x32		454A 601 J10 V3
	180994	200x10x51		454A 601 L5 V3
	494254	200x20x31.75		454A 601 L7G V3
	305260	200x20x32		454A 461 L7G V3
	294602	200x20x51		454A 462 J10 V3
	34162515	200x20x51		454A 462 K12 V3 P2 40
	30271	250x25x76		454A 601 L5 V3 40
	311922	250x25x76		454A 462 J10 V3
	34162514	250x25x76		454A 462 K12 V3 P2 40
	34062640	250x25x76.2		454A 601 K10 V3
	212627	250x25x76.2		454A 601 L7G V3
	305269	300x32x127		454A 462 H5 V3
	305279	350x40x127		454A 462 H5 V3
	305281	350x50x127		454A 462 H5 V3
	305285	400x50x127		454A 462 H5 V3
	314990	180x13x32		89A 60 I7A V237
	344194	180x16x32		89A 46 I7A V237
	344195	180x20x32		89A 46 I7A V237
	307001	400x50x127		89A 461 H8A V237 P25
	361668	500x80x203.2		89A 54 H10A V2
	749042	180x16x32		92A 602 H23 V237 W4 32
	749043	200x20x32		92A 602 H23 V237 W4
	713071	250x25x76.2		97A 462 H8A V217

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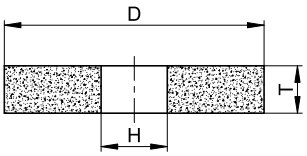
Shape	Type no.	DxTxH	PxF	Specification
1	590725	300x50x127		92A 462 H23 V237 W2
	577274	300x50x76.2		92A 462 H8A V217
	359223	350x50x127		92A 462 H8A V217
	57038	350x50x127		97A 462 I8A V217
	259325	400x50x127		92A 462 H8A V217
	733646	400x50x127		97A 462 H8A V217
	554635	400x50x127		97A 462 J9A V217 P3
5	494274	180x25x31.75	105x12	454A 601 L7G V3
	197044	350x50x127	200x10	454A 541 J10 V3 P23
	293802	400x50x127	190x10	454A 462 J10 V3
	36579	400x50x127	200x10	454A 601 J10 V3
	657669	400x50x127	190x10	92A 462 H8A V217
	280358	300x50x127	190x10	F16A 60 HH11 V
	12696	350x50x127	190x10	F16A 60 HH12 V
	110964	350x50x127	190x10	F18A 80 GG11 V
	12695	400x50x127	200x10	F16A 60 HH12 V
	92284	400x50x127	200x10	F18A 80 GG11 V
Shape	**Type no.**	**DxTxH**	**PxF/G**	**Specification**
7	176979	300x50x76.2	160x10/10	454A 461 K8 V3
	293865	300x50x76.2	155x10/10	454A 462 J10 V3
	232678	400x75x127	215x10/20	454A 541 K13 V3 P23
	34273195	450x76x203.2	280x10/20	454 A541 J10 V3
	657667	300x50x76.2	155x10/10	92A 462 H8A V217
	293867	300x50x76.2	155x10/10	F18A 46 HH12 V
	232665	400x100x152.4	220x15/10	F18A 70 GG11 V
	94720	400x75x127	200x10/20	F16A 60 HH12 V
	114648	450x76x203.2	280x10/20	F16A 60 HH12 V 45 A
	34291846	450x76x203.2	280x15/15	89A 461 I8A V237 P22

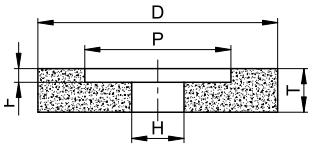
Reciprocating surface grinding
Conventional ceramic
For stainless steel

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
80A		●	●	●	●		●					●
454A				●	●	●	●					●

Recommended stock type

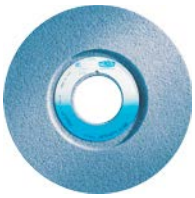


Shape 1



Shape 5

Special aluminium oxide and sintered aluminium oxide mixtures are a cost-effective solution for the reciprocating surface grinding of stainless steel/Inox. They offer cool grinding and excellent cutting ability thanks to a special grain shape.
A variety of shapes and dimensions mean they can cover the majority of applications.

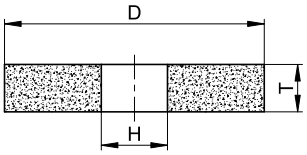
	Shape	Type no.	DxTxH	PxF/G	Specification
	1	664383	225x25x51		454A 602 J10 V3
		664384	250x25x51		454A 602 J10 V3
		664397	400x50x127		454A 602 J10 V3
	1	27420	400x50x127		80A 54 I9A V217 P23
	5	664447	300x50x76.2	155x10	454A 602 J10 V3
		36579	400x50x127	200x10	454A 601 J10 V3
		657665	400x50x127	190x10	80A 54 I9A V217 P23
	7	10845	300x50x76.2	155x10/10	80A 54 I9A V217 P23

Reciprocating surface grinding
Conventional ceramic
For tungsten carbide and cast iron



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C		●			●	●	●	●	●	●		●

Recommended stock type



Shape 1

The silicon carbide wheel is a cost-effective variant for machining tungsten carbide for secondary applications. It really comes into its own when machining castings and nonferrous metals.
This silicon carbide wheel is a good alternative for working on nitrified workpieces with simple profiles or wear-resistant thermal sprayed alloys, as it can be profiled with Standard diamond dressing tools.

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s
	1	664530	300x40x127		C 801 H8A V18 50	50
		664531	300x50x127		C 801 H8A V18 50	50
		664535	400x40x127		C 801 H8A V18 50 A	50
		664536	400x50x127		C 801 H8A V18 50 A	50
		36890	300x20x127		C 60 J11 V18	50
		36918	300x40x127		C 60 J11 V18	50
		775149	400x40x203		C 60 J10 V18	50

Breadth of product range*

C	80	H	8	Stock type
C	46–180	F–I	5–8	5–6 weeks DT

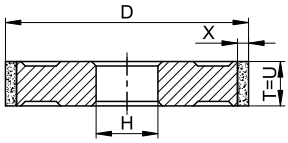
**For production reasons, the minimum quantity ordered may differ from non-stock types.*

VIB STAR reciprocating surface grinding
CBN resin
For high-alloyed steels and HSS



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
B			●		●	●	●					●

Recommended stock type



Shape 1A1

The VIB STAR reciprocating grinding wheel is equipped with a vibration-reducing core that ensures a consistent and quiet grinding process.The constant self-sharpening effect guarantees consistent power consumption and therefore high economic efficiency.
Low wear results in a high level of dimensional accuracy on the workpiece, thereby reducing dimensional inspections to a minimum.

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s
	1A1	914301	200x15x51	15-3	B 126 C50 B VIB-STAR	63
		485142	250x15x51	15-3	B 126 C50 B VIB-STAR	63
		885972	300x20x127	20-3	B 126 C50 B VIB-STAR	63
		394560	300x20x76.2	20-5	B 126 C50 B VIB-STAR	63
		877158	300x20x76.2	20-3	B 126 C50 B VIB-STAR	63
		365327	350x20x127	20-5	B 126 C50 B VIB-STAR	63
		366816	350x20x127	20-3	B 126 C50 B VIB-STAR	63
		874510	350x20x127	20-3	B 126 C75 B VIB-STAR	63
		508495	400x20x127	20-5	B 126 C50 B VIB-STAR	63
		872688	400x20x127	20-3	B 126 C50 B VIB-STAR	63
		473086	400x30x127	30-3	B 126 C50 B VIB-STAR	63

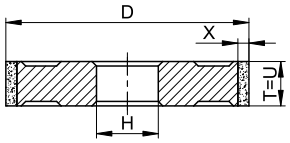
** Please find information on dressing and sharpening from page 310.*

VIB STAR reciprocating surface grinding
Diamond resin
For tungsten carbide and industrial ceramics



Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
D						●	●			●

Recommended stock type



Shape 1A1

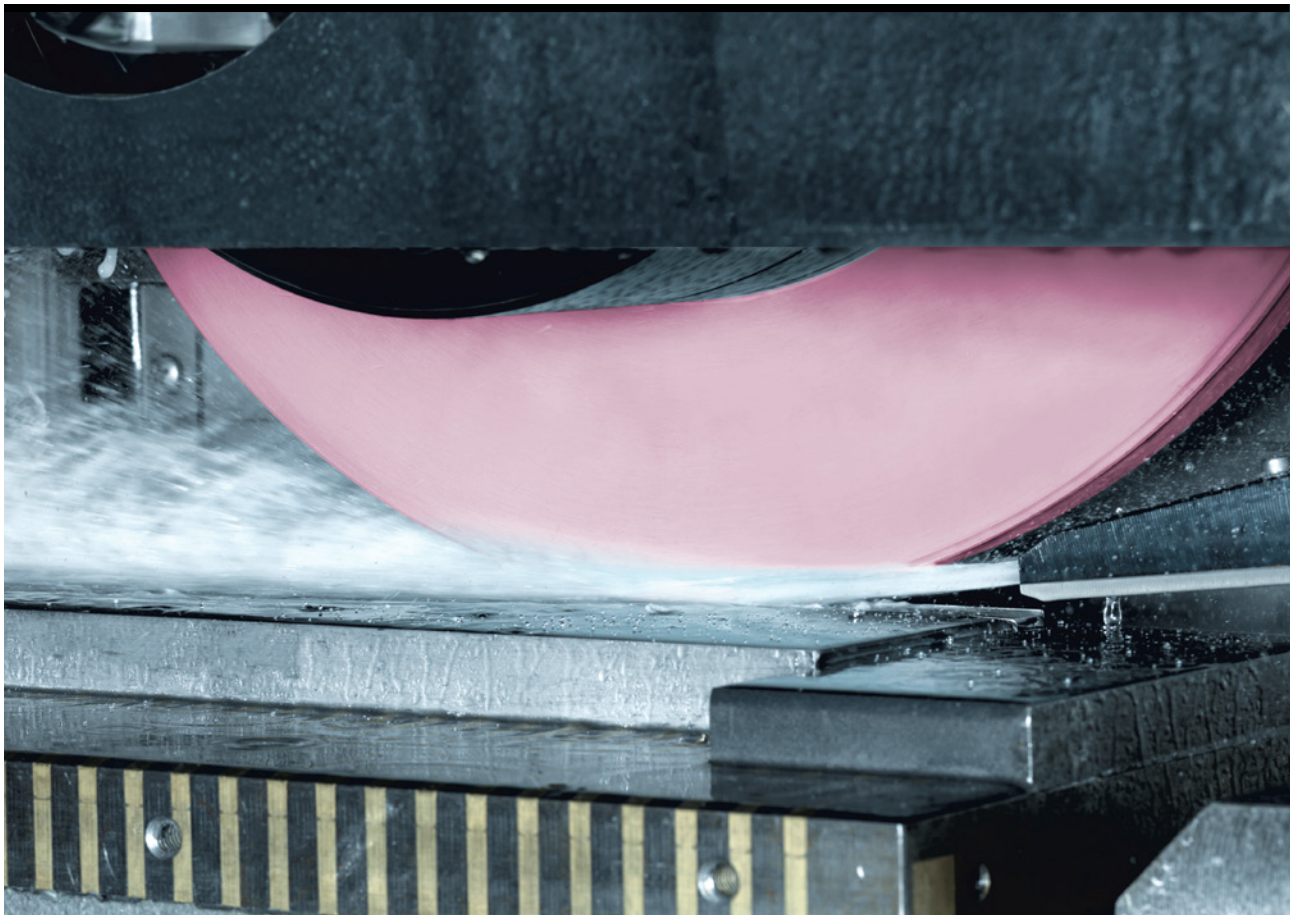
The resin-bonded diamond wheel with VIB STAR core is a particularly cost-effective solution for machining tungsten carbide. Low wear and a high level of dimensional accuracy are achieved by a constant self-sharpening effect.
The high stock removal rate of synthetic diamond in resinoid bonds provides a significant advantage over less expensive silicon carbide grinding wheels.

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s
	1A1	914284	200x10x51	10-3	D 126 C75 B VIB-STAR	63
		872702	250x15x51	15-3	D 126 C75 B VIB-STAR	63
		907436	300x15x127	15-3	D 126 C75 B VIB-STAR	63
		914288	300x20x127	20-3	D 126 C75 B VIB-STAR	63
		897485	300x20x76.2	20-3	D 126 C75 B VIB-STAR	63
		924298	350x20x127	20-3	D 126 C75 B VIB-STAR	63
		914293	400x20x127	20-3	D 126 C75 B VIB-STAR	63

* *Please find information on dressing and sharpening from page 310.*



4.3 Profile surface grinding
Profile surface grinding tool



Profile surface grinding

In the profile surface grinding process, pre-defined profiles are ground into the material. In order to achieve this, it is important to apply a “negative profile” through dressing of the wheel. As a system supplier, TYROLIT offers not only suitable grinding wheels, but also an appropriate dresser for this purpose.

The precise profile surface grinding tools underlie an optimal quality assurance system and are produced using the most modern manufacturing technology and production facilities. We are therefore always able to comply with the requirements of our customers.
TYROLIT produces this tool with a highly porous structure and special aluminium oxides. This enables us to offer you optimum profile retention with minimum dressing diamond wear.

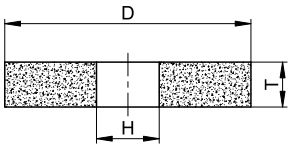
Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
80A		●	●	●	●		●					●	222, 223
C (nitriding-steel)					●	●	●	●	●			●	222

Application tips

- Recommended operating speed: 25–30 m/s
- Infeed: 0.003–0.1 mm/stroke
- Traverse speed: 10–20 m/min
- Ensure good coolant supply
- For optimised dressing, see page 310 to 319

Shapes



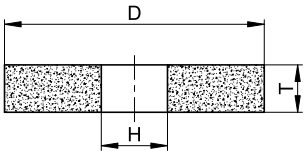
Shape 1

● Extremely suitable ● Limited suitability

Profile surface grinding
Conventional ceramic
For high-alloyed steels

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
80A		●	●	●	●		●					●
C (Nitriding steel)					●	●	●	●	●			●

Recommended stock type



Shape 1

For conventional ceramic profile surface grinding applications we offer wheels with special aluminium oxides and a highly porous structure. They are available in grit sizes 80 and 120 for pendulum grinding and in silicon carbide in grit size C180 for creep feed grinding.
Aluminiumminium oxide wheels in shape 9 are primarily available in standard profiles. Shape 7 offers optimum edge retention due to a durable bond.

	Shape	Type no.	DxTxH	Specification
	1	927194	250x16x51	80A 1202 J9A V17 P8
		148656	250x20x51	80A 1202 J9A V17 P8
		163110	225x25x51	80A 802 J9A V17 P25
		326166	300x15x76	88A 1202 J8A V17 P8
		337183*	250x20x51	C 180 F8A V18 P8

** For nitriding steel.*

Breadth of product range*

C	180	F	8	Stock type
C	120–180	F	8	5–6 weeks DT

**For production reasons, the minimum quantity ordered may differ from non-stock types.*

Precision grinding

▶

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Alternative stock type

Shape	Type no.	DxTxH	Specification
1	876590	180x10x32	80A 1209 I7G V112
	876610	180x13x32	80A 1209 I7G V112
	876616	180x6x32	80A 1209 I7G V112
	876613	180x8x32	80A 1209 I7G V112
	876619	200x10x32	80A 1209 I7G V112
	876611	200x13x32	80A 1209 I7G V112
	876618	180x10x32	80A 809 J7G V111
	876591	180x13x32	80A 809 J7G V111
	688752	200x10x32	80A 809 J7G V111





4.4 Surface grinding **with rings and segments**



Surface grinding **with rings and segments**

In contrast to peripheral surface grinding, grinding is performed on the side when using rings and segments. This is often necessary because of the machine construction and workpiece dimensions and requires a reduction in the permissible operating speed.

This process offers a particularly high grinding performance due to the COARSE grit sizes used. Because breaks in the segments often occur during grinding, this also benefits the coolant supply.However, not only particularly cool grinding, but also the self-sharpening effect of these tools make them extremely popular, especially for the grinding of planer knives. Here too, coarse and extremely porous tools with low hardness are used.

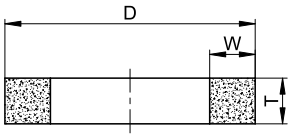
Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
50A		●	●									●	229
89A ceramic			●	●	●	●						●	228
89A Bakelit			●		●	●						●	228
454A, 97A			●		●	●	●					●	229
91A, 92A			●		●	●						●	228

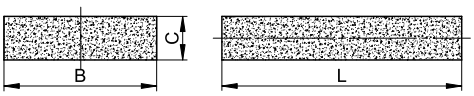
Application tips

- Recommended operating speed: 25–30 m/s
- Traverse speed: 2–10 m/min
- Infeed 0.005–0.03 mm/stroke
- Sparking out without infeed 1–3 strokes
- Ensure good coolant supply

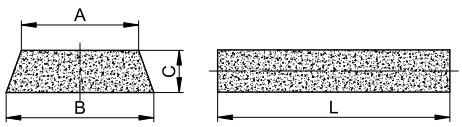
Shapes



Shape 2



Shape 3101



Shape 3109

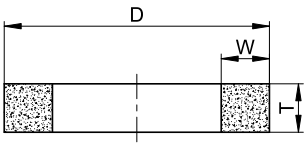
● Extremely suitable ● Limited suitability

Surface grinding with rings
Ceramic / Conventional resin
For high-alloyed steels and HSS



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
50A		●	●									●
89A ceramic			●	●	●	●						●
89 A resin			●		●	●						●
97A, 454A			●		●	●	●					●
91A, 92A			●		●	●						●

Recommended stock type



Shape 2

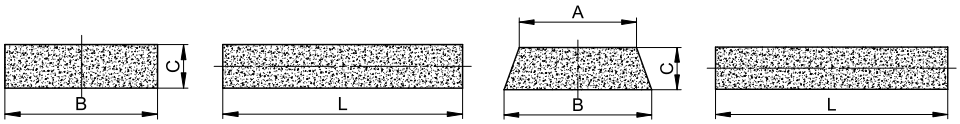
Rings for surface grinding are made of a highly porous vitrified bond in grit size 46 or resinoid bond in grit size 60. They are ideally suited to high-alloyed steels and HSS, and meet the most exacting surface quality requirements.
Ring wheels with a high stock removal rate are required above all for paper and planer knives. Please be aware that resin-bonded ring wheels only exhibit limited coolant resistance.



Shape	Type no.	DxTxH	Specification	Comments
2	468751	200x100-W=20	89A 46 G10A V217 B3	
	469614	200x100-W=20	89A 602 G4 B22 W4E	
	469619	250x100-W=25	89A 602 G4 B22 W4E	
	461733	200x90-W=20	91A 461 G9A V217 B3	
	664621	200x90-W=20	92A 461 H10A V237	Glöckel, Reform (Planer and chopper knives)
	664622	200x100-W=20	92A 461 H10A V237	
103	709899		103K02	Accessories: Vinapas adhesive 0.5 kg

Surface grinding with segments
Conventional ceramic
For high-alloyed steels and HSS

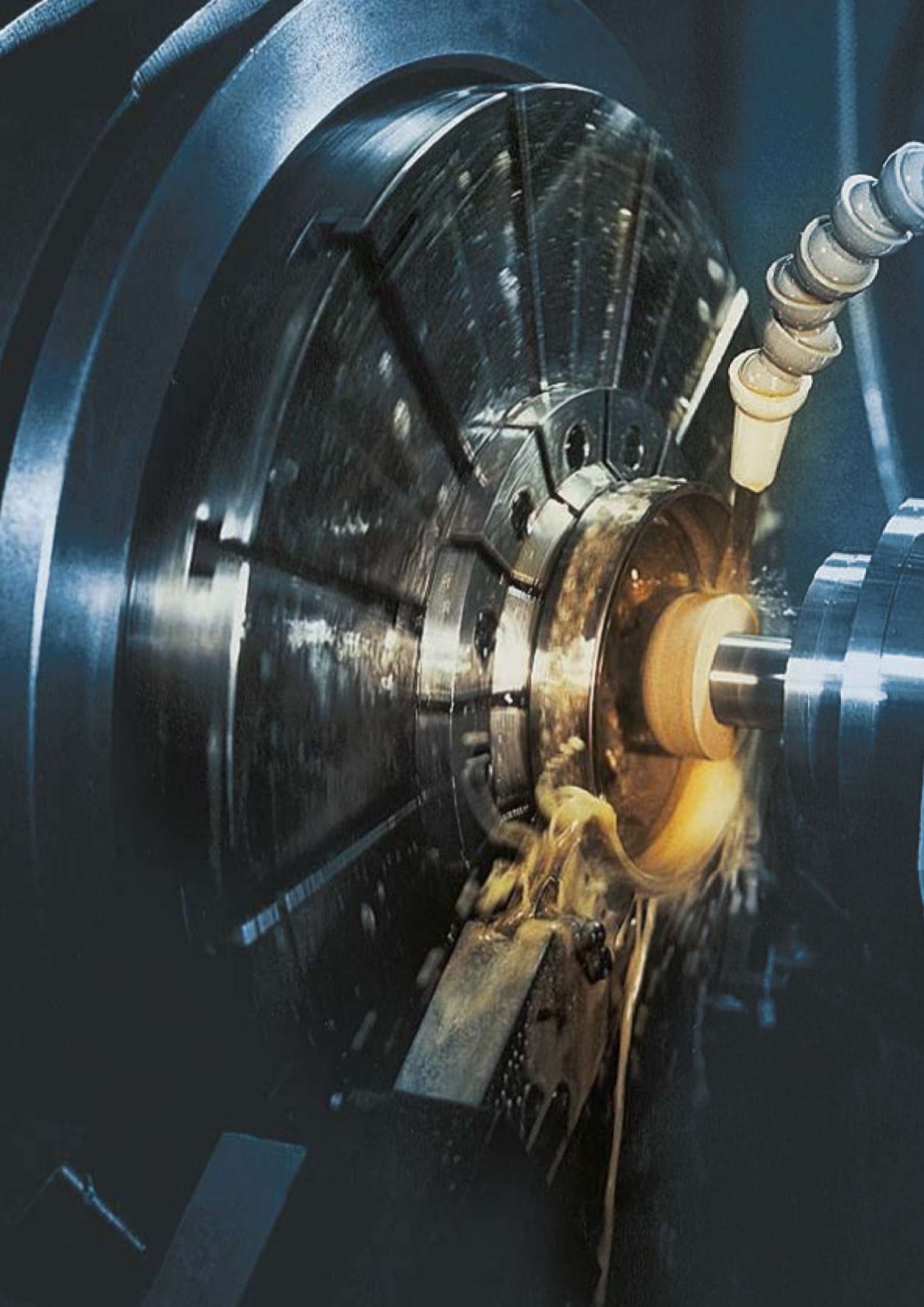


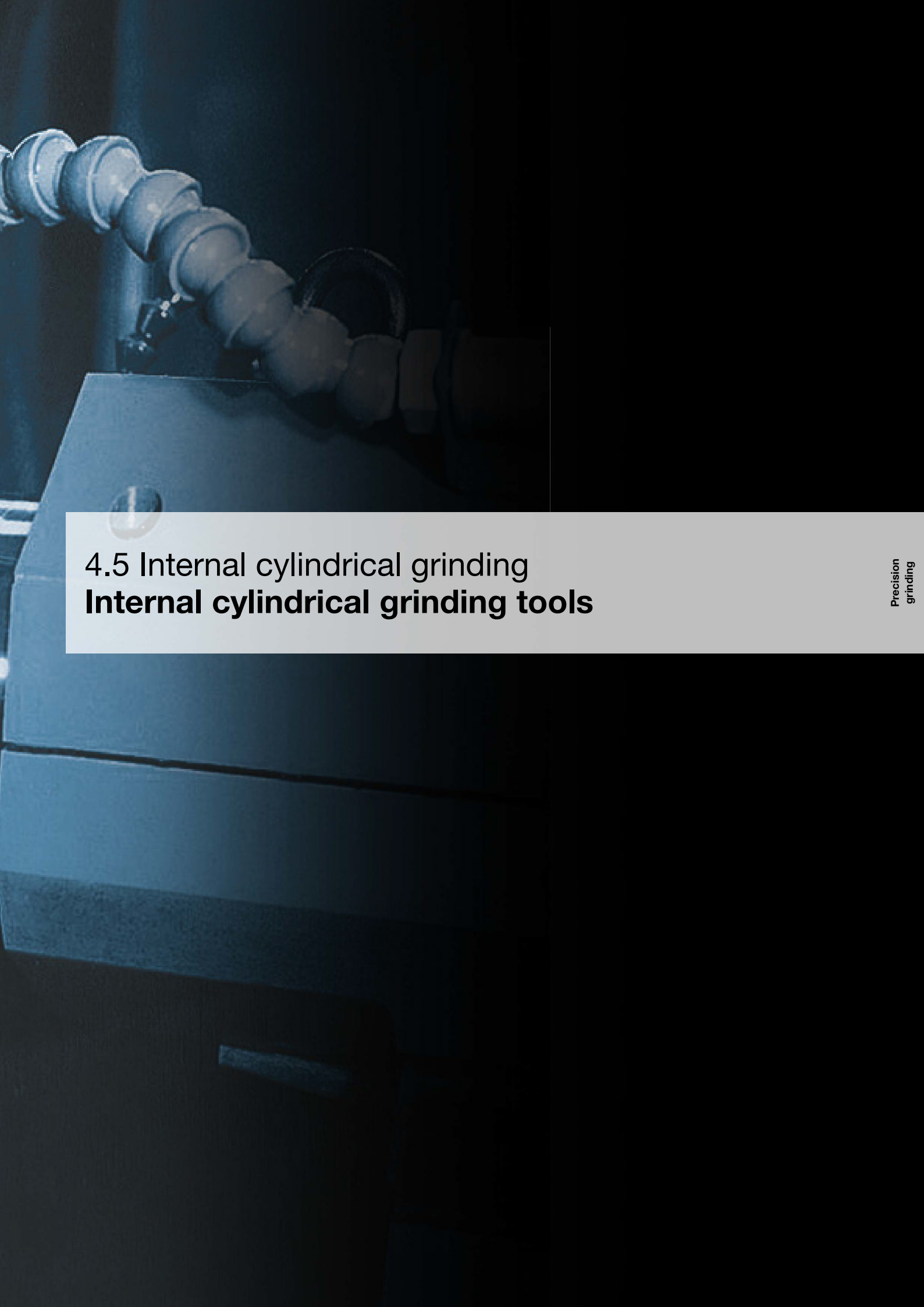


Shape 3101 Shape 3109

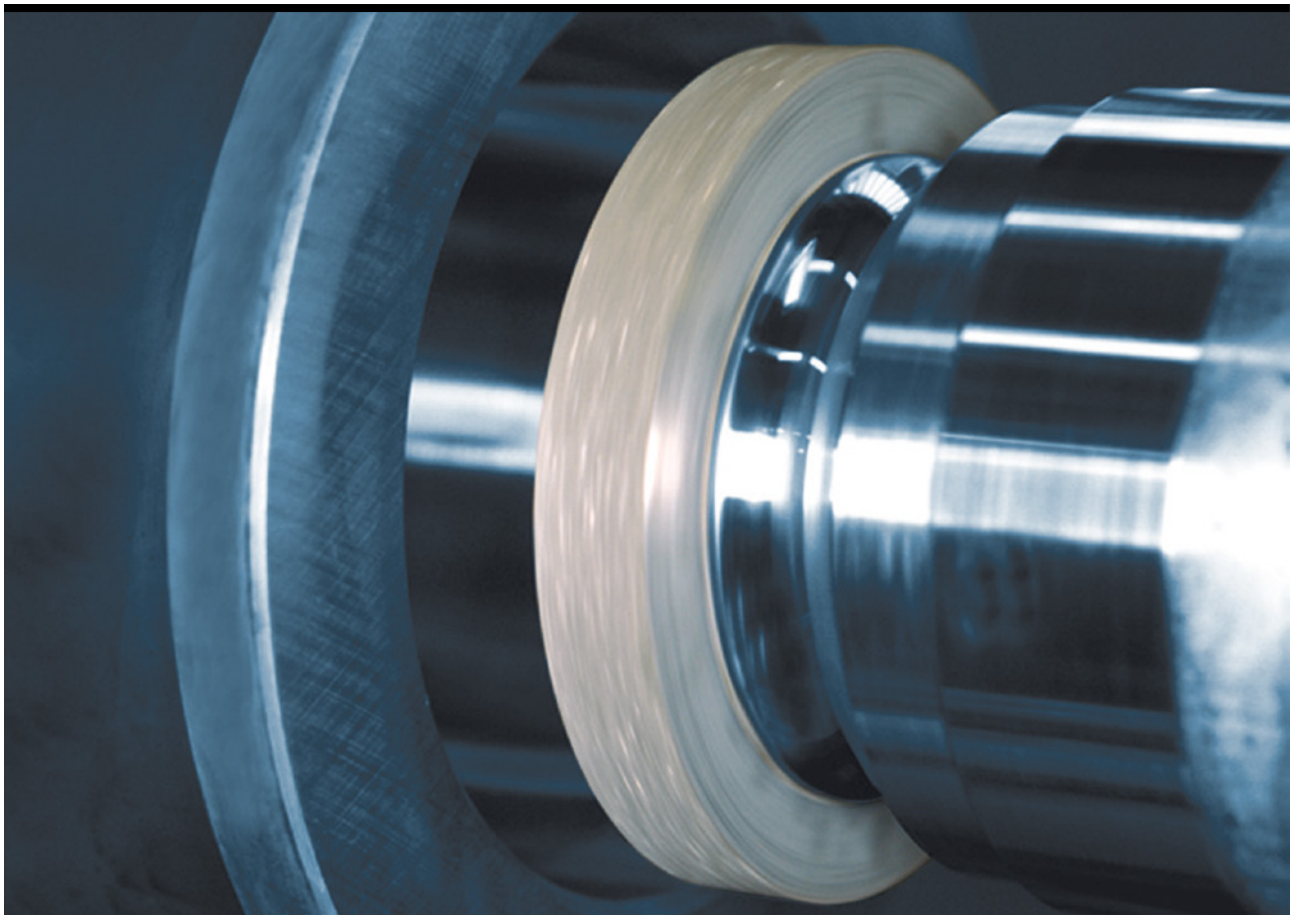
Segments for surface grinding are made of sintered aluminium oxide mixtures such as 454A for high-alloyed steels and HSS, or 50A and 89A for soft and low-alloyed steels. They offer a high stock removal rate and a self-sharpening effect.

	Shape	Type no.	BxCxL / B/AxCxL	Specification
	3101	34040293	80x25x150	454A 361 I12 V3 P2
		664628	120x40x200	454A 461 K13 V3
		664633	120x40x200	50A 362 I8A V2
		664640	120x40x200	97A 461 G10A V237
	3109	229899	103/94x38x200	454A 461 K13 V3
		664654	103/94x38x200	89A 362 I8A V2
		664655	103/94x38x200	97A 461 G10A V237





4.5 Internal cylindrical grinding
Internal cylindrical grinding tools



Internal cylindrical grinding

The internal cylindrical grinding process is mainly used for the finishing of internal functional surfaces. The process is especially often used for the connection with an axle or shaft. For example, gears, steering systems, injection systems or hollow shafts can be machined.

With vitrified-bonded tools, TYROLIT offers you optimum profile retention and, through cool grinding, a particularly low thermal load.

Depending on the application, we recommend our diamond and CBN wheels instead of conventional grinding tools.

Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
89A		●	●	●	●	●				●		●	234, 235
97A, AT			●		●	●	●					●	235, 236
B			●		●	●	●				●	●	237, 238
D								●	●		●	●	238, 239

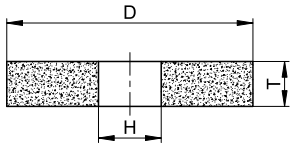
Application tips

- Recommended operating speed: 30–50 m/s
- Pre-grinding infeed: 0.02–0.05 mm/stroke
- Semi-finish grinding infeed: 0.01–0.005 mm/stroke
- Finish grinding infeed: 0.001–0.002 mm/stroke
- Spark-out infeed: 5 strokes
- Ensure good coolant supply

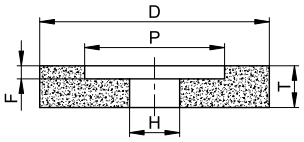
Diamond and CBN tool

- Recommended cutting speed for HSS and high-alloyed tool steel is 15–35 m/s
- Recommended cutting speed for cemented carbide and industrial ceramics is 15–25 m/s
- Cooling with emulsion recommended

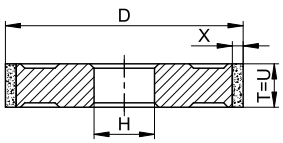
Shapes



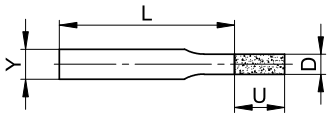
Shape 1



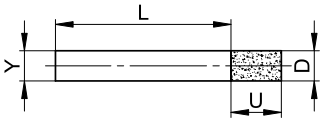
Shape 5



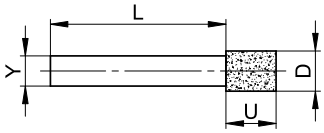
Shape 1A1



Shape 1A1W



Shape 1A1W 2



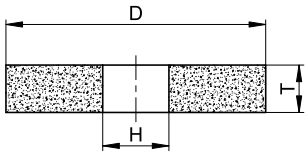
Shape 1A1W 3

● Extremely suitable ● Limited suitability

Internal cylindrical grinding
Conventional ceramic
For non and low-alloyed steels

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A		●	●	●	●	●				●		●

Recommended stock type



Shape 1 Shape 5

These universal internal cylindrical grinding wheels made from special aluminium oxide are used for the grinding of through-holes and alignment holes. They offer high stock removal rates and excellent shape retention.
Specification 89A60 is used primarily for soft steels and 89A80 for hardened steels.

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s	PU
	1	234391	15x15x6		89A 602 J5 V111 50	50	25
		807005	15x15x6		89A 802 I5 V111 50	50	25
		234390	20x20x6		89A 602 J5 V111 50	50	25
		664711	20x20x6		89A 802 I5 V111 50	50	25
		664716	25x25x10		89A 802 I5 V111 50	50	10
		795621	25x25x10		89A 602 J5 V111 50	50	10
		664699	25x25x6		89A 602 J5 V111 50	50	10
		664712	25x25x6		89A 802 I5 V111 50	50	10
		664715	25x25x8		89A 802 I5 V111 50	50	10
		807013	25x25x8		89A 602 J5 V111 50	50	10
		664717	30x30x10		89A 802 I5 V111 50	50	10
		445055	32x25x10		89A 602 J5 V111 50	50	10
		563191	32x32x10		89A 802 I5 V111 50	50	10
		664704	32x32x10		89A 602 J5 V111 50	50	10
		664706	40x40x13		89A 602 J5 V111 50	50	10
		664719	40x40x13		89A 802 I5 V111 50	50	10
		234387	50x40x16		89A 602 J5 V111 50	50	10
		664721	50x40x16		89A 802 I5 V111 50	50	10
		664708	50x50x16		89A 602 J5 V111 50	50	10
		664722	50x50x16		89A 802 I5 V111 50	50	10
	5	664768	20x20x6	13x7	89A 602 J5 V111 50	50	25
		664787	20x20x6	13x7	89A 802 I5 V111 50	50	25
		664772	25x25x10	16x10	89A 602 J5 V111 50	50	10
		664792	25x25x10	16x10	89A 802 I5 V111 50	50	10
		664771	25x25x6	12x13	89A 602 J5 V111 50	50	10

▶

◀

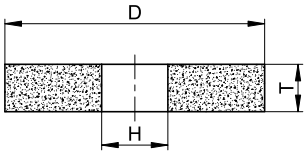
	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s	PU
	5	664791	25x25x6	12x13	89A 802 I5 V111 50	50	5
		664777	32x32x10	18x16	89A 602 J5 V111 50	50	10
		664793	32x32x10	18x16	89A 802 I5 V111 50	50	10
		664780	40x40x13	20x20	89A 602 J5 V111 50	50	10
		664794	40x40x13	20x20	89A 802 I5 V111 50	50	10
		664783	50x40x16	30x13	89A 602 J5 V111 50	50	10
		664795	50x40x16	30x13	89A 802 I5 V111 50	50	10
		664785	50x50x16	25x25	89A 602 J5 V111 50	50	10
		664796	50x50x16	25x25	89A 802 I5 V111 50	50	10

Internal cylindrical grinding
Conventional ceramic
For high-alloyed steels and HSS

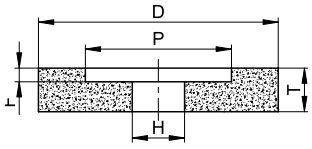


Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
97A, AT			●		●	●	●					●

Recommended stock type



Shape 1



Shape 5

This vitrified internal cylindrical grinding tool offers a cost effective alternative to CBN tools with good stock removal. The specification AT60 can be used universally. Our wide range means you can choose exactly the right tool for the application.

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s	PU
	1	781647	15x15x6		97A 802 I5 V112 80	80	25
		781649	20x20x6		97A 802 I5 V112 80	80	25
		664669	25x25x10		97A 802 I5 V112 80	80	10
		664666	25x25x6		97A 802 I5 V112 80	80	10
		664668	25x25x8		97A 802 I5 V112 80	80	10
		664670	30x30x10		97A 802 I5 V112 80	80	10
		664672	32x25x10		97A 802 I5 V112 80	80	10
		747519	32x32x10		97A 602 K6 V112 80	80	10
		664673	32x32x10		97A 802 I5 V112 80	80	10
		747522	40x25x10		97A 602 K6 V112 80	80	10
		664675	40x40x13		97A 802 I5 V112 80	80	10
		664677	50x40x16		97A 802 I5 V112 80	80	10
		664679	50x50x16		97A 802 I5 V112 80	80	10

▶

◀

Recommended stock type

	Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s	PU
	1	664683	15x15x6		AT 60 J6 VCOL 80	80	25
		664684	20x20x6		AT 60 J6 VCOL 80	80	25
		664689	25x25x10		AT 60 J6 VCOL 80	80	10
		664685	25x25x6		AT 60 J6 VCOL 80	80	10
		664686	25x25x8		AT 60 J6 VCOL 80	80	10
		664692	30x30x10		AT 60 J6 VCOL 80	80	10
		664693	32x25x10		AT 60 J6 VCOL 80	80	10
		664694	32x32x10		AT 60 J6 VCOL 80	80	10
		664695	40x40x13		AT 60 J6 VCOL 80	80	10
		664696	50x40x16		AT 60 J6 VCOL 80	80	10
		664697	50x50x16		AT 60 J6 VCOL 80	80	10
	5	664728	20x20x6	13x7	97A 802 I5 V112 80	80	10
		664738	25x25x10	16x10	97A 802 I5 V112 80	80	10
		664737	25x25x6	12x13	97A 802 I5 V112 80	80	10
		664742	32x32x10	18x16	97A 802 I5 V112 80	80	10
		664744	40x40x13	20x20	97A 802 I5 V112 80	80	10
		664746	50x40x16	30x13	97A 802 I5 V112 80	80	10
		664749	50x50x16	25x25	97A 802 I5 V112 80	80	10
	5	664757	20x20x6	13x7	AT 60 J6 VCOL 80	80	10
		664760	25x25x10	16x10	AT 60 J6 VCOL 80	80	10
		664759	25x25x6	12x13	AT 60 J6 VCOL 80	80	10
		664761	32x32x10	18x16	AT 60 J6 VCOL 80	80	10
		664764	40x40x13	20x20	AT 60 J6 VCOL 80	80	10
		664766	50x40x16	30x13	AT 60 J6 VCOL 80	80	10
		664767	50x50x16	25x25	AT 60 J6 VCOL 80	80	10

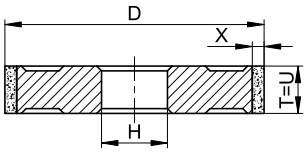
Alternative stock type

Shape	Type no.	DxTxH	PxF	Specification	Vmax m/s	PU
5	293798	25x25x10	16x10	454A 1002 K9 V3 80	80	10
	232811	40x40x10	16x20	455A 801 L6 V3 80	80	10
	747511	20x20x6	13x7	97A 602 K6 V112 80	80	10
	747516	25x25x10	16x10	97A 602 K6 V112 80	80	10
	747526	40x32x16	25x13	97A 602 K6 V112 80	80	10
	747530	50x40x16	30x13	97A 602 K6 V112 80	80	10

Internal cylindrical grinding
CBN resin-bonded
For high-alloyed steels and HSS

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
B			●		●	●	●				●	●

Recommended stock type



Shape 1A1

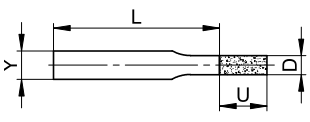
Compared to conventional ceramic grinding tools, CBN tools are characterised by a long lifetime and much shorter grinding times. They also offer a high level of dimensional accuracy.
This resin-bonded tool is primarily used for machining high-alloyed steels and HSS, but it can also be used for machining INOX.

	Shape	Type no.	DxTxH	UxX	Specification
	1A1	384481	12x10x6	10-2	B 126 C75 B 54 AL
		34937	15x10x6	10-2	B 126 C75 B 54 AL
		127356	20x10x6	10-2	B 126 C75 B 54 AL
		55282	25x10x8	10–3	B 126 C75 B 54 AL
		43017	30x10x10	10–3	B 126 C75 B 54 AL
		467422	40x10x10	10–3	B 126 C75 B 54 AL

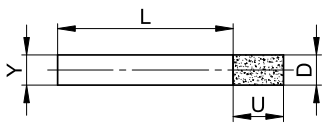
Internal cylindrical grinding
CBN electroplated
For high-alloyed steels and HSS

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
B			●		●	●	●				●	●

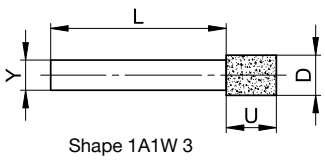
Recommended stock type



Shape 1A1W



Shape 1A1W 2



Shape 1A1W 3

▶

◀

Recommended stock type

Compared to conventional ceramic grinding tools, CBN tools are characterised by a long lifetime and much shorter grinding times. They also offer a high level of dimensional accuracy.

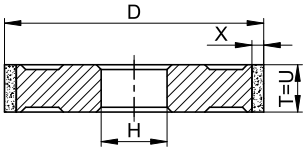
This electroplated tool is primarily used for machining high-alloyed steels and HSS, but it can also be used for machining INOX.

	Shape	Type no.	DxTxH	YxL	Specification	PU	Comments
	1A1W	477403	1.5x4	4xS3	B 91 GST	5	CBN, single layer
		477406	2x4	4xS3	B 91 GST	5	
		477407	2.5x4	4xS3	B 91 GST	5	
		477409	3x5	5xS3	B 91 GST	5	
		477411	4x5	5xS3	B 126 GST	5	
		477412	5x7	7xS3	B 126 GST	5	
		477413	6x7	7xS6	B 126 GST	5	
		477414	7x8	8xS6	B 126 GST	5	
		477416	8x10	10xS6	B 126 GST	5	
		477418	12x10	10xS6	B 151 GST	5	

Internal cylindrical grinding
Diamond resin-bonded
For tungsten carbide and industrial ceramics

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
D								●	●		●	●

Recommended stock type



Shape 1A1

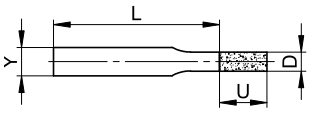
Compared to conventional ceramic grinding tools, diamond tools are characterised by a long lifetime and much shorter grinding times. They also offer a high level of dimensional accuracy.
This resin-bonded tool is primarily used for the machining of tungsten carbide and industrial ceramics.

	Shape	Type no.	DxTxH	PxF	Specification
	1A1	786986	12x10x6	10-2	D 91 C75 B 52 AL
		786952	15x10x6	10-2	D 91 C75 B 52 AL
		786953	20x10x6	10-2	D 91 C75 B 52 AL
		665019	25x10x8	10–3	D 91 C75 B 52 AL
		319980	30x10x10	10–3	D 91 C75 B 52 AL
		34172349	40x10x10	10–3	D 91 C75 B 52 AL

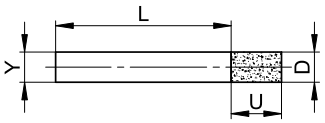
Internal cylindrical grinding
Diamond electroplated
For tungsten carbide and industrial ceramics

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
D								●	●		●	●

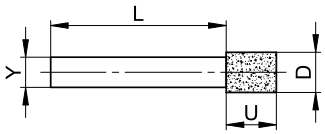
Recommended stock type



Shape 1A1W



Shape 1A1W 2



Shape 1A1W 3

This electroplated tool is primarily used for the machining of tungsten carbide and industrial ceramics. Compared to conventional ceramic grinding tools, diamond tools are characterised by a long lifetime and much shorter grinding times.

They also offer a high level of dimensional accuracy and exert a low grinding pressure. They are therefore ideally suited to machining small diameters.

	Shape	Type no.	DxTxH	PxF	Specification	PU	Comments
	1A1W	477335	1x4	4xS3x51	D 91 X GST	5	Diamond layer, single
		477342	2x4	4xS3x51	D 91 X GST	5	
		477346	3x5	5xS3x50	D 91 X GST	5	
		477349	4x5	5xS3x50	D 126 X GST	5	
		477352	6x7	7xS6x53	D 126 X GST	5	
		477356	8x10	10xS6x50	D 126 X GST	5	
		477358	10x10	10xS6x50	D 151 X GST	5	
		477360	15x10	10xS6x50	D 151 X GST	5	


TYROLIT
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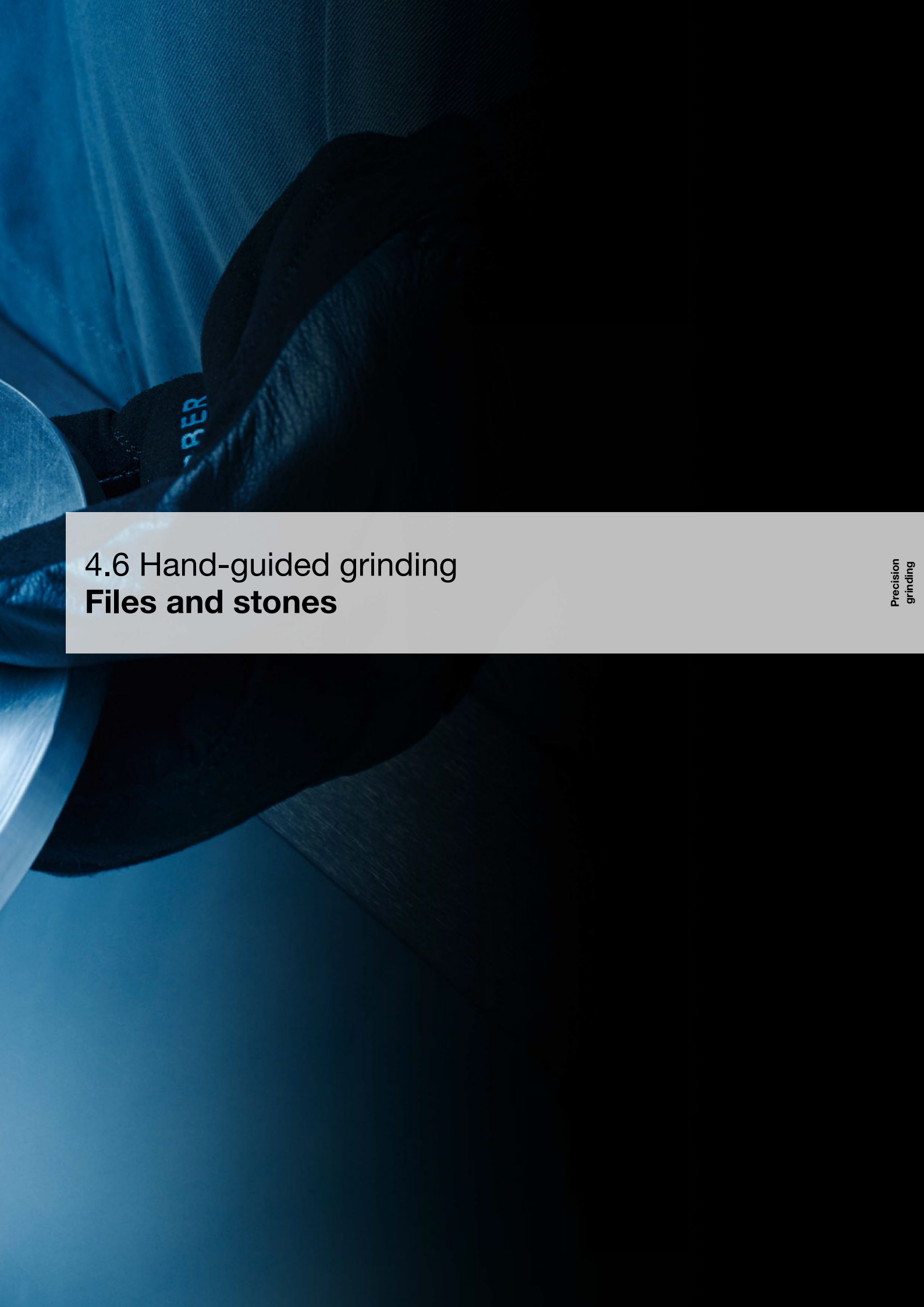
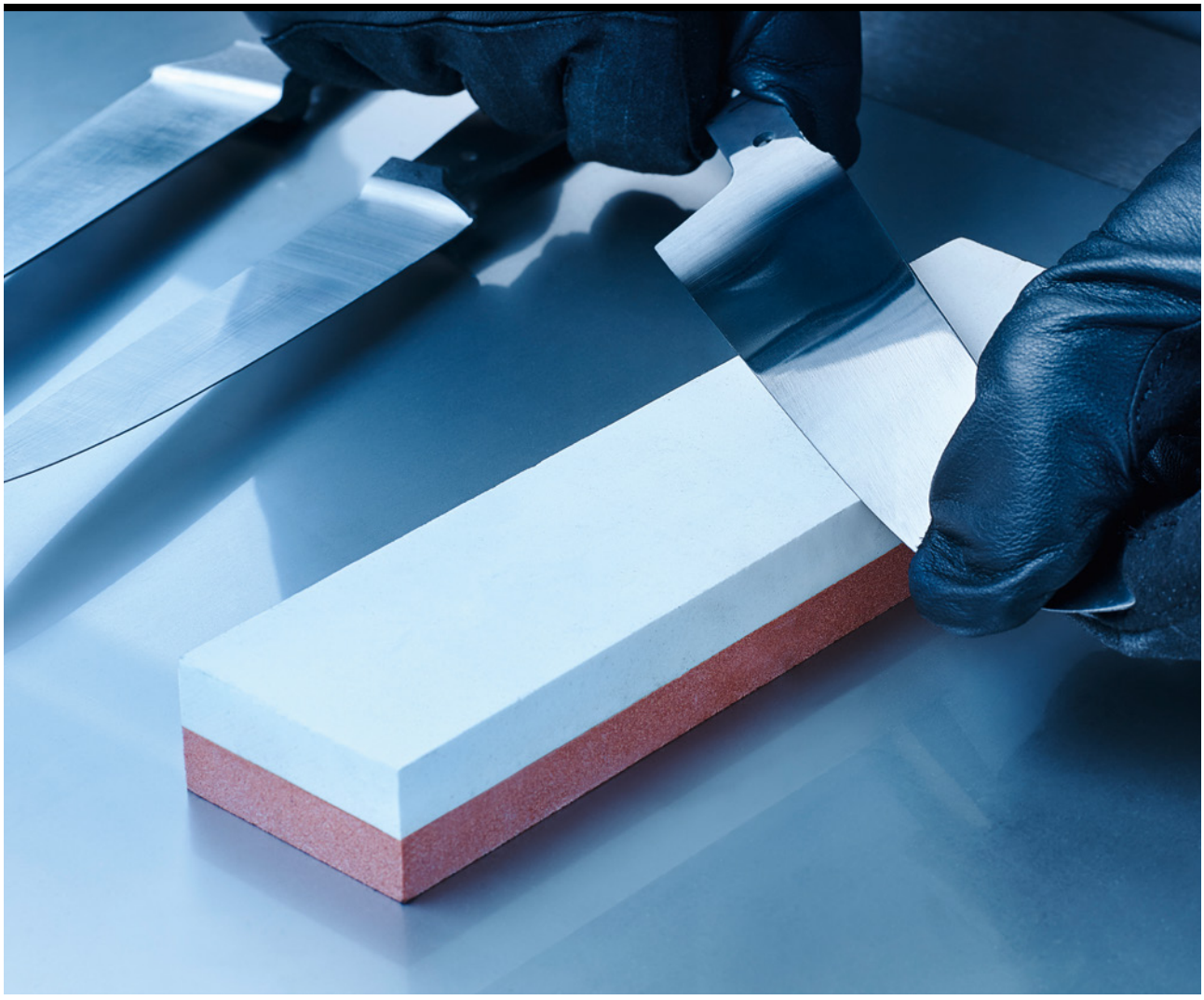


4.6 Hand-guided grinding
Files and stones

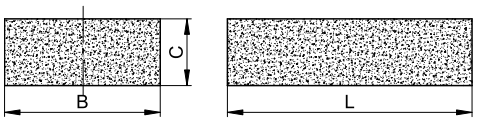


Hand-guided grinding

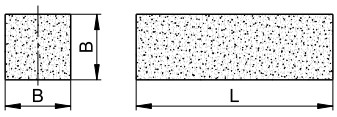
In the area of hand-guided tools, TYROLIT offers a wide selection of files, stones and hand rubbing bricks. We offer these tools in both aluminium oxide as well as silicon carbide.

Our files, bench stones, knife blade files and hollow chisel stones are available in different grit sizes from coarse to “Super”, depending on your intended area of application. A tool that is a must for every workshop is the TYFIX hand rubbing brick. This enables easy removal of dirt, rust and paint from your surfaces.

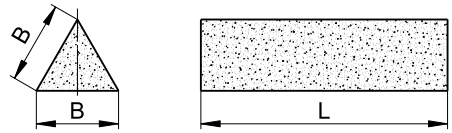
Shapes



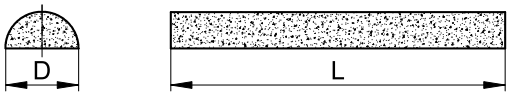
Shape 9010



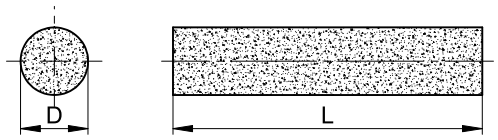
Shape 9011



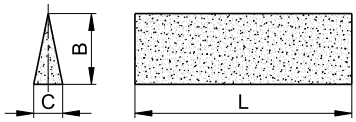
Shape 9020



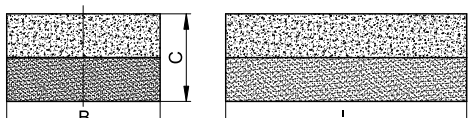
Shape 9040



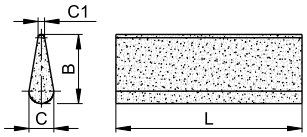
Shape 9030



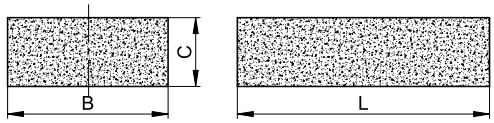
Shape 90FMK



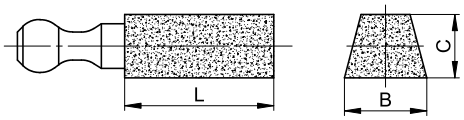
Shape 90K



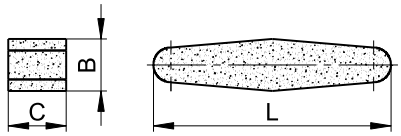
Shape 90HM



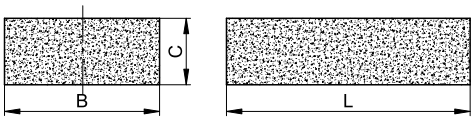
Shape 90B



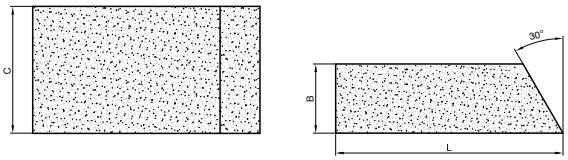
Shape 90FHG



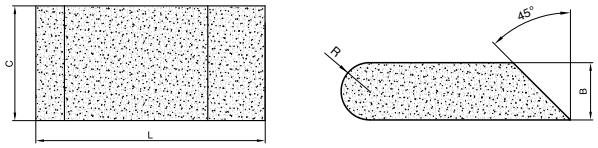
Shape 90W



Shape 90TY

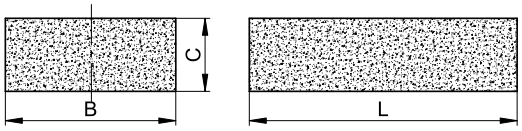


Shape 90TY-1003A



Shape 90TY-1002A

Flat stick
Vitrified-bonded

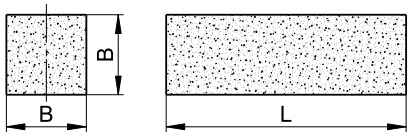


Shape 9010

These files are used in particular for machining tools in the wood and machine construction industries. Thanks to the varying grit sizes you can select the perfect tool for your application.
Silicon carbide files are primarily used for tungsten carbide or tungsten carbide tipped tools and are grey-green in colour. Orange is used primarily for all types of steels and stainless steel.

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	9010	557	6x3x100	C MEDIUM	240	10
		556	6x3x100	C COARSE	120	10
		555	6x3x100	C FINE	400	10
		548	6x3x100	89A MEDIUM	240	10
		547	6x3x100	89A FINE	400	10
		566	30x13x200	C MEDIUM	240	10
		564	30x13x200	C FINE	400	10
		554	30x13x200	89A MEDIUM	240	10
		563	13x6x150	C MEDIUM	240	10
		562	13x6x150	C COARSE	120	10
		561	13x6x150	C FINE	400	10
		552	13x6x150	89A MEDIUM	240	10
		551	13x6x150	89A FINE	400	10
		560	10x5x100	C MEDIUM	240	10
		559	10x5x100	C COARSE	120	10
		558	10x5x100	C FINE	400	10
		550	10x5x100	89A MEDIUM	240	10
		549	10x5x100	89A FINE	400	10

Square file
Vitrified-bonded



Shape 9011

The square files are used primarily for efficient machining of tools in the wood and machine construction industries. Silicon carbide files are primarily used for tungsten carbide or tungsten carbide tipped tools and are grey-green in colour. Orange is used primarily for all types of steels and stainless steel.
Thanks to the varying grit sizes you can select the perfect tool for your application.

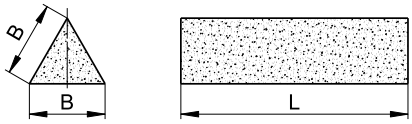
	Shape	Type no.	BxCxL	Specification	Grit size	PU
	9011	728	6x100	89A FINE	400	10
		729	6x100	89A MEDIUM	240	10
		747	6x100	C FINE	400	10
		749	6x100	C MEDIUM	240	10
		732	10x100	89A MEDIUM	240	10
		733	10x100	89A FINE	400	10
		752	10x100	C FINE	400	10

◀

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	9011	754	10x100	C MEDIUM	240	10
		738	13x150	89A FINE	400	10
		739	13x150	89A MEDIUM	240	10
		758	13x150	C FINE	400	10
		760	13x150	C MEDIUM	240	10
		741	16x150	89A FINE	400	10
		742	16x150	89A MEDIUM	240	10
		761	16x150	C FINE	400	10
		763	16x150	C MEDIUM	240	10
		746	20x200	89A MEDIUM	240	10
		767	20x200	C FINE	400	10
		768	20x200	C COARSE	120	10
		769	20x200	C MEDIUM	240	10
		6341	20x200	89A FINE	400	10

Triangular file
Vitrified-bonded





Shape 9020

These files are used in particular for machining tools in the wood and machine construction industries. Thanks to the varying grit sizes you can select the perfect tool for your application. Silicon carbide files are primarily used for tungsten carbide or tungsten carbide tipped tools and are grey-green in colour. Orange is used primarily for all types of steels and stainless steel.

	Shape	Type no.	BxL	Specification	Grit size	PU
	9020	501	6x100	89A MEDIUM	240	10
		518	6x100	C FINE	400	10
		519	6x100	C MEDIUM	240	10
		505	10x100	89A FINE	400	10
		504	10x100	89A MEDIUM	240	10
		523	10x100	C FINE	400	10
		525	10x100	C MEDIUM	240	10
		511	13x150	89A FINE	400	10
		510	13x150	89A MEDIUM	240	10
		531	13x150	C FINE	400	10
		533	13x150	C MEDIUM	240	10
		8807	16x150	89A FINE	400	10
		512	16x150	89A MEDIUM	240	10
		534	16x150	C FINE	400	10
		536	16x150	C MEDIUM	240	10
		8808	20x200	89A FINE	400	10
		516	20x200	89A MEDIUM	240	10
		540	20x200	C FINE	400	10
		542	20x200	C MEDIUM	240	10

Half round file
Vitrified-bonded

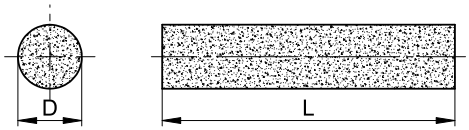


Shape 9040

The half round files are used primarily for efficient machining of tools in the wood and machine construction industries. Silicon carbide files are primarily used for tungsten carbide or tungsten carbide tipped tools and are grey-green in colour. Orange is used primarily for all types of steels and stainless steel.
Thanks to the varying grit sizes you can select your tool based on the application.

	Shape	Type no.	DxL	Specification	Grit size	PU
	9040	6313	6x100	89A MEDIUM	240	10
		603	10x100	89A MEDIUM	240	10
		607	13x150	89A MEDIUM	240	10
		629	13x150	C FINE	400	10
		610	16x150	89A MEDIUM	240	10
		632	16x150	C FINE	400	10
		633	16x150	C MEDIUM	240	10
		637	20x200	C MEDIUM	240	10

Round file
Vitrified-bonded

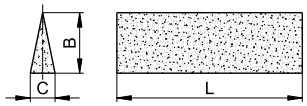


Shape 9030

These files are used in particular for machining tools in the wood and machine construction industries. Thanks to the varying grit sizes you can select the perfect tool for your application. Silicon carbide files are primarily used for tungsten carbide or tungsten carbide tipped tools and are grey-green in colour. Orange is used primarily for all types of steels and stainless steel.

	Shape	Type no.	DxL	Specification	Grit size	PU
	9030	614	6x100	C FINE	400	10
		616	6x100	C MEDIUM	240	10
		660	6x100	89A FINE	400	10
		656	10x100	C FINE	400	10
		664	10x100	89A FINE	400	10
		666	10x100	89A MEDIUM	240	10
		657	13x150	89A FINE	400	10
		671	13x150	89A MEDIUM	240	10
		691	13x150	C FINE	400	10
		693	13x150	C MEDIUM	240	10
		674	16x150	89A MEDIUM	240	10
		696	16x150	C FINE	400	10
		698	16x150	C MEDIUM	240	10

Knife blade file
Vitrified-bonded

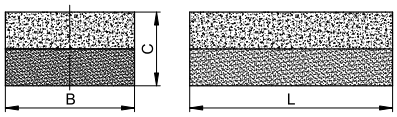


Shape 90FMK

The ceramic knife blade file is used for grinding and whetting knife blades. It is ideally suited to machining blades made of HSS and high-alloyed steels.
Thanks to the varying grit sizes you can select your tool based on the application.

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	90FMK	6321	25x3x100	89A FINE	400	10
		6322	25x3x100	89A MEDIUM	240	10
		6324	25x3x100	C MEDIUM	240	10

Combination stone
Vitrified-bonded

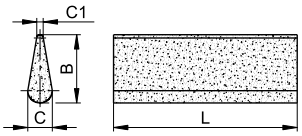


Shape 90K

You can use the TYROLIT combination stone for deburring various workpieces. Due to its two different grit sizes, you will always be equipped for the respective application.
This product can also be used for whetting magnetic tables.

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	90K	185988	18x10x75	89A KOMBI	120/400	10
		186109	18x10x75	C KOMBI	120/400	10
		642	25x13x100	C KOMBI	120/400	10
		6314	25x13x100	89A KOMBI	120/400	10
		6317	40x20x125	C KOMBI	120/400	10
		640	40x20x125	89A KOMBI	120/400	10
		644	50x25x150	C KOMBI	120/400	10
		645	50x25x200	C KOMBI	120/400	10
		6315	50x25x150	89A KOMBI	120/400	10
		6316	50x25x200	89A KOMBI	120/400	10
	90SK	6318	25x20x100	C KOMBI	150/400	10

Hollow chisel stone
Vitrified-bonded

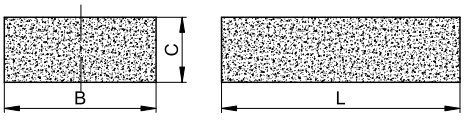


Shape 90HM

The ceramic hollow chisel stones are ideally suited to whetting narrow-toothed tools.
Thanks to the varying grit sizes you can select your tool based on the individual application.
Due to the conical shape it is possible for you to grind and deburr right down to the tooth base.

	Shape	Type no.	BxC/C1xL	Specification	Grit size	PU
	90HM	576	25x6/1x100	89A FINE	400	10
		577	25x6/1x100	89A MEDIUM	240	10
		583	25x6/1x100	C FINE	400	10
		584	25x6/1x100	C MEDIUM	240	10
		579	45x6/2x115	89A MEDIUM	240	10
		587	45x6/2x115	C MEDIUM	240	10
		9017	45x6/2x115	C FINE	400	10
		15885	45x6/2x115	89A FINE	400	10
		578	45x10/3x100	89A FINE	400	10
		586	45x10/3x100	C MEDIUM	240	10
		6309	45x10/3x100	89A MEDIUM	240	10
		6310	45x10/3x100	C FINE	400	10
		28465	45x10/3x100	89A SUPER T3	1200	10
		20332	50x16/5x150	C FINE	400	10

Bench stone
Vitrified-bonded



Shape 90B

The TYROLIT bench stones are primarily used for sharpening and whetting knives and blades. They are therefore perfectly suited for all gardening and woodwork tools.
Thanks to the varying grit sizes you can select your tool based on the individual application.

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	90B	469	25x13x100	C MEDIUM	240	10
		8804	25x13x100	89A MEDIUM	240	1
		20313	25x13x100	C FINE	400	10
		20311	25x6x100	C FINE	400	10
		28466	45x13x100	89A SUPER T3	1200	1
		456	50x25x150	89A MEDIUM	240	1
		457	50x25x150	89A FINE	400	1
		479	50x25x150	C FINE	400	1
		481	50x25x150	C MEDIUM	240	1

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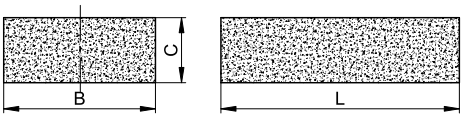
	Shape	Type no.	BxCxL	Specification	Grit size	PU
	90B	28467	50x25x150	89A SUPER T3	1200	1
		461	50x25x200	89A FINE	400	1
		462	50x25x200	89A MEDIUM	240	1
		485	50x25x200	C MEDIUM	240	1
		486	50x25x200	C FINE	400	1

COARSE bench stone
Vitrified-bonded

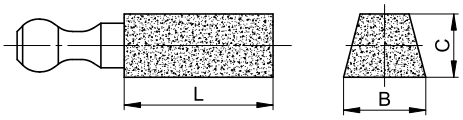


Shape 90B

COARSE bench stones from TYROLIT can be used to deburr large workpieces that have no surface quality requirements.
For example, these bench stones are used for pre-grinding large woodwork tools such as wood splitters.

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	90B	29382	50x25x200	1C 24 M5 V15	24	10
		103622	50x25x200	1C 36 L5 V15	36	10
		28869	50x50x200	1C 24 M5 V15	24	10

File with handle
Vitrified-bonded

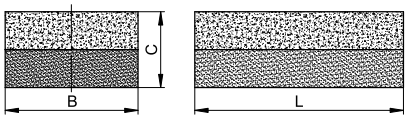


Shape 90FHG

The file with handle from TYROLIT can be used to deburr large workpieces that have no surface quality requirements.
For example, these bench stones are used for pre-grinding large woodwork tools such as wood splitters.

	Shape	Type no.	BxCxL	Specification
	90FHG	79664	40x30x230	C 70 O5 V18

Combined rubbing brick for tiles
Vitrified-bonded

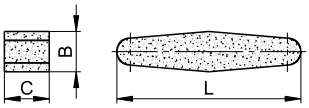


Shape 90K

The rubbing brick for tiles in shape 90K facilitates deburring and creating a bevelled edge on flags and tiles. Using the rubbing brick in shape 90RH you can machine and smooth floor screeds, concrete and plaster mixtures with ease.
You can achieve even surfaces when smoothing window and door lintels before coating them. It is also possible to work difficult-to-reach places with ease.

	Shape	Type no.	BxCxL	Specification
	90K	175220	80x30x160	C 24 M5 V15/C 70 L5 V15
		146640	120x30x200	C 24 M5 V15/C 70 L5 V15
	90RH	20450	90x40x205	1C 24 L5 V15

Whetstone
Vitrified-bonded

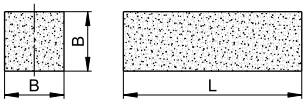


Shape 90W

Our whetstones are used for re-sharpening scythes and sickles. This tool is only available in a silicon carbide design.

	Shape	Type no.	BxCxL	Specification
	90W	362775	35x13x230	AC-V

Square file
Elastic-bonded

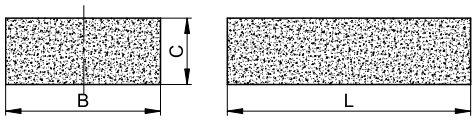


Shape 9011

The elastic-bonded square file can be used to lightly deburr and polish workpieces. Due to its composition it can be used on the widest variety of materials.
Select coarse grain for light deburring or fine grain for polishing depending on the application.

	Shape	Type no.	BxL	Specification	PU	Comments
	9011	35677	15x100	C 80 - BE15	10	Deburring (COARSE)
		6335	20x100	C 400 - BE15	10	Polishing (FINE)

TYFIX hand rubbing brick
Elastic-bonded



Shape 90TY

The TYFIX hand rubbing brick is an eraser used to improve surfaces. Its main tasks include deburring, polishing, and removing rust, dirt and paint.
The TYFIX is especially suited for use in the home to clean domestic appliances, pans, etc. made of stainless steel and aluminium. It can also be used to clean tile joints.

	Shape	Type no.	BxCxL	Specification	Grit size	Colour
	90TY	1870	40x20x50	C 100–BE5	100	GREEN
		501861	40x20x80	C MEDIUM	100	GREY
		1872	50x20x80	C 60–BE5	60	GREEN
		1873	50x20x80	C 100–BE5	100	GREEN
		1874	50x20x80	C 240–BE5	240	GREEN
		502437	55x30x110	C MEDIUM	100	DARK-BLUE
		502457	55x30x110	C FINE	240	LIGHT-BLUE

Lappers
Resin-bonded

The resin-bonded lappers are primarily used for deburring and lapping extremely hard materials. They are therefore the common choice for whetting tungsten carbide cutting edges.

This product is only available in a diamond grain design with a grit size of D35.

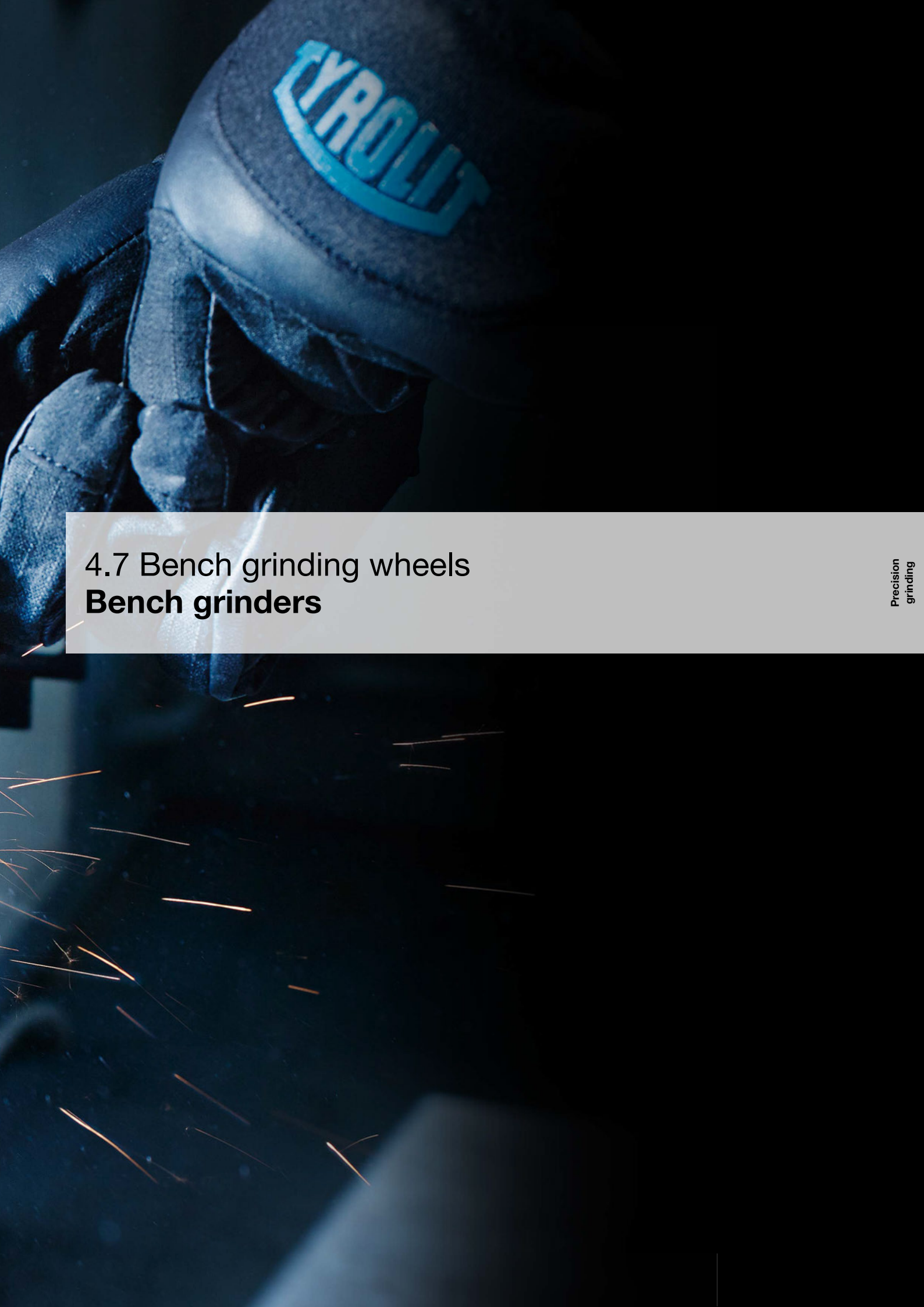
	Shape	Type no.	L	L2-W-X	Specification
	90H	91963	150	40-10-2	11D 35 C50 B 52 AL
		95717	150	25-10-2	11D 35 C50 B 52 AL

Diamond files
Galvanic-bonded

These galvanic-bonded diamond files are primarily used for machining hardened steels and tungsten carbide. However, they are also suitable for glass, ceramics and materials above 40 HRC.
This product is only available in a diamond grain design with a grit size of D126 and is standard equipment for every toolmaker. FINE grit sizes are available on request.

	Shape	Type no.	L	L2-W-XxY/AUFN	Specification	File shape
	90N	136535	140	70-3.6-1.5x2.92X70	D 126 GST	Square
		477283	140	70-2.4x3X70	D 126 GST	Half round
		477289	140	70-5-1.5x3X70	D 126 GST	Flat point
		477422	140	70-5-1.5x3X70	D 126 GST	Triangular
		477430	140	70-5-2x3X70	D 126 GST	Flat





4.7 Bench grinding wheels
Bench grinders



Bench grinding wheels

The bench grinder is a versatile machine used in many workshops for machining various materials. The TYROLIT range of bench grinding wheels therefore contains the right wheel for every material.

The wheels with the universal application specification impress in particular through their smooth running and easy handling. A reduction bush set is included in each package for proper assembly. The packaging itself is suitable for stacking on racks and thus saves space and storage costs.

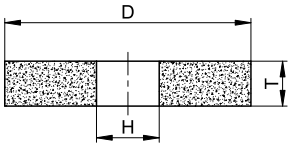
Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
10A		●	●							●	●		256, 257
89A			●	●	●	●				●	●		258, 259
C					●	●	●	●		●	●		260, 261

Application tips

- Grinding unhardened, low-alloyed steels with regular aluminium oxide = 10A
- Regrinding HSS tools with white aluminium oxide = 89A
- Sharpening cemented carbide tipped tools only with silicon carbide = C

Shapes



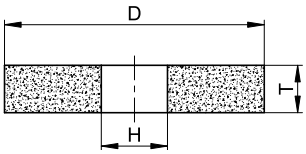
Shape 1

● Extremely suitable ● Limited suitability

Bench grinding wheels
Conventional ceramic
For non and low-alloyed steels

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
10A		●	●							●	●	

Recommended stock type



Shape 1

Vitrified bonded bench grinding wheels are primarily used in workshops and repair companies. They can be used universally for grinding and sharpening various components. The tailored specifications enable them to be used for a wide range of applications, from coarse to fine grinding.

These wheels are supplied in packaging suitable for retailers so that they take up minimum space in storage. A reduction bush set is included in the packaging or can be reordered.

	Shape	Type no.	DxTxH	Specification	Vmax m/s
	1	7205	150x20x32	10A 46 N5A V217	40
		2693	150x20x32	10A 60 M5A V217	40
		52223	150x25x32	10A 46 N5A V217	40
		2758	150x25x32	10A 60 M5A V217	40
		2962	175x25x32	10A 60 M5A V217	40
		68134	175x25x51	10A 60 M5A V217	40
		548815	175x32x32	10A 60 M5A V217	40
		600134	200x20x32	10A 36 N5A V217	40
		15842	200x20x32	10A 46 N5A V217	40
		15839	200x20x32	10A 60 M5A V217	40
		781702	200x20x51	10A 60 M5A V217	40
		31694	200x25x32	10A 46 N5A V217	40
		9572	200x25x32	10A 60 M5A V217	40
		3217	200x25x32	10A 80 M5A V217	40
		116708	200x25x51	10A 46 N5A V217	40
		718361	200x25x51	10A 60 M5A V217	40
		664256	200x32x51	10A 36 N5A V217	40
		675264	200x32x51	10A 46 N5A V217	40
		516594	200x32x51	10A 60 M5A V217	40
		3474	250x25x32	10A 60 M5A V217	40
		664261	250x32x32	10A 36 N5A V217	40
		3538	250x32x32	10A 60 M5A V217	40
		737812	250x32x51	10A 60 M5A V217	40
		110032	300x40x51	10A 60 M5A V217	40
		34983	300x40x76	10A 60 M5A V217	40

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Alternative stock type

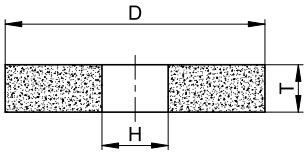
Shape	Type no.	DxTxH	Specification	Vmax m/s
1	34046758	125x15x32	10A 36 M5A V17	40
	34046770	125x15x32	10A 60 M5A V17	40
	147626	125x20x32	10A 60 M5A V17	40
	147698	125x20x32	10A 36 M5A V17	40
	34046759	150x15x32	10A 36 M5A V17	40
	34046772	150x15x32	10A 60 M5A V17	40
	146965	150x20x32	10A 601 M5A V217	40
	147574	150x20x32	10A 36 P5A V17	40
	147601	150x25x32	10A 36 P5A V17	40
	16577	175x20x32	10A 36 P5A V17	40
	147600	175x25x32	10A 36 P5A V17	40
	147656	200x20x40	10A 36 P5A V17	40
	146910	200x25x32	10A 361 P5A V17	40
	147652	200x25x51	10A 36 P5A V17	40
	34046763	200x32x40	10A 36 P5A V17	40
	34046781	200x32x40	10A 60 M5A V17	40
	34046764	250x25x40	10A 36 P5A V17	40
	34046765	250x32x40	10A 36 P5A V17	40
	147701	250x32x51	10A 36 P5A V17	40
	34046785	300x40x40	10A 60 M5A V17	40
	32981	350x50x127	10A 24 Q5A V17	40

Bench grinding wheels
Conventional ceramic
For high-alloyed steels and HSS



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A		●		●	●	●				●	●	

Recommended stock type



Shape 1

This wheel is preferable for grinding and sharpening temperature-sensitive steels and HSS tools. The use of aluminium oxide results in particularly cool grinding so that the workpiece is not subjected to additional thermal load.

We offer a wide spectrum of dimensions to cover the most common applications. A reduction bush set is included in the packaging or can be reordered.

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Recommended stock type

	Shape	Type no.	DxTxH	Specification	Vmax m/s
	1	34046786	125x15x32	89A 60 L5A V217	40
		2536	125x20x32	89A 60 M5A V217	40
		281719	125x20x32	89A 80 M5A V217	40
		449559	125x20x32	89A 46 M5A V217	40
		664052	150x13x25	89A 80 M5A V217	40
		34046788	150x15x32	89A 60 L5A V217	40
		2697	150x20x32	89A 46 M5A V217	40
		2699	150x20x32	89A 60 M5A V217	40
		764468	150x20x32	89A 80 M5A V217	40
		2762	150x25x32	89A 60 M5A V217	40
		147614	150x25x32	89A 80 L5A V217	40
		853353	150x25x32	89A 46 M5A V217	40
		2916	175x20x32	89A 60 M5A V217	40
		543615	175x20x32	89A 80 M5A V217	40
		2973	175x25x32	89A 80 L5A V217	40
		16022	175x25x32	89A 60 M5A V217	40
		377415	175x25x51	89A 80 M5A V217	40
		723118	175x25x51	89A 60 M5A V217	40
		3020	175x32x32	89A 60 M5A V217	40
		918448	175x32x32	89A 80 M5A V217	40
		471114	200x20x31.75	89A 60 M5A V217	40
		3142	200x20x32	89A 46 M5A V217	40
		3145	200x20x32	89A 60 M5A V217	40
		820958	200x20x32	89A 80 M5A V217	40
		664048	200x20x51	89A 46 M5A V217	40
		826839	200x20x51	89A 80 M5A V217	40
		841086	200x20x51	89A 60 M5A V217	40
		3220	200x25x32	89A 46 M5A V217	40
		39540	200x25x32	89A 60 M5A V217	40
		129550	200x25x32	89A 80 M5A V217	40
		33435	200x25x51	89A 80 L5A V217	40
		50184	200x25x51	89A 46 M5A V217	40
		534539	200x25x51	89A 60 M5A V217	40
		34046791	200x32x40	89A 60 L5A V217	40
		78379	200x32x51	89A 80 M5A V217	40
		99864	200x32x51	89A 46 M5A V217	40
		723117	200x32x51	89A 60 M5A V217	40
		831179	250x25x32	89A 60 M5A V217	40
		3545	250x32x32	89A 60 M5A V217	40
		126665	250x32x32	89A 80 M5A V217	40

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	Shape	Type no.	DxTxH	Specification	Vmax m/s
	1	111799	250x32x51	89A 60 M5A V217	40
		34046794	300x40x40	89A 60 L5A V217	40
		867598	300x40x51	89A 60 M5A V217	40
		30840	300x40x76	89A 60 M5A V217	40

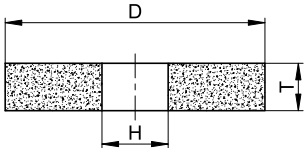
Alternative stock type

Shape	Type no.	DxTxH	Specification	Vmax m/s
1	73667	150x10x20	89A 80 L5A V55	40
	103872	150x20x16	89A 60 M5A V55	40
	413774	150x20x20	89A 60 L5A V217	40
	7210	150x20x32	89A 60 K5A V217	40
	122996	200x20x20	89A 60 L5A V217	40
	184247	200x20x20	89A 60 M5A V55	40
	3144	200x20x32	89A 60 K5A V217	40
	16615	200x20x32	89A 46 K5A V217	40
	68340	200x25x20	89A 60 M5A V55	40
	122997	200x25x20	89A 60 L5A V217	40
	3222	200x25x32	89A 60 K5A V217	40
	7374	200x25x32	89A 80 L5A V217	40
	146630	200x25x32	89A 461 K5A V217	40
	407610	250x10x32	89A 60 K5A V217	40
	127554	300x32x127	89A 602 K5A V217	40

Bench grinding wheels
Conventional ceramic
For tungsten carbide and cast iron

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C					●	●	●	●		●	●	

Recommended stock type



Shape 1

When sharpening solid carbide or tungsten carbide tipped tools, only wheels with silicon carbide specifications should be used. Due to their special grain shape you can achieve good results even on extremely hard workpieces.

This wheel can also be used for cast iron. A reduction bush set is included in the packaging or can be reordered.

▶

Recommended stock type

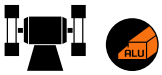
	Shape	Type no.	DxTxH	Specification	Vmax m/s
	1	706631	125x15x32	C 602 J5 V15	40
		2529	125x20x32	C 80 J5 V15	40
		664185	150x13x25	C 80 J5 V15	40
		56155	150x16x32	C 80 J5 V15	40
		2658	150x20x20	C 80 J5 V15	40
		2680	150x20x32	C 46 K5 V15	40
		123633	150x20x32	C 80 J5 V15	40
		861009	150x20x32	C 60 K5 V15	40
		2751	150x25x32	C 46 K5 V15	40
		2753	150x25x32	C 80 J5 V15	40
		333180	150x25x32	C 60 K5 V15	40
		34165304	150x32x32	C 602 J5 V15	40
		2905	175x20x32	C 80 J5 V15	40
		2956	175x25x32	C 80 J5 V15	40
		9653	175x25x51	C 80 J5 V15	40
		7348	200x20x20	C 80 J5 V15	40
		154428	200x20x31.75	C 80 J5 V15	40
		848657	200x20x31.75	C 46 K5 V15	40
		3132	200x20x32	C 46 K5 V15	40
		3135	200x20x32	C 80 J5 V15	40
		596597	200x20x32	C 60 K5 V15	40
		837436	200x20x51	C 46 K5 V15	40
		872497	200x20x51	C 80 J5 V15	40
		3186	200x25x20	C 80 J5 V15	40
		3206	200x25x32	C 46 K5 V15	40
		3210	200x25x32	C 80 J5 V15	40
		819893	200x25x32	C 60 K5 V15	40
		263506	200x25x51	C 60 K5 V15	40
		822622	200x25x51	C 80 J5 V15	40
		103851	200x25x76.2	C 80 J5 V15	40
		34165307	200x32x40	C 602 J5 V15	40
		9651	200x32x51	C 80 J5 V15	40
		879608	200x32x51	C 46 K5 V15	40
		75079	250x25x32	C 80 J5 V15	40
		49680	250x25x76	C 80 J5 V15	40
		58964	250x32x32	C 80 J5 V15	40
		822623	250x32x51	C 80 J5 V15	40
		822624	300x40x51	C 80 J5 V15	40
		9652	300x40x76	C 80 J5 V15	40

◀

Alternative stock type

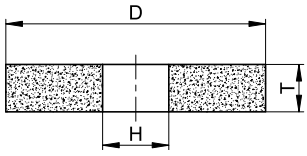
Shape	Type no.	DxTxH	Specification	Vmax m/s
1	11182	150x20x32	C 120 J5 V15	40
	146906	150x20x32	C 801 J5 V15	40
	450328	150x20x32	C 60 J5A V15	40
	146644	150x25x32	C 801 J5 V15	40
	3208	200x25x32	C 60 J5 V15	40
	72045	203x20x32	C 120 J5 V15	40
	59861	203x25x32	C 120 J5 V15	40
	28584	350x32x127	C 60 J5 V15	40

Bench grinding wheels
Conventional ceramic
For nonferrous metals



Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C	●							●		●	●	

Recommended stock type



Shape 1

An inhouse-developed clean-cutting specification for bench grinding wheels enables the grinding of nonferrous metals such as aluminium, aluminium base alloys, bronze, copper, copper alloys and titanium. High-quality silicon carbide provides for effortless surface grinding and deburring of workpieces. Through minimal clogging of the grinding wheel, dressing times are reduced and dressing cycles prolonged.

	Shape	Type no.	DxTxH	Specification	PU
	1	34287482	125x20x32	C46H5AV18	1
		34287483	150x20x32	C46H5AV18	1
		34287484	150x25x32	C46H5AV18	1
		34287485	175x20x32	C46H5AV18	1
		34287486	175x25x32	C46H5AV18	1
		34287487	175x25x51	C46H5AV18	1
		34287488	200x20x32	C46H5AV18	1
		34287489	200x25x32	C46H5AV18	1
		34287490	200x25x51	C46H5AV18	1
		34287491	200x32x51	C46H5AV18	1

Floorstand grinder accessories

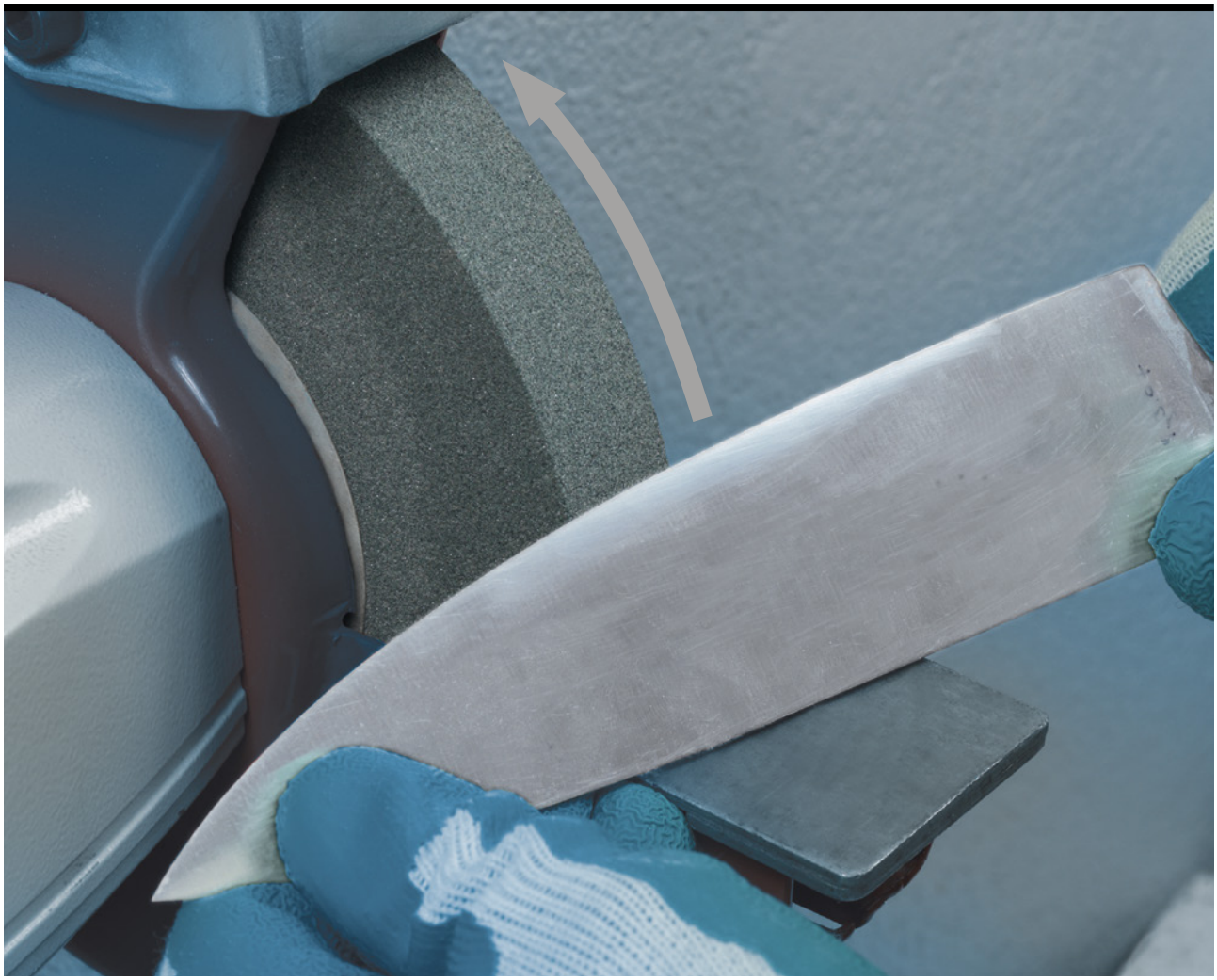
Reduction bushes

The enclosed reduction bush set minimises the range of tools required and saves on storage space. Reduction bushes are available free of charge to be used with all bench grinding wheels, see table.

	Shape	Type no.	DxTxH
	100RR	111434	32x19x16
		667841	51x10x31.75
		911408	51x9x32
		111436	76x9x40



4.8 Sharpening and polishing wheels
Bench grinders



Sharpening and polishing wheels

The bench grinder is a versatile machine used in many workshops for machining various materials. The TYROLIT range of bench grinding wheels therefore contains the right wheel for every material.

TYROLIT sharpening and polishing wheels are particularly supple and provide for easy profiling. On the basis of their structure, they can quickly create the finest surfaces. When used at the recommended speed, they provide for a long tool life and particularly cool grinding. Through their use, you improve the cutting ability of your cutting tools and benefit from the easiest handling. In this way, your tool cutting edges are quickly resharpened.

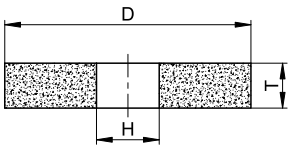
Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
C		●	●	●	●	●	●	●			●		266
C	●	●	●	●	●	●	●	●	●	●	●		267

Application tips

- Polishing steel, nonferrous heavy metal, precious metal and sintered metal or plastic (C240-BE15)
- Fine grinding of various precision mechanical components, like watches, glasses, medical technology (C150-BE13)
- Effect grinding (C46-BE16 and C46-BE19F)
- Deburring (C80-BE15)
- Whetting of all kinds of kitchen and pocket knives (C400-BE15)
- Not suitable for sharp edges, large burrs or high stock removal
- For whetting, deburring and sharpening knives, splitting tools and axes (C400-BE15)
- Dressing stone (ceramic bond) for elastic grinding wheels (see chapter “Dressing and sharpening”)
- Vs = 16–32 m/s maximum operating speed for floor-stand grinding

Shapes



Shape 1

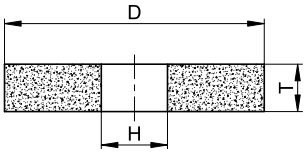
● Extremely suitable ● Limited suitability

Sharpening wheel for cutting tool

For steel, HSS, stainless steel and tungsten carbide

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C		●	●	●	●	●	●	●			●	

Recommended stock type



Shape 1

This product was specially developed for sharpening whittlers. Its grit size and tailored bond system enable you to achieve particularly cool grinding. Its fine surface improves the cutting ability and lifetime of the cutting tools.
Ensure that you pay attention to the direction of rotation of the wheel when in use. **The sharpening wheel must always move away from the cutting edge. In addition, the wheel flange diameter must be at least two thirds of the wheel diameter.**

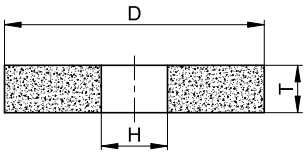
	Shape	Type no.	DxTxH	Specification	Vmax m/s	Degree of hardness	Comments
	1	10016	125x20x32	C 800-BE11	25	Medium	Sharpening of whittlers
		7133	125x25x20	C 800-BE11	25	Medium	
		2540	125x25x32	C 800-BE11	25	Medium	
		669110	150x20x20	C 800-BE11	25	Medium	
		7204	150x20x32	C 800-BE11	25	Medium	
		669109	175x20x32	C 800-BE11	25	Medium	

Fine grinding and polishing wheels

For steel, HSS, stainless steel, tungsten carbide and cast iron

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C	●	●	●	●	●	●	●	●	●	●	●	

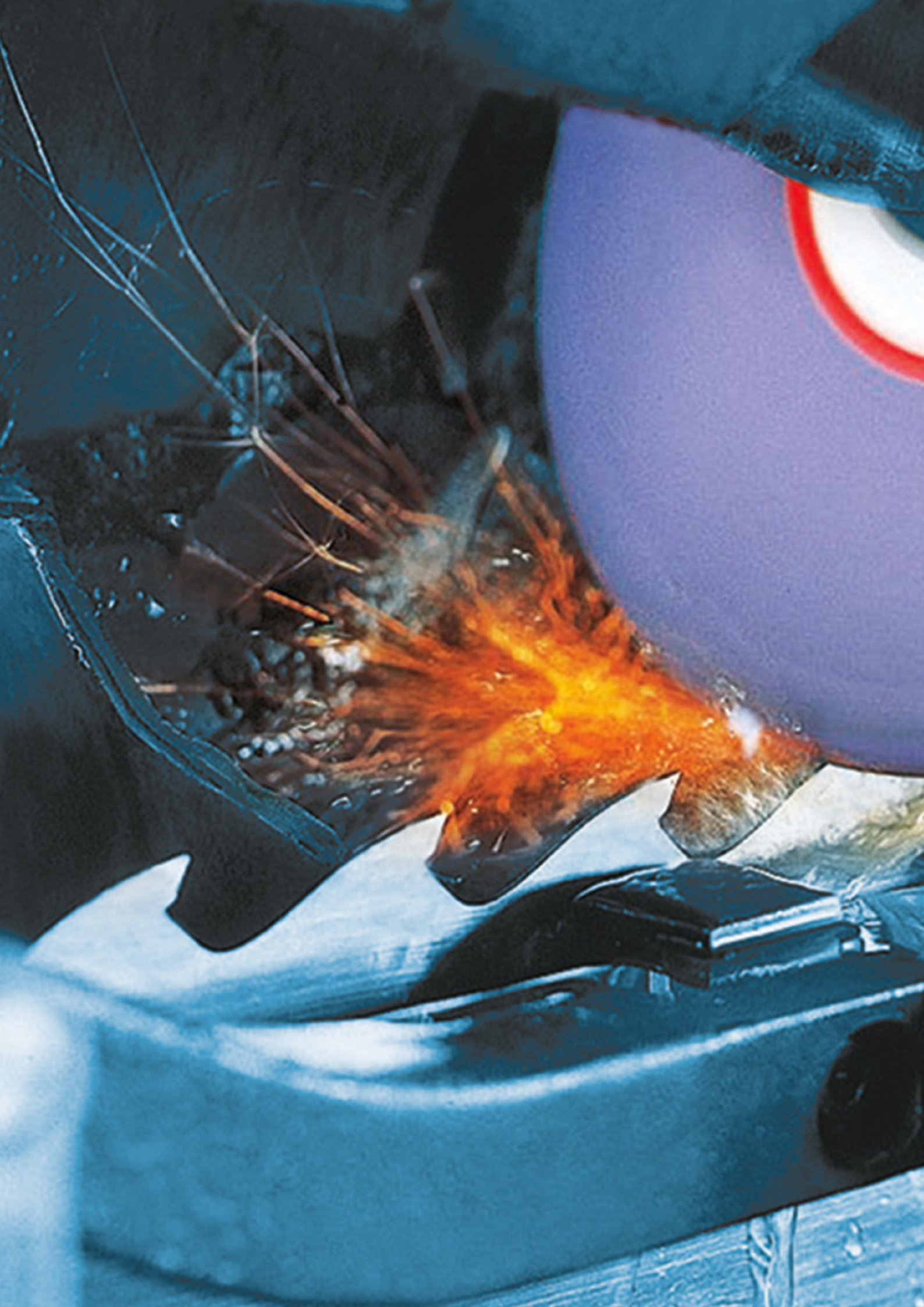
Recommended stock type



Shape 1

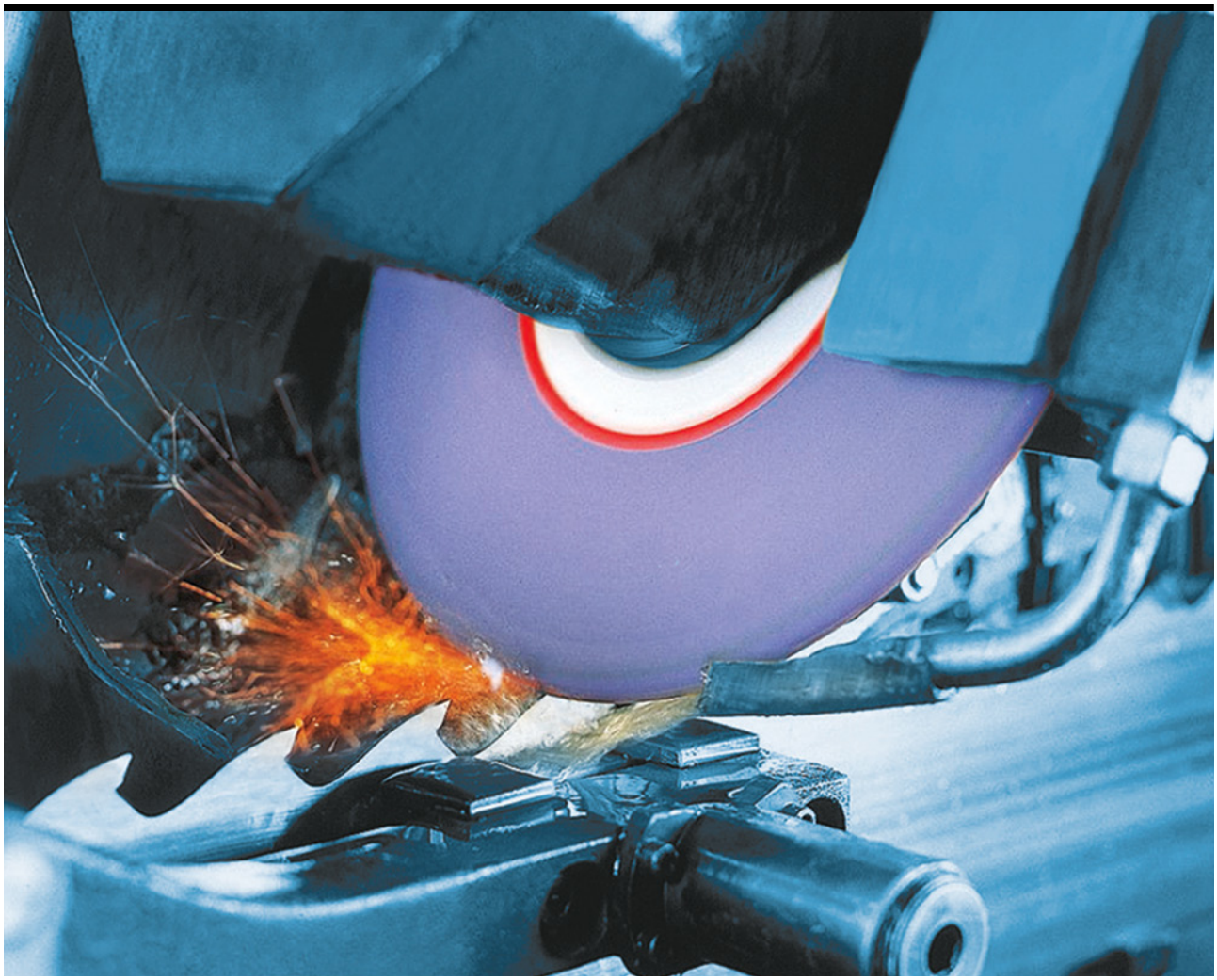
The soft elastic specification of this wheel means it perfectly follows the contours of the workpiece and does not alter the surface geometry. It can be used for polishing, fine grinding, effect grinding, deburring, matting and whetting. However, it is not suitable for large burrs or high stock removal rates.

	Shape	Type no.	DxTxH	Specification	Vmax m/s	Degree of hardness	PU	Comments
	1	19435	125x20x20	C 400-BE15	20	Medium	1	Sharpening of kitchen knives
		7203	150x20x32	C 400-BE15	20	Medium	1	
		22411	200x25x32	C 400-BE15	20	Medium	1	
		802276	150x10x25	C 150-BE13	16	Soft	5	Surface improvement on pre-ground workpieces (low stock removal)
		2661	150x20x20	C 150-BE15	20	Medium	1	
		71212	150x20x20	C 400-BE16	32	Hard	1	
		7186	150x20x20	C 80-BE15	20	Medium	1	
		22257	150x20x32	C 150-BE16	32	Soft	1	
		320369	200x25x20	C 240-BE15	20	Medium	1	
		7362	200x25x20	C 80-BE15	20	Medium	1	
		32765	200x25x32	C 150-BE15	20	Medium	1	





4.9 Saw sharpening tools
Saw sharpening



Saw sharpening

Only a sharp tool is a good tool. For this reason, TYROLIT produces an extensive range of grinding wheels for sharpening saws.

This spans everything from conventional grinding wheels through to diamond and CBN grinding tools. In conjunction with its proven application engineering service, TYROLIT provides specific solutions that ensure maximum customer benefit. Specially selected grain qualities and innovative bond systems with efficient grinding wheel design guarantee optimum quality at the cutting edges. TYROLIT is therefore your competent partner in the saw industry.

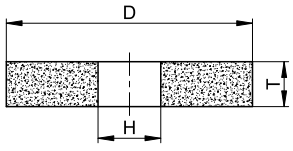
Application recommendation

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened	Hardened	Unhardened	Hardened								
SA				●		●					●	●	274, 275
A		●	○								●	●	275
88A, 89A			●	●		●					●	●	273, 274, 276
455A, 765A				●								●	275
52A		●									●	●	275
D								●				●	277, 278, 279, 280, 281 ,283
B				●		●						●	281, 282, 283
89A, 454A						●						●	282
55AC, 454A						●							284
C						●		●					283, 284

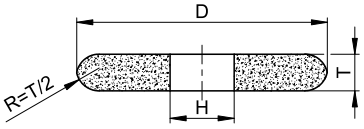
Application tips

- Operating speed: 25–40 m/s

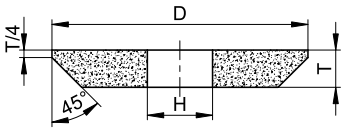
Shapes



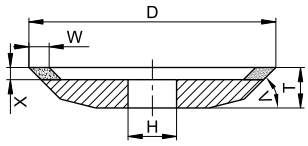
Shape 1



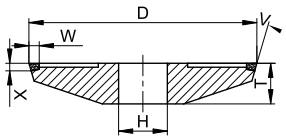
Shape 1F



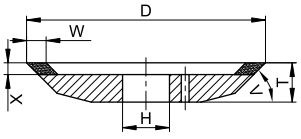
Shape 1C



Shape 4V2

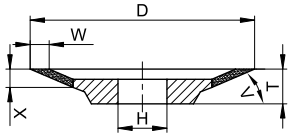


Shape 4B9

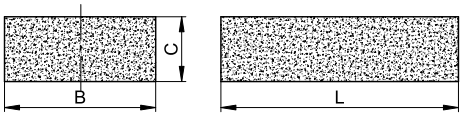


Shape 4V2H

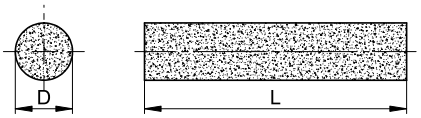
● Extremely suitable ○ Limited suitability



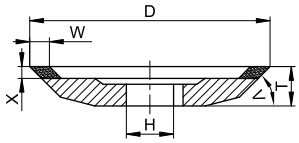
Shape 3V9



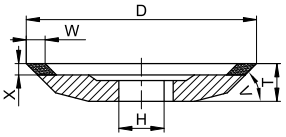
Shape 54SCHP / 90B



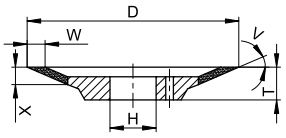
Shape 9030



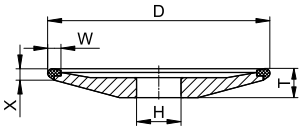
Shape 12V2



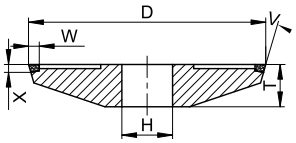
Shape 12V2N



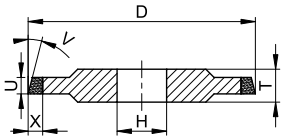
Shape 3V9H



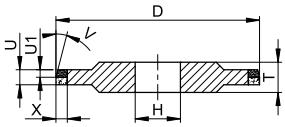
Shape 4C2



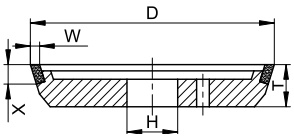
Shape 4B9N



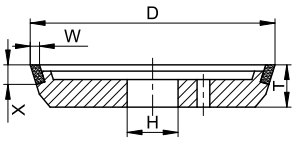
Shape 14B1



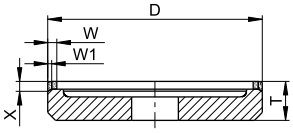
Shape 14M1Z



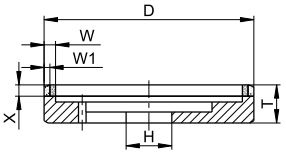
Shape 11B9H



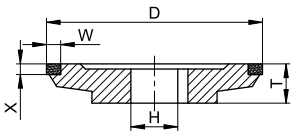
Shape 12A9Z (H)



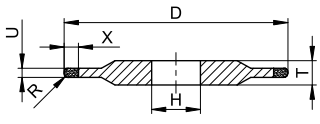
Shape 6A9Z



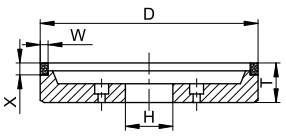
Shape 6A2ZH



Shape 12B9N



Shape 14F1



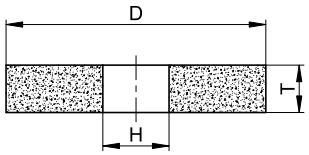
Shape 6A2B

Grinding tools for automatic saw

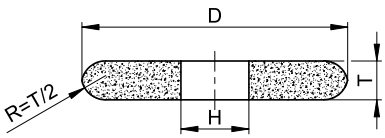
For circular saws, stellite band and gang saws

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
SA				●		●					●	●
A		●	●								●	●
88A, 89A			●	●		●					●	●
455A, 765A				●								●
52A		●									●	●

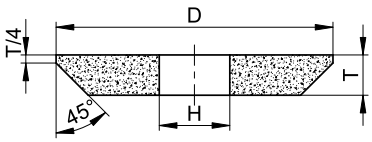
Recommended stock type



Shape 1



Shape 1F



Shape 1C

TYROLIT sells a wide assortment of tools tailored to various grinding machines and tooth pitches. They are suitable for dry and wet grinding for HSS, chrome vanadium and stellite saws.

The products are available with different edge profiles; shape 1, 1F, 1C, in diameters ranging from 150 to 350 mm.

	Shape	Type no.	DxTxH	Specification	Vmax m/s	Comments
	1	18825	150x3x30	88A 80 M5A V217	40	
		55375	150x3x32	88A 80 M5A V217	40	
		9293	150x4x20	88A 80 M5A V217	40	
		291120	150x4x32	88A 80 M5A V217	40	
		719904	150x6x38	88A 60 K5A V217	40	
		490222	150x6x38	88A 80 K5A V217	40	
	1	10265	150x10x32	89A 60 M5A V217	40	
		455124	150x8x32	89A 60 M5A V217	40	
		719906	175x3x51	89A 60 M5A V217	40	
		123222	175x6x51	89A 60 M5A V217	40	
		50845	175x8x51	89A 60 M5A V217	40	
		3085	200x10x20	89A 60 M5A V217	40	
		3091	200x10x32	89A 60 K5A V217	40	
		3092	200x10x32	89A 60 M5 V217	40	
		608080	200x10x32	89A 60 M5A V217	40	
		762445	200x10x32	89A 60 M5A V217 E5	40	Lateral face impregnation
		51494	200x13x32	89A 60 M5A V217	40	
		448603	200x2x32	88A 80 M5A V217	40	
		7318	200x3x32	88A 80 M5 V217	40	

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Recommended stock type

	Shape	Type no.	DxTxH	Specification	Vmax m/s	Comments
	1	3070	200x6x20	89A 60 M5A V217	40	
		110554	200x6x32	89A 60 K5A V217	40	
		7328	200x6x32	89A 60 M5 V217	40	
		107050	200x6x32	89A 60 M5 V227	40	
		3077	200x8x20	89A 60 M5A V217	40	
		525686	200x8x32	89A 60 M5A V217	40	
		3424	250x10x20	89A 60 M5A V217	40	
		461239	250x10x32	89A 60 M5A V217 E5	40	Lateral face impregnation
		33249	250x13x20	89A 60 M5A V217	40	
		719922	250x13x32	89A 60 M5A V217	40	
		28549	200x10x32	89A 60 M5A V217	40	
	1	292129	150x1.5x32	SA 80 L4 VN-M OD	63	
		441301	150x10x32	SA 60 L5 VN-M OD	63	
		123688	150x2.5x32	SA 80 L4 VN-M OD	63	
		935730	150x2x32	SA 80 L4 VN-M OD	63	
		47009	150x3x32	SA 80 L4 VN-M OD	63	
		226295	150x3x32	SA 80 L5 VN-M OD	63	
		47010	150x4x32	SA 80 L4 VN-M OD	63	
		159000	150x4x32	SA 80 L5 VN-M OD	63	
		667182	150x5x32	SA 80 L5 VN-M OD	63	
		946904	150x6x32	SA 60 L5 VN-M OD	63	
		47005	150x6x32	SA 80 L4 VN-M OD	63	
		17256	150x6x38	SA 60 K5 VN-M OD	63	
		441302	150x8x32	SA 60 L5 VN-M OD	63	
		922647	200x1.5x32	SA 80 L4 VN-M OD	63	
		804963	200x1.75x32	SA 80 L4 VN-M OD	63	
		804979	200x10x32	SA 60 L5 VN-M OD	63	
		867603	200x2.5x32	SA 80 L4 VN-M OD	63	
		922857	200x2x32	SA 80 L4 VN-M OD	63	
		804957	200x3.5x32	SA 80 L5 VN-M OD	63	
		922860	200x3x32	SA 80 L5 VN-M OD	63	
		804945	200x4x32	SA 80 L5 VN-M OD	63	
		804993	200x5x32	SA 60 L5 VN-M OD	63	
		805000	200x6x32	SA 60 L5 VN-M OD	63	
		804976	200x8x32	SA 60 L5 VN-M OD	63	
		901252	250x3x32	SA 80 L4 VN-M OD	63	
		901254	250x4x32	SA 80 L4 VN-M OD	63	

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	Shape	Type no.	DxTxH	Specification	Vmax m/s	Comments
	1	901256	250x5x32	SA 60 L5 VN-M OD	63	
		901258	250x6x32	SA 60 L5 VN-M OD	63	
		437634	250x10x32	52A 54 M5A V217 E5	63	Lateral face impregnation
		19117	150x4x20	A 60 N4 B2	50	
	1	237227	250x10x32	M455A 609 M7 B82	63	
		226682	300x10x30	M455A 802 M6 B22	63	
		527875	300x10x32	M455A 609 L7 B82	63	
		241857	300x10x32	M455A 809 K6 B22	63	
		313636	300x10x40	M455A 609 M7 B82	63	
		179959	300x10x40	M455A 80 M6 B22	63	
		223733	300x12x40	M455A 609 M7 B82	63	
		471747	300x12x40	M455A 802 M6 B22	63	
		267138	300x12x40	M455A 809 M6 B22	63	
		485953	300x8x32	M455A 80 M6 B22	63	
		487467	350x10x127	M455A 80 M6 B22	63	
		226679	350x10x127	M455A 802 M6 B22	63	For stellite band and gang saws
		226680	350x13x127	M455A 802 M6 B22	63	
		34340601	250x10x32	765A 609P7B100	63	
		34340604	300x12x40	765A 609P7B100	63	
		34340599	300x8x32	765A 801P6B100	63	
		34340602	300x8x32	765A 609P7B100	63	
		34340594	350x10x127	765A 801P6B100	63	
		34340596	350x10x40	765A 801P6B100	63	
		34340598	350x10x127	765A 801P6B100	63	
		34340603	350x10x127	765A 801P6B100	63	
		34340597	350x10x32	765A 609P6B100	63	
		34340600	350x13x127	765A 801P6B100	63	
	1F	150403	200x10x32	M455A 609 M7 B82	63	
		476545	250x12x32	M455A 609 M7 B82	63	
		150402	300x10x32	M455A 609 L7 B82	63	For stellite band and gang saws
		34340579	200x10x32	765A 609P7B100	63	
		34340593	300x10x32	765A 609P7B100	63	
	1F	805007	200x8x32	SA 60 K5 VN-M OD	63	
		805008	200x10x32	SA 60 K5 VN-M OD	63	
		805015	250x13x32	SA 60 K5 VN-M OD	63	
		805017	250x8x32	SA 60 K5 VN-M OD	63	
		805018	250x10x32	SA 60 K5 VN-M OD	63	
		805019	250x12x32	SA 60 K5 VN-M OD	63	
		804983	200x10x32	SA 60 L5 VN-M OD	63	
		804986	200x8x32	SA 60 L5 VN-M OD	63	

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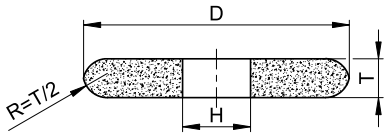
Recommended stock type

	Shape	Type no.	DxTxH	Specification	Vmax m/s	Comments
	1C	161678	250x10x20	88A 60 N4A V217/89A 60 M5A V217	40	
		162874	200x12x20	88A 60 N4A V217/89A 60 M5A V217	40	
		172352	175x8x20	88A 60 N4A V217/89A 60 M5A V217	40	Two-layer wheels
		719918	200x10x20	88A 60 N4A V217/89A 60 M5A V217	40	
		720012	200x10x32	88A 60 N4A V217/89A 60 M5A V217	40	

Grinding tool for chain saw sharpening machines

For steel



Shape 1F

With this wheel you receive a precise product that will significantly increase the lifetimes of your chain saws. The profile radius of this product corresponds to half the wheel width and is optimally tailored to the tooth base radius.

This tool is suited to dry grinding with edge profile shape 1F and a 140 mm diameter.

	Shape	Type no.	DxTxH	Specification	Vmax m/s
	1F	740908	140x3.2x12	88A 54 K5A V217	40
		244477	140x4.5x12	88A 54 K5A V217	40
		123716	140x3.8x12	50A 541 K5A V217	40

Resin-bonded diamond grinding wheels for chip surface grinding (tooth-face grinding)

For tungsten carbide

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
D								●				●

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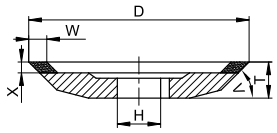
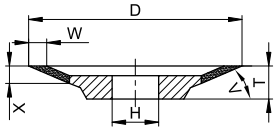
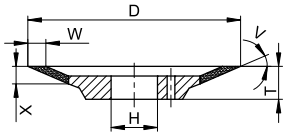
Recommended stock type



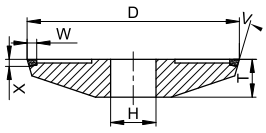
Shape 12V2



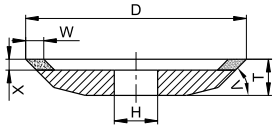
Shape 3V9



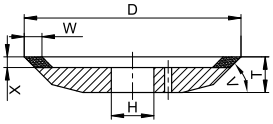
Shape 3V9H



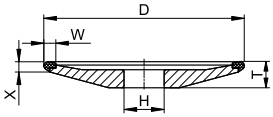
Shape 4B9



Shape 4V2



Shape 4V2H



Shape 4V2

TYROLIT offers a wide assortment of tools tailored to various grinding machines for narrow and wide tooth pitches due to their adapted diamond section thicknesses and core shapes. This enables you to achieve perfect surface geometries.

This product is available for all standard sharpening machines in 100–200 mm diameters.



Shape	Type no.	DxTxH	W-X V	Specification	Comments
12V2	462766	200x13x32	4-2 V30	D 46 C125 B 48 AL	e.g. Vollmer, Biberach
12V2N	463026	100x10x25	4-2 V30	D 46 C100 B 48 AL	e.g. Vollmer, Dornhan, Widma
	462654	200x14x32	4-2 V30	D 46 C125 B 48 AL	e.g. Akemat
3V9	563857	125x13x32	2.5-5.5 V70	D 46 C100 B 48 AL	e.g. Vollmer, Biberach
	578936	150x13x32	2.5-5.5 V70	D 46 C100 B 48 AL	e.g. Akemat
3V9H	580905	200x13x32	2.5-4.4 V70	D 46 C125 B 250 AL	enge Zahnteilung
4B9	369110	125x11.5x32	2.5-1.2 V15	D 54 C75 B 74 AL	e.g. Vollmer, Biberach
	462788	125x12x32	3-3.8 V15	D 54 C125 B 48 AL	e.g. Vollmer, Biberach, large tooth pitch
	820013	125x12x32	3-1.8 V15	D 126 C75 B 70 AL	e.g. Vollmer, Biberach
	34015955	125x12x32	3-2 V15	D 76 C125 B 250 AL	e.g. Vollmer, Biberach
	665040	125x14x32	3-3.8 V15	D 54 C75 B 70 AL	e.g. Vollmer, Biberach, large tooth pitch
4V2	462630	150x12x32	4-2 V30	D 76 C125 B 48 AL	e.g. Vollmer, Biberach
	462631	150x12x32	4-2 V30	D 46 C125 B 48 AL	e.g. Vollmer, Biberach
	462630	150x12x32	4-2 V30	D 76 C125 B 48 AL	e.g. Vollmer, Biberach
	462631	150x12x32	4-2 V30	D 46 C125 B 48 AL	e.g. Akemat



4V2H	462898	160x13x32	4-2 V30	D 76 C125 B 48 AL	e.g. Walter
	379577	200x13x32	4-2 V30	D 46 C125 B 48 AL	e.g. Vollmer, Biberach, Walter
	462760	200x13x32	4-2 V30	D 76 C125 B 48 AL	e.g. Vollmer, Biberach
	379577	200x13x32	4-2 V30	D 46 C125 B 48 AL	e.g. Vollmer, Biberach

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Recommended stock type

	Shape	Type no.	DxTxH	W-X	Specification	Comments
	4B9H	405549	175x12x50.8	4-2	D 76 C125 B 48 AL	e.g. Vollmer, Dornhan (in set with TN 462829)
	4B9N	632932	100x8x25	3-1.8	D 54 C75 B 70 AL	e.g. Vollmer, Dornhan, Widma

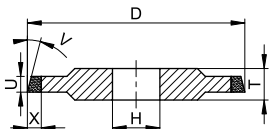
	Shape	Type no.	DxTxH	U/W-X	Specification
	4C2	482702	150x10x32	2.5/3-1.5	11D 64 C100 B 70 ST

Resin-bonded diamond grinding wheels for clearance grinding (back grinding)

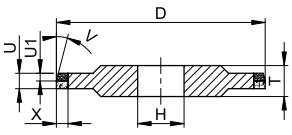
For tungsten carbide

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
D								●				●

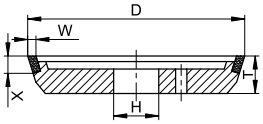
Recommended stock type



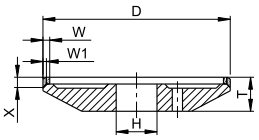
Shape 14B1



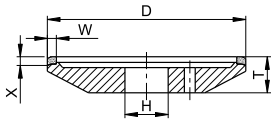
Shape 14M1Z



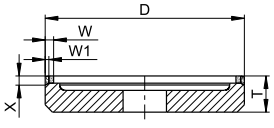
Shape 11B9H



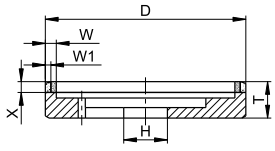
Shape 12A9Z



Shape 12A9H



Shape 6A9Z



Shape 6A2ZH

This resin-bonded diamond wheel is available as a cup wheel or peripheral wheel. It is also available as a single or D126/D46 double layer. Double layer wheels achieve an excellent level of cutting quality due to a combination of two grit sizes in a high concentration.

This product is available for all standard sharpening machines in 100–125 mm diameters.

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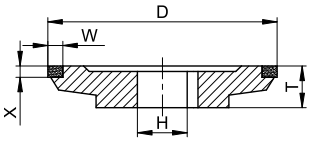
	Shape	Type no.	DxTxH	U-U1-X V	Specification	Comments
	14B1	462503	127x95x8x32	5-8 V15	DE544BS STARTEC-BASIC	e.g. Akemat
	14M1Z	462514	127x8x32	2.5-2.5-6 V15	D 126 C125 B 48 AL/ D 54 100 B48	e.g. Akemat, two-layer wheels
		462889	150x8x32	2.5-2.5-8 V8	D 126 C100 B 48 AL/ D 76 75 B48	e.g. Walter, two-layer wheels
		462891	200x8x32	2.5-2.5-8 V8	D 126 C100 B 48 AL/ D 46 75 B48	e.g. Walter, two-layer wheels
	Shape	**Type no.**	**DxTxH**	**W-X**	**Specification**	**Comments**
	11B9H	462756	125x18x32	3-6.5	D 54 C100 B 48 AL	e.g. Vollmer Biberach, driving pin hole
	Shape	**Type no.**	**DxTxH**	**W-W1-X**	**Specification**	**Comments**
	12A9Z	286864	125x18x32	5-2.5-6	D 126 C125 B 65 AL/ D 46 100 B65	e.g. Vollmer Biberach, double layer
		390582	125x18x32	5-2.5-6	D 126 C100 B 65 AL/ D 46 75 B65	e.g. Vollmer Biberach, double layer
		387531	125x22x32	5-2.5-6	D 126 C100 B 65 AL/ D 46 75 B65	e.g. Vollmer Biberach, double layer
	12A9H	462757	125x18x32	5-6	DE913BS STARTEC-BASIC	e.g. Vollmer Biberach
	6A9Z	389569	100x20x25	5-2.5-6	D 126 C100 B 42 AL/ D 46 75 B42	e.g. Vollmer Dornhan, double layer
	6A2ZH	462829	125x20x50.8	5-2.5-10	D 126 C100 B 65 AL/ D 46 75 B65	e.g. Vollmer Dornhan, double layer (in set with TN 405549)

Resin-bonded diamond grinding wheels for flank machining

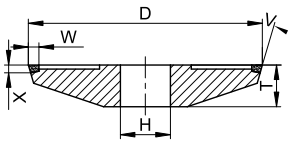
For tungsten carbide

Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
D						●				●

Recommended stock type



Shape 12B9N



Shape 4B9

This TYROLIT product is suitable both for repair and production grinding and offers high stock removal rates on tungsten carbide. This is primarily achieved due to a reduced concentration and tailored bond system.

The diamond wheels are available for all standard sharpening machines in 76–100 mm diameters. It is important to note that diameters of 76–80 mm should be used especially for narrow tooth pitches.

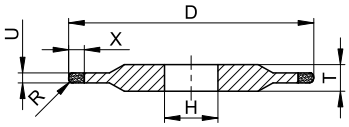
	Shape	Type no.	DxTxH	W-X	Specification	Comments
	12B9N	462658	76x14x20	4.5-4	D 91 C50 B 52 AL	e.g. Akemat, Vollmer
		331135	100x14x32	4.5-4	D 64 C75 B 74 AL	e.g. Vollmer
		474564	100x14x20	4.5-4	D 91 C50 B 53 AL	e.g. Vollmer
	4B9	462794	80x10x32	4-5	D 107 C75 B 53 AL	e.g. Vollmer
		328027	100x10x32	5-4	14D 91 C50 B 42 AL	e.g. Vollmer

CBN resin tools for tooth profile grinding

For HSS

Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
B			●	●						●

Recommended stock type



Shape 14F1

This TYROLIT product is suitable both for repair and production grinding and offers high stock removal rates on HSS. The CBN tool for tooth profile grinding has been specially designed for wet grinding with emulsion and oil.
The CBN tools are available for all standard sharpening machines in 150–200 mm diameters.

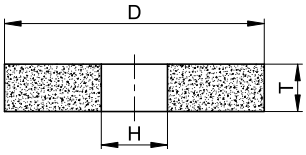
	Shape	Type no.	DxTxH	U-X R	Specification	Comments
	14F1	462911	150x20x20	1.3-8.4 R0.65	B 126 C125 B 87 ST	e.g. Schmidt-Tempo ECE
		462914	150x20x20	2-8.4 R1	B 126 C125 B 87 ST	
		462916	150x20x20	2.5-8.4 R1.25	B 151 C125 B 87 ST	
		462918	150x20x20	3-8.4 R1.5	B 151 C125 B 87 ST	
		454693	200x8x32	1.6-8.4 R0.8	B 126 C125 B 87 ST	e.g. Loroch, Rekord, Schmidt-Tempo
		462924	200x8x32	1.3-8.4 R0.65	B 126 C125 B 87 ST	
		462928	200x8x32	2-8.4 R1	B 126 C125 B 87 ST	
		462932	200x8x32	2.5-8.4 R1.25	B 151 C125 B 87 ST	
		462937	200x8x32	3-12.5 R1.5	B 151 C125 B 87 ST	

Vitrified-bonded and CBN resin-bonded profile grinding wheels

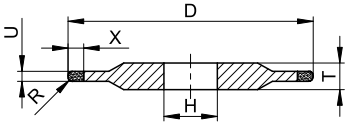
For tungsten carbide and HSS

Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
89A, 455A				●						●
D						●				●
B				●					●	●

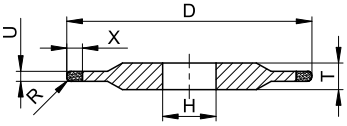
Recommended stock type



Shape 1



Shape 14F1



Shape 14F1R

For profile grinding of HSS you can use aluminium oxide or CBN wheels. Tungsten carbide should however only be ground using diamond. For pre-grinding we recommend using grit size 54 in aluminium oxide and sintered aluminium oxide mixture.

Grit size 100 should be used for finish grinding and fine profiles, or alternatively B151 in CBN. Finer grit sizes are usually used for tungsten carbide.

Recommended stock type

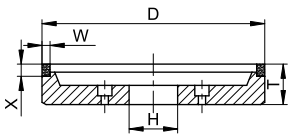
	Shape	Type no.	DxTxH	U-X R	Specification	Comments
	1	30806	225x5x60		89A 54 I5A V53	Weinig Rondamat for HSS tools
		102804	225x5x60		89A 100 H5 V111	
	1	619872	225x5x60		455A 541 L6 V3 50	
	14F1	463137	200x10x31.75	4-7 R2	B 151 C75 B 53 AL	Universal
		665983	200x10x20	4-7 R2	DE913BS STARTEC-BASIC	
	14F1R	462926	200x10x60	3-5 R1.5	DE643BS STARTEC-BASIC	Weinig Rondamat for HM tools
		462939	200x5x60	4-7 R2	DE913BS STARTEC-BASIC	
		462943	200x5x60	2-7 R1	DE463BS STARTEC-BASIC	

Resin tool for regrinding planer knives

For tungsten carbide and HSS

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
D								●				●
B						●					●	●

Recommended stock type



Shape 6A2B

These resin tools are cup wheels with special mounting holes for Weinig Rondamats. Planer knives can be reground using wet or dry grinding.
To achieve the required cutting quality, grain B107 is used for HSS and grain D76 for tungsten carbide.

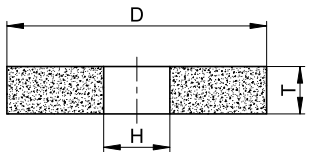
	Shape	Type no.	DxTxH	WxX	Specification	Comments
	6A2B	34480	125x18x20	3-4	B 107 C50 B 74 AL	Weinig Rondamat (clearance surface/ back grinding)
		590433	125x18x20	3-4	D 76 C75 B 52 AL	

Elastic tool for effect grinding

For steel

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
C		●	●	●	●	●						●

Recommended stock type



Shape 1

The TYROLIT elastic tool has been specially developed for effect grinding in production or repair. When soldering on tungsten carbide teeth, discolouration to the workpiece occurs; this can be removed quickly.
Elastic wheels with silicon carbide are also used for cleaning and touching up used saw blades. Effect grinding is also frequently used on saw blades.

▶

Elastic tool for effect grinding

For steel

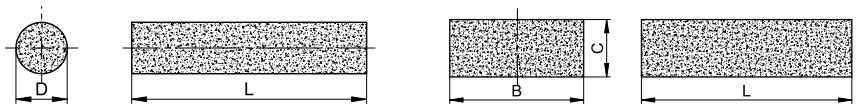
	Shape	Type no.	DxTxH	Specification
	1	401616	250x25x32	C 46-BE19 F
		491888	250x25x32	C 46-BE16

Vitrified-bonded and resin-bonded jointing stones

For tungsten carbide and HSS

Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
55AC, 454A				●						
C				●		●				

Recommended stock type



Shape 9030

Shape 90B | 54SCHP

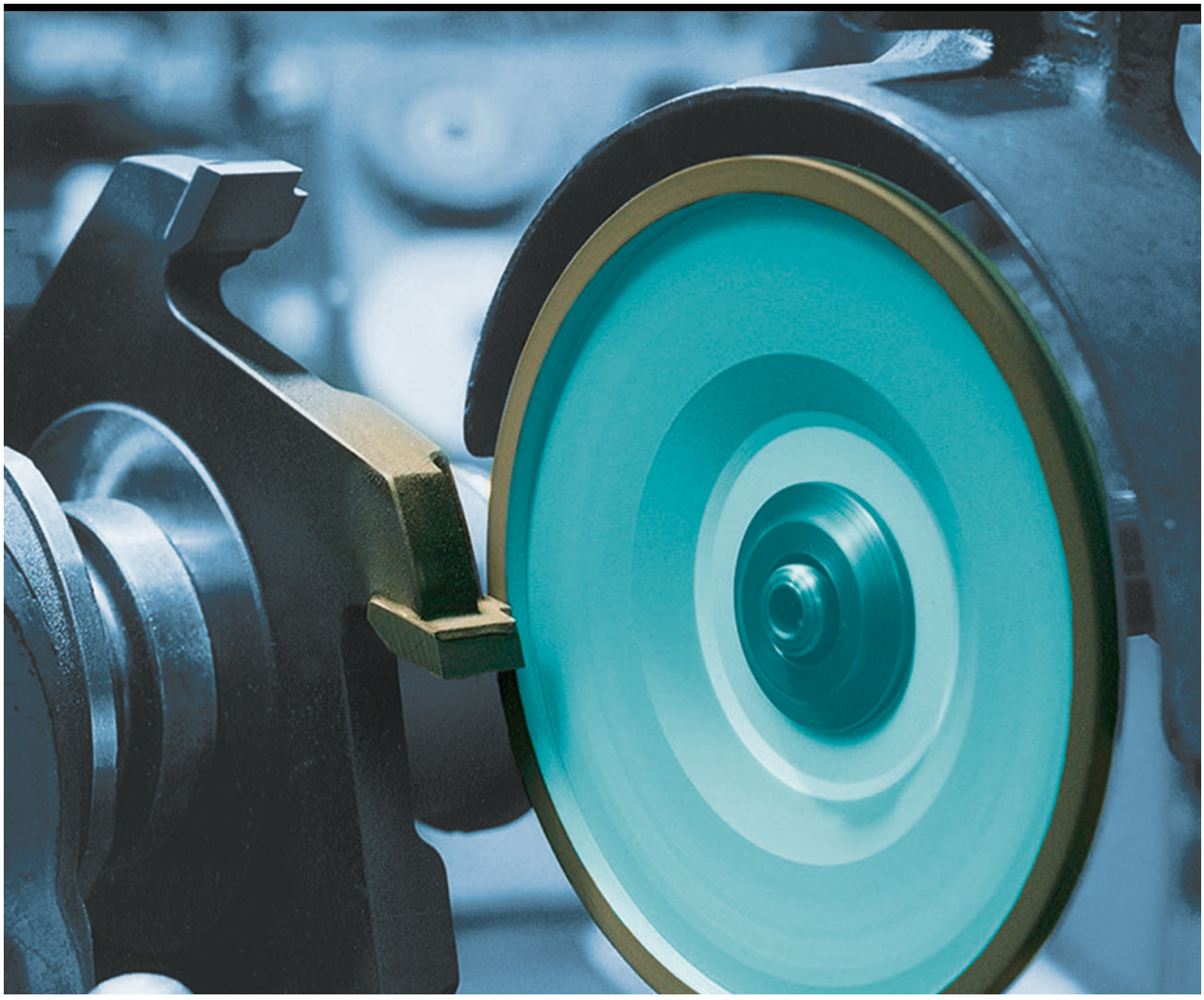
To achieve the highest planing quality, micro-size planer heads are levelled with jointing stones. Products from TYROLIT achieve optimum dressing effects.

It is possible to level HSS and tungsten carbide planer knives with this product.

	Shape	Type no.	BxCxL	Specification
	54SCH	351654	20x15x60	C 320-55 V18
	9030	775476	12x32	C 280 J5 V18
	54SCHP	917288	60x15x160	454A 500 D2 B22
	90B	34020398	60x15x160	55AC 500 D4 B22



4.10 Tools
Universal tool grinding



Universal tool grinding

TYROLIT offers a comprehensive range of grinding tools for tool grinding. This makes a high-quality range available for tool production as well as tool regrinding.

It includes conventional grinding wheels as well as diamond and CBN grinding tools for wet and dry grinding. Grain qualities adapted to the grinding process and innovative bond systems combined with efficient grinding wheel design always guarantee optimum quality of your tools.

Application recommendation



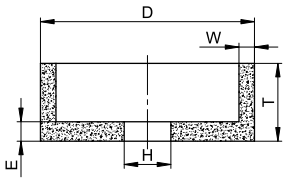
Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened | Hardened	Unhardened | Hardened								
89A		●	●	●					●		289, 290
91A				●					●		290
454A			●	●					●		289
C						●			●		291
AMIGO, B		●	●	●					●		292, 293, 294
DIAGO, D						●			●		295, 296

Application tips CBN

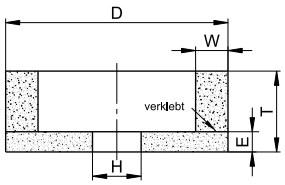
- Recommended operating speed for cemented carbide: 16–22 m/s
- Recommended operating speed for HSS: 20–25 m/s

● Extremely suitable

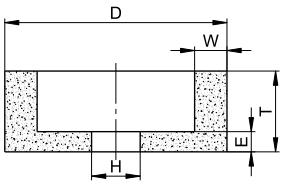
Shapes



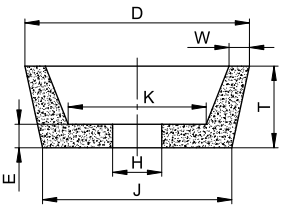
Shape 6



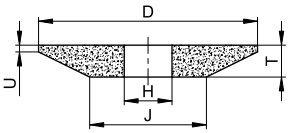
Shape 6BS



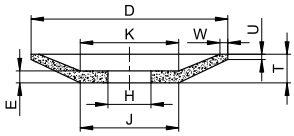
Shape 6BB



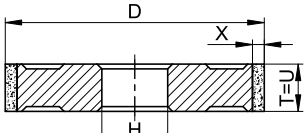
Shape 11



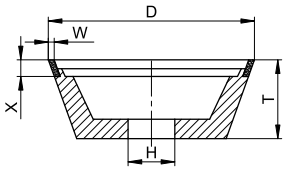
Shape 3



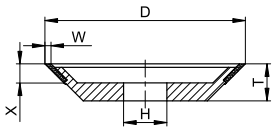
Shape 12



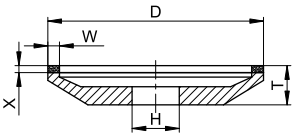
Shape 1A1



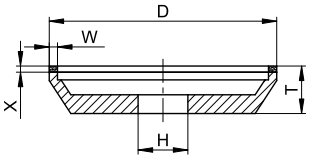
Shape 11V9



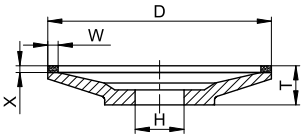
Shape 12V9



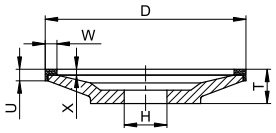
Shape 12A2



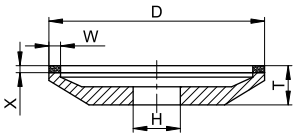
Shape 12A2D



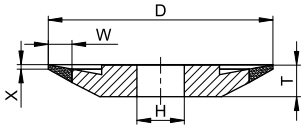
Shape 12A2F



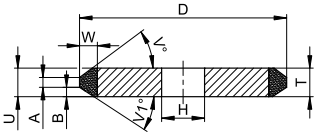
Shape 12C2F



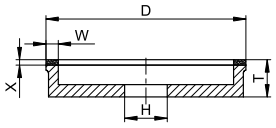
Shape 4C2



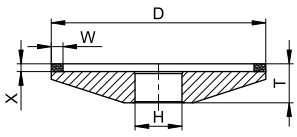
Shape 4BT9



Shape 1BM1



Shape 6A2



Shape 4A2

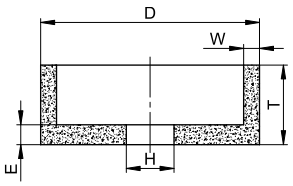
Conventional ceramic for dry grinding

For non and low-alloyed steels, high-alloyed steels and HSS.

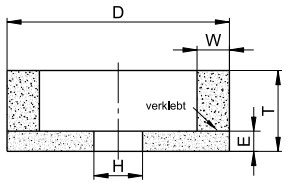


Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
89A		●	●	●					●	
91A				●					●	
454A			●	●					●	

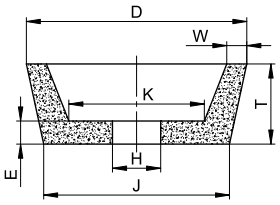
Recommended stock type



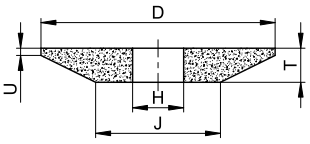
Shape 6



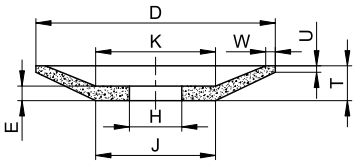
Shape 6BS



Shape 11



Shape 3



Shape 12

With this tool you can grind all cutting tools for the wood and metal industry and a range of shear blades. These products are disc and cup wheels with fused white aluminium oxide or sintered aluminium oxide mixtures that are used in dry grinding.

The tailored specification of this tool prevents discolouration on the workpieces.

	Shape	Type no.	DxTxH	W/E	Specification	Comments
	6	34048152	80x40x20	W6/E10	454A 801 N5 V3 U5	With peripheral impregnation
		455038	80x40x20	W6/E8	454A 901 M5 V3 U5	
		34048027	100x50x20	W10/E10	454A 801 K5 V3 U5	
	6	34924	100x50x20	W10/E10	89A 462 K5A V53	
		19040	100x50x20	W8/E10	89A 542 I5A V53	
		5886	100x50x20	W10/E10	89A 60 J5A V53	
		5887	100x50x20	W10/E10	89A 60 K5A V53	
		49273	100x50x20	W10/E10	89A 60 M5A V53	
		9627	100x50x20	W10/E10	89A 80 I7A V53	
		568265	100x50x20	W10/E10	89A 80 I7A V53 U5	With peripheral impregnation
		5889	100x50x20	W10/E10	89A 80 J5A V53	
		8641	100x50x20	W10/E10	89A 80 K5A V53	
		54820	100x50x20	W10/E10	89A 80 L5 V55	
		131991	125x50x32	W13/E13	89A 60 K5 V53	

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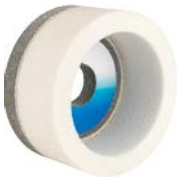
	Shape	Type no.	DxTxH	W/E	Specification	Comments
	6	451151	125x63x20	W8/E13	89A 542 I5A V53	
		78847	150x50x32	W12/E15	89A 60 K5 V53	
		77824	150x60x50	W15/E15	89A 36 H7 V217	
		84809	150x70x28	W17/E16	89A 36 H8 V217	
		91350	150x76x28	W17.5/E16	89A 46 J8 V217	
		186445	150x80x32	W10/E16	89A 60 J5A V217	
		365824	150x80x50	W10/E16	89A 461 H7A V53	
		54119	175x75x76.2	W17.5/E17	89A 36 J8 V217	
		126245	175x75x78	W15/E18	89A 36 H7A V217	
		712490	175x75x78	W15/E18	89A 36 J10A V237 P22	
		91441	175x75x78	W15/E18	89A 46 H7 V217	
		587026	175x80x32	W13/E20	89A 46 G10A V217	
		210314	200x80x35	W20/E20	89A 46 J8A V53	
		70128	200x80x78	W20/E20	89A 36 H7 V217	
		798715	200x80x78	W20/E20	89A 36 J10A V237 P22	
		5843	80x40x20	W6/E10	89A 60 K5A V53	
	6	122989	100x50x20	W10/E10	91A 80 L5A V217	
		438088	150x63x32	W15/E16	91A 46 G9A V217 P3	
		75803	165x60x32	W15/E15	91A 46 G9A V217 P3	
	6BS	70092	200x100x51	W25/E25	89A 36 I8A V217	

	Shape	Type no.	D/JxTxH	W/E/K	Specification
	11	334166	80/57x32x20	W6/E8/K46	89A 1002 H5A V53
		338237	80/57x32x20	W6/E8/K46	89A 601 K5A V53
		4917	100/71x40x20	W8/E10/K56	89A 462 J5A V53
		4924	100/71x40x20	W8/E10/K56	89A 601 K5A V53
		631057	100/71x40x32	W8/E10/K56	89A 601 J5A V53
		63195	100/80x50x32	W9/E13/K67	89A 60 K5 V53
		31675	125/96x40x20	W8/E10/K81	89A 462 K5A V53
		331500	125/96x40x32	W8/E10/K81	89A 601 J5A V53
		203176	150/114x50x32	W10/E13/K96	89A 462 I5A V53
		498229	150/114x50x32	W10/E13/K96	89A 601 J5A V53

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	Shape	Type no.	D/JxT/UxH	W/E/K	Specification
	3	31009	150/75x8/2x20		89A 601 J5A V53
	12	9398	150/75x16/3x20	W10/E10/K85	89A 601 J5A V53
		19659	100/50x13/3x20	W5/E7/K50	89A 601 K5A V53
		216789	125/63x13.3/3x20	W6/E7/K63	89A 461 J5A V53
		364685	125/63x13/3x20	W6/E7/K63	89A 601 I5A V53
		9833	175/85x18/3x20	W10/E10/K85	89A 601 I5A V53

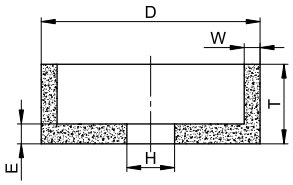
Conventional ceramic for dry grinding

For tungsten carbide

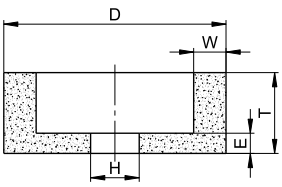


Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
C						●			●	

Recommended stock type



Shape 6



Shape 6BB

This silicon carbide wheel is a cost-effective variant for machining tungsten carbide for secondary applications. It is primarily used for working on castings and nonferrous metals.

It is ideally suited to grinding mining drills and re-sharpening tools in stonemasons' workshops.

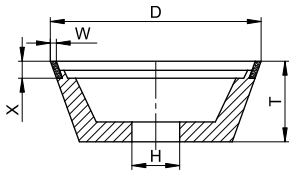
	Shape	Type no.	DxTxH	W/E	Specification	Comments
	6	139155	100x50x20	W10/E10	C 80 I5 V15	For HM and coated tools
	6BB	24299	127x63x32	W22.5/E13	C 46 J5 V15	For mining drill grinding machines
		108479	200x100x32	W25.5/E20	C 46 J5 V15	

CBN resin-bonded for dry grinding

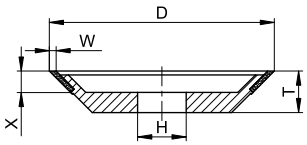
For non and low-alloyed steels, high-alloyed steels and HSS

Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
AMIGO, B		●	●	●					●	

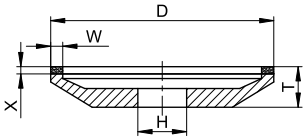
Recommended stock type



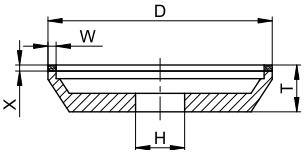
Shape 11V9



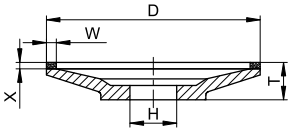
Shape 12V9



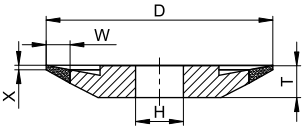
Shape 12A2



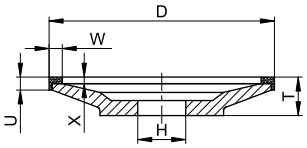
Shape 12A2D



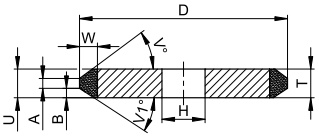
Shape 12A2F



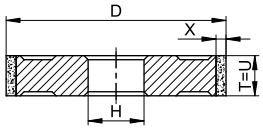
Shape 4BT9



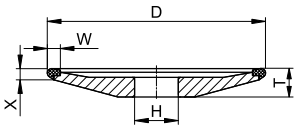
Shape 12C2F



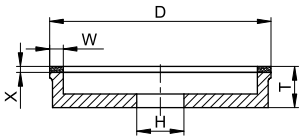
Shape 1BM1



Shape 1A1



Shape 4C2



Shape 6A2

With this tool you can grind all cutting tools for the wood and metal industry and a range of shear blades. These products are disc and cup wheels in the CBN grit size range B181 - B91.

Compared to conventional aluminium oxide wheels, CBN wheels exhibit significantly less wear and higher dimensional accuracy.

	Shape	Type no.	DxTxH	W-X	Specification	Comments
	11V9	640777	75x30x20	2-10	51B 126 C75 B AMIGO	
		644532	125x40x20	2-10	51B 91 C75 B AMIGO	
		641854	125x40x20	2-10	51B 126 C75 B AMIGO	
		649723	100x35x32	2-10	51B 126 C75 B AMIGO	
		666288	100x35x20	2-10	51B 181 C75 B AMIGO	
		644514	100x35x20	2-10	51B 91 C75 B AMIGO	
		617388	100x35x20	2-10	51B 126 C75 B AMIGO	
		636398	100x35x20	3-10	51B 126 C75 B AMIGO	
		561391	100x35x20	2-10	51B 151 C75 B 53 BG	Long-life B53

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Recommended stock type

	Shape	Type no.	DxTxH	W-X	Specification	Comments
	12V9	703242	75x20x20	2-6	51B 126 C75 B AMIGO	
		636658	100x20x20	2-10	51B 126 C75 B AMIGO	
		840506	125x25x20	2-10	51B 126 C75 B AMIGO	
	12A2	124644	150x18x20	5-3	51B 126 C50 B 75 AL	
		436484	150x18x20	5-2	51B 126 C50 B 75 AL	
		337051	150x18x20	4-3	51B 126 C75 B 54 AL	
		649692	175x20x20	6-2	51B 151 C75 B 45 AL	
	12A2D	217976	100x25x20	6-2	51B 126 C50 B 54 AL	
		666137	100x25x20	6-3	51B 126 C50 B 54 AL	
	12A2F	69502	125x23x20	5-4	51B 126 C50 B 75 AL	
	4BT9	119325	100x10x20	10-1	51B 126 C75 B 75 AL	

	Shape	Type no.	DxTxH	W/U-X	Specification
	12C2F	646778	125x23x20	5/5-4	51B 91 C75 B AMIGO
		641839	125x23x20	5/5-4	51B 151 C75 B AMIGO
		641842	150x23x20	5/5-4	51B 151 C75 B AMIGO

	Shape	Type no.	DxTxH	U-X	Specification	Comments
	1BM1	463068	75x4x20	4-8	51B 91 C75 B 54 AL	Drill bit diameter 4 mm

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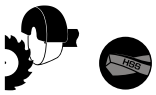
	Shape	Type no.	DxTxH	U-X	Specification	Comments
	1A1	620464	100x10x20	10-6	51B 126 C50 B 54 BA	

	Shape	Type no.	DxTxH	W/U R	Specification
	4C2	83827	100x13x20	5.1/6 R2	51B 126 C75 B 75 AL

	Shape	Type no.	DxTxExH	W-X	Specification
	6A2	735896	100x30x12x20	3-6	51B 126 C75 B 74 AL

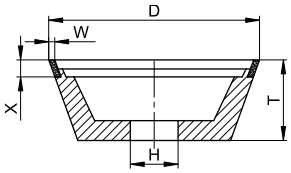
Diamond resin-bonded for dry grinding

For tungsten carbide

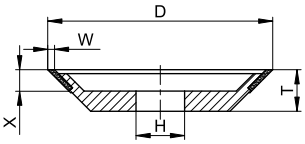


Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
DIAGO, D						●			●	

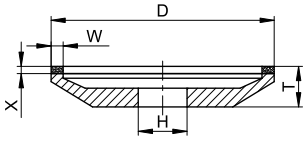
Recommended stock type



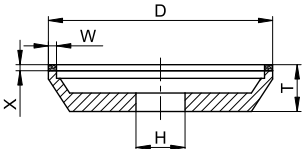
Shape 11V9



Shape 12V9



Shape 12A2



Shape 12A2D

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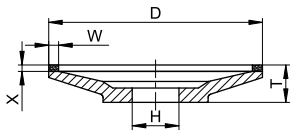
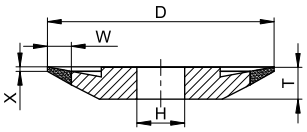
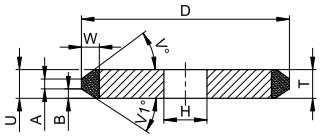


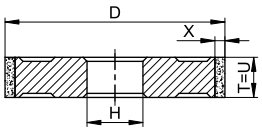
Shape 12A2F



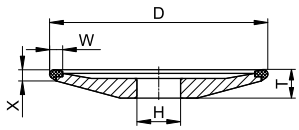
Shape 4BT9



Shape 1BM1



Shape 1A1



Shape 4A2

With this tool you can grind all tungsten carbide cutting tools for the wood and metal industry and a variety of shear blades. These products are disc and cup wheels in the diamond grain size range D181 - D64.

Compared to conventional silicon carbide wheels, diamond wheels exhibit significantly less wear and higher dimensional accuracy.

	Shape	Type no.	DxTxH	W-X	Specification	Comments
	11V9	249717	75x30x20	2-6	11D 126 C75 B 52 BG	Long-life B52
		679634	75x30x20	2-10	11D 126 C75 B DIAGO	
		721301	75x30x20	2-10	11D 64 C50 B DIAGO	
		679946	125x40x20	3-10	11D 126 C75 B DIAGO	
		335803	100x35x31.75	2-10	D126B DIAGO	
		5028	100x35x20	3-10	11D 126 C75 B 52 BG	Long-life B52
		561390	100x35x20	3-10	11D 126 C75 B 53 BG	Long-life B53
		576021	100x35x20	2-10	11D 126 C75 B 74 BG	Long-life B74
		675309	100x35x20	2-10	11D 126 C75 B DIAGO	
		675318	100x35x20	3-10	11D 126 C75 B DIAGO	
		46198	100x35x20	3-10	11D 181 C75 B DIAGO	
		676589	100x35x20	2-10	11D 181 C75 B DIAGO	
		675272	100x35x20	2-10	11D 64 C50 B DIAGO	
		721303	100x35x20	3-10	11D 64 C50 B DIAGO	
		681915	100x35x20	2-10	11D 91 C75 B DIAGO	
	12V9	696324	75x20x20	2-6	11D 126 C75 B DIAGO	
		721319	75x20x20	2-6	11D 64 C50 B DIAGO	
		311250	125x25x20	2-10	D126B DIAGO	Long-life B73
		90998	125x25x20	2-6	12D 54 C65 B 73 BA	
		689930	100x20x20	2-10	11D 126 C75 B DIAGO	
		194540	100x20x20	2-10	D91B DIAGO	
		43588	100x20x20	2-10	12D 91 C75 B 52 BG	
	12A2	19220	125x16x20	6-2	11D 126 C75 B 52 AL	
		291603	150x18x20	5-3	11D 91 C75 B 52 AL	

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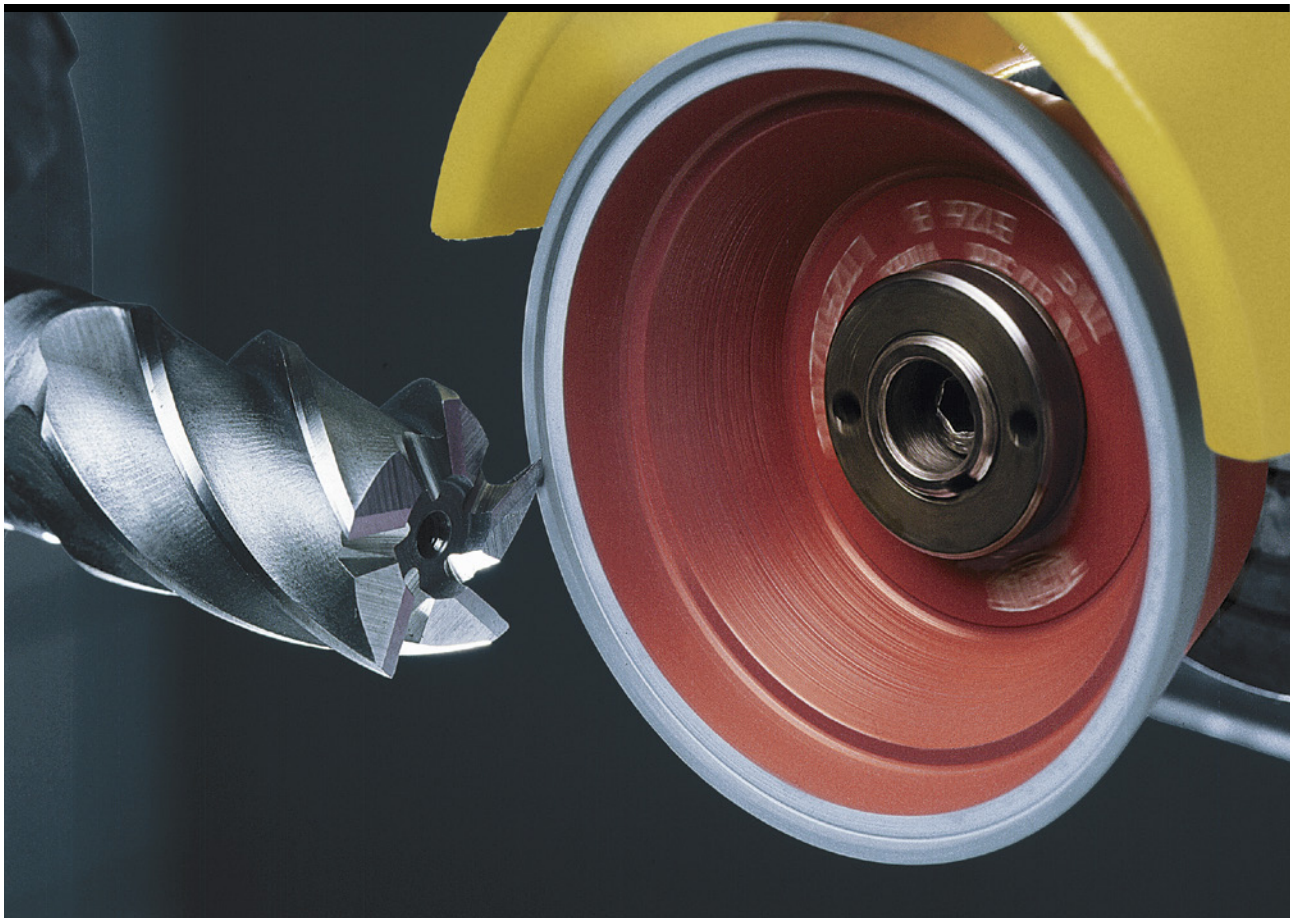
	Shape	Type no.	DxTxH	W-X	Specification	Comments
	12A2D	28162	100x25x20	6-2	11D 126 C75 B 52 AL	
		38012	100x25x20	6-2	11D 64 C50 B 52 AL	
		104376	100x25x20	5-3	12D 91 C75 B 52 AL	
		779789	100x25x20	10-3	11D 91 C75 B 52 AL	
		462949	100x27x20	6-4	11D 64 C50 B 52 AL	
	12A2F	97868	125x23x20	5-4	D64B DIAGO	Long-life B73
		102902	125x23x20	5-4	D126B DIAGO	
		731387	125x23x20	5-4	11D 64 C50 B DIAGO	
		731399	125x23x20	5-4	11D 151 C75 B DIAGO	
		842923	125x23x20	5-4	11D 151 C75 B 53 AL	Long-life B53
		416671	150x22x20	4-3	11D 64 C50 B 52 AL	
		679671	150x23x20	5-4	11D 126 C75 B 60 AL	
	Shape	**Type no.**	**DxTxH**	**U-X**	**Specification**	**Comments**
	4BT9	255835	100x10x20	10-1	11D 91 C75 B 73 AL	
	1BM1	790783	75x4x20	4-8	11D 64 C75 B 52 AL	Drill bit diameter 4 mm
		848480	75x4.5x20	4.5-7	11D 64 C75 B 52 AL	Drill bit diameter 5 and 6 mm
		790784	75x5x20	5-6.5	11D 64 C75 B 52 AL	Drill bit diameter 8 mm
		867805	75x6x20	6-6	11D 64 C75 B 52 AL	Drill bit diameter 10 mm
	1A1	640978	100x10x20	10-6	11D 64 C50 B 52 BA	
	4A2	480500	125x10x20	5-2	11D 126 C75 B 52 AL	
		86734	125x10x20	5-2	11D 64 C50 B 73 AL	
		215813	150x12x20	5-2	11D 126 C50 B 73 AL	
		436472	150x12x20	5-2	11D 64 C50 B 73 AL	



4.11 Tools
CNC tool grinding



CNC tool grinding

Productivity demands are constantly growing for applications that involve machining an extremely wide range of different materials. At the same time, quality requirements are also increasing. Both of these requirements demand perfectly ground cutting tools that have been manufactured on the most modern CNC tool grinding machines.

For this purpose, TYROLIT provides you with a perfectly tailored range of products. This ensures that you fully exploit the advantages of the CNC machines used in the manufacturing of cutting tools. You therefore increase your productivity and, at the same time, fulfil the high quality requirements.
In the following, you can find grinding tools that fulfil the requirements of the tool manufacturer just as well as those of the tool regrinder.

Application recommendation

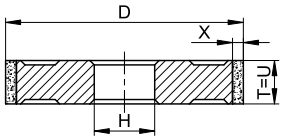
Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding	Page
		Unhardened | Hardened	Unhardened | Hardened								
STARTEC-BASIC, B			●	●						●	301, 302
STARTEC-BASIC, D						●				●	303, 304
STARTEC-XP-P, B STARTEC-HP, B			●	●						●	305
START EC- XP-P, D STARTEC-HP, D						●				●	306, 307

Application tips

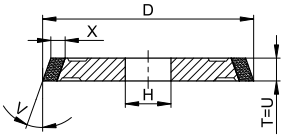
- Cutting speed for CBN cup grinding wheels should be up to 30 % higher than for diamond wheels
- Optimum peripheral speed for CBN grinding wheels (for flute grinding) 20–25 m/s
- Cutting speed recommendation for flute grinding
  Solid carbide: 16–18 m/s
  HSS: 20–25 m/s
- Cutting speed recommendation for cup grinding wheels
  Solid carbide: 18–24 m/s
  HSS 20–30 m/s
- Use STARTEC XP-P for optimum cutting performance
- Use STARTEC HP for standard applications
- Always ensure enough coolant is available
- Dressing and sharpening instructions see page 310

● Extremely suitable

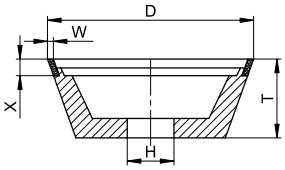
Shapes



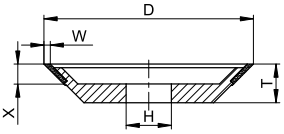
Shape 1A1



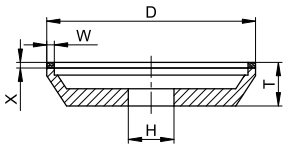
Shape 1V1



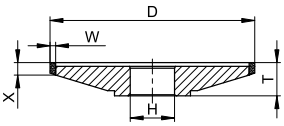
Shape 11V9



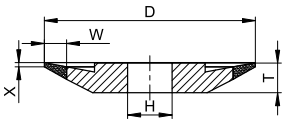
Shape 12V9



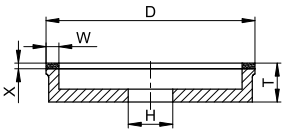
Shape 12A2D



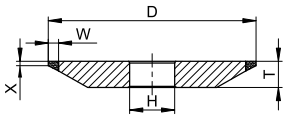
Shape 4B2



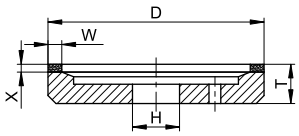
Shape 4BT9



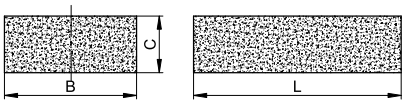
Shape 6A2



Shape 4ET9



Shape 6A2H



Shape 90AS

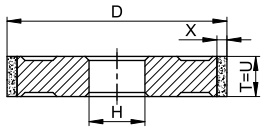
CNC tool grinding with resin-bonded CBN for wet grinding

For non and low-alloyed steels, high-alloyed steels and HSS

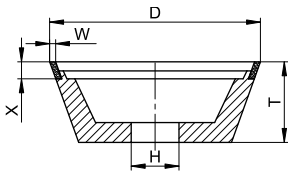


Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
STARTEC-BASIC, B			●	●						●

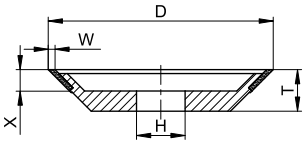
Recommended stock type



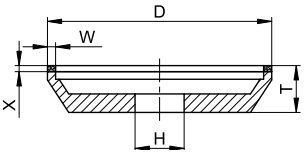
Shape 1A1



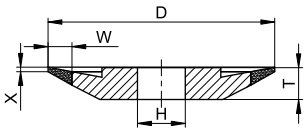
Shape 11V9



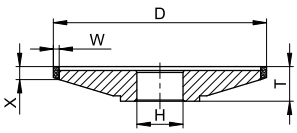
Shape 12V9



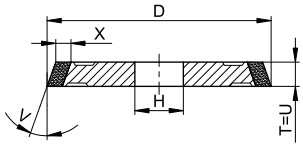
Shape 12A2D



Shape 4BT9



Shape 4B2



Shape 1V1

With this tool you can grind all cutting tools for the wood and metal industry and a variety of shear blades.

The wear-resistant bond and a high grain concentration significantly increase lifetimes compared to dry-grinding wheels.

	Shape	Type no.	DxTxH	U-X	Specification	V opt. m/s
	1A1	906950	100x6x20	6-6	BL1263PD STARTEC-BASIC	20-25
		906951	100x10x20	10-6	BL1263PD STARTEC-BASIC	20-25
		906954	125x10x20	10-6	BL1263PD STARTEC-BASIC	20-25

	Shape	Type no.	DxTxH	W-X	Specification	V opt. m/s
	11V9	75669	75x30x20	2-10	BL1263PD STARTEC-BASIC	25-30
		494983	75x30x20	2-10	BL763PD STARTEC-BASIC	25-30
		494985	100x35x20	2-10	BL763PD STARTEC-BASIC	25-30
		532564	100x35x20	3-10	BL763PD STARTEC-BASIC	25-30

▶

CNC tool grinding with resin-bonded CBN for wet grinding

For non and low-alloyed steels, high-alloyed steels and HSS

	Shape	Type no.	DxTxH	W-X	Specification	V opt. m/s
	12V9	75679	100x20x20	2-10	BL1263PD STARTEC-BASIC	25-30
		532571	100x20x20	2-10	BL763PD STARTEC-BASIC	25-30
		75685	125x25x20	2-10	BL1263PD STARTEC-BASIC	25-30
		495027	125x25x20	2-10	BL763PD STARTEC-BASIC	25-30
	12A2D	495046	100x25x20	5-3	B 91 C100 B 42 AL	
		173085	125x25x20	15-3	B 91 C100 B 42 AL	
	4BT9	495058	125x10x20	10-1	BL1263PD STARTEC-BASIC	

	Shape	Type no.	DxTxH	U-X V	Specification	V opt. m/s	Comments
	1V1	906946	125x12x20	12-6 V45	BL1263PD STARTEC-BASIC	20-25	
		906947	150x6x20	6-6 V15	BL1263PD STARTEC-BASIC	20-25	
	4B2	667930	150x18x20	2-2xV20	B 126 C100 B 53 AL		Chip surface, hob

Precision grinding

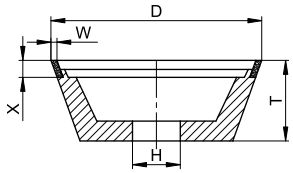
CNC tool grinding with resin-bonded diamond for wet grinding

For tungsten carbide

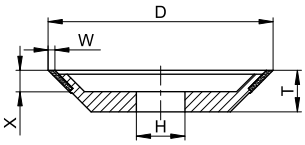


Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
STARTEC-BASIC, D								●				●

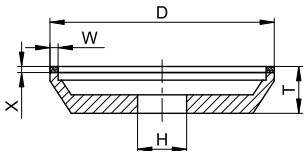
Recommended stock type



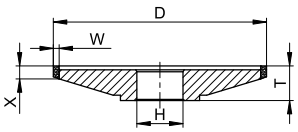
Shape 11V9



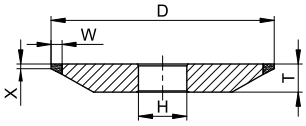
Shape 12V9



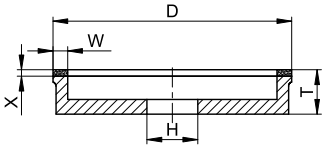
Shape 12A2D



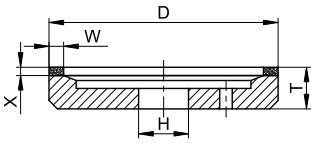
Shape 4B2



Shape 4ET9



Shape 6A2H



Shape 6A2T

With this diamond wheel you can grind all tungsten carbide cutting tools for the wood and metal industry and a variety of shear blades. Grinding wheel sets for complete machining in the diamond grain size range D126 - D54.

The wear-resistant bond and a high grain concentration significantly increase lifetimes compared to dry-grinding wheels.

	Shape	Type no.	DxTxH	W-X	Specification	V opt. m/s	Comments
	11V9	390970	75x30x20	2-10	DE643BS STARTEC-BASIC	18-25	
		357223	100x35x20	2-10	DE643BS STARTEC-BASIC	18-26	
		532514	100x35x20	3-10	DE643BS STARTEC-BASIC	18-27	
	12V9	495020	75x20x20	2-6	DE643BS STARTEC-BASIC	18-28	
		532510	100x20x20	2-10	DE643BS STARTEC-BASIC	18-29	
		532529	100x20x20	3-10	DE643BS STARTEC-BASIC	18-30	
		363993	125x25x20	2-10	DE643BS STARTEC-BASIC	18-31	
		532540	125x25x20	3-10	DE643BS STARTEC-BASIC	18-32	
	12A2D	495044	125x25x20	15-3	D 54 C75 B 48 AL		

▶

CNC tool grinding with resin-bonded diamond for wet grinding

For tungsten carbide

	Shape	Type no.	DxTxH	W-X	Specification	V opt. m/s	Comments
	4B2	665141	150x18x20	2-2	DE643BX STARTEC-BASIC		Chip surface, hob

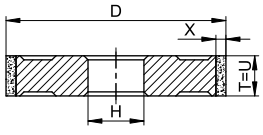
	Shape	Type no.	DxTxH	W-X	Specification	Comments
	4ET9	897024	150x14x32	10-1	18D 126 C100 B 53 AL	
	6A2H	462673	200x30x50	8-4	DE1263BP STARTEC-BASIC	For planer and paper knives; e.g. Glöckel, Reform
		665142	200x30x50	8-4	D 64 C75 B 52 AL	
	6A2T	470272	200x35x75	8-4	D 126 C100 B 52 AL	
		665143	200x35x75	8-4	D 64 C75 B 52 AL	

CNC tool grinding with metal bonded CBN for wet grinding

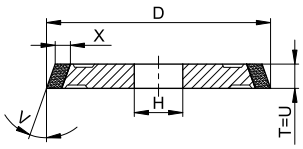
For high-alloyed steels and HSS

Specification	Aluminium	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
START-EC-XP-P					●	●						●

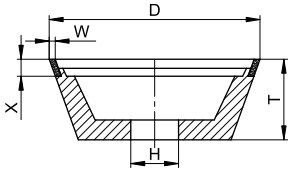
Recommended stock type



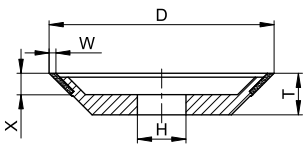
Shape 1A1



Shape 1V1

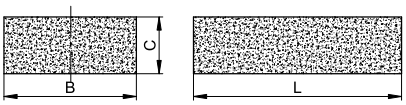


Shape 11V9



Shape 12V9

◀



Shape 90AS

This metal-bonded CBN wheel grinds all cutting tools for the wood and metal industry. Grinding wheel sets for complete machining are available in the CBN grit size range B126 - B76. It is important that this wheel is only used for deep grinding.

The perfect combination of grit size, concentration and bond delivers exceptionally long tool lifetimes and a high level of profile accuracy.

	Shape	Type no.	DxTxH	U-X	Specification	V opt. m/s
	1A1	759826	75x6x20	6-10	B126MXPP STARTEC-XP-P	20-25
		740383	75x10x20	10-10	B126MXPP STARTEC-XP-P	20-25
		751424	100x6x20	6-10	B126MXPP STARTEC-XP-P	20-25
		763854	100x15x20	15-10	B126MXPP STARTEC-XP-P	20-25
		772440	100x12x20	12-10	B126MXPP STARTEC-XP-P	20-25
		740382	100x10x20	10-10	B126MXPP STARTEC-XP-P	20-25
		772442	125x6x20	6-10	B126MXPP STARTEC-XP-P	20-25
		772446	125x15x20	15-10	B126MXPP STARTEC-XP-P	20-25
		772444	125x12x20	12-10	B126MXPP STARTEC-XP-P	20-25
		772443	125x10x20	10-10	B126MXPP STARTEC-XP-P	20-25
		772447	150x8x20	8-10	B126MXPP STARTEC-XP-P	20-25
		772448	150x12x20	12-10	B126MXPP STARTEC-XP-P	20-25

	Shape	Type no.	DxTxH	U-X V	Specification	V opt. m/s
	1V1	772453	75x10x20	10-10 V15	B126MXPP STARTEC-XP-P	20-25
		772455	100x12x20	12-10 V45	B126MXPP STARTEC-XP-P	20-25
		772462	125x15x20	15-10 V15	B126MXPP STARTEC-XP-P	20-25
		772458	125x10x20	10-10 V15	B126MXPP STARTEC-XP-P	20-25
		772461	125x10x20	10-10 V45	B126MXPP STARTEC-XP-P	20-25
		772465	150x12x20	12-10 V10	B126MXPP STARTEC-XP-P	20-25

	Shape	Type no.	DxTxH	W-X	Specification	V opt. m/s
	11V9	34211869	75x30x20	3-10	B107BXP-P STARTEC-XP-P	20-30
		34205432	100x35x20	3-10	B107BXP-P STARTEC-XP-P	20-30
		34184813	125x40x20	3-10	B107BXP-P STARTEC-XP-P	20-30
	12V9	34207564	100x20x20	2-10	B107BXP-P STARTEC-XP-P	20-30
		34163105	125x25x20	3-10	B107BXP-P STARTEC-XP-P	20-30

	Shape	Type no.	BxCxL	Specification	PU	Comments
	90AS	678953	24x13x200	89A 240 H5A V83	10	Sharpening stick for STARTEC XP-P and HP

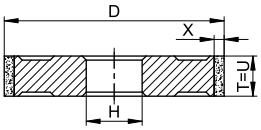
CNC tool grinding with metal-bonded diamond for wet grinding

For tungsten carbide

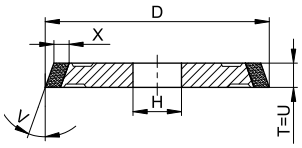


Specification	Aluminium	Non and low-alloyed steels	High-alloyed steels	HSS	INOX	Tungsten carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened | Hardened	Unhardened | Hardened							
STARTEC-XP-P, D STARTEC-HP, D						●				●

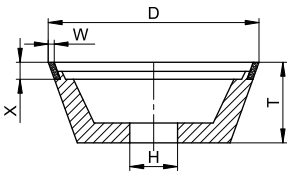
Recommended stock type



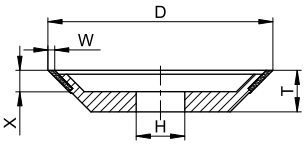
Shape 1A1



Shape 1V1



Shape 11V9



Shape 12V9

With this diamond wheel you can grind all tungsten carbide cutting tools for the wood and metal industry and a variety of shear blades. Grinding wheel sets for complete machining in the diamond grain size range D64 - D46. It is important that this wheel is only used for deep grinding.

The perfect combination of grit size, concentration and bond delivers exceptionally long tool lifetimes and a high level of profile accuracy.

	Shape	Type no.	DxTxH	U-X	Specification	V opt. m/s
	1A1	662236	75x6x20	6-10	D54MXPP STARTEC-XP-P	16-18
		679931	75x6x20	6-6	D54MXPP STARTEC-XP-P	16-18
		679936	75x10x20	10-6	D54MXPP STARTEC-XP-P	16-18
		742939	75x10x20	10-10	D54MXPP STARTEC-XP-P	16-18
		679938	100x6x20	6-6	D54MXPP STARTEC-XP-P	16-18
		695084	100x6x20	6-10	D54MXPP STARTEC-XP-P	16-18
		675436	100x15x20	15-10	D54MXPP STARTEC-XP-P	16-18
		679942	100x15x20	15-6	D54MXPP STARTEC-XP-P	16-18
		685346	100x12x31.75	12-6	D54MXPP STARTEC-XP-P	16-18
		724476	100x12x31.75	12-10	D54MXPP STARTEC-XP-P	16-18
		679940	100x12x20	12-6	D54MXPP STARTEC-XP-P	16-18
		700297	100x12x20	12-10	D54MXPP STARTEC-XP-P	16-18
		694995	100x10x31.75	10-6	D54MXPP STARTEC-XP-P	16-18
		711619	100x10x31.75	10-10	D54MXPP STARTEC-XP-P	16-18
		679939	100x10x20	10-6	D54MXPP STARTEC-XP-P	16-18
		682530	100x10x20	10-10	D54MXPP STARTEC-XP-P	16-18
		679945	125x6x20	6-6	D54MXPP STARTEC-XP-P	16-18
		686906	125x6x20	6-10	D54MXPP STARTEC-XP-P	16-18
		679949	125x15x20	15-6	D54MXPP STARTEC-XP-P	16-18
		683963	125x15x20	15-10	D54MXPP STARTEC-XP-P	16-18
		711866	125x12x31.75	12-10	D54MXPP STARTEC-XP-P	16-18
		712482	125x12x31.75	12-6	D54MXPP STARTEC-XP-P	16-18
		679948	125x12x20	12-6	D54MXPP STARTEC-XP-P	16-18
		682529	125x12x20	12-10	D54MXPP STARTEC-XP-P	16-18

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	Shape	Type no.	DxTxH	U-X	Specification	V opt. m/s
		685975	125x10x31.75	10-10	D54MXPP STARTEC-XP-P	16-18
		702678	125x10x31.75	10-6	D54MXPP STARTEC-XP-P	16-18
		679947	125x10x20	10-6	D54MXPP STARTEC-XP-P	16-18
		682527	125x10x20	10-10	D54MXPP STARTEC-XP-P	16-18
		684827	150x8x20	8-10	D54MXPP STARTEC-XP-P	16-18
		679953	150x15x20	15-10	D54MXPP STARTEC-XP-P	16-18
		679952	150x12x20	12-10	D54MXPP STARTEC-XP-P	16-18
		679951	150x10x20	10-10	D54MXPP STARTEC-XP-P	16-18
	1A1	572731	75x6x20	6-6	DN543MH STARTEC-HP	16-18
		474444	100x6x20	6-6	DN543MH STARTEC-HP	16-18
		490259	100x15x20	15-6	DN543MH STARTEC-HP	16-18
		556715	100x12x20	12-6	DN543MH STARTEC-HP	16-18
		408972	100x10x20	10-6	DN543MH STARTEC-HP	16-18
		572741	125x10x20	10-6	DN543MH STARTEC-HP	16-18
	Shape	**Type no.**	**DxTxH**	**U-X V**	**Specification**	**V opt. m/s**
	1V1	680097	75x6x20	6-6 V15	D54MXPP STARTEC-XP-P	16-18
		680098	75x8x20	8-10 V15	D54MXPP STARTEC-XP-P	16-18
		680099	75x10x20	10-10 V15	D54MXPP STARTEC-XP-P	16-18
		680100	100x6x20	6-10 V15	D54MXPP STARTEC-XP-P	16-18
		680102	100x10x20	10-10 V15	D54MXPP STARTEC-XP-P	16-18
		680104	100x12x20	12-10 V15	D54MXPP STARTEC-XP-P	16-18
		680107	100x12x20	12-10 V45	D54MXPP STARTEC-XP-P	16-18
		680110	100x15x20	15-10 V15	D54MXPP STARTEC-XP-P	16-18
		680112	125x6x20	6-10 V15	D54MXPP STARTEC-XP-P	16-18
		680114	125x10x20	10-10 V15	D54MXPP STARTEC-XP-P	16-18
		680115	125x10x20	10-10 V45	D54MXPP STARTEC-XP-P	16-18
		680116	125x12x20	12-10 V15	D54MXPP STARTEC-XP-P	16-18
		680118	125x12x20	12-10 V45	D54MXPP STARTEC-XP-P	16-18
		680120	125x15x20	15-10 V15	D54MXPP STARTEC-XP-P	16-18
		680123	150x10x20	10-10 V10	D54MXPP STARTEC-XP-P	16-18
		680124	150x12x20	12-10 V10	D54MXPP STARTEC-XP-P	16-18
	Shape	**Type no.**	**DxTxH**	**W-X**	**Specification**	**V opt. m/s**
	11V9	34039198	75x30x20	3-10	D64BXPP STARTEC-XP-P	18-24
		34065405	75x30x20	3-10	D46BXPP STARTEC-XP-P	18-24
		34039199	100x35x20	3-10	D64BXPP STARTEC-XP-P	18-24
		34065402	100x35x20	3-10	D46BXPP STARTEC-XP-P	18-24
		34065409	125x40x20	3-10	D46BXPP STARTEC-XP-P	18-24
		34065410	125x40x20	3-10	D64BXPP STARTEC-XP-P	18-24
	12V9	34044248	100x20x20	3-10	D64BXPP STARTEC-XP-P	18-24
		34065415	125x25x20	3-10	D46BXPP STARTEC-XP-P	18-24
		34056064	125x25x20	3-10	D64BXPP STARTEC-XP-P	18-24


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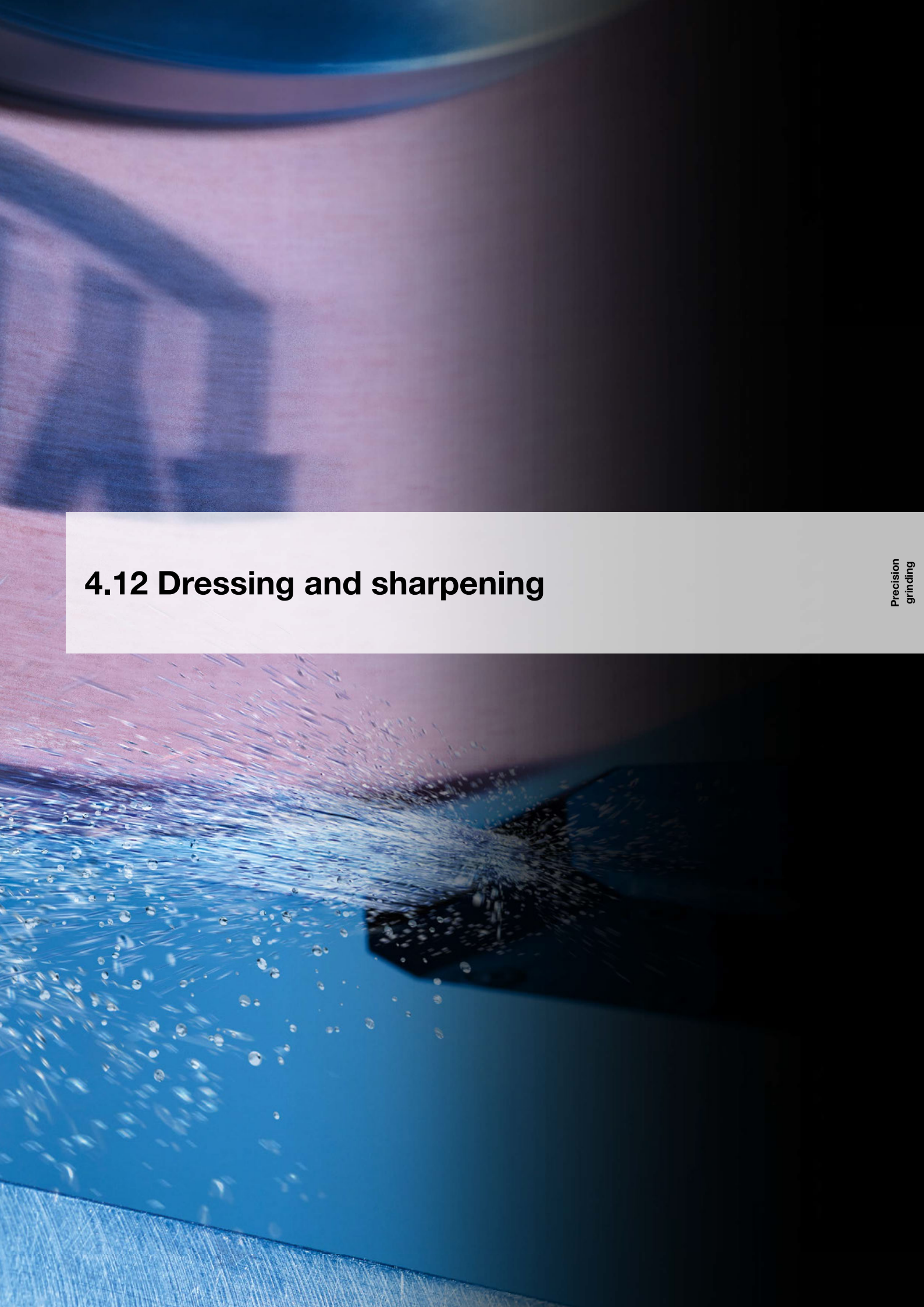
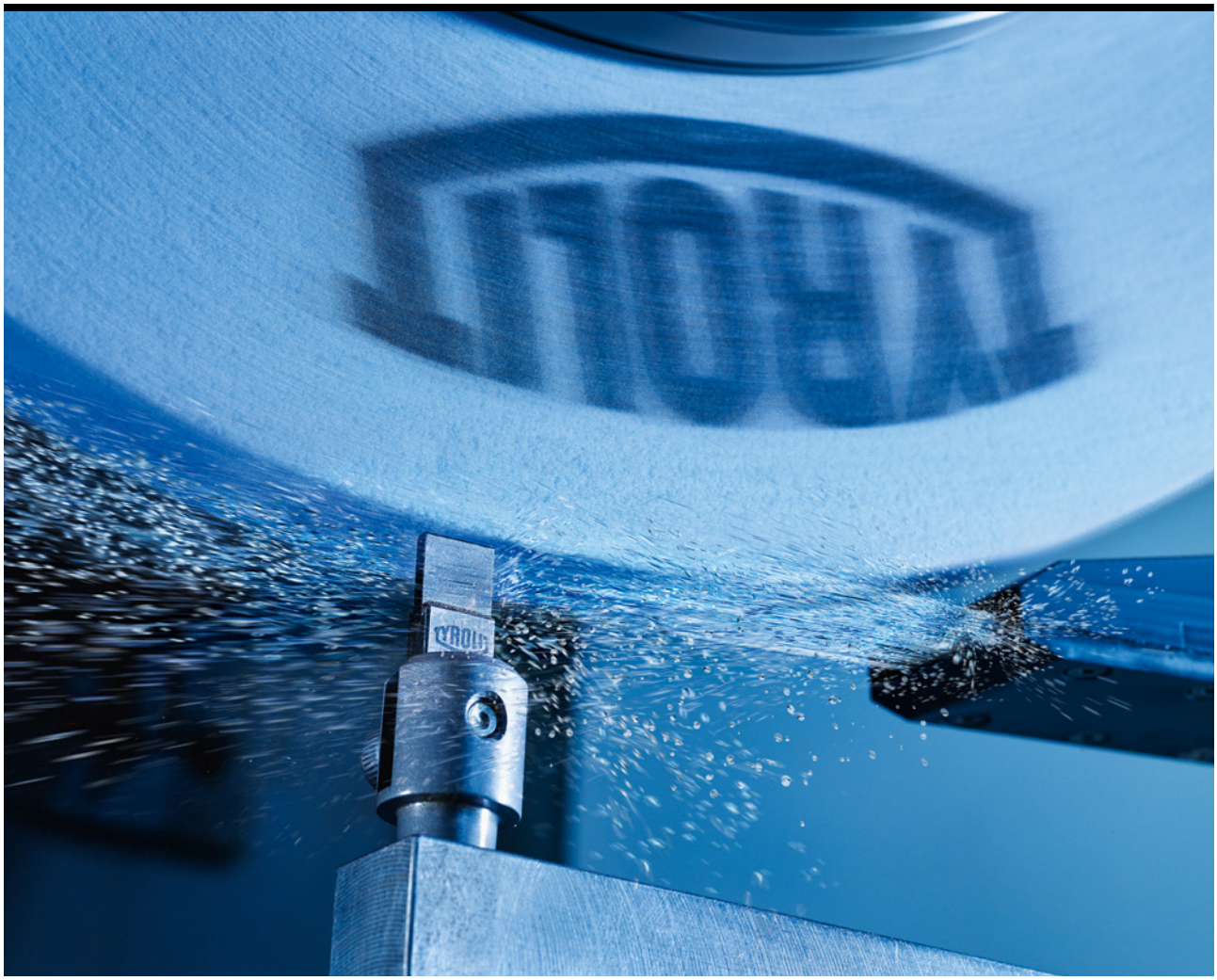


4.12 Dressing and sharpening



Dressing and sharpening

As a result of changes in the bond, the abrasive grain and the shape of the grinding wheel caused by wear to the wheel, grinding is an ever-changing process.

The changes affect grinding forces, workpiece surfaces and geometric accuracy. To ensure the grinding wheel is always able to provide optimum grinding results, a periodic conditioning cycle must be maintained. This cycle enables the grinding capability of the grinding body to be reproduced. By “conditioning” a grinding wheel correctly, the subsequent grinding process can be optimised in terms of performance, efficiency and surface finish.

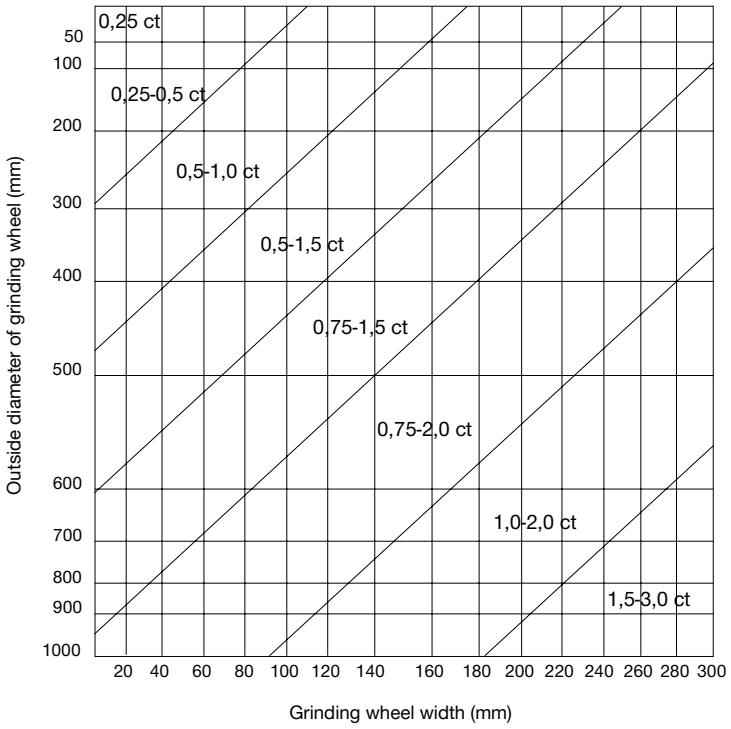
Choosing the right dresser

	Dressing tool		Grinding wheel profile	Grinding process/production type
	Photo	Detailed description		
Single-edge	Single-grain dresser		Linear (cylindrical, conical)Single-profile (convex, concave radii)	External cylindrical, surface, internal cylindrical and centreless grinding Single and small-lot production
	Profile diamond		Multi-profile (complex profiles with steep flanks and narrow radii)	Axternal cylindrical, surface and centreless grinding Single and small-lot production
Multi-edge	Multi-set diamond dresser		Linear (cylindrical, conical)	Surface and external cylindrical grinding Single and small-lot production
	Multi-grain diamond dresser		Linear (cylindrical, conical)	Surface and external cylindrical grinding Single and small-lot production
	Diamond grain dressing plate		Linear (cylindrical, conical) Single-profile (convex, concave radii)	External cylindrical, surface and centreless grinding Single to large-scale production
	Needle dressing plates		Linear (cylindrical, conical) Single-profile (convex, concave radii)	External cylindrical, surface and centreless grinding Single to large-scale production
	Dressing plates with MCD rods		Linear (cylindrical, conical) Single-profile (convex, concave radii)	External cylindrical, internal cylindrical, surface and centreless grinding Single to large-scale production

Prevention of common errors when dressing

+ Return strokes with the dressing tool smooth the grinding wheel surface and reduce the cutting ability.
+ The free clamping length of the dresser is too large. Vibrations arise and the grinding wheel surface becomes irregular. This topography is reproduced on the workpiece in the subsequent grinding process.
+ The dressing infeed selected (ae > 0.03 mm) is too high. This results in fracture of the bond bridges in the grinding wheel and the grains break out prematurely. The consequences are: a rough workpiece surface and increased dressing tool wear.
+ The cooling system is switched on too late: high temperatures lead to thermal deterioration and high wear. Remedy: the cooling system must be switched on before the first contact with the dressing tool.
+ Strongly rounded single-grain diamonds permanently alter the dressing results and the cutting ability of the wheel is consequently reduced.

Diamond size (carat) in relation to grinding wheel dimensions



Interrelationship of profile radius | grit size

The table below provides an overview of which grit size can achieve a minimum profile radius. As a standard value, it can be assumed that three abrasive grains are required to maintain a minimum profile radius. To achieve a profile radius of 0.3 mm, an approximate grit size diameter of 0.1 mm is required.

Grit size		**36**	**46**	**60**	**80**	**100**	**120**	**150**	**180**	**220**
Min. profile radius	**mm**	1	0.80	0.60	0.45	0.30	0.20	0.15	0.12	0.10
	Inches	0.04	0.03	0.03	0.02	0.10	0.01	0.01	0.01	0.00

Interrelationship of surface roughness | grit size

The table below will help you select the right grit size to achieve the required surface roughness result. Variable process parameters (e.g. the dressing method) have a significant effect as to which surface roughness can be achieved with a certain grit size. For this reason, the following table also lists the surface areas/grit size.

You should take into account that large grit sizes facilitate the removal of chips (material). It is not necessary to select the finest grain for each initial selection of the grit size.

Surface		Grit size								
Micro inch CLA	µm Ra	36	46	60	80	100	120	150	180	220
42	1.10	●								
32	0.80	●	●							
26	0.70		●							
21	0.50		●	●						
16	0.40			●						
14	0.35			●	●					
11	0.25				●					
8	0.20				●	●				
7	0.17					●				
6	0.14					●	●			
5	0.12						●	●		
4	0.10							●	●	
3	0.08								●	●
2	0.05									●

Application tips

- Ensuring sufficient coolant supply while dressing increases lifetime (to prevent thermal overload of dressing diamonds)
- The active width (bd) describes the effective diamond width of the dressing tool for a certain infeed depth when dressing
- With the overlap rate (Ud), surfaces and stock removal rates can be significantly influenced
- The overlap rate (Ud) defines the number of grinding wheel rotations during which the dressing tool has deployed to its active width
- An increased overlap rate makes the grinding wheel surface smoother and, as a consequence, the actual surface roughness lower

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– Standard values for the overlap rate:
  – Roughing 2–3
  – Standard grinding 4–6
  – Fine grinding ≥7

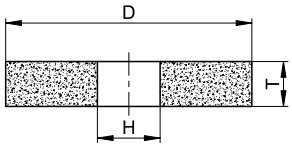
The formulas specified only apply to dressers with defined effective widths bd (single-grain dresser, dressing plate)

$$U_d = \frac{\text{Diamond effective width}}{\text{Tool feed}} = \frac{b_d \cdot n_s}{v_d}$$

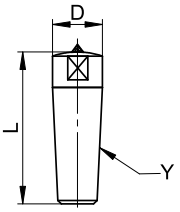
$$v_d = \frac{n_s \cdot b_d}{u_d}$$

b_d = dressing tool effective width
n_s = wheel speed
v_d = feed speed of dresser

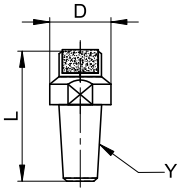
Shapes



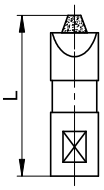
Shape 1



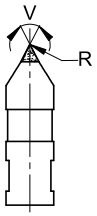
Shape 50EA

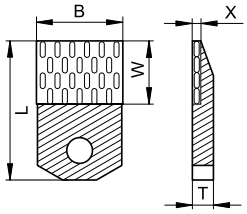


Shape 50MA

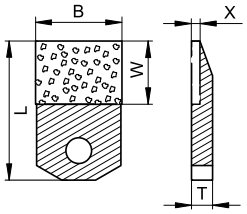


Shape 50PD

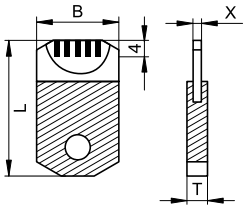




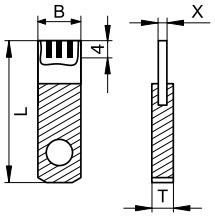
Shape 50AP 1



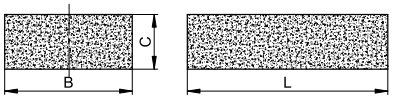
Shape 50AP 2



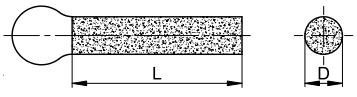
Shape 50AP 3



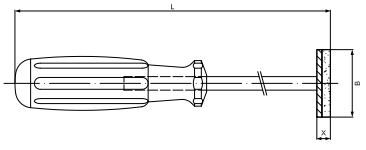
Shape 50AP 4



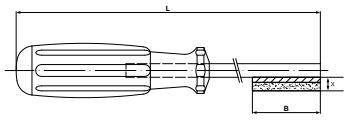
Shape 90AS



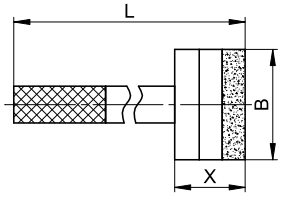
Shape 90AR



Shape STSEG A



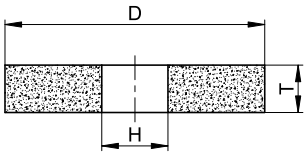
Shape STSEG C



Shape 50HAG

Brake dressing

Dressing wheels for diamond and wheels



Shape 1

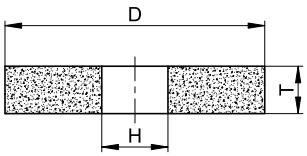
These dressing wheels are used for dressing all types of diamond and CBN grinding wheels, regardless of their bond systems. Sensitive layers can also be dressed with minimal grinding pressure.

Please be aware that electroplated wheels cannot be dressed with them. The silicon carbide wheels are available in 200–250 mm diameters.

	Shape	Type no.	DxTxH	Specification	PU	Comments
	1	786852	200x12x76.2	C 120 K5 V15	1	For grit sizes ≤ D91
		34163206	200x20x20	C 120 J5 V15	1	For grit sizes ≤ D91
		413027	250x12x51	C 120 H5A V18	1	For grit sizes ≤ D91
		250491	250x12x51	C 80 H8 V15	1	Standard hardness, for grain sizes D151-D64
		619701	250x12x51	C 80 J5 V15	1	Harder than standard, for grit sizes D151-D64

Dressing device for brake dressing

Dressing wheels for diamond and CBN grinding wheels



Shape 1

These dressing wheels are used for dressing all types of diamond and CBN grinding wheels, regardless of their bond systems. The AV500 dressing device is ideally suited to dressing resin and metal-bonded wheels during dry grinding.

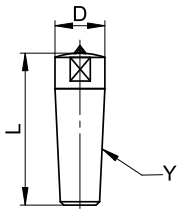
The silicon carbide wheels are available in a 75 mm diameter. Use the 1C70M5V15 specification for robust layers only.

	Shape	Type no.	Decription	PU	Comments
	96	96821	AV500		For concentrically trueing resin and metal-bonded diamond and CBN grinding wheels. Optimum results up to grinding wheel diameter of 250 mm
		34045604	AVB	3	Replacement brake pads

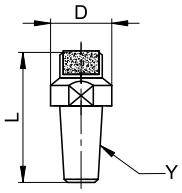
	Shape	Type no.	DxTxH	Specification	PU	Comments
	1	473304	75x20x12.7	C 120 J5 V15	10	Agathon
		7035	75x25x12.7	1C 70 M5 V15	10	Long life, for wider layers, D151-D64
		443944	75x25x12.7	1C 80 G7 V15	10	Standard hardness, for grain sizes D151-D64
		448482	75x25x12.7	C 80 J5 V18	10	Harder than standard, for grit sizes D151-D64

Stationary dressing

Single-grain dresser, multi-grain dresser, multi-grain diamond dresser



Shape 50EA



Shape 50MA/50VA

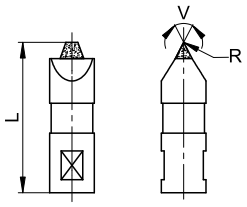
The TYROLIT single-grain, multi-grain and multi-grain diamond dressers are ideal for dressing all aluminium oxide and silicon carbide wheels. Multi-grain and multi-grain diamond dressers are often used for surface and external cylindrical grinding wheels. Large and wide wheels require a higher carat number to reduce diamond wear.

Single-grain dressers are graded according to diamond size. Multi-grain and multi-grain diamond dressers therefore have a higher carat content.

	Shape	Type no.	DxL	Y/AUFN	Specification	Comments
	50EA	856232	9.3x31.5x8	MK0	DD 10 ST	For conventional tools; Single dressers for cylindrical and surface grinding machines; Wrench width for MK0 and MK1 only
		331997	14x57x12	MK1	ED 15 ST	
		313466	12.4x49x10	MK1	BD 5 ST	
		316272	12.4x49x10	MK1	BD 10	
		313127	8x90	8ZYL	BD 5 ST	
		363249	10x90	10ZYL	ED 5 ST	
		611499	10x90	10ZYL	ED 10 ST	
	50MA	446432	12x50	10x10x37	M65	Diamond grains set in layers
		446453	12x90	10x10x77	M65	
		315877	14x57x12	10xMK1	M65	
		316286	14x57x12	10xMK1	M125	
	50VA	34173161	10x60	10ZYL	V800-8X11	Irregular distribution of diamond grains
		34172978	14x42x12	11xMK0	V800-8X11	
		34172980	14x57x12	11xMK1	V800-8X11	

Stationary dressing

Profile diamonds



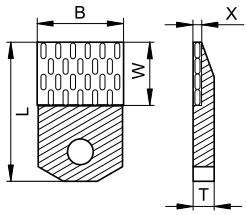
Shape 50PD

Profile diamonds are used for dressing all conventional profile grinding wheels made of aluminium oxide or silicon carbide. The huge advantage of profile diamonds is that they can be reground using a special process. They are frequently used with Diaform and CNC-controlled grinding machines.

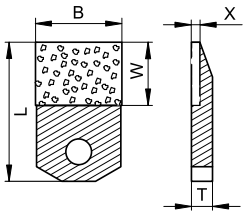
	Shape	Type no.	B/L2xY/AUFN/V/R	Specification
	50PD	475960	44.5xDF/V40/R250	D 0.4 ST
		477837	44.5xDF/V60/R750	D 0.4 ST

Stationary dressing

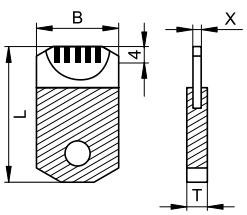
Diamond dressing plates/CSS dressing plates



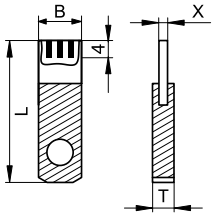
Shape 50AP 1



Shape 50AP 2



Shape 50AP 3



Shape 50AP 4

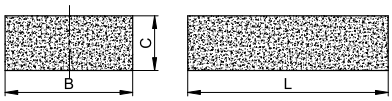
The dressing plates are a high-quality alternative to conventional single-grain diamonds. They are ideal for dressing all aluminium oxide and silicon carbide wheels. They are primarily used for dressing wide wheels and profile wheels with a shallow edge.

By using dressing plates it is possible to achieve maximum precision in the dressing process.

	Shape	Type no.	BxLxT	W-X	Specification	Comments
	50AP 2	477753	10x33x5	15-1.15	B115	sintered on sides; for cylindrical and surface grinding machines, for straight and simple profile
		477746	20x33x5	15-1.4	A140	
		476859	20x33x5	15-1.15	A115	
	50AP 1	477755	10x33x5	15-1.8	B180	Needle dressing plates
		477760	20x28x5	10-1.8	C180	
		477749	20x33x5	15-1.8	A185	
	50AP4	853704	10x33x5	10-2	W3R071004	For aluminium oxide wheels; long life; 3 dia rods
	50AP3	853680	20x33x5	10-2	W5R071004	For aluminium oxide wheels; long life; 5 dia rods

Hand-operated dressing

Dressing sticks for aluminium oxide and silicon carbide grinding wheels

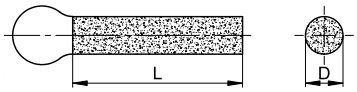


Shape 90AS

Dressing sticks are ideal for dressing all aluminium oxide and silicon carbide wheels. They can be used as an inexpensive dressing tool for vitrified-bonded bench grinding wheels.
Dressing sticks are only available in black silicon carbide.

	Shape	Type no.	BxCxL	Specification	PU
	90AS	43311	25x25x150	C COARSE	10
		9009	50x20x150	C COARSE	1
		153	50x25x200	C MEDIUM	1
		6216	50x25x200	C COARSE	1

Hand-operated dressing
Dressing tubes

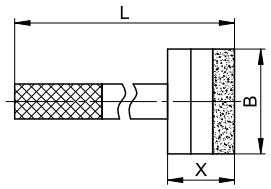


Shape 90AR

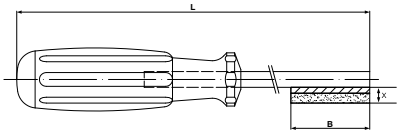
The dressing tubes are ideal for dressing all aluminium oxide and silicon carbide wheels. They can be used as an inexpensive dressing tool for vitrified-bonded bench grinding wheels.
Dressing tubes are only available in black silicon carbide.

	Shape	Type no.	DxL	Specification
	90AR	351767	17x290	C 16 - B

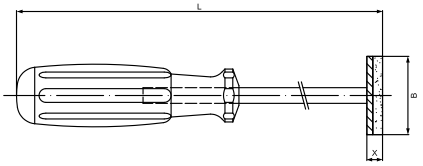
Hand-operated dressing
Diamond dresser



Shape 50HAG



Shape STSEG C



Shape STSEG A

This diamond dresser provides you with a high-quality dressing tool for bench grinding wheels in the precision machining sector. Depending on their design they can be used for peripheral or lateral face machining.

The diamond dressers therefore have either a diamond segment soldered on the face or longitudinally.

	Shape	Type no.	LxBxX	Specification	Comments
	50HAG	477724	185x20x8	D 30 ST	Steel shaft, diamond segment face
		477726	185x30x10	D 26 ST	
		477254	250x40x10	D 35 ST	
	STSEG	195112	185x40x8	HA_DIA	Plastic handle, diamond segment face
		34057995	185x40x8	HA_DIA	Plastic handle, diamond segment longitudinally

Hand-operated dressing
Grinding wheel dresser set

This dresser set is used primarily for large resin-bonded bench grinding wheels and above all in the foundry industry. Steel rollers enable you to achieve efficient dressing and sharpening of the wheel.

The huge advantage of this dressing tool is that it can be quickly and easily re-equipped with replacement rollers.

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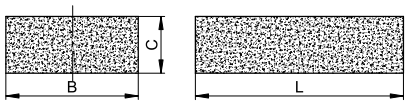
	Shape	Type no.	Specification	D	T max	Grit size	Hardness
	100AKO	15321	S3610	120-250	40	24-80	H-Q
		74497	S3611	300-600	63	16-60	H-Q
		117871	S3612	300-600	63	16-60	H-Q
	100AKO	126781	S3613	300-600	70	16-60	H-Q

Replacement parts

	Shape	Type no.	BxLxT	Specification	PU	Comments
	100ARO	74492	36x21x8	S3610	1	
		74493	55x39x12	S3611	1	
		75915	55x65x12	S3612	1	Replacement rollers
		886902	40x2x10	S3613	250	
		132297		S3613		Replacement part set

Hand-operated dressing

Sharpening sticks for diamond and CBN grinding wheels



Shape 90AS

The TYROLIT sharpening sticks sharpen and clean all CBN and diamond grinding wheels, and are used in production and re-sharpening applications. The sticks are made of aluminium oxide and are available in grit sizes 120–600. They can be used for hand-operated and mechanical applications.

	Shape	Type no.	BxCxL	Specification	Grit size	PU
	90AS	845593	24x13x100	89A 120 H7A V17	≥ 126	10
		845594	24x13x100	89A 120 J7A V17	≥ 126	10
		845595	24x13x100	89A 240 J7A V17	> 46 and < 126	10
		577953	24x13x200	89A 600 J5A V83	≤ 46	10
		678953	24x13x200	A 240 STARTEC	STARTEC XP-P and HP	10
		33531	25x13x100	89A 600-25 V83	≤ 46	10
		932780	25x13x200	89A 240 H5A V83	> 46 and < 126	10
		112055	50x25x200	50C 2208 C4 B22	> 46 and < 126	1
		251584	50x25x200	89A 600-25 V83	≤ 46	1
		391718	50x25x200	89A 240-35 V83	> 46 and < 126	1
		395773	50x25x200	89A 120 H7A V17	≥ 126	1
		460976	50x25x200	89A 120 J7A V17	≥ 126	1
		464290	50x25x200	89A 240 J7A V17	> 46 and < 126	1





Catalogue 20
Coated abrasives

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Specific information
Specification

ZA-P43N

	N	Backing made of natural fibres
	V	Backing made of vulcanised fibres
	A/B/C/D/E/F	Weight of paper
	C J	Cloth – flexible
	C JJ	Cloth – very flexible
	C JX	Cloth – semi-flexible
	PC-X	Polycotton – rigid
	PC-Y	Polycotton – very rigid
	PE-Y	Polyester – very rigid
	FI	Film
01		Structural steel, carbon steel, aluminium, nonferrous metals etc.
02		Structural steel, carbon steel, aluminium, nonferrous metals etc.; with active additives
03		Stainless steel, steel and soft metals; with active additives; wet and dry
06		Structural steel, carbon steel, aluminium, nonferrous metals, wood etc.; with active additives
07		All metals; wet and dry
21		Paint, lacquers, composite materials, gel coat; for universal use; light with stearate layer
22		Paint, lacquers, composites, gel coat; for universal use; aggressive with stearate layer
31		Wood, lacquers, paint, for universal use
41		Structural steel, carbon steel, aluminium etc.; low to medium pressure, active additives
43		Steel, carbon steel, aluminium etc.; medium to high pressure; active additives
45		Steel, carbon steel, stainless steel etc.; low pressure; active additives
48		Stainless steel, high-alloy steel, hardened steel; medium to high pressure; active additives and Topsize
65		Stone, tiles, composites, gel coat, epoxies, glass etc.
68		Stone; wet and dry
93		Stainless steel, high-alloy steel, hardened steel; medium to high pressure; active additives and Topsize
101		Especially for hardened surfaces, clear coatings, lacquers, composite, gel coat, metals, etc.
P		PREMIUM***
S		STANDARD**
B		BASIC*
ZA		Zirconium
A		Aluminium oxide
CA		Sintered aluminium oxide
C		Silicium carbide
D		Diamond

Active additives: for cooler grinding
Topsize: for cooler grinding on stainless steel and high-alloy steel l
Stearate layer: reduces loading and smearing

Flap discs product label



Machine

Angle grinder

Straight grinder

Mini belt grinder

Portable belt grinder

Belt grinder

Hand-guided grinding

Dual action sander

Burnishing machine

Floorstand grinder

Colour codes



Label	Steel	2in1	INOX	Nonferrous metals
Colour code	BLUE	BLUE	RED	ORANGE
Material	Steel	Steel and stainless steel	Stainless steel	Aluminium, copper, zinc, brass, bronze, stone


TYROLIT



5.1 Flap discs
Angle grinder



Flap discs **for angle grinders**

Working with an angle grinder is one of the most important processes in the trade and industrial sectors for processing all types of metals. TYROLIT offers a comprehensive assortment of flap discs for this purpose.

Whatever the application and whichever shape you prefer: we have the right product for you.
Since TYROLIT always puts your health first, we offer flap discs with a core made from natural fibres, which can even be trimmed. Innovative and precisely adapted to the application. That's TYROLIT for you!
On the following pages you will find the perfect tool for your requirements thanks to the uniform colour code for all materials.

Application recommendations

Performance level	Specification	Steel	Stainless steel	2in1	NF metals	Wood	Pages
★★★ PREMIUM	ZA...-B	●					328, 329
	A...-B	●					329, 330
	ZA...-B			●			331, 332, 333, 334, 335, 336
	CA...-B		●				341, 342
	CA...-B				●		343
	120-M			●			335
	A-P01 C X	●			●	●	344
★★ STANDARD	ZA...-B			●			336, 337, 338
★ BASIC	A...-B	●					330
	ZA...-B			●			338, 339

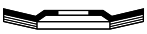
Items with grey lettering are only available on request.

Shapes



27A Flap disc

Depressed-centre design with fibreglass core. This shape creates the perfect angle of 15°–20°.



27PLCA Flap disc



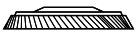
28A Flap disc

Straight design with fibreglass core. This shape ensures optimum use of the abrasive cloth with a grinding angle of 0–15°.



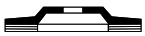
28NF Flap disc

Core made from natural fibres for easy trimming - straight.



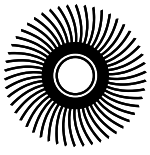
28S SOFTJOB Flap disc

The arrangement of the flaps differs from conventional flap discs, making it even more flexible in use.



28N Flap disc

Straight design with plastic core. This shape ensures optimum use of the abrasive cloth with a grinding angle of 0–15°. The core can also be reset in order to use up the abrasive cloth completely.



27A Flap wheels

★★★
PREMIUM

Flap disc

LONGLIFE for steel

+ **Great savings potential**
100 % use of the disc is guaranteed through simple trimming.

+ **Unparalleled performance**
The newly developed high-tech zircon fabric enables outstanding removal results with the longest lifetime.



+ **Environmentally-friendly**
The innovative natural fibre core is completely free of fibre glass and therefore reduces the environmental load.

The PREMIUM*** LONGLIFE is a high-performance flap disc for steel and boasts an excellent stock removal rate and the longest lifetime.

A stock removal rate of more than 4 000 g opens up a completely new dimension.
A natural fibre core gives the tool additional flexibility, meaning that the PREMIUM*** LONGLIFE fits the workpiece surface perfectly and creates clean grinding transitions.

★★★
PREMIUM

Flap disc
LONGLIFE for steel



Shape	Type no.	Dimension	Specification	PU
28NF	34063393	115x22.23	ZA40-B	10
	34063394	115x22.23	ZA60-B	10
	34063396	115x22.23	ZA80-B	10
	34063397	115x22.23	ZA120-B	10
	34063388	125x22.23	ZA40-B	10
	34063389	125x22.23	ZA60-B	10
	34063390	125x22.23	ZA80-B	10
	34063391	125x22.23	ZA120-B	10
	34063398	150x22.23	ZA40-B	10
	34063399	150x22.23	ZA60-B	10
	34063400	150x22.23	ZA80-B	10

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Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Specification	PU
	28NF	34063401	150x22.23	ZA120-B	10
		34063402	178x22.23	ZA40-B	10
		34063403	178x22.23	ZA60-B	10
		34063404	178x22.23	ZA80-B	10
		34063406	178x22.23	ZA120-B	10

★★★ PREMIUM

Flap disc
For steel

The PREMIUM*** flap disc for steel is a versatile professional tool suitable for universal grinding tasks. With this disc, users will achieve perfect surfaces on steel, as well as the best results for surface or edge grinding and deburring work.

The supporting disc is made of rigid fibre glass and is therefore ideally suited to use on powerful angle grinders.

	Shape	Type no.	Dimension	Specification	PU
	27A	668630	115x22.23	A40-B	10
		668631	115x22.23	A60-B	10
		668632	115x22.23	A80-B	10
		668633	115x22.23	A120-B	10
		668634	125x22.23	A40-B	10
		668635	125x22.23	A60-B	10
		668637	125x22.23	A80-B	10
		896379	125x22.23	A120-B	10
		668638	178x22.23	A40-B	10
		668640	178x22.23	A60-B	10
		668641	178x22.23	A80-B	10
		75193	178x22.23	A120-B	10
	28A	668679	115x22.23	A40-B	10
		795077	115x22.23	A60-B	10
		699984	115x22.23	A80-B	10
		642626	115x22.23	A120-B	10
		668681	125x22.23	A40-B	10
		728528	125x22.23	A60-B	10
		817672	125x22.23	A80-B	10
		817935	125x22.23	A120-B	10
		668683	178x22.23	A40-B	10
		886353	178x22.23	A60-B	10
		642627	178x22.23	A80-B	10
		642628	178x22.23	A120-B	10

Items with grey lettering are only available on request.

BASIC

Flap disc

For steel

The BASIC* flap disc for steel is a versatile professional tool suitable for universal grinding tasks. With this disc, users will achieve perfect surfaces on steel, as well as the best results for surface or edge grinding and deburring work.

Using aluminium oxide abrasive grain produces a fine surface structure.



Shape	Type no.	Dimension	Specification	PU
27A	34207200	100x16	A40-B	10
	34207211	100x16	A60-B	10
	34207213	100x16	A80-B	10
	34207214	100x16	A120-B	10
	34207216	115x22.23	A 40-B	10
	34207217	115x22.23	A60-B	10
	34207231	115x22.23	A80-B	10
	34207233	115x22.23	A120-B	10
	34207235	125x22.23	A40-B	10
	34207236	125x22.23	A60-B	10
	34207237	125x22.23	A80-B	10
	34207238	125x22.23	A120-B	10
	34207244	178x22.23	A40-B	10
	34207245	178x22.23	A60-B	10
	34207247	178x22.23	A80-B	10
	34207248	178x22.23	A120-B	10
28A	34206836	100x16	A40-B	10
	34206837	100x16	A60-B	10
	34206838	100x16	A80-B	10
	34206839	100x16	A120-B	10
	34206840	115x22.23	A40-B	10
	34206851	115x22.23	A60-B	10
	34206854	115x22.23	A80-B	10
	34206857	115x22.23	A120-B	10
	34206858	125x22.23	A40-B	10
	34206860	125x22.23	A60-B	10
	34206891	125x22.23	A80-B	10
	34206892	125x22.23	A120-B	10
	34206927	178x22.23	A40-B	10
	34206928	178x22.23	A60-B	10
	34206929	178x22.23	A80-B	10
	34206930	178x22.23	A120-B	10

Items with grey lettering are only available on request.

★★★ PREMIUM

Flap disc

LONGLIFE C-TRIM for steel and stainless steel

+ **Longest lifetime**
The PREMIUM*** LONGLIFE C-TRIM offers the longest lifetime with consistent abrasiveness and performance.

+ **Robust construction**
Through the increased number of closely spaced flaps, this disc can withstand even the highest loads.



+ **100 % wheel usage**
The LONGLIFE C-TRIM has a unique plastic backing that can be easily trimmed. This unique feature allows for 100 % utlitsation of the disc. The disc remains sharp through its lifetime and can be used on a wide range of steels.

The PREMIUM *** LONGLIFE C-TRIM offers through its'new construction excellent stock removal and remains sharp throughout its lifetime. The backing of the disc can be trimmed to give 100% utilisation of the entire disc, which affords unbeatable value in terms of longevity.

The LONGLIFE C-TRIM can be used on high alloyed steels, stainless steels, unalloyed and low-alloyed steels. The disc makes for easy weld processingas well as for edge and surface grinding. Optimal results can be achieved when used with powerful angle grinders. The compact construction guarantees a long life even when deburring sharp edges and thin materials

★★★ PREMIUM

Flap disc

LONGLIFE C-TRIM for steel and stainless steel



Shape	Type no.	Dimension	Specification	PU
28N	34239191	115x22.23	ZA40-B	10
	34239192	115x22.23	ZA60-B	10
	34239193	115x22.23	ZA80-B	10
	34239194	115x22.23	ZA120-B	10
	34239195	125x22.23	ZA40-B	10
	34239196	125x22.23	ZA60-B	10
	34239197	125x22.23	ZA80-B	10
	34239198	125x22.23	ZA120-B	10
	34239199	178x22.23	ZA40-B	10
	34239200	178x22.23	ZA60-B	10
	34239221	178x22.23	ZA80-B	10
	34239222	178x22.23	ZA120-B	10

Items with grey lettering are only available on request.

★★★
PREMIUM

Flap disc

LONGLIFE for steel and stainless steel

+ **Excellent overall abrasion**
Offers not only a long service life, but also exceptional results in terms of abrasiveness.

+ **Robust construction**
Through the increased number of closely spaced flaps, this disc can withstand even the highest loads.



+ **Longest lifetime**
The PREMIUM*** LONGLIFE offers an even longer service life with consistent grinding results.

The PREMIUM*** LONGLIFE flap disc offers the longest lifetime and an excellent stock removal rate. This flap disc is used both on high alloyed steels and stainless steel, as well as on unalloyed and low alloyed steels. Problem-free welding as well as edge and surface grinding, particularly when used on powerful angle grinders.

★★★
PREMIUM

Flap disc

LONGLIFE For steel and stainless steel



Shape	Type no.	Dimension	Specification	PU
28N	680369	115x22.23	ZA40-B	10
	680373	115x22.23	ZA60-B	10
	680376	115x22.23	ZA80-B	10
	680377	115x22.23	ZA120-B	10
	680379	125x22.23	ZA40-B	10
	680380	125x22.23	ZA60-B	10
	680383	125x22.23	ZA80-B	10
	680386	125x22.23	ZA120-B	10
	680387	178x22.23	ZA40-B	10
	680388	178x22.23	ZA60-B	10
	680389	178x22.23	ZA80-B	10
	680390	178x22.23	ZA120-B	10

Items with grey lettering are only available on request.

★★★ PREMIUM

Flap disc

FASTCUT for steel and stainless steel

+ **Excellent stock removal rate**
Over the entire duration of its use, the PREMIUM*** FASTCUT remains easy cutting and abrasive.

+ **Cool polished section**
This disc does not cause any discolouration on the workpiece and thus also prevents difficult rework.



+ **High abrasiveness**
Through the extraordinary cutting ability of this disc, the working time for the operator is significantly reduced.

The PREMIUM*** FASTCUT is synonymous with excellent, specific abrasion of material. As a result, you will achieve your goal faster, and the disc will remain easy cutting and abrasive over its entire lifetime.

The TYROLIT FASTCUT flap disc is the perfect tool for demanding grinding jobs, such as edge grinding and welding. It is used both on high alloyed steels and stainless steel, as well as on unalloyed and low alloyed steels. The additional TOP SIZE coating provides cool grinding. It is also possible to use it on aluminium, to a limited extent.

★★★ PREMIUM

Flap disc

FASTCUT for steel and stainless steel

	Shape	Type no.	Dimension	Specification	PU
	 27A	528580	100x16	ZA40-B	10
		643845	100x16	ZA60-B	10
		643846	100x16	ZA80-B	10
		160229	115x22.23	ZA40-B	10
		160230	115x22.23	ZA60-B	10
		160235	115x22.23	ZA80-B	10
		160240	125x22.23	ZA40-B	10
		160242	125x22.23	ZA60-B	10
		160244	125x22.23	ZA80-B	10
		34166360	150x22.23	ZA40-B	10
		34166362	150x22.23	ZA60-B	10
		34166363	150x22.23	ZA80-B	10

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Items with grey lettering are only available on request.

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★★★ PREMIUM

Flap disc

FASTCUT for steel and stainless steel





28A

Type no.	Dimension	Specification	PU
160245	178x22.23	ZA40-B	10
160246	178x22.23	ZA60-B	10
160247	178x22.23	ZA80-B	10
160249	115x22.23	ZA40-B	10
160251	115x22.23	ZA60-B	10
160252	115x22.23	ZA80-B	10
160254	125x22.23	ZA40-B	10
160255	125x22.23	ZA60-B	10
160256	125x22.23	ZA80-B	10
34166364	150x22.23	ZA40-B	10
34166365	150x22.23	ZA60-B	10
34166366	150x22.23	ZA80-B	10
160257	178x22.23	ZA40-B	10
160258	178x22.23	ZA60-B	10
160260	178x22.23	ZA80-B	10





28N

Type no.	Dimension	Specification	PU
458028	115x22.23	ZA40-B	10
458029	115x22.23	ZA60-B	10
458030	115x22.23	ZA80-B	10
458034	125x22.23	ZA40-B	10
458033	125x22.23	ZA60-B	10
458031	125x22.23	ZA80-B	10
458035	178x22.23	ZA40-B	10
458038	178x22.23	ZA60-B	10
458040	178x22.23	ZA80-B	10

★★★ PREMIUM

Flap disc

OVERLAP for steel and stainless steel

The PREMIUM*** OVERLAP is the right tool to effortlessly access hard-to-reach areas. Its flaps overlap by about 10 mm and make light work of the finishing of fillet welds, grooves and flutes.
The OVERLAP flaps also impress in terms of stock removal rate and lifetime when used on steel and stainless steel.





27A

Type no.	Dimension	Specification	PU
34206408	115x22.23	ZA40-B	10
34206409	115x22.23	ZA60-B	10
540688	125x22.23	ZA40-B	10
540689	125x22.23	ZA60-B	10

Items with grey lettering are only available on request.

★★★ PREMIUM

Flap disc
COMBI for steel and stainless steel

The PREMIUM*** COMBI combines abrasive cloth and fabric in one tool. This enables two work steps to be performed in one. Material removal and simultaneous finishing of surfaces produce an optimal result.
The long lifetime of the PREMIUM*** COMBI dramatically increases economic efficiency in comparison to conventional “SURFACE CONDITIONING” discs. The disc has also been specially developed to achieve good results at high speeds on non-adjustable angle grinders (max. 80 m/s).



Shape	Type no.	Dimension	Specification	Rec. speed	PU
27PLCA	742167	115x22.23	120-M	4 000	5
	742168	125x22.23	120-M	3 600	5

★★★ PREMIUM

Flap disc
2in1 for steel and stainless steel

The PREMIUM*** 2in1 flap disc combines an excellent lifetime with very high specific abrasion. The TYROLIT 2in1 flap disc is used both on high alloyed steels and stainless steel, as well as on unalloyed and low alloyed steels. Problem-free welding as well as edge and surface grinding, particularly when used on powerful angle grinders.



Shape	Type no.	Dimension	Specification	PU
27N	34043471	115x22.23	ZA40-B	10
	34043472	115x22.23	ZA60-B	10
	34043473	115x22.23	ZA80-B	10
	34043474	115x22.23	ZA120-B	10
	34043475	125x22.23	ZA40-B	10
	34043476	125x22.23	ZA60-B	10
	34043477	125x22.23	ZA80-B	10
	34043478	125x22.23	ZA120-B	10
	34043479	150x22.23	ZA40-B	10
	34043480	150x22.23	ZA60-B	10
	34043481	150x22.23	ZA80-B	10
	34043482	150x22.23	ZA120-B	10



Shape	Type no.	Dimension	Specification	PU
27A	729764	100x16	ZA40-B	10
	730559	100x16	ZA60-B	10
	730560	100x16	ZA80-B	10
	78049	100x16	ZA120-B	10
	668642	115x22.23	ZA40-B	10
	668644	115x22.23	ZA60-B	10
	668649	115x22.23	ZA80-B	10
	643803	115x22.23	ZA120-B	10
	668663	125x22.23	ZA40-B	10
	668664	125x22.23	ZA60-B	10

Coated abrasives

Items with grey lettering are only available on request.

★★★ PREMIUM

Flap disc
2in1 for steel and stainless steel



Shape	Type no.	Dimension	Specification	PU
27A	668665	125x22.23	ZA80-B	10
	643805	125x22.23	ZA120-B	10
	519212	150x22.23	ZA40-B	10
	519213	150x22.23	ZA60-B	10
	519214	150x22.23	ZA80-B	10
	519215	150x22.23	ZA120-B	10
	668670	178x22.23	ZA40-B	10
	668672	178x22.23	ZA60-B	10
	668673	178x22.23	ZA80-B	10
	643807	178x22.23	ZA120-B	10
28A	34166327	100x16	ZA40-B	10
	34166328	100x16	ZA60-B	10
	34166331	100x16	ZA80-B	10
	34166333	100x16	ZA120-B	10
	668686	115x22.23	ZA40-B	10
	668687	115x22.23	ZA60-B	10
	668691	115x22.23	ZA80-B	10
	846344	115x22.23	ZA120-B	10
	668692	125x22.23	ZA40-B	10
	668693	125x22.23	ZA60-B	10
	668694	125x22.23	ZA80-B	10
	645145	125x22.23	ZA120-B	10
	668696	178x22.23	ZA40-B	10
	668697	178x22.23	ZA60-B	10
	668698	178x22.23	ZA80-B	10
	643823	178x22.23	ZA120-B	10

★★ STANDARD

Flap disc
2in1 for steel and stainless steel

The STANDARD** 2in1 flap disc offers two advantages. On one hand it offers the user very long lifetime, on the other it guarantees very good specific abrasion.

The TYROLIT 2in1 flap disc is used both on high alloyed steels and stainless steel, as well as on unalloyed and low alloyed steels.



Shape	Type no.	Dimension	Specification	PU
27A	843806	100x16	ZA40-B	10
	455324	100x16	ZA60-B	10
	455318	100x16	ZA80-B	10
	257768	100x16	ZA120-B	10

Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Specification	PU
	 27A	572473	115x22.23	ZA40-B	10
		454393	115x22.23	ZA60-B	10
		455312	115x22.23	ZA80-B	10
		50801	115x22.23	ZA120-B	10
		824385	125x22.23	ZA40-B	10
		455303	125x22.23	ZA60-B	10
		458587	125x22.23	ZA80-B	10
		243069	125x22.23	ZA120-B	10
		139648	150x22.23	ZA40-B	10
		139651	150x22.23	ZA60-B	10
		139653	150x22.23	ZA80-B	10
		575635	150x22.23	ZA120-B	10
		580650	178x22.23	ZA40-B	10
		454396	178x22.23	ZA60-B	10
		455314	178x22.23	ZA80-B	10
		243071	178x22.23	ZA120-B	10
	 28A	537021	115x22.23	ZA40-B	10
		537084	115x22.23	ZA60-B	10
		537089	115x22.23	ZA80-B	10
		537093	115x22.23	ZA120-B	10
		537095	125x22.23	ZA40-B	10
		537097	125x22.23	ZA60-B	10
		537110	125x22.23	ZA80-B	10
		537111	125x22.23	ZA120-B	10
		537112	178x22.23	ZA40-B	10
		537113	178x22.23	ZA60-B	10
		537114	178x22.23	ZA80-B	10
		537115	178x22.23	ZA120-B	10
	 28N	847917	115x22.23	ZA40-B	10
		847924	115x22.23	ZA60-B	10
		847927	115x22.23	ZA80-B	10
		247165	115x22.23	ZA120-B	10
		847921	125x22.23	ZA40-B	10
		847925	125x22.23	ZA60-B	10
		847928	125x22.23	ZA80-B	10
		247366	125x22.23	ZA120-B	10
		847923	178x22.23	ZA40-B	10
		847926	178x22.23	ZA60-B	10
		847929	178x22.23	ZA80-B	10
		247175	178x22.23	ZA120-B	10

Items with grey lettering are only available on request.

★★ STANDARD

SOFTJOB

2in1 for steel and stainless steel

For us, the STANDARD** SOFTJOB flap disc represents maximum flexibility for machining difficult to access areas. It has a broad application area, comprising: Surface preparation and improvement, preparation of welding work and cleaning of weld seams.

Processing of contours and profiled surfaces, processing of handrails and pipes, cleaning of surfaces, removal of rust and paint residues.



Shape	Type no.	Dimension	Specification	PU
28S	246987	115x22.23	ZA40-B	10
	246988	115x22.23	ZA60-B	10
	246990	115x22.23	ZA80-B	10
	246994	115x22.23	ZA120-B	10
	246995	125x22.23	ZA40-B	10
	246996	125x22.23	ZA60-B	10
	246998	125x22.23	ZA80-B	10
	247001	125x22.23	ZA120-B	10

★ BASIC

Flap disc

2in1 for steel and stainless steel

The BASIC* 2-in-1 flap disc offers good specific removal. Thanks to a new upgrade, the BASIC* flap disc achieves an unprecedented lifetime and 30 % more power. The TYROLIT 2in1 flap disc is used both on high alloyed steels and stainless steel, as well as on unalloyed and low alloyed steels.



Shape	Type no.	Dimension	Specification	PU
27A	34318350	100x16	ZA40-B	10
	34318361	100x16	ZA60-B	10
	34318362	100x16	ZA80-B	10
	34318363	100x16	ZA120-B	10
	34318364	115x22.23	ZA40-B	10
	34318365	115x22.23	ZA60-B	10
	34318366	115x22.23	ZA80-B	10
	34318368	115x22.23	ZA120-B	10
	34318369	125x22.23	ZA40-B	10
	34318370	125x22.23	ZA60-B	10
	34318391	125x22.23	ZA80-B	10
	34318392	125x22.23	ZA120-B	10
	34318393	150x22.23	ZA40-B	10
	34318394	150x22.23	ZA60-B	10
	34318395	150x22.23	ZA80-B	10
	34318396	150x22.23	ZA120-B	10
	34318398	178x22.23	ZA40-B	10

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Items with grey lettering are only available on request.

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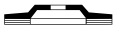
	Shape		Type no.	Dimension	Specification	PU
		27A	34318400	178x22.23	ZA60-B	10
			34318533	178x22.23	ZA80-B	10
			34318534	178x22.23	ZA120-B	10
		28A	34318535	100x16	ZA40-B	10
			34318536	100x16	ZA60-B	10
			34318537	100x16	ZA80-B	10
			34318538	100x16	ZA120-B	10
			34318539	115x22.23	ZA40-B	10
			34318551	115x22.23	ZA60-B	10
			34318552	115x22.23	ZA80-B	10
			34318553	115x22.23	ZA120-B	10
			34318554	125x22.23	ZA40-B	10
			34318555	125x22.23	ZA60-B	10
			34318557	125x22.23	ZA80-B	10
			34318558	125x22.23	ZA120-B	10
			34318559	150x22.23	ZA40-B	10
			34318560	150x22.23	ZA60-B	10
			34318561	150x22.23	ZA80-B	10
			34318562	150x22.23	ZA120-B	10
			34318563	178x22.23	ZA40-B	10
			34318564	178x22.23	ZA60-B	10
			34318566	178x22.23	ZA80-B	10
			34318567	178x22.23	ZA120-B	10
		28N	34318568	115x22.23	ZA40-B	10
			34318569	115x22.23	ZA60-B	10
			34318570	115x22.23	ZA80-B	10
			34318571	115x22.23	ZA120-B	10
			34318572	125x22.23	ZA40-B	10
			34318573	125x22.23	ZA60-B	10
			34318574	125x22.23	ZA80-B	10
			34318576	125x22.23	ZA120-B	10
			34318577	178x22.23	ZA40-B	10
			34318579	178x22.23	ZA60-B	10
			34318580	178x22.23	ZA80-B	10
			34318582	178x22.23	ZA120-B	10

Items with grey lettering are only available on request.

★★★
PREMIUM

Flap disc

CERABOND Flap disc for stainless steel

+ **Enhanced abrasiveness**
A new and broader PREMIUM*** cloth and the CERABOND bond system offer high stock removal on the workpiece.

+ **Trimmable shape 28N**
The CERABOND flap disc is also available in the core version 28N. The huge advantage is the trimmability of the core, which means that all of the disc can be used. The disc can be easily reset at edges so that new cloth can always be used for grinding.



+ **Enhanced economic efficiency**
Thanks to the self-sharpening ceramic grain, the CERABOND flap disc is also ideal for demanding grinding jobs.

+ **Longer lifetime**
The unique bond system prevents premature grain break-out and leads to a long lifetime for the product.

We at TYROLIT always endeavour to bring our customers innovative products and a comprehensive assortment. For this reason, TYROLIT has now extended the CERABOND family to include the new CERAMIC flap discs. A unique bond system combined with a high-performance PREMIUM*** cloth offers the operator greater abrasiveness. This flap disc is particularly suitable for stainless steels and demanding grinding applications. In addition, the unique bond system prevents premature grain break-out and leads to a long product lifetime. The additional TOP SIZE coating ensures cooler grinding, allowing a longer lifetime and reducing discolouration on the workpiece surface. Also available in trimmable shape 28N.

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Items with grey lettering are only available on request.

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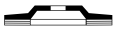
★★★ PREMIUM

Flap disc

CERABOND Flap disc for stainless steel

	Shape	Type no.	Dimension	Specification	PU
	 27A	34166139	100x16	CA40-B	10
		34166140	100x16	CA60-B	10
		34166161	100x16	CA80-B	10
		34043514	115x22.23	CA40-B	5
		34043515	115x22.23	CA60-B	5
		34165680	115x22.23	CA80-B	5
		34043516	125x22.23	CA40-B	5
		34043517	125x22.23	CA60-B	5
		34165681	125x22.23	CA80-B	5
		34166162	150x22.23	CA40-B	10
		34166163	150x22.23	CA60-B	10
		34166164	150x22.23	CA80-B	10
		34166166	178x22.23	CA40-B	5
		34166167	178x22.23	CA60-B	5
		34166168	178x22.23	CA80-B	5
	 28A	34166169	100x16	CA40-B	10
		34166170	100x16	CA60-B	10
		34166171	100x16	CA80-B	10
		34166172	115x22.23	CA40-B	5
		34166173	115x22.23	CA60-B	5
		34166174	115x22.23	CA80-B	5
		34166175	125x22.23	CA40-B	5
		34166176	125x22.23	CA60-B	5
		34166177	125x22.23	CA80-B	5
		34166178	150x22.23	CA40-B	10
		34166179	150x22.23	CA60-B	10
		34166180	150x22.23	CA80-B	10
		34166181	178x22.23	CA40-B	5
		34166182	178x22.23	CA60-B	5
		34166184	178x22.23	CA80-B	5
	 28N	34315841	115x22.23	CA40-B	5
		34315842	115x22.23	CA60-B	5
		34315843	115x22.23	CA80-B	5
		34315845	125x22.23	CA40-B	5
		34315846	125x22.23	CA60-B	5
		34315847	125x22.23	CA80-B	5

Items with grey lettering are only available on request.

★★★ PREMIUM

Flap disc
CERAMIC for INOX

Thanks to the self-sharpening ceramic abrasive grain, the PREMIUM*** CERAMIC flap disc is particularly suitable for stainless steels and demanding grinding applications. The additional TOP SIZE coating ensures cool grinding, allowing a longer tool lifetime and reducing discolouration on the workpiece surface. Thanks to the self-sharpening characteristic of the abrasive grain, a more even surface quality is achieved over the entire lifetime of the disc.

	Shape		Type no.	Dimension	Specification	PU
		27A	645130	115x22.23	CA40-B	10
			645132	115x22.23	CA60-B	10
			34166620	115x22.23	CA80-B	10
			645135	125x22.23	CA40-B	10
			645137	125x22.23	CA60-B	10
			34166671	125x22.23	CA80-B	10
			34166673	150x22.23	CA40-B	10
			34166678	150x22.23	CA60-B	10
			34166680	150x22.23	CA80-B	10
			34166681	178x22.23	CA40-B	10
			34166685	178x22.23	CA60-B	10
			34166686	178x22.23	CA80-B	10
		28A	719797	115x22.23	CA40-B	10
			719798	115x22.23	CA60-B	10
			34166687	115x22.23	CA80-B	10
			719799	125x22.23	CA40-B	10
			719800	125x22.23	CA60-B	10
			34166688	125x22.23	CA80-B	10
			34166855	150x22.23	CA40-B	10
			34166857	150x22.23	CA60-B	10
			34166858	150x22.23	CA80-B	10
			34166859	178x22.23	CA40-B	10
			34166860	178x22.23	CA60-B	10
			34166861	178x22.23	CA80-B	10
		28N	719840	115x22.23	CA40-B	10
			719841	115x22.23	CA60-B	10
			34166863	115x22.23	CA80-B	10
			719846	125x22.23	CA40-B	10
			719847	125x22.23	CA60-B	10
			34166865	125x22.23	CA80-B	10

Items with grey lettering are only available on request.

★★★ PREMIUM

Flap disc

For nonferrous metals

With the specification developed specifically for nonferrous metals, smearing and dulling of the flap disc is prevented. The ceramic grain promotes self-cleaning and sharpening of the disc during material abrasion.
This tool offers convenient and high-performance results on difficult-to-grind materials such as aluminium, aluminium bronze, aluminium base alloy, copper, bronze, brass and nickel silver.



Shape		Type no.	Dimension	Specification	PU
	27A	707005	115x22.23	CA40-B	10
		707007	115x22.23	CA60-B	10
		707008	115x22.23	CA80-B	10
		707010	115x22.23	CA120-B	10
		707011	125x22.23	CA40-B	10
		707012	125x22.23	CA60-B	10
		707013	125x22.23	CA80-B	10
		707014	125x22.23	CA120-B	10
		707015	178x22.23	CA40-B	10
		707016	178x22.23	CA60-B	10
		707017	178x22.23	CA80-B	10
		707018	178x22.23	CA120-B	10
	28A	707153	115x22.23	CA40-B	10
		707155	115x22.23	CA60-B	10
		707156	115x22.23	CA80-B	10
		707158	115x22.23	CA120-B	10
		707159	125x22.23	CA40-B	10
		707160	125x22.23	CA60-B	10
		707161	125x22.23	CA80-B	10
		707163	125x22.23	CA120-B	10
		707165	178x22.23	CA40-B	10
		707166	178x22.23	CA60-B	10
		707167	178x22.23	CA80-B	10
		707168	178x22.23	CA120-B	10

Items with grey lettering are only available on request.

★★★
PREMIUM

A-P01 C X flap wheel

For steel, nonferrous metal and wood

+ **Consistent results**
Consistent high-quality finish thanks to the stable grinding surface pattern.

+ **Universal use**
Rollers can be used on all metals.



+ **Broad assortment**
The rollers are available in various specifications and grit sizes.

PREMIUM*** flap wheels for angle grinders can be used for general grinding applications such as cleaning and finishing as well as polishing uneven or curved surfaces.

As the wear pattern remains stable throughout the product's lifetime, a consistent high-quality surface finish is produced.

The assortment provides products for removing welding tracks, scratches and oxidation residue, as well as pre-treating surfaces.

★★★
PREMIUM

A-P01 C X flap wheel

For steel, nonferrous metal and wood

	Shape		Type no.	Dimension	Mounting	Grain	Rec. speed	PU
		1LA	34053198	115x20	M14	40	13 300	5
			34057513	115x20	M14	60	13 300	5
			34057514	115x20	M14	80	13 300	5
			34057515	115x20	M14	120	13 300	5
			34053201	125x20	M14	40	12 200	5
			34057521	125x20	M14	60	12 200	5
			34057522	125x20	M14	80	12 200	5
			34057523	125x20	M14	120	12 200	5

Items with grey lettering are only available on request.



5.2 Fibre discs
Angle grinder



Fibre discs
Angle grinder

For quite a number of years, in the “coated abrasives” range, TYROLIT has offered fibre discs and back up pads for all common and not-so-common grinding jobs.

Fibre discs are used when it is necessary to carry out rough grinding or derust or deburr surfaces. TYROLIT believes in the importance of flexibility and ease of use, and offers a very wide assortment for every conceivable application. Naturally the discs come with all accessories needed for assembly.
TYROLIT has also developed a more environment-friendly version. Our jute disc, made from eco-friendly jute fibre, is used without any additional core and, being trimmable, offers maximum stock removal right to the very end. Try it for yourself!

Application recommendations

Performance level	Specification	Steel	Stainless steel	NF metals	Wood	Composites	Gel-Coat	Pages
★★★ PREMIUM	CA-P93 N	●	●					348
	ZA-P48 N	●	●					349
	ZA-P43 V	●						349, 350
	ZA-P48 V	●	●					351
	CA-P93 V	●	●					353
	A-P02 V	●		●				354
★ BASIC	A-B02 V	●		●	●			355, 356
	A-B01 V	●		●	●			355, 356
TFC	ZA-P45 V	●		●		●	●	357
★★★ PREMIUM	ZA-P45 P F	●		●		●	●	357

Items with grey lettering are only available on request.

Shapes



N Disc Jute disc



V Disc 4S Vulcanised fibre disc



DISC TYROLIT FAST CHANGE



PAD UNI Back up pads



PAD INOX Back up pads



PAD BASIC Back up pads



PAD TFC back up pads for TYROLIT FAST CHANGE

★★★
PREMIUM

CA-PA93 N
Jute disc

For steel and stainless steel

+ **Longest lifetime**
Ceramic aluminium oxide and an additional coolant layer deliver maximum removal rates and the longest lifetime possible.

+ **Extremely high stock** removal rate
The high abrasiveness of the Jute disc means it achieves the highest stock removal rates.



+ **Environmentally-friendly**
The jute fibre core not only protects the environment, but also enables the disc to be trimmed.

TYROLIT Film
The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

The TYROLIT Jute disc is a new, unique grinding wheel that combines abrasiveness with a high level of comfort while working thanks to a ceramic grain. The longest lifetime and an environmentally friendly jute fibre core deliver the best performance. An additional back up pad is not required, as there is already one integrated in the product. The natural fibre core can be trimmed, giving it the edge over other discs in terms of its lifetime. This saves the user time and great expense.

★★★
PREMIUM

CA-P93 N Jute disc
For steel and stainless steel

	Shape		Type no.	Diameter	Grain	Max. RPM	PU
		N Disc	712259	115x22	36	13 300	10
			712268	125x22	36	12 250	10
			712269	180x22	36	8 600	10

Items with grey lettering are only available on request.

★★★ PREMIUM

ZA-P48 N Jute disc

For steel and stainless steel

The TYROLIT Jute disc is a new, unique grinding wheel that combines abrasiveness with a high level of comfort while working. This tool can be used on both steel and stainless steel. The longest lifetime and an environmentally friendly jute fibre core deliver the best performance.
An additional back up pad is not required, as there is already one integrated in the product. The natural fibre core can be trimmed, giving it the edge over other discs in terms of its lifetime. This saves the user time and great expense.

	Shape		Type no.	Diameter	Grain	Max. RPM	PU
		N Disc	706128	115x22	36	13 300	10
			205056	115x22	60	13 300	10
			706129	125x22	36	12 250	10
			205058	125x22	60	12 250	10
			706130	180x22	36	8 600	10
			205060	180x22	60	8 600	10

Accessories

For Jute disc

With a large distance between the disc and machine, you can machine even surfaces at a low grinding angle. Use our PREMIUM*** Jute disc accessories to achieve this. The accessories are compatible with all disc diameters. With a large distance between the disc and machine, you can machine even surfaces at a low grinding angle. Use our PREMIUM*** Jute disc accessories to achieve this. The accessories are compatible with all disc diameters.

		Type no.	Diameter	PU
	100SFL	21381	42x22.23 M14	1

★★★ PREMIUM

ZA-P43 V vulcanised fibre discs

For steel

Using fibre discs is a very simple and quick solution for removing material. A low level of vibration means the tools are convenient to use. This fibre disc has been designed for use on steel and is made of a zirconium aluminium oxide mix.
This fibre disc is available from our assortment in grit sizes 24 to 120.

	Shape		Type no.	Diameter	Grain	Max. RPM	PU
		V Disc	706068	115x22	24	13 300	25
			706069	115x22	36	13 300	25
			706071	115x22	40	13 300	25
			706072	115x22	60	13 300	25
			706073	115x22	80	13 300	25
			706074	115x22	120	13 300	25

▶

Items with grey lettering are only available on request.

★★★ PREMIUM

ZA-P43 V vulcanised fibre discs

For steel



Shape		Type no.	Diameter	Grain	Max. RPM	PU
	V Disc	706075	125x22	24	12 300	25
		706076	125x22	36	12 300	25
		706077	125x22	40	12 300	25
		706078	125x22	60	12 300	25
		706079	125x22	80	12 300	25
		706082	125x22	120	12 300	25
		706084	180x22	24	8 600	25
		706088	180x22	36	8 600	25
		706089	180x22	40	8 600	25
		706090	180x22	60	8 600	25
		706091	180x22	80	8 600	25
		706092	180x22	120	8 600	25

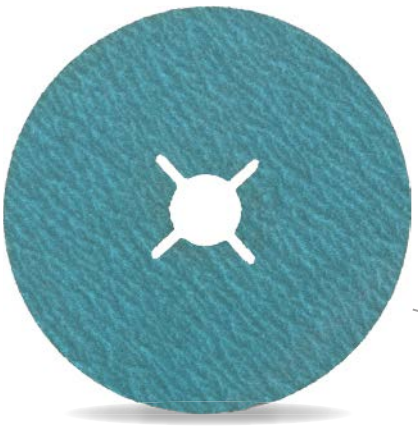
★★★ PREMIUM

ZA-P48 V vulcanised fibre discs

For steel and stainless steel

+ **Longest lifetime**
Resistant zirconium aluminium oxide and a coolant layer deliver maximum removal rates and the longest lifetime.

+ **Maximum economic efficiency**
Excellent price-performance ratio.



+ **Maximum stock removal**
The optimised backing and zirconium aluminium oxide result in an abrasive product with a maximum stock removal rate.

Using fibre discs is a very simple and quick solution for removing material. A low level of vibration means the tools are convenient to use. This fibre disc has been designed for use on steel and stainless steel, and is made of a zirconium aluminium oxide mix. This fibre disc is available from our assortment in grit sizes 24 to 120.

Items with grey lettering are only available on request.

◀

★★★ PREMIUM

ZA-P48 V vulcanised fibre discs

For steel and stainless steel





Shape		Type no.	Diameter	Grain	Max. RPM	PU
✦	V Disc	34162979	115x22	24	13 300	25
		34162980	115x22	36	13 300	25
		34162981	115x22	40	13 300	25
		34162982	115x22	60	13 300	25
		34162983	115x22	80	13 300	25
		34162985	115x22	120	13 300	25
		34162987	125x22	24	12 300	25
		34162988	125x22	36	12 300	25
		34162989	125x22	40	12 300	25
		34162990	125x22	60	12 300	25
		34163011	125x22	80	12 300	25
		34163012	125x22	120	12 300	25
		34163013	180x22	24	8 600	25
		34163014	180x22	36	8 600	25
		34163015	180x22	40	8 600	25
		34163020	180x22	60	8 600	25
		34163021	180x22	80	8 600	25
		34163022	180x22	120	8 600	25
		34163024	115x22	24	13 300	50
		34163025	115x22	36	13 300	50
		34163026	115x22	40	13 300	50
		34163888	115x22	60	13 300	50
		34163889	115x22	80	13 300	50
		34163890	115x22	120	13 300	50
		34163902	125x22	24	12 300	50
		34163903	125x22	36	12 300	50
		34163905	125x22	40	12 300	50
		34163906	125x22	60	12 300	50
		34163908	125x22	80	12 300	50
		34163910	125x22	120	12 300	50
		34163911	180x22	24	8 600	50
		34163912	180x22	36	8 600	50
		34163913	180x22	40	8 600	50
		34163914	180x22	60	8 600	50
		34163915	180x22	80	8 600	50
		34163917	180x22	120	8 600	50

Items with grey lettering are only available on request.

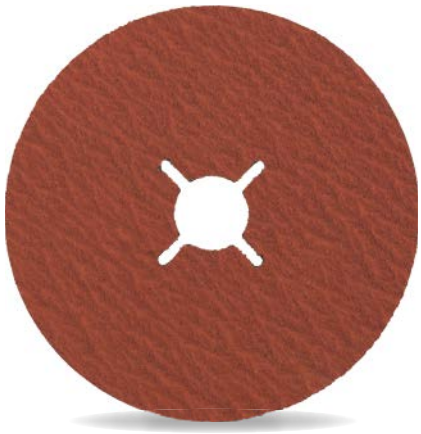
★★★
PREMIUM

CA-P93 V
vulcanised fibre discs

For steel and stainless steel

+ **Maximum abrasiveness**
Ceramic aluminium oxide delivers maximum removal rates and the longest lifetime.

+ **Longest lifetime**
An additional layer of active coolants increases the lifetime and reduces heat build-up while grinding is performed on different materials.



+ **Strong backing**
The 0.80 mm thick backing holds the grain in place, thus ensuring maximum abrasiveness.

Using fibre discs is a very simple and quick solution for removing material. A low level of vibration means the tools are convenient to use. This fibre disc has been designed for use on steel and stainless steel, and is made of a ceramic aluminium oxide mix. This fibre disc is available from our assortment in grit sizes 24 to 120.

▶

Items with grey lettering are only available on request.

★★★ PREMIUM

CA-P93 V vulcanised fibre discs

For steel and stainless steel





Shape		Type no.	Diameter	Grain	Max. RPM	PU
✦	V Disc	34163955	115x22	24	13 300	25
		706107	115x22	36	13 300	25
		34163957	115x22	40	13 300	25
		706108	115x22	60	13 300	25
		706109	115x22	80	13 300	25
		706110	115x22	120	13 300	25
		34163958	125x22	24	12 300	25
		706111	125x22	36	12 300	25
		34163959	125x22	40	12 300	25
		706114	125x22	60	12 300	25
		706116	125x22	80	12 300	25
		706117	125x22	120	12 300	25
		34164002	180x22	24	8 600	25
		706119	180x22	36	8 600	25
		34164004	180x22	40	8 600	25
		706120	180x22	60	8 600	25
		706123	180x22	80	8 600	25
		706124	180x22	120	8 600	25
		34163992	115x22	24	13 300	50
		34163993	115x22	36	13 300	50
		34163994	115x22	40	13 300	50
		34163995	115x22	60	13 300	50
		34163997	115x22	80	13 300	50
		34163998	115x22	120	13 300	50
		34163999	125x22	24	12 300	50
		34164000	125x22	36	12 300	50
		34164011	125x22	40	12 300	50
		34164012	125x22	60	12 300	50
		34164013	125x22	80	12 300	50
		34164014	125x22	120	12 300	50
		34164015	180x22	24	8 600	50
		34164017	180x22	36	8 600	50
		34164018	180x22	40	8 600	50
		34164019	180x22	60	8 600	50
		34164020	180x22	80	8 600	50
		34164031	180x22	120	8 600	50

Items with grey lettering are only available on request.

★★★ PREMIUM

A-P02 V vulcanised fibre discs

For steel and aluminium

Using fibre discs is a very simple and quick solution for removing material. A low level of vibration means the tools are convenient to use. This fibre disc has been designed for general use and is made of an aluminium oxide mix. It can be used for outstanding results on steel and nonferrous metals.

This fibre disc is available from our assortment in grit sizes 24 to 120.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
V Disc	706049	115x22	24	13 300	25
	706050	115x22	36	13 300	25
	706051	115x22	40	13 300	25
	706052	115x22	60	13 300	25
	706053	115x22	80	13 300	25
	706054	115x22	120	13 300	25
	706055	125x22	24	12 300	25
	706056	125x22	36	12 300	25
	706057	125x22	40	12 300	25
	706058	125x22	60	12 300	25
	706059	125x22	80	12 300	25
	706060	125x22	120	12 300	25
	706061	180x22	24	8 600	25
	706063	180x22	36	8 600	25
	706064	180x22	40	8 600	25
	706065	180x22	60	8 600	25
	706066	180x22	80	8 600	25
	706067	180x22	120	8 600	25

★ BASIC

A-B02 V vulcanised fibre discs

For steel, aluminium and wood

Using fibre discs is a very simple and quick solution for removing material. A low level of vibration means the tools are convenient to use. This fibre disc has been designed for universal use and is made of an aluminium oxide mix.

This fibre disc is available from our assortment in grit sizes 16 to 120.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
V Disc	150465	115x22	16	13 300	25
	706024	115x22	24	13 300	25
	706025	115x22	36	13 300	25
	706026	115x22	40	13 300	25
	706027	115x22	60	13 300	25
	706028	115x22	80	13 300	25
	150467	115x22	100	13 300	25

▶

Items with grey lettering are only available on request.



Shape		Type no.	Diameter	Grain	Max. RPM	PU
	V Disc	706029	115x22	120	13 300	25
		150468	125x22	16	12 300	25
		706030	125x22	24	12 300	25
		706031	125x22	36	12 300	25
		706032	125x22	40	12 300	25
		706033	125x22	60	12 300	25
		706034	125x22	80	12 300	25
		150469	125x22	100	12 300	25
		706035	125x22	120	12 300	25
		150473	180x22	16	8 600	25
		706036	180x22	24	8 600	25
		706037	180x22	36	8 600	25
		706038	180x22	40	8 600	25
		706039	180x22	60	8 600	25
		706047	180x22	80	8 600	25
		706048	180x22	120	8 600	25

★ BASIC

A-B01 V vulcanised fibre discs

For steel, non-ferrous metals and wood

This fibre disc was specially developed for quality-conscious end customers with a low consumption. It offers a quick solution for removing material and provides for comfortable working at a low level of vibration. Based on an aluminium oxide mix, it is suitable for universal use.

Fibre discs are available from our assortment in grit sizes 24 to 120.





Shape		Type no.	Diameter	Grain	Max. RPM	PU
	V Disc	34286491	115x22	24	13 300	5
		34286492	115x22	36	13 300	5
		34286493	115x22	40	13 300	5
		34286703	115x22	50	13 300	5
		34286494	115x22	60	13 300	5
		34286495	115x22	80	13 300	5
		34286497	115x22	100	13 300	5
		34286498	115x22	120	13 300	5
		34286499	125x22	24	12 300	5
		34286500	125x22	36	12 300	5
		34286501	125x22	40	12 300	5
		34286705	125x22	50	12 300	5
		34286502	125x22	60	12 300	5
		34286503	125x22	80	12 300	5

Items with grey lettering are only available on request.

★ BASIC

A-B01 V vulcanised fibre discs

For steel, aluminium and wood





Shape		Type no.	Diameter	Grain	Max. RPM	PU
	V Disc	34286505	125x22	100	12 300	5
		34286506	125x22	120	12 300	5
		34286507	180x22	24	8 600	5
		34286508	180x22	36	8 600	5
		34286509	180x22	40	8 600	5
		34286706	180x22	50	8 600	5
		34286510	180x22	60	8 600	5
		34286511	180x22	80	8 600	5
		34286512	180x22	100	8 600	5
		34286513	180x22	120	8 600	5

★★★ PREMIUM

Accessories

For fibre disc

With our PREMIUM*** back up pads you will obtain the best support for the highest demands. Regardless of whether you choose a hard or very hard backing, you can influence the stock removal rate on the workpiece.

Thanks to the special design, you will benefit from constant air circulation, preventing heat build-up on the workpiece and the tool.



Shape		Type no.	Diameter	Mounting	Grade	Max. RPM	PU
	PAD INOX	709989	115x22	M14	VERY HARD	13 300	5
		709991	125x22	M14	VERY HARD	12 300	5
	PAD UNI	709992	115x22	M14	HARD	13 300	5
		709993	125x22	M14	HARD	12 300	5
		709994	180X22	M14	HARD	8 600	5

★ BASIC

Accessories

For FIBRE DISC

The BASIC* back up pad is a good supplement to all our fibre discs.

The accessories offer good support in achieving the best results for the surface finish.



Shape		Type no.	Diameter	Mounting	Grade	Max. RPM	PU
	PAD BASIC	709995	115x22	M14	HARD	13 300	5
		709997	125x22	M14	HARD	12 300	5
		709998	180X22	M14	HARD	8 600	5
		709999	115x22	⅝"	HARD	13 300	5
		710002	125x22	⅝"	HARD	12 300	5
		710005	180X22	⅝"	HARD	8 600	5

Items with grey lettering are only available on request.

ZA-P45 V* | ZA-P45 P F TFC TYROLIT FAST CHANGE

★★★ PREMIUM

For steel, nonferrous metals, composites and gel coat

TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. The TFC grinding wheel, developed for steel and other material grinding and finishing, is made of zirconium with active coolants. This enables cool, clean grinding to be performed on the workpiece. Thanks to the thin fibre backing with grit 40 and strong paper backing the TFC is the optimal tool for removing smaller welding and spot weld seams.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
Disc	706135*	115	40	12 300	50
	706136	115	60	12 300	50
	706137	115	80	12 300	50
	706138	115	120	12 300	50
	706139*	125	40	10 500	50
	706141	125	60	10 500	50
	706142	125	80	10 500	50
	706143	125	120	10 500	50

**Fibre backing*

Accessories

★★★ PREMIUM

For TYROLIT FAST CHANGE

Our back up pads can be used on most dual action sanders and their medium density provides the ideal support for finishing and preparing surfaces. The specially developed product design delivers outstanding dust extraction. You can use practically any disc with our back up pads. They fit discs with 0, 6, 7, 9 and 15 holes.



Shape	Type no.	Diameter	Mounting	Grade	Max. RPM	PU
PAD TFC	710006	115	M14	HARD	13 300	5
	710007	125	M14	HARD	12 300	5

Items with grey lettering are only available on request.


WEAR
WORK



5.3 Rough cleaning wheel
Angle grinder



Rough cleaning wheel **for angle grinder**

Working with an angle grinder is one of the most important processes in the trade and industrial sectors for processing all types of metals. Would you like to remove rust, paint and varnish with a minimum of effort? Or do you need to prepare surfaces for welding, soldering or anodising?

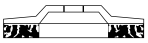
The highly porous nylon fibres are evenly treated with aggressive abrasives and are able to meet any challenge.
All of our rough cleaning discs resist loading or smearing and offer long life with an even grinding pattern, but also low heat generation and quiet, stress-free working.

Application recommendations

Performance level	Design	All in One	Pages
★★★ PREMIUM	C COARSE, A EX. COARSE	●	361

Items with grey lettering are only available on request.

Shapes



27GR Rough cleaning wheel
(sound insulated)

★★★ PREMIUM

Rough cleaning wheel
Universal use

With the TYROLIT rough cleaning wheel you can effortlessly remove rust, paint, lacquer and underbody sealant from your workpiece. The porous nylon fibres, treated with aggressive abrasives, meet any challenge. At the same time, they prevent clogging or loading of the wheel.

This wheel offers the user quiet, non-strenuous grinding combined with low generation of heat.

	Shape	Type no.	Dimension	Design	Colour	PU	Max. RPM	Rec. speed
	 28 VL GR	898012	100x22.23	C COARSE	BLACK	5	12 400	9 900
		898014	115x22.23	C COARSE	BLACK	5	11 000	8 600
		898017	125x22.23	C COARSE	BLACK	5	9 800	7 800
		898018	178x22.23	C COARSE	BLACK	5	7 000	6 600
		34206236	115x22.2	A EX. COARSE	BLUE	5	11 000	8 600
		34206237	125x22.2	A EX. COARSE	BLUE	5	9 800	7 800
		34206238	178x22.2	A EX. COARSE	BLUE	5	7 000	6 600

Items with grey lettering are only available on request.





5.4 SCM – SURFACE CONDITIONING MATERIAL
Angle grinder



SCM discs **for angle grinders**

Working with an angle grinder is one of the most important processes in the trade and industrial sectors for processing all types of metals. TYROLIT now offers the SCM product assortment for use with angle grinders as well.

SURFACE CONDITIONING MATERIAL discs combine excellent cutting ability with long tool life, so that you can achieve optimum surface quality. This saves you two or three work steps. From simple deburring work without workpiece deformation to perfect surface finishing, SCM can be used universally.

With a wide range of grain sizes, from extra coarse to very fine, TYROLIT products are suitable for many different applications. Our discs offer another special feature: thanks to the removable centre hole, our discs can be mounted on the three most popular back up pads. Try it for yourself!

Application recommendations

Performance level	Design	All in One	Pages
★★★ PREMIUM	EXTRA COARSE, COARSE, EXTRA MEDIUM, MEDIUM, VERY FINE	●	366, 367

Items with grey lettering are only available on request.

SCM disc assembly

SCM discs are designed for use on an angle grinder and are available in the popular diameters 115–178 mm, from EXTRA COARSE to VERY FINE.

Cleverly designed: Thanks to the removable centre hole, each of these discs can be used on all three of the supporting discs in our range.



Colours

	EXTRA COARSE	COARSE	EXTRA MEDIUM	MEDIUM	VERY FINE
Front					
Back					

Shapes



DISC SCM Disc

★★★
PREMIUM

SCM

Universal use

+ **Noticeable cost reduction**
Fewer work steps also means reduced tool costs.



+ **Reduces working times**
The working time is significantly reduced through the long lifetime and the saving of one to three work steps.

+ **One disc, three options**
Thanks to the removable centre hole, this disc can also be mounted on three different back up pads.

With the new TYROLIT SCM program, we are now taking a further step towards economic efficiency. With SCM, the machining time of the workpiece can now be greatly reduced. A saving of one to three work steps is thus the key benefit.

Thanks to the quick and high stock removal rate, applications such as the reduction of surface roughness, removal of discolouration, smoothing of surfaces and the cleaning and removal of weld seams can be realised. Another advantage of SCM lies in the deburring of tool edges without additional stock removal. Furthermore, the TYROLIT SCM program is yielding the best results in terms of lifetime, which in turn is evidence of the economic efficiency of these products.

★★★
PREMIUM

SCM
Universal use

	Shape	Type no.	Dimension	Design	Colour	Max. RPM	Rec. speed	PU
	Disc	34299305	115x22	HD EXTRA COARSE	DARK BROWN / PURPLE	13 000	8–9 000	20
		34047715	115x22	COARSE	BROWN	13 000	8–9 000	20
		34299306	115x22	HD EXTRA MEDIUM	DARK BROWN / PURPLE	13 000	8–9 000	20
		34047720	115x22	MEDIUM	RED	13 000	8–9 000	20
		34047722	115x22	VERY FINE	BLUE	13 000	8–9 000	20
		34299307	125x22	HD EXTRA COARSE	DARK BROWN / PURPLE	12 000	7–8 500	20
		34047727	125x22	COARSE	BROWN	12 000	7–8 500	20
		34299308	125x22	HD EXTRA MEDIUM	DARK BROWN / PURPLE	12 000	7–8 500	20

▶

Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Design	Colour	Max. RPM	Rec. speed	PU
	Disc	34047732	125x22	MEDIUM	RED	12 000	7–8 500	20
		34047733	125x22	VERY FINE	BLUE	12 000	7–8 500	20
		34047734	178x22	HD EXTRA COARSE	DARK BROWN / BLUE	8 500	5–6 000	20
		34047735	178x22	COARSE	BROWN	8 500	5–6 000	20
		34047736	178x22	HD EXTRA MEDIUM	DARK BROWN / BLUE	8 500	5–6 000	20
		34047755	178x22	MEDIUM	RED	8 500	5–6 000	20
		34047757	178x22	VERY FINE	BLUE	8 500	5–6 000	20

★★★ PREMIUM

SCM set
Universal use

We are now taking a further step towards economic efficiency with our TYROLIT SCM range. Workpiece machining can be substantially reduced through using it. Savings of 1 to 3 working steps are also possible. Thanks to the quick and high stock removal rate, applications such as the reduction of surface roughness, removal of discolouration, smoothing of surfaces, and the cleaning and removal of welding seams can be realised. The SCM set provides you with all five versions as well as the innovative attachment for mounting in an angle grinder. The intelligent design of our SCM discs enables them to be used on all the pack up pads available in our assortment. The removable centre hole of the SCM disc enables the disc to be fitted to the pack up pad in a self-centring position.

	Shape	Type no.	Dimension	Mounting	Max. RPM	Rec. speed	PU
	Disc	34186370	115x22	M14	13 000	8–9 000	1
		34197811	125x22	M14	12 000	7–8 500	1

★★★ PREMIUM

Accessories
For SCM discs

The intelligent design of our SCM discs enables them to be used on all the back up pads available in our assortment. The removable centre hole of the SCM disc enables the disc to be fitted to the back up pad in a self-centring position.

The discs and back up pads are designed for use on the angle grinder in all common diameters from 115 to 178 mm.

	Shape	Type no.	Diameter	Mounting	Grade	Max. RPM	PU
	PAD SCM	34050524	115x22	M14	MEDIUM	13 000	1
		34050525	125x22	M14	MEDIUM	12 000	1
		34050358	115	M14	MEDIUM	13 000	1
		34050359	125	M14	MEDIUM	12 000	1
		34050509	178	M14	MEDIUM	8 500	1

Items with grey lettering are only available on request.





5.5 Compact wheels
Angle grinders



Compact wheels **for angle grinders**

Working with an angle grinder is one of the most important processes in the trade and industrial sectors for processing all types of metals. TYROLIT offers a comprehensive assortment of products for this purpose.

With the compact wheel range, TYROLIT offers you an ideal tool for the machining of surfaces without changing the surface geometry, particularly for the removal of rust and dirt. Compact wheels consist of multilayer unitised fleece and are available in coarse to fine specifications depending on the number of layers. On the following pages, you will find our range of unitised compact wheels for angle grinders.

Application recommendations

Performance level	Design	All in One	Pages
★★★ PREMIUM	2 A MEDIUM, 2 C FINE, 3 C FINE, 6 A MEDIUM, 6 C FINE, 8 A COARSE	●	372, 373

Items with grey lettering are only available on request.

Shapes



1UW Unitised wheel

★★★
PREMIUM

Unitised wheels

Universal use

+ **High flexibility**
Particularly well suited to the time-saving machining of difficult-to-reach places.

+ **High economic efficiency**
Cool grinding and low clogging of the wheel result in a long lifetime for the product.



+ **Versatile**
This product is extremely versatile and can be used for deburring, removal of scratches, fading, glazing, finishing and machining of welding seams.

With unitised wheels from TYROLIT, especially difficult-to-reach places and corners can be reached on every workpiece. These flexible products do not alter the surface geometry of your workpiece in any way and always achieve the desired surface structure. The cool grinding, low clogging and regular surface results give them the edge over conventional tools.

Application areas are primarily the deburring, cleaning, fading, finishing and machining of welding seams. Material can be easily machined and structured using unitised wheels.

★★★
PREMIUM

Unitised wheels
Universal use



Shape	Type no.	Dimension	Design	Max. RPM	Rec. speed	PU
1UW	34257635	115x3x22.2	3 C FINE	11 000	6 600	16
	34257636	115x3x22.2	6 A MEDIUM	11 000	6 600	16
	34257637	115x6x22.2	3 C FINE	11 000	6 600	8
	34257638	115x6x22.2	6 A MEDIUM	11 000	6 600	8
	34257013	127x3x22.2	3 C FINE	10 000	6 000	4
	34257305	127x3x22.2	6 A MEDIUM	10 000	6 000	4
	34257307	127x6x22.2	3 C FINE	10 000	6 000	2
	34257322	127x3x22.2	6 A MEDIUM	10 000	6 000	2

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	Shape	Type no.	Dimension	Design	Max. RPM	Rec. speed	PU
	 1UW	34190121	127x3x22.2	3 C FINE	10 000	6 000	16
		34190122	127x3x22.2	6 A MEDIUM	10 000	6 000	16
		34190123	127x6x22.2	3 C FINE	10 000	6 000	8
		34190124	127x6x22.2	6 A MEDIUM	10 000	6 000	8
		34190125	152x3x25.4	2 A MEDIUM	5 000	3 000	16
		34190206	152x3x25.4	2 C FINE	5 000	3 000	16
		34190207	152x3x25.4	3 C FINE	5 000	3 000	16
		34190209	152x3x25.4	6 A MEDIUM	7 500	4 500	16
		34190210	152x3x25.4	6 C FINE	7 500	4 500	16
		34190231	152x3x25.4	8 A COARSE	7 500	4 500	16
		34190274	152x6x25.4	2 A MEDIUM	5 000	3 000	8
		34190275	152x6x25.4	2 C FINE	5 000	3 000	8
		34190276	152x6x25.4	3 C FINE	5 000	3 000	8
		34190277	152x6x25.4	6 A MEDIUM	7 500	4 500	8
		34190278	152x6x25.4	6 C FINE	7 500	4 500	8
		34190279	152x6x25.4	8 A COARSE	7 500	4 500	8

Items with grey lettering are only available on request.


TYROLIT
KICK
BACK



5.6 POLISHING PROGRAM
Angle grinder



Polishing program **for angle grinders**

Working with an angle grinder is one of the most important processes in the trade and industrial sectors for processing all types of metals. TYROLIT offers an optimally tailored package for polishing metal.

There are many suppliers of polishing accessories. But anyone who has ever polished knows how important it is that all components should be perfectly matched to one another.

With TYROLIT you can get everything you need from one source. You can tell how perfectly our products are matched from the fact that you can get a mirror finish in only three steps – without unwanted discolouration due to overheating.

Shapes



28PCA CONDITIONING



28 PUA PRE-POLISH



28 PWA POLISH



29EL
ELASTIC RONDELLER®



Disc POLISTAR

Recommended speeds

PREMIUM*** CONDITIONING	PREMIUM*** PRE-POLISH	PREMIUM*** POLISH
115 mm – 4 000 U/min	115 mm – 3 500 U/min	115 mm – 1 800 U/min
125 mm – 3 600 U/min	125 mm – 3 000 U/min	125 mm – 1 500 U/min

POLISHING PASTEs:

- WHITE – high gloss PRE-POLISH (POLISH)
- BLUE – high gloss POLISH (S-POLISH)
- BROWN - special POLISH for nonferrous metals (POLISH-NE)

★★★ PREMIUM

TYROLIT polishing program

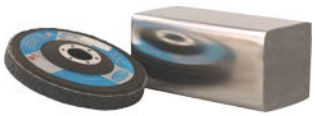
Three steps to a perfect mirror finish

+ **Preparation**
Preparing the untreated workpiece
To prepare the untreated material and get a mirror finish, you need:
PREMIUM*** fibre discs ZA-P48 Page 349
PREMIUM*** 2in1 flap discs Page 335
STANDARD** SOFTJOB Page 338
Our recommendation: grit size 120 or 80 depending on the material

+ **Step 1**
Remove rough scratch marks using the PREMIUM* CONDITIONING disc**
It removes all rough scratch marks from the surfaces to be machined.
A multi-dimensional flap design reduces clogging and prevents unwanted material discolouration.
Recommendation: “MEDIUM” grain



+ **Step 2**
Prepare for polishing with the PREMIUM* PRE-POLISH disc**
This provides optimum polishing preparation. The disc adapts flexibly to the material surface.
Recommendation: “FINE-P” grain



+ **Step 3**
POLISH **with the PREMIUM*** POLISH disc**
This allows you finally to achieve a perfect mirror finish.
Different grinding pastes enable processing of different materials, such as steel, stainless steel and nonferrous metals.
Recommendation: SHF with “S-POLISH” polishing paste



★★★ PREMIUM

CONDITIONING

For steel and stainless steel

With the PREMIUM*** CONDITIONING wheel you can remove all rough scratch marks from the surface before commencing the polishing process. The three-dimensional flap design reduces clogging of the wheel to a minimum. Using the wheel also prevents discolouration on the workpiece caused by high heat build-up.

The tool has been specially developed to achieve the best results even on non-adjustable angle grinders.



Shape	Type no.	Dimension	Design	PU	Max. RPM
28PCA	742155	115x22.23	COARSE	5	12 000
	742157	115x22.23	MEDIUM	5	12 000
	742158	115x22.23	VERY FINE	5	12 000
	742148	125x22.23	COARSE	5	11 000
	742153	125x22.23	MEDIUM	5	11 000
	742154	125x22.23	VERY FINE	5	11 000

★★★ PREMIUM

PRE-POLISH

For steel and stainless steel

To prepare surfaces for polishing, you require a sturdy, high-quality tool. The PREMIUM*** PRE-POLISH comprises several layers of abrasive fabric to achieve a long lifetime and sturdiness. This allows the tool to be used for smaller deburring jobs as well.

The tool has been specially developed to achieve the best results even on non-adjustable angle grinders.



Shape	Type no.	Dimension	Design	PU	Max. RPM
28PUA	742379	115x22.23	MEDIUM-Q	5	12 000
	742380	115x22.23	FINE-P	5	12 000
	742381	115x22.23	VERY FINE-P	5	12 000
	742382	125x22.23	MEDIUM-Q	5	11 000
	742384	125x22.23	FINE-P	5	11 000
	742385	125x22.23	VERY FINE-P	5	11 000

★★★ PREMIUM

POLISH

Universal use

Compared to conventional felt wheels, this product uses highly flexible flaps for optimum heat distribution and cool grinding. In doing so, the PREMIUM*** POLISH avoids undesired discolouration. Used in combination with the TYROLIT grinding paste, a perfect mirror finish is achieved on your workpiece.

The tool has been specially developed to achieve the best results even on non-adjustable angle grinders.



Shape	Type no.	Dimension	Specification	PU	Max. RPM
28PWA	742378	115x22.23	SHF	3	9 200
	742375	125x22.23	SHF	3	7 700

Items with grey lettering are only available on request.

★★★ PREMIUM

POLISHING PASTES

For steel, stainless steel and nonferrous metals

With the TYROLIT PREMIUM*** POLISHING PASTE in different specifications you will achieve the final mirror finish. They can be used to perform precision machining work depending on the desired surface finish. POLISHING PASTES are available in three specifications.

Using the POLISH (white), you will achieve a perfectly smooth finish. A achieve a high-gloss finish we recommend S-POLISH (blue) while the POLISH-NE paste is perfect for nonferrous metals.

	Type no.	Dimension	Specification	Colour	PU
90PP	741230	30x20x90	POLISH	WHITE	2
	741285	30x20x90	POLISH-NE	BROWN	2
	741291	30x20x90	S-POLISH	BLUE	2
	741347	60x45x160	POLISH	WHITE	1
	741348	60x45x160	POLISH-NE	BROWN	1
	741349	60x45x160	S-POLISH	BLUE	1

★★★ PREMIUM

POLISHING PROGRAM

Three steps to a mirror finish

+ **Step 1**
Remove rough scratch marks using the PREMIUM*** CONDITIONING disc. A multi-dimensional flap design reduces clogging and prevents unwanted material discolouration.

+ **Step 2**
Prepare the surface for polishing using the PREMIUM*** PRE-POLISH. The disc adapts to the material surface, providing the perfect basis for polishing.



+ **Step 3**
Using PREMIUM*** POLISH during the last step creates the perfect mirror finish. Different grinding pastes enable the machining of different materials.

TYROLIT Film

The product film can be found on YouTube at **www.youtube.com/TYROLITgroup**

With the TYROLIT Polishing program you can achieve the perfect high gloss surface in just a few steps. Preventing clogging of the wheels provides an above-average lifetime. Exceptionally cool grinding due to special flaps ensures outstanding surface finishes.

Exceptionally high levels of work safety due to low heat build-up, minimal formation of dust and quiet operation.

Items with grey lettering are only available on request.

★★★ PREMIUM

Polishing program

Three steps to a mirror finish



Type no.	Shape	Dimension	Design	Type no.	PU
21262	28PCA	115x22.23	MEDIUM	742157	1
	28PUA	115x22.23	FINE-P	742380	1
	28PWA	115x22.23	SHF	742378	1
	90 PP	30x20x90	S-POLISH	741291	2
52433	28PCA	125x22.23	MEDIUM	742153	1
	28PUA	125x22.23	FINE-P	742384	1
	28PWA	125x22.23	SHF	742375	1
	90 PP	30x20x90	S-POLISH	741291	2

★★ STANDARD

ELASTIC RONDELLER®

For steel and stainless steel

With the ELASTIC RONDELLER® TYROLIT provides an ideal tool for polishing and finishing. Thanks to the highly elastic grinding layer a surface improvement is achieved while protecting the material. Using a fibre glass core means it can be used on speed-controlled angle grinders.

Ideally suited to work on vehicles, containers and aeroplanes.



Shape		Type no.	Dimension	Design	PU	Max. RPM
29EL		10055	115x9.0x22.23	A80-COARSE	5	5 000
		10056	115x9.0x22.23	A150-MEDIUM	5	5 000
		10058	115x9.0x22.x23	A240-FINE	5	5 000

★★ STANDARD

ELASTIC RONDELLER®

For lacquers, paints and plastics

Thanks to the highly elastic grinding layer the TYROLIT ELASTIC RONDELLER® delivers a surface improvement while protecting the material. This tool is therefore ideal for polishing and finishing. The specially developed specification delivers the best results on lacquers, paints and plastics. Using a fibre glass core means it can be used on speed-controlled angle grinders. Ideally suited to work on vehicles, containers and aeroplanes.



Shape		Type no.	Dimension	Design	PU	Max. RPM
29EL		8434	115x9.0x22.23	C80-COARSE	5	5 000
		10051	115x9.0x22.23	C150-MEDIUM	5	5 000
		10054	115x9.0x22.23	C240-FINE	5	5 000

Items with grey lettering are only available on request.

★★★ PREMIUM

POLISTAR
For stone

These Velcro fastenable ceramic polishing pads are ideal for polishing stone surfaces. The grit sizes available in the assortment, from 50 to 3 000, ensure a perfect surface finish on the material.

With the PREMIUM*** POLISTAR pads, you can achieve the best results on granite, marble and terrazzo.



	Type no.	Dimension	Specification	Colour	PU
65A	293641	100x3	D50-B	BLACK	5
	293643	100x3	D150-B	GREEN	5
	293644	100x3	D300-B	RED	5
	293645	100x3	D500-B	BLUE	5
	293737	100x3	D1000-B	YELLOW	5
	293738	100x3	D2000-B	BEIGE	5
	293739	100x3	D3000-B	WHITE	5
ELKUPS	293790	100x3xM14			1

★★★ PREMIUM

POLISTAR-SET
For stone

These Velcro fastenable ceramic polishing pads are ideal for polishing stone surfaces. The grit sizes available in the assortment, from 50 to 3 000, ensure a perfect surface finish on the material. With the PREMIUM*** POLISTAR pads,

you can achieve the best results on granite, marble and terrazzo.



Type no.	Contents	Dimension	PU
293740	293641	100x3	1
	293643	100x3	1
	293644	100x3	1
	293645	100x3	1
	293737	100x3	1
	293738	100x3	1
	293739	100x3	1
	293790	100x3xM14	1

Items with grey lettering are only available on request.





5.7 QUICK-CHANGE DISCS
Mini angle grinder



QUICK-CHANGE DISCS
Mini angle grinder

QUICK-CHANGE DISCS are easy to use, without assembly tools being required. Easy handling on the mini angle grinder saves you a lot of time in your day-to-day work and increases your productivity.

A comprehensive assortment offers high-quality products for general grinding work, including fine surface finishing.
Two different mountings cover the main fixing systems. Type R can be used for Lockit, PowerLock III and Roloc TR mountings, type S for SocAtt, PowerLock II and Roloc TSM.

Another special feature of the S type mounting is that it is made from nylon, making it immune to rust and other types of contamination.

TYROLIT offers QUICK-CHANGE DISCS in a wide range of grit sizes for different materials. Take a look at our wide-ranging assortment and see for yourself.

Application recommendations

Performance level	Design	Steel	Stainless steel	NF metals	PVC	Wood	All in One	Pages
QUICK-CHANGE DISCS ★★★ PREMIUM	MINIDISC	●	●					386
	SOFTJOB	●	●					386
	A-P01 PE Y	●		●	●	●		390
	ZA-P43 PC X	●						387
	ZA-P48 PE Y	●	●					388
	CA-P93 PE Y	●	●					389, 390
SCM QUICK-CHANGE DISCS ★★★ PREMIUM	EXTRA COARSE, COARSE, EXTRA MEDIUM, MEDIUM, VERY FINE	●	●	●	●	●		391, 392
ROUGH CLEANING WHEEL QUICK-CHANGE DISCS ★★★ PREMIUM	C COARSE, A EX COARSE						●	393
COMPACT WHEELS ★★★ PREMIUM	2 A MEDIUM, 2 C FINE, 3 C FINE, 6 A MEDIUM, 6 C FINE, 8 A COARSE, 8 A MEDIUM FINE, MEDIUM, COARSE						●	392, 393

Items with grey lettering are only available on request.

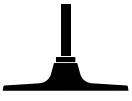
Shapes



QDisc-R



QDisc-S



Pad Q-Disc

QUICK-CHANGE MINIDISC

★★ STANDARD

2in1 for steel and stainless steel

The STANDARD** MINIDISC was specially developed for machining and refining difficult to access places. Every disc is fitted with a quick fixing system which enables fast and convenient tool changes.
The MINIDISC is also a 2in1 rough grinding wheel and is therefore equally suitable for steel and stainless steel.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-R	679662	50	40	30 000	10
	666221	50	60	30 000	10
	679663	50	80	30 000	10
	679664	50	120	30 000	10
	666276	75	40	20 000	10
	666279	75	60	20 000	10
	666280	75	80	20 000	10
	666421	75	120	20 000	10

SOFTJOB

★★ STANDARD

2in1 for steel and stainless steel

For us, the STANDARD** SOFTJOB Q-Disc represents maximum flexibility for machining difficult to access areas. It has a broad application area, comprising: Surface preparation and improvement, preparation of welding work and cleaning of weld seams, processing of contours and profiled surfaces, processing of handrails and pipes, cleaning of surfaces, removal of rust and paint residues.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-R	246982	50	40	30 000	10
	246984	50	60	30 000	10
	246985	50	80	30 000	10
	246986	50	120	30 000	10
	289327	75	40	20 000	10
	289329	75	60	20 000	10
	289330	75	80	20 000	10

Items with grey lettering are only available on request.

★★★ PREMIUM

ZA-P43 PC X QUICK-CHANGE DISC

For steel

With TYROLIT QUICK-CHANGE DISCS you can save time and thus increase productivity. They provide easy handling and can be used without the need for any additional mounting tools. These QUICK-CHANGE DISCS are specially designed for general grinding tasks on steel.

Our two different types cover the main mounting systems.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-R	116061	50	36	25 000	50
	116065	50	40	25 000	50
	116097	50	60	25 000	50
	116111	50	80	25 000	50
	116115	50	120	25 000	50
	116127	75	36	20 000	25
	116130	75	40	20 000	25
	116143	75	60	20 000	25
	116152	75	80	20 000	25
	116156	75	120	20 000	25

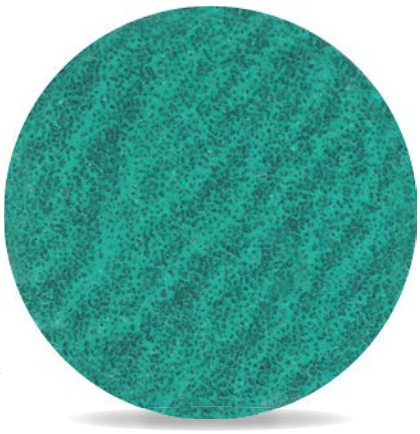
★★★ PREMIUM

ZA-P48 PE Y QUICK-CHANGE DISC

For steel and stainless steel

+ **Maximum stock removal rates**
Thanks to its high level of abrasiveness, you can achieve high stock removal on the workpiece.

+ **Longest lifetime**
The robust three-layer design and reduced grain break-out make this a durable and efficient tool.



+ **Broad assortment**
The discs are available in two diameters with different mounting types. Grit sizes 24 to 120 are suitable for all grinding tasks.

With TYROLIT QUICK-CHANGE DISCS you can save a considerable amount of time. This specification delivers maximum stock removal rates at the same time as a long lifetime. This is achieved by combining the zirconium and ceramic aluminium oxide with a three-layer product structure. In addition, this product also delivers a high level of stability, low grain break-out and enhanced edge stability.

Items with grey lettering are only available on request.

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★★★ PREMIUM

ZA-P48 PE Y QUICK-CHANGE DISC

For steel and stainless steel



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-R	112398	50	24	25 000	50
	112401	50	36	25 000	50
	112406	50	40	25 000	50
	112411	50	60	25 000	50
	112413	50	80	25 000	50
	112418	50	120	25 000	50
	112432	75	24	20 000	25
	112438	75	36	20 000	25
	112440	75	40	20 000	25
	112447	75	60	20 000	25
	112449	75	80	20 000	25
	112452	75	120	20 000	25
QDisc-S	112455	50	24	25 000	50
	112469	50	36	25 000	50
	112471	50	40	25 000	50
	112486	50	60	25 000	50
	112493	50	80	25 000	50
	112494	50	120	25 000	50
	112505	75	24	20 000	25
	112510	75	36	20 000	25
	112514	75	40	20 000	25
	112527	75	60	20 000	25
	112532	75	80	20 000	25
	112536	75	120	20 000	25

Items with grey lettering are only available on request.

★★★
PREMIUM

CA-P93 PE Y QUICK-CHANGE DISC

For steel and stainless steel

+ **Maximum stock removal rates**
Thanks to its high level of abrasiveness, you can achieve high stock removal on the workpiece.

+ **Longest lifetime**
The robust three-layer design and reduced grain break-out make this a durable and efficient tool.



+ **Broad assortment**
The discs are available in two diameters with different mounting types. Grit sizes 36 to 120 are suitable for all grinding tasks.

With TYROLIT QUICK-CHANGE DISCS you can save a considerable amount of time. This specification delivers maximum stock removal rates at the same time as a long lifetime. This is achieved by combining the zirconium and ceramic aluminium oxide with a three-layer product structure. In addition, this product also delivers a high level of stability, low grain break-out and enhanced edge stability.

★★★
PREMIUM

CA-P93 PE Y QUICK-CHANGE DISC

For steel and stainless steel



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-R	112917	50	36	25.000	50
	112918	50	40	25.000	50
	112923	50	60	25.000	50
	112924	50	80	25.000	50
	112928	50	120	25.000	50
	112934	75	36	20.000	25
	112935	75	40	20.000	25
	112937	75	60	20.000	25
	112947	75	80	20.000	25
	112948	75	120	20.000	25

▶

Items with grey lettering are only available on request.

CA-P93 PE Y QUICK-CHANGE DISC

★★★ PREMIUM

For steel and stainless steel



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-S	112950	50	36	25 000	50
	112961	50	40	25 000	50
	112988	50	60	25 000	50
	113007	50	80	25 000	50
	113023	50	120	25 000	50
	113026	75	36	20 000	25
	113027	75	40	20 000	25
	113031	75	60	20 000	25
	113057	75	80	20 000	25
	113059	75	120	20 000	25

A-P01 PE Y QUICK-CHANGE DISC

★★★ PREMIUM

For steel, nonferrous metals, plastic and wood

With TYROLIT QUICK-CHANGE DISCS you can save time and increase productivity. They provide easy handling and can be used without the need for any additional mounting tools. Our QUICK-CHANGE DISC assortment includes discs for general grinding tasks on any material.

Our two different types cover the main mounting systems.



Shape	Type no.	Diameter	Grain	Max. RPM	PU
QDisc-R	111562	50	24	25 000	50
	111567	50	36	25 000	50
	111570	50	40	25 000	50
	111577	50	60	25 000	50
	111584	50	80	25 000	50
	111585	50	120	25 000	50
	111611	75	24	20 000	25
	111631	75	36	20 000	25
	112203	75	40	20 000	25
	112204	75	60	20 000	25
	112205	75	80	20 000	25
	112242	75	120	20 000	25
QDisc-S	112253	50	24	25 000	50
	112254	50	36	25 000	50
	112268	50	40	25 000	50
	112273	50	50	25 000	50
	112279	50	60	25 000	50
	112283	50	80	25 000	50

Items with grey lettering are only available on request.

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	Shape	Type no.	Diameter	Grain	Max. RPM	PU
	QDisc-S	112298	50	120	25 000	50
		112308	50	180	25 000	50
		112309	75	24	20 000	25
		112312	75	36	20 000	25
		112320	75	40	20 000	25
		112322	75	50	20 000	25
		112337	75	60	20 000	25
		112339	75	80	20 000	25
		112359	75	120	20 000	25

★★★
PREMIUM

SCM QUICK-CHANGE DISC

For steel, stainless steel, nonferrous metals, plastic and wood

+ **Reduces working times**
The working time is significantly reduced through the long lifetime and the saving of one to three work steps.

+ **Noticeable cost reduction**
Fewer work steps also means reduced tool costs.



+ **Comprehensive assortment**
The SCM range currently includes discs in the most varied of sizes and specifications.

With the new TYROLIT SCM program, we are now taking a further step towards economic efficiency. Simple handling and mounting save you time. With SCM, the machining time of the workpiece can now be greatly reduced. A saving of one to three work steps is thus the key benefit.
Thanks to the quick and high stock removal rate, applications such as the reduction of surface roughness, removal of discolouration, smoothing of surfaces and the cleaning and removal of weld seams can be realised.

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Items with grey lettering are only available on request.

★★★ PREMIUM

SCM QUICK-CHANGE DISC

For steel, stainless steel, nonferrous metals, plastic and wood

	Shape	Type no.	Diameter	Design	Colour	Max. RPM	Rec. speed	PU
	QDisc-R	34072695	50	EXTRA COARSE	DARK BROWN / PURPLE	25 000	16 000	50
		112543	50	COARSE	BROWN	25 000	16 000	50
		34072696	50	EXTRA MEDIUM	DARK RED / PURPLE	25 000	16 000	50
		112546	50	MEDIUM	RED	25 000	16 000	50
		112550	50	VERY FINE	BLUE	25 000	16 000	50
		34072700	75	EXTRA COARSE	DARK BROWN / PURPLE	20 000	13 000	25
		112551	75	COARSE	BROWN	20 000	13 000	25
		34072701	75	EXTRA MEDIUM	DARK RED / PURPLE	25 000	13 000	25
		112581	75	MEDIUM	RED	20 000	13 000	25
		112588	75	VERY FINE	BLUE	20 000	13 000	25
	QDisc-S	112589	50	COARSE	BROWN	25 000	16 000	50
		112590	50	MEDIUM	RED	25 000	16 000	50
		112591	50	VERY FINE	BLUE	25 000	16 000	50
		112592	75	COARSE	BROWN	20 000	13 000	25
		112593	75	MEDIUM	RED	20 000	13 000	25
		112599	75	VERY FINE	BLUE	20 000	13 000	25

Coated abrasives

★★★ PREMIUM

Unitised wheels QUICK-CHANGE DISC

Universal use

+ **High flexibility**
Particularly well suited to the time-saving machining of difficult-to-reach places.

+ **High economic efficiency**
Cool grinding and low clogging of the wheel result in a long lifetime for the product.



+ **Versatile**
This product is extremely versatile and can be used for deburring, removal of scratches, fading, glazing, finishing and machining of welding seams.

Items with grey lettering are only available on request.

The unitised wheels from TYROLIT are ideally suited to the machining of small surfaces and corners. The soft surface of the product does not alter the surface geometry of your workpiece in any way and always achieves the desired structure. Application areas are primarily the deburring, cleaning, fading, finishing and machining of welding seams.

Compact wheels offer increased safety and especially cool grinding compared to other deburring tools.

★★★ PREMIUM

Unitised wheels QUICK-CHANGE DISC

Universal use



Shape	Type no.	Diameter	Design	Max. RPM	Rec. speed	PU
QDisc-R	34190106	51	2 A MEDIUM	22 000	13 000	20
	34190107	51	2 C FINE	22 000	13 000	20
	34190108	51	3 C FINE	22 000	13 000	20
	34190110	51	6 A MEDIUM	22 000	13 000	20
	34190133	51	6 C FINE	22 000	13 000	20
	34190134	51	8 A COARSE	22 000	13 000	20
	34201556	51	8 A MEDIUM	22 000	13 000	20
	34190135	76	2 A MEDIUM	15 000	9 000	10
	34190137	76	2 C FINE	15 000	9 000	10
	34190138	76	3 C FINE	15 000	9 000	10
	34190139	76	6 A MEDIUM	15 000	9 000	10
	34190140	76	6 C FINE	15 000	9 000	10
	34190142	76	8 A COARSE	15 000	9 000	10
	34201558	76	8 A MEDIUM	15 000	9 000	10

★★★ PREMIUM

Rough cleaning wheel QUICK-CHANGE DISC

For steel, stainless steel and PVC

With the TYROLIT rough cleaning wheel for mini angle grinders you can effortlessly remove rust, paint, lacquer and underbody sealant. The porous nylon fibres, treated with aggressive abrasives, meet any challenge. At the same time, it prevents smearing and loading of the disc.

This wheel offers the user quiet, non-strenuous grinding coupled with low generation of heat.



Shape	Type no.	Diameter	Design	Colour	Max. RPM	Rec. speed	PU
QDisc-R	112602	50	C COARSE	BLACK	10 500	6 300	20
	112603	75	C COARSE	BLACK	7 000	4 200	10
	34206231	50	A EX. COARSE	BLUE	10 500	7 000	20
	34206232	75	A EX. COARSE	BLUE	7 000	4 200	10

Items with grey lettering are only available on request.

Accessories
For QUICK-CHANGE DISCS

These accessories enable QUICK-CHANGE DISCS to be easily and safely mounted on your mini angle grinder. The accessories are available in the common sizes of 50 and 75 mm diameter.

	Shape		Type no.	Dimension	Grade	Mounting	Max. RPM	PU
		PAD Q-DISC	131779	50-6x40	MEDIUM	R	25 000	1
			131783	75-6x40	MEDIUM	R	20 000	1
			131784	50-6x40	MEDIUM	S	25 000	1
			131786	75-6x40	MEDIUM	S	20 000	1

Accessories
For Q-Disc compact wheels

These accessories enable the Pad Q-Disc adapter to be easily mounted on your angle grinder. To do this, remove the adapter shaft and instead mount the M14 adapter.

	Shape	Type no.	Mounting	Specification	Max. RPM	PU
		34214177	R	P ADAPTER	22 000	1

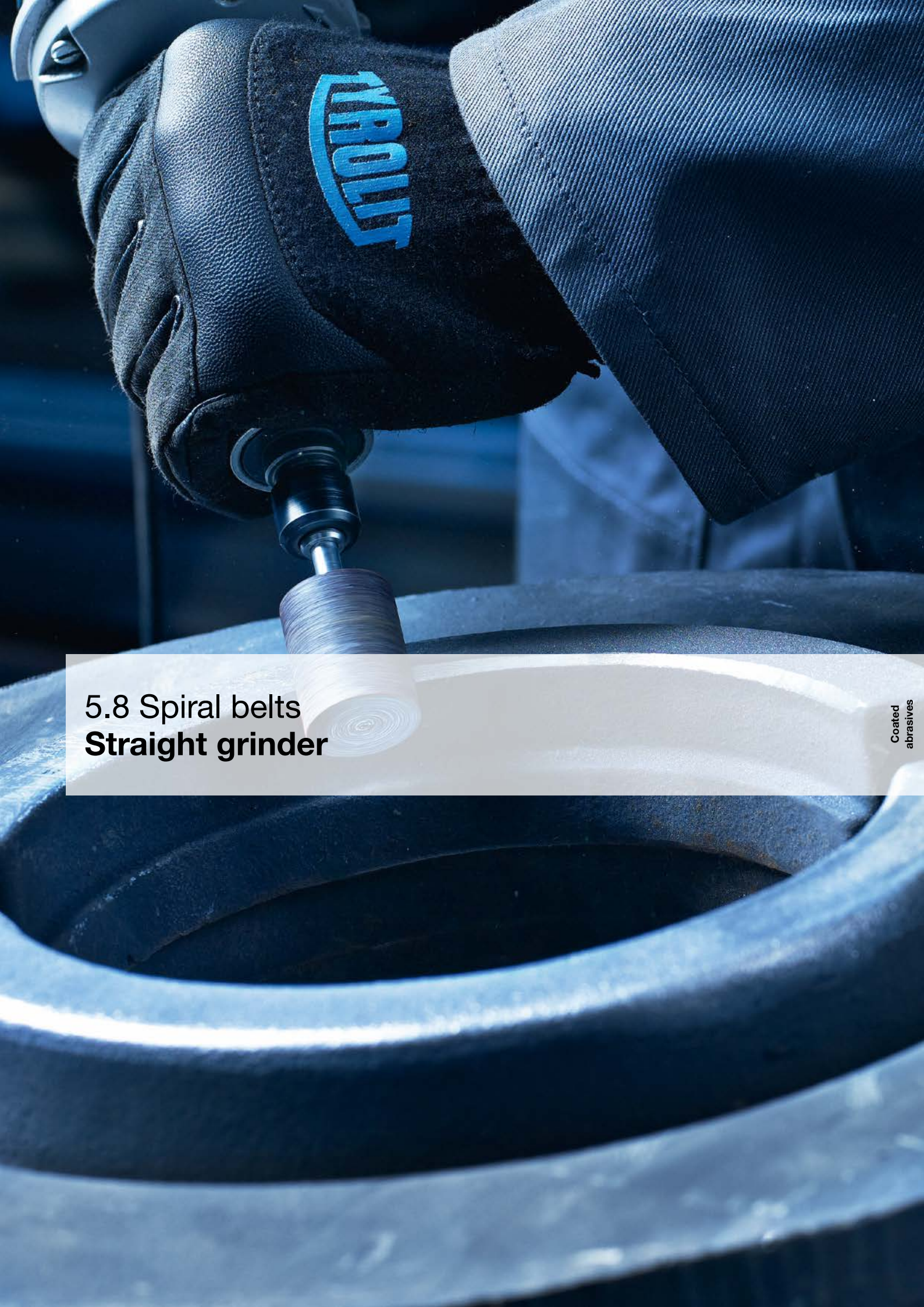
★★★ PREMIUM

QUICK-CHANGE DISC Set
Universally useable

THE QUICK CHANGE set includes SCM discs as well as coarse cleaning discs and discs with the following specification; ZA-P48, ZA-P93 and A-P01. Furthermore the kit also contains the mountings required and acts as a valuable demo box for the assortment.

	Shape	Type no.	Dimension	Mounting	Comments	PU
		34064598	50 & 75	R	DEMOBOX	1

Items with grey lettering are only available on request.



5.8 Spiral belts
Straight grinder



Spiral belts
Straight grinder

Straight grinders are used when you need to work precisely in hard-to-reach locations. TYROLIT spiral belts provide the help you need for every task. They’re precise, yet flexible.

Our spiral belts allow you to work quickly and neatly on every type of metal, both ferrous and nonferrous. Applications range from simple deburring, to precision work, to the shaping of complex workpieces.

With many different grit sizes available, a wide range of possibilities is open to you. Naturally TYROLIT also offers suitable accessories for easy assembly on straight grinders.

Application recommendations

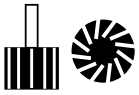
Performance level	Specification	Steel	Stainless steel	NF metals	Pages
★★★ PREMIUM	ZA-P43 PC X	●	●	●	398, 399

Items with grey lettering are only available on request.

Shapes



Spiral Spiral belt



SBH Accessories

★★★ PREMIUM

ZA-P43 PC X spiral belts

For steel, stainless steel and aluminium

TYROLIT spiral belts are used for fine grinding and deburring work, as well as shaping complex workpieces. The combination of zirconium and an additional coolant enables them to be used on many different materials. The variety of grit sizes available means they can be used for very high stock removal or fine grinding.

The spiral belts can easily be mounted on an axle or an expandable mandrel. Accessories also form part of our assortment.





Shape	Type no.	Dimension	Grain	Max. RPM	PU
Spiral	706514	10x20	50	36 000	50
	706515	10x20	60	36 000	50
	706516	10x20	80	36 000	50
	706517	10x20	120	36 000	50
	706519	13x25	50	36 000	50
	706520	13x25	60	36 000	50
	706521	13x25	80	36 000	50
	706523	13x25	120	36 000	50
	706524	15x30	36	36 000	50
	706525	15x30	50	36 000	50
	706526	15x30	60	36 000	50
	706527	15x30	80	36 000	50
	706528	15x30	120	36 000	50
	706529	19x25	36	30 000	50
	706530	19x25	50	30 000	50
	706531	19x25	60	30 000	50
	706533	19x25	80	30 000	50
	706534	19x25	120	30 000	50
	706535	22x20	36	26 000	50
	706536	22x20	50	26 000	50
	706537	22x20	60	26 000	50
	706538	22x20	80	26 000	50
	706539	22x20	120	26 000	50
	706540	25x25	36	24 000	50
	706541	25x25	50	24 000	50
	706542	25x25	60	24 000	50
	706543	25x25	80	24 000	50
	706544	25x25	120	24 000	50
	706545	30x30	36	19 100	50
	706546	30x30	50	19 100	50
	706547	30x30	60	19 100	50
	706548	30x30	80	19 100	50
	706550	30x30	120	19 100	50
	706551	38x25	36	15 000	50
	706552	38x25	50	15 000	50
	706553	38x25	60	15 000	50

Items with grey lettering are only available on request.

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Shape	Type no.	Dimension	Grain	Max. RPM	PU
Spiral	706555	38x25	80	15 000	50
	706557	38x25	120	15 000	50
	706558	45x30	36	12 700	50
	706559	45x30	50	12 700	50
	706560	45x30	60	12 700	50
	706561	45x30	80	12 700	50
	706562	45x30	120	12 700	50
	706563	51x25	36	11 200	50
	706564	51x25	50	11 200	50
	706565	51x25	60	11 200	50
	706566	51x25	80	11 200	50
	706567	51x25	120	11 200	50
	706568	60x30	36	9 500	50
	706569	60x30	50	9 500	50
	706570	60x30	60	9 500	50
	706571	60x30	80	9 500	50
	706573	60x30	120	9 500	50
	706574	75x30	36	7 600	50
	706575	75x30	50	7 600	50
	706576	75x30	60	7 600	50
	706577	75x30	80	7 600	50
	706578	75x30	120	7 600	50

★★★ PREMIUM

Accessories

For spiral belts

This expandable rubber support has been specially designed for use with spiral belts. Expanding the flaps on the support enables the spiral belt to be fixed, ensuring it is safe and easy to mount.

These accessories are suitable for all spiral belts in our assortment.



Shape	Type no.	Dimension	Max. RPM	PU
SBH	710011	10x20-6x40	44 000	5
	710012	13x25-6x40	44 000	5
	710013	15x30-6x40	36 000	5
	710014	19x25-6x40	30 000	5
	710015	22x20-6x40	26 000	5
	710016	25x25-6x40	24 000	5
	710017	30x30-6x40	19 100	5
	710018	38x25-6x40	15 000	5
	710022	45x30-6x40	12 700	5
	710023	51x25-6x40	11 200	5
	710025	60x30-6x40	9 500	5
	710026	75x30-6x40	7 600	5

Items with grey lettering are only available on request.


TYROLIT



5.9 Spindle-mounted fleece flap wheels and mounted flap wheels
Straight grinder



Spindle-mounted fleece flap wheels and mounted flap wheels **for straight grinders**

Straight grinders are used when you need to work precisely in hard-to-reach locations. Especially when used in conjunction with TYROLIT spindle-mounted fleece flap wheels and mounted flap wheels, they are a flexible tool for producing optimum workpiece contours.

The fan-shaped, abrasive grain flaps of the mounted flap wheels allow precise work on all surfaces. They can be used not only on electrical but also on pneumatic straight grinders.

The TYROLIT assortment also includes a large number of spindle-mounted fleece flap wheels in different shapes and designs. They are highly adaptable and ensure that no changes occur to the surface integrity. Spindle-mounted fleece flap wheels are available with or without embedded abrasive.

Application recommendations

Performance level	Specification	Steel	Stainless steel	NF metals	Pages
MOUNTED FLAP WHEELS ★★★ PREMIUM	A-P01 PE Y	●	●	●	404, 405, 406, 407, 408
MOUNTED FLAP WHEELS ★ BASIC	A-B02 PC X	●	●	●	408, 409
FLEECE FLAP WHEELS SPINDLE MOUNTED ★★★ PREMIUM		●	●	●	410, 411

Items with grey lettering are only available on request.

Shapes



52 VL Spindle-mounted fleece flap wheels



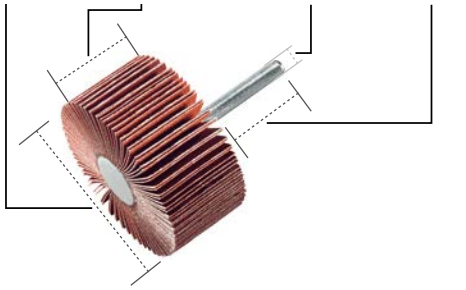
52 LAVL Spindle-mounted fleece flap wheels



552 LA Mounted flap wheels

Dimensions

50 x 30 – 6 x 40



★★★
PREMIUM

A-P01 C X mounted flap wheels

For steel, stainless steel and nonferrous metals

+ **High flexibility**
Greater precision is made possible as the flaps adjust flexibly to the contours of each workpiece.

+ **Universal use**
TYROLIT mounted flap wheels can be used on both pneumatic and electric machines for different materials.



+ **Less work required**
The grinding of small and difficult-to-reach areas, for example in container construction and apparatus engineering, is not a problem for TYROLIT mounted flap wheels.

These tools adapt optimally to every workpiece contour thanks to their flexibility. The radially arranged flaps of the mounted flap wheels can be used on various materials and permit precise work for different applications, such as matting, pre-polishing and the cleaning of surfaces.

The highly flexible flaps also make light work of machining hard-to-reach areas.

★★★
PREMIUM

A-P01 C X mounted flap wheels

For steel, stainless steel and nonferrous metals

	Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
	 52LA-C	909383	10x10–3x40	80	35 000	26 000	10
		909385	10x10–3x40	120	35 000	26 000	10
		661085	10x10–3x40	150	35 000	26 000	10
		49856	20x10–6x40	60	30 000	20 000	10
		816831	20x10–6x40	80	30 000	20 000	10
		816833	20x10–6x40	120	30 000	20 000	10
		619800	20x10–6x40	150	30 000	20 000	10
		816843	20x10–6x40	180	30 000	20 000	10

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Items with grey lettering are only available on request.



Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
52LA-C	886805	25x15–6x40	60	26 000	18 000	10
	816846	25x15–6x40	80	26 000	18 000	10
	816847	25x15–6x40	120	26 000	18 000	10
	909388	30x5–6x40	60	26 000	16 000	10
	909390	30x5–6x40	80	26 000	16 000	10
	909393	30x5–6x40	120	26 000	16 000	10
	909396	30x10–3x40	60	26 000	16 000	10
	909397	30x10–3x40	80	26 000	16 000	10
	909398	30x10–3x40	120	26 000	16 000	10
	816854	30x10–3x40	150	26 000	16 000	10
	909400	30x10–3x40	240	26 000	16 000	10
	959241	30x10–6x40	40	26 000	16 000	10
	816855	30x10–6x40	60	26 000	16 000	10
	816871	30x10–6x40	80	26 000	16 000	10
	816872	30x10–6x40	120	26 000	16 000	10
	816873	30x10–6x40	150	26 000	16 000	10
	909405	30x10–6x40	180	26 000	16 000	10
	816874	30x10–6x40	240	26 000	16 000	10
	816875	30x10–6x40	320	26 000	16 000	10
	939107	30x15–6x40	40	26 000	16 000	10
	816880	30x15–6x40	60	26 000	16 000	10
	816893	30x15–6x40	80	26 000	16 000	10
	816905	30x15–6x40	120	26 000	16 000	10
	816906	30x15–6x40	150	26 000	16 000	10
	667198	30x15–6x40	180	26 000	16 000	10
	909404	30x15–6x40	240	26 000	16 000	10
	432975	30x15–6x40	320	26 000	16 000	10
	82070	40x10–6x40	40	20 000	13 000	10
	648425	40x10–6x40	60	20 000	13 000	10
	82078	40x10–6x40	80	20 000	13 000	10
	82079	40x10–6x40	120	20 000	13 000	10
	910558	40x15–6x40	40	20 000	13 000	10
	816907	40x15–6x40	60	20 000	13 000	10
	816908	40x15–6x40	80	20 000	13 000	10
	816909	40x15–6x40	120	20 000	13 000	10
	816911	40x15–6x40	150	20 000	13 000	10
	678198	40x15–6x40	180	20 000	13 000	10
	816912	40x15–6x40	240	20 000	13 000	10
	816913	40x15–6x40	320	20 000	13 000	10

Items with grey lettering are only available on request.

★★★ PREMIUM

A-P01 C X mounted flap wheels

For steel, stainless steel and nonferrous metals



Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
52LA-C	816914	40x20–6x40	40	20 000	13 000	10
	816915	40x20–6x40	60	20 000	13 000	10
	816916	40x20–6x40	80	20 000	13 000	10
	816918	40x20–6x40	120	20 000	13 000	10
	816919	40x20–6x40	150	20 000	13 000	10
	897078	40x20–6x40	180	20 000	13 000	10
	816920	40x20–6x40	240	20 000	13 000	10
	816921	40x20–6x40	320	20 000	13 000	10
	82117	50x10–6x40	60	16 000	11 000	10
	909362	50x10–6x40	80	16 000	11 000	10
	82125	50x10–6x40	120	16 000	11 000	10
	34053444	50x10–6x40	240	16 000	11 000	10
	82127	50x15–6x40	40	16 000	11 000	10
	816922	50x15–6x40	60	16 000	11 000	10
	816923	50x15–6x40	80	16 000	11 000	10
	816924	50x15–6x40	120	16 000	11 000	10
	816925	50x15–6x40	150	16 000	11 000	10
	816926	50x15–6x40	240	16 000	11 000	10
	816927	50x15–6x40	320	16 000	11 000	10
	816928	50x20–6x40	40	16 000	11 000	10
	816931	50x20–6x40	60	16 000	11 000	10
	816933	50x20–6x40	80	16 000	11 000	10
	816934	50x20–6x40	120	16 000	11 000	10
	848563	50x20–6x40	180	16 000	11 000	10
	816939	50x20–6x40	320	16 000	11 000	10
	910574	50x30–6x40	40	16 000	11 000	10
	816940	50x30–6x40	60	16 000	11 000	10
	816941	50x30–6x40	80	16 000	11 000	10
	816942	50x30–6x40	120	16 000	11 000	10
	816943	50x30–6x40	150	16 000	11 000	10
	433019	50x30–6x40	180	16 000	11 000	10
	433020	50x30–6x40	240	16 000	11 000	10
	910572	50x30–6x40	320	16 000	11 000	10
	910587	60x15–6x40	40	13 500	9 000	10
	816949	60x15–6x40	60	13 500	9 000	10
	816950	60x15–6x40	80	13 500	9 000	10
	816951	60x15–6x40	120	13 500	9 000	10

Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
	 52LA-C	816952	60x15–6x40	150	13 500	9 000	10
		910579	60x15–6x40	240	13 500	9 000	10
		910707	60x20–6x40	40	13 500	9 000	10
		816953	60x20–6x40	60	13 500	9 000	10
		816954	60x20–6x40	80	13 500	9 000	10
		816955	60x20–6x40	120	13 500	9 000	10
		816956	60x20–6x40	150	13 500	9 000	10
		433039	60x20–6x40	180	13 500	9 000	10
		816957	60x20–6x40	240	13 500	9 000	10
		816958	60x20–6x40	320	13 500	9 000	10
		817011	60x30–6x40	40	13 500	9 000	10
		816959	60x30–6x40	60	13 500	9 000	10
		816960	60x30–6x40	80	13 500	9 000	10
		816961	60x30–6x40	120	13 500	9 000	10
		816962	60x30–6x40	150	13 500	9 000	10
		909368	60x30–6x40	180	13 500	9 000	10
		816963	60x30–6x40	240	13 500	9 000	10
		816964	60x30–6x40	320	13 500	9 000	10
		817012	60x40–6x40	40	13 500	9 000	10
		816965	60x40–6x40	60	13 500	9 000	10
		816966	60x40–6x40	80	13 500	9 000	10
		816967	60x40–6x40	120	13 500	9 000	10
		816968	60x40–6x40	150	13 500	9 000	10
		816969	60x40–6x40	240	13 500	9 000	10
		816971	60x50–6x40	40	13 500	9 000	10
		816972	60x50–6x40	60	13 500	9 000	10
		816973	60x50–6x40	80	13 500	9 000	10
		816974	60x50–6x40	120	13 500	9 000	10
		910718	80x15–6x40	60	10 000	6 000	10
		82256	80x15–6x40	80	10 000	6 000	10
		82257	80x15–6x40	120	10 000	6 000	10
		816976	80x20–6x40	60	10 000	6 000	10
		816977	80x20–6x40	80	10 000	6 000	10
		816978	80x20–6x40	120	10 000	6 000	10
		910722	80x30–6x40	40	10 000	6 000	10
		816981	80x30–6x40	60	10 000	6 000	10
		816982	80x30–6x40	80	10 000	6 000	10
		816983	80x30–6x40	120	10 000	6 000	10
		816984	80x30–6x40	150	10 000	6 000	10

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Items with grey lettering are only available on request.

★★★ PREMIUM

A-P01 C X mounted flap wheels

For steel, stainless steel and nonferrous metals



	Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
	 52LA-C	433068	80x30–6x40	180	10 000	6 000	10
		915573	80x30–6x40	240	10 000	6 000	10
		910720	80x30–6x40	320	10 000	6 000	10
		816985	80x40–6x40	60	10 000	6 000	10
		816986	80x40–6x40	80	10 000	6 000	10
		816987	80x40–6x40	120	10 000	6 000	10
		816989	80x40–6x40	240	10 000	6 000	10
		87910	80x50–6x40	40	10 000	6 000	10
		816990	80x50–6x40	60	10 000	6 000	10
		816991	80x50–6x40	80	10 000	6 000	10
		816992	80x50–6x40	120	10 000	6 000	10
		816993	80x50–6x40	180	10 000	6 000	10
		817001	80x50–6x40	240	10 000	6 000	10
		817003	80x50–6x40	320	10 000	6 000	10

★ BASIC

A-B02 PC X mounted flap wheels

For steel, stainless steel and nonferrous metals



The BASIC* mounted flap wheels adapt well to every workpiece contour thanks to their flexibility. The radially arranged flaps of the mounted flap wheels can be used on various materials and permit precise work for different applications, such as matting, PRE-POLISHing and the cleaning of surfaces.

The highly flexible flaps also make light work of machining hard-to-reach areas.

	Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
	 52LA-C	34054618	30x10–6x40	40	26 000	16 000	10
		34054619	30x10–6x40	60	26 000	16 000	10
		34054737	30x10–6x40	80	26 000	16 000	10
		34054660	30x10–6x40	120	26 000	16 000	10
		34054738	30x10–6x40	180	26 000	16 000	10
		34054739	40x15–6x40	40	20 000	13 000	10
		34054751	40x15–6x40	60	20 000	13 000	10
		34054753	40x15–6x40	80	20 000	13 000	10
		34054754	40x15–6x40	120	20 000	13 000	10
		34054758	40x15–6x40	180	20 000	13 000	10
		34054759	40x20–6x40	40	20 000	13 000	10
		34054760	40x20–6x40	60	20 000	13 000	10
		34054783	40x20–6x40	80	20 000	13 000	10

Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Grain	Max. RPM	Rec. speed	PU
	 52LA-C	34054784	40x20–6x40	120	20 000	13 000	10
		34054785	40x20–6x40	180	20 000	13 000	10
		34054786	50x15–6x40	40	16 000	11 000	10
		34054787	50x15–6x40	60	16 000	11 000	10
		34054788	50x15–6x40	80	16 000	11 000	10
		34054789	50x15–6x40	120	16 000	11 000	10
		34054801	50x20–6x40	40	16 000	11 000	10
		34054805	50x20–6x40	60	16 000	11 000	10
		34054809	50x20–6x40	80	16 000	11 000	10
		34054812	50x20–6x40	120	16 000	11 000	10
		34054813	50x20–6x40	180	16 000	11 000	10
		34054814	50x30–6x40	40	16 000	11 000	10
		34054817	50x30–6x40	60	16 000	11 000	10
		34054820	50x30–6x40	80	16 000	11 000	10
		34054831	50x30–6x40	120	16 000	11 000	10
		34054832	50x30–6x40	180	16 000	11 000	10
		34054834	60x20–6x40	40	13 500	9 000	10
		34054836	60x20–6x40	60	13 500	9 000	10
		34054837	60x20–6x40	80	13 500	9 000	10
		34054839	60x20–6x40	120	13 500	9 000	10
		34054840	60x20–6x40	180	13 500	9 000	10
		34054852	60x30–6x40	40	13 500	9 000	10
		34054854	60x30–6x40	60	13 500	9 000	10
		34054855	60x30–6x40	80	13 500	9 000	10
		34054856	60x30–6x40	120	13 500	9 000	10
		34054857	60x30–6x40	180	13 500	9 000	10
		34054858	80x30–6x40	40	10 000	6 000	10
		34054860	80x30–6x40	60	10 000	6 000	10
		34054861	80x30–6x40	80	10 000	6 000	10
		34054862	80x30–6x40	120	10 000	6 000	10
		34054863	80x30–6x40	180	10 000	6 000	10

Items with grey lettering are only available on request.

★★★ PREMIUM

Fleece flap wheels spindle mounted

For steel, stainless steel and nonferrous metals

TYROLIT spindle-mounted fleece flap wheels are highly adaptable and ensure that no changes occur to the surface integrity. The TYROLIT PREMIUM*** assortment has now been extended by 29 types in order to be able to offer you different grains and new dimensions.
Different surface structures and roughnesses can be achieved through the variety of grain gradings. TYROLIT spindle-mounted fleece flap wheels are also available with inlaid coated abrasive, so that higher stock removal can be achieved and a coarser surface integrity created.

	Shape	Type no.	Dimension	Grain	Design	Max. RPM	Rec. speed	PU
	52 LA VL	570473	40x20–6x40		A COARSE	9 000	7 500	10
		908708	40x20–6x40		A MEDIUM	9 000	7 500	10
		908712	40x20–6x40		A FINE	9 000	7 500	10
		388126	40x20–6x40		A VERY FINE	9 000	7 500	10
		136087	50x30–6x40		A MEDIUM	8 000	6 000	10
		136090	50x30–6x40		A VERY FINE	8 000	6 000	10
		908854	50x50–6x40		A MEDIUM	8 000	6 000	10
		570485	60x30–6x40		A COARSE	7 000	5 000	10
		908784	60x30–6x40		A MEDIUM	7 000	5 000	10
		908794	60x30–6x40		A FINE	7 000	5 000	10
		908795	60x30–6x40		A VERY FINE	7 000	5 000	10
		34054620	60x50–6x40		A COARSE	7 000	5 000	10
		908710	60x50–6x40		A MEDIUM	7 000	5 000	10
		908715	60x50–6x40		A FINE	7 000	5 000	10
		34054651	60x50–6x40		A VERY FINE	7 000	5 000	10
		908862	80x50–6x40		A COARSE	6 000	4 000	10
		372339	80x50–6x40		C MEDIUM	6 000	4 000	10
		908711	80x50–6x40		A MEDIUM	6 000	4 000	10
		908717	80x50–6x40		A FINE	6 000	4 000	10
		908796	80x50–6x40		A VERY FINE	6 000	4 000	10
	52LA VL-C	34053446	40x20–6x40	60	A COARSE	9 000	7 500	10
		908775	40x20–6x40	100	A MEDIUM	9 000	7 500	10
		908779	40x20–6x40	150	A FINE	9 000	7 500	10
		34053447	50x30–6x40	60	A COARSE	8 000	6 000	10
		136161	50x30–6x40	80	A MEDIUM	8 000	6 000	10
		457370	50x30–6x40	150	A FINE	8 000	6 000	10
		136164	50x30–6x40	240	A VERY FINE	8 000	6 000	10
		148718	50x50–6x40	120	A MEDIUM	8 000	6 000	10
		148722	50x50–6x40	240	A VERY FINE	8 000	6 000	10
		263249	60x30–6x40	60	A COARSE	7 000	5 000	10
		910902	60x30–6x40	80	A MEDIUM	7 000	5 000	10
		908780	60x30–6x40	150	A FINE	7 000	5 000	10
		908821	60x30–6x40	240	A VERY FINE	7 000	5 000	10
		136168	60x40–6x40	80	A MEDIUM	7 000	5 000	10

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Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Grain	Design	Max. RPM	Rec. speed	PU
	 52LA VL-C	136173	60x40–6x40	240	A VERY FINE	7 000	5 000	10
		34054652	60x50–6x40	60	A COARSE	7 000	5 000	10
		34054655	60x50–6x40	80	A MEDIUM	7 000	5 000	10
		34054658	60x50–6x40	150	A FINE	7 000	5 000	10
		239448	80x30–6x40	240	A VERY FINE	6 000	4 000	10
		908871	80x50–6x40	60	A COARSE	6 000	4 000	10
		910864	80x50–6x40	80	A MEDIUM	6 000	4 000	10
		136193	80x50–6x40	120	A MEDIUM	6 000	4 000	10
		910853	80x50–6x40	150	A FINE	6 000	4 000	10
		908823	80x50–6x40	240	A VERY FINE	6 000	4 000	10
		908872	100x50–6x40	60	A COARSE	4 000	3 000	10
		910890	100x50–6x40	80	A MEDIUM	4 000	3 000	10
		908826	100x50–6x40	150	A FINE	4 000	3 000	10
		908825	100x50–6x40	240	A VERY FINE	4 000	3 000	10

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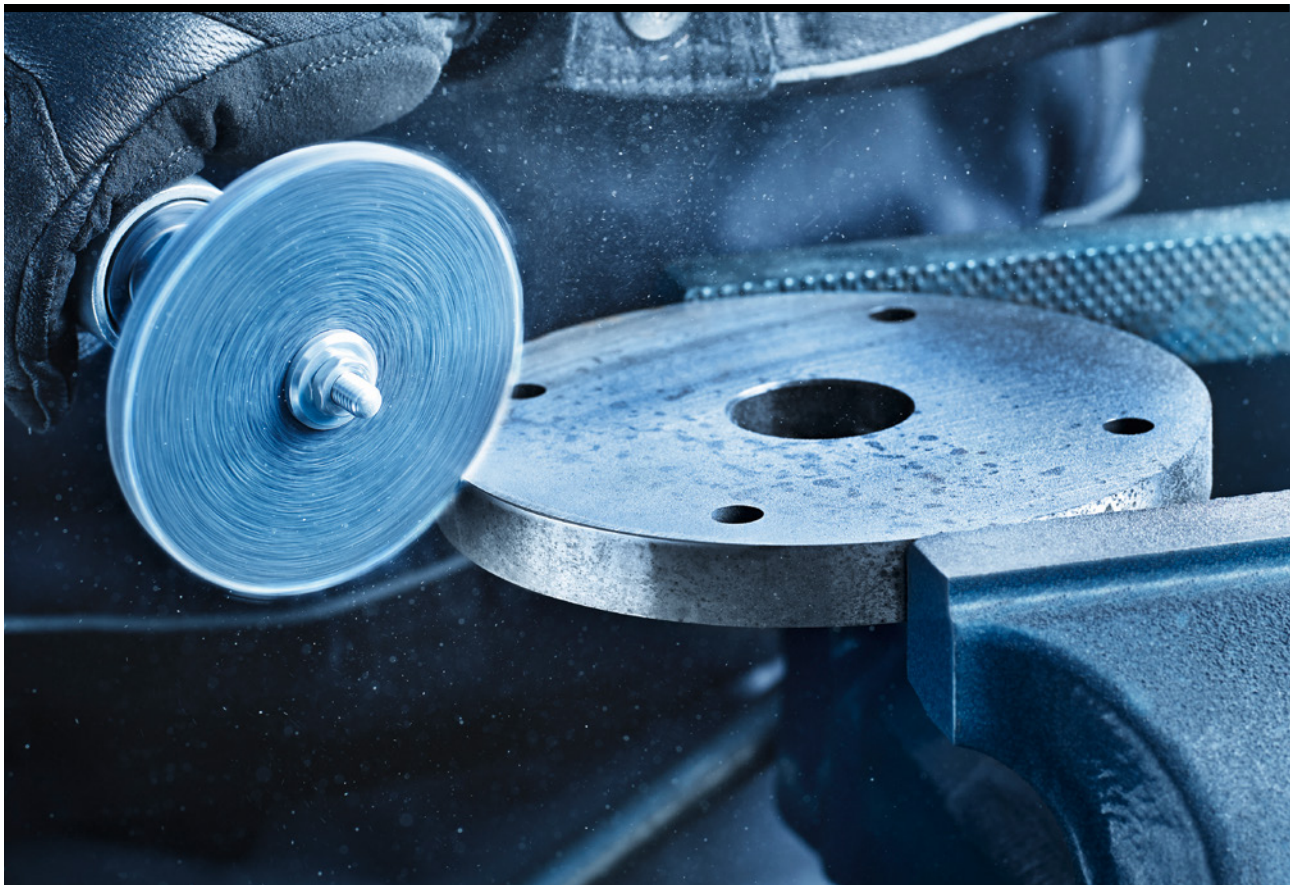
WEAR
CHIBA



5.10 Compact wheels
Straight grinders



Compact wheels **for straight grinders**

Straight grinders are always used where precision is required in hard-to-reach locations. TYROLIT offers a comprehensive assortment of unitised and convolute compact wheels.

With the compact wheel range, TYROLIT offers you an ideal tool for the machining of surfaces without changing the surface geometry, particularly for the removal of rust and dirt. Compact wheels consist of multilayer unitised fleece and are available in coarse to fine specifications depending on the number of layers. Due to their soft structure, MMF (multi metal finishing) compact wheels are especially suitable for the fine machining of all metal surfaces, whereas DB (deburring) compact wheels are particularly hard due to several layers and high pressure and are therefore suitable for deburring work.
On the following pages, you will find our range of unitised and convolute compact wheels for straight grinders.

Application recommendations

Performance level	Design	All in One	Pages
★★★ PREMIUM	2 A MEDIUM, 2 A COARSE, 2 C COARSE, 2 C MEDIUM, 2 C FINE, 3 C FINE, 5 A MEDIUM, 6 A MEDIUM, 6 C FINE, 8 A COARSE	●	416, 417, 418

Items with grey lettering are only available on request.

Shapes



1UW Unitized wheel
(unitised wheel)



1 CW Convolute wheel
(convolute wheel)

★★★
PREMIUM

Unitised wheels

Universal use

+ **Broad assortment**
Depending on the surface finish, they are available in our assortment from hard to very flexible.

+ **High economic efficiency**
Cool grinding and low clogging of the wheel result in a long lifetime for the product.



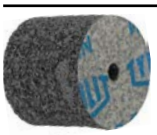
+ **Versatile**
This product is extremely versatile and can be used for deburring, removal of scratches, fading, glazing, finishing and machining of welding seams.

The assortment of unitised wheels ranges from abrasive, rigid deburring tools to tools for a soft, perfect surface finish. These are used primarily in difficult-to-reach places and do not alter the surface geometry of the workpiece in any way. Application areas are primarily the deburring, cleaning, fading, finishing and machining of welding seams.

Compact wheels offer increased safety and especially cool grinding compared to other deburring tools.

★★★
PREMIUM

Unitised wheels
Universal use

	Shape	Type no.	Dimension	Design	Max. RPM	Rec. speed	PU
	 1UW	34201993	25x25x4.8	2 A MEDIUM	30 000	18 000	25
		34201994	25x25x4.8	2 C FINE	30 000	18 000	25
		34201995	25x25x4.8	3 C FINE	30 000	18 000	25
		34201996	25x25x4.8	6 A MEDIUM	35 000	21 000	25
		34201997	25x25x4.8	6 C FINE	35 000	21 000	25
		34201998	25x25x4.8	8 A COARSE	35 000	21 000	25

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Items with grey lettering are only available on request.

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	Shape		Type no.	Dimension	Design	Max. RPM	Rec. speed	PU
		1UW	34189233	51x6x6.3	2 A MEDIUM	16 000	9 600	25
			34189994	51x6x6.3	2 C FINE	16 000	9 600	25
			34189995	51x6x6.3	3 C FINE	16 000	9 600	25
			34189996	51x6x6.3	6 A MEDIUM	22 000	13 200	25
			34189997	51x6x6.3	6 C FINE	22 000	13 200	25
			34189999	51x6x6.3	8 A COARSE	22 000	13 200	25
			34204206	76x3x6.3	6 A MEDIUM	18 000	10 800	50
			34189552	76x6x6.3	2 A MEDIUM	15 000	9 000	25
			34189553	76x6x6.3	2 C FINE	15 000	9 000	25
			34189557	76x6x6.3	3 C FINE	15 000	9 000	25
			34189554	76x6x6.3	6 A MEDIUM	18 000	10 800	25
			34189555	76x6x6.3	6 C FINE	18 000	10 800	25
			34189556	76x6x6.3	8 A COARSE	18 000	10 800	25
			34257639	152x6x12.7	2 A MEDIUM	5'000	3 000	2
			34257640	152x6x12.7	2 C FINE	5'000	3 000	2
			34257661	152x6x12.7	3 C FINE	5'000	3 000	2
			34257662	152x6x12.7	6 A MEDIUM	7'500	4 500	2
			34190233	152x6x12.7	2 A MEDIUM	5 000	3 000	8
			34190235	152x6x12.7	2 C FINE	5 000	3 000	8
			34190236	152x6x12.7	3 C FINE	5 000	3 000	8
			34190237	152x6x12.7	6 A MEDIUM	7 500	4 500	8
			34190238	152x6x12.7	6 C FINE	7 500	4 500	8
			34190239	152x6x12.7	8 A COARSE	7 500	4 500	8
			34190280	152x13x12.7	2 A MEDIUM	5 000	3 000	4
			34190291	152x13x12.7	2 C FINE	5 000	3 000	4
			34190292	152x13x12.7	3 C FINE	5 000	3 000	4
			34190293	152x13x12.7	6 A MEDIUM	7 500	4 500	4
			34190294	152x13x12.7	6 C FINE	7 500	4 500	4
			34190295	152x13x12.7	8 A COARSE	7 500	4 500	4
			34190297	152x25x12.7	2 A MEDIUM	5 000	3 000	2
			34190298	152x25x12.7	2 C FINE	5 000	3 000	2
			34190299	152x25x12.7	3 C FINE	5 000	3 000	2
			34190301	152x25x12.7	6 A MEDIUM	7 500	4 500	2
			34190302	152x25x12.7	6 C FINE	7 500	4 500	2
			34190303	152x25x12.7	8 A COARSE	7 500	4 500	2

Items with grey lettering are only available on request.

★★★ PREMIUM

MMF convolute wheels
Universal use

This MMF product is mainly used on floorstand grinders or polishing machines. The machining of surfaces can deliver a very fine finish. The surface geometry is not altered during machining and the edges are not chamfered.
However, at the same time the burr is completely removed.

	Shape		Type no.	Dimension	Design	Max. RPM	Rec. speed	PU
		1CW	34200686	152x25x25.4	2 C COARSE	6 000	3 600	2
			34200687	152x25x25.4	2 C MEDIUM	6 000	3 600	2
			34200688	152x25x25.4	5 A MEDIUM	6 000	3 600	2
			34200689	152x50x25.4	2 C COARSE	6 000	3 600	1
			34200690	152x50x25.4	2 C MEDIUM	6 000	3 600	1
			34200712	152x50x25.4	5 A MEDIUM	6 000	3 600	1

Accessories
For unitised wheels

These accessories enable compact wheels with small diameters to be clamped onto straight grinders. Easy handling and the highest possible levels of safety are guaranteed for the operator. Please observe the maximum permissible speed.

	Type no.	Dimension	Specification	PU
	34214172	25x25x4.8	UW	1

Accessory set
For compact wheels

These accessories enable compact wheels with small diameters to be clamped onto straight grinders. Easy handling and the highest possible levels of safety are guaranteed for the operator. Please observe the maximum permissible speed.

	Type no.	Dimension	Specification	PU
	846442	S6/H6/M6	SS174	1
	905336	S6/H13/L52	SS597	1

★★★ PREMIUM

Unitised compact wheel set
Universal use

TYROLIT's compact wheel range provides you with an ideal tool for the machining of surfaces without changing the surface geometry as well as the removal of rust and dirt. Compact wheels consist of multilayer unitised fleece and they are available in coarse to fine specifications depending on the number of layers.

The set includes compact discs for an angle grinder as well as QUICK CHANGE DISCS for a mini-angle grinder, for a straight grinder as well as a floorstand grinder, and it also includes all of the accessories and adaptors that you will need.

	Type no.	Dimension	Specification	Comments	VE
	34270968	50–150	UW + CW	DEMOBOX	1

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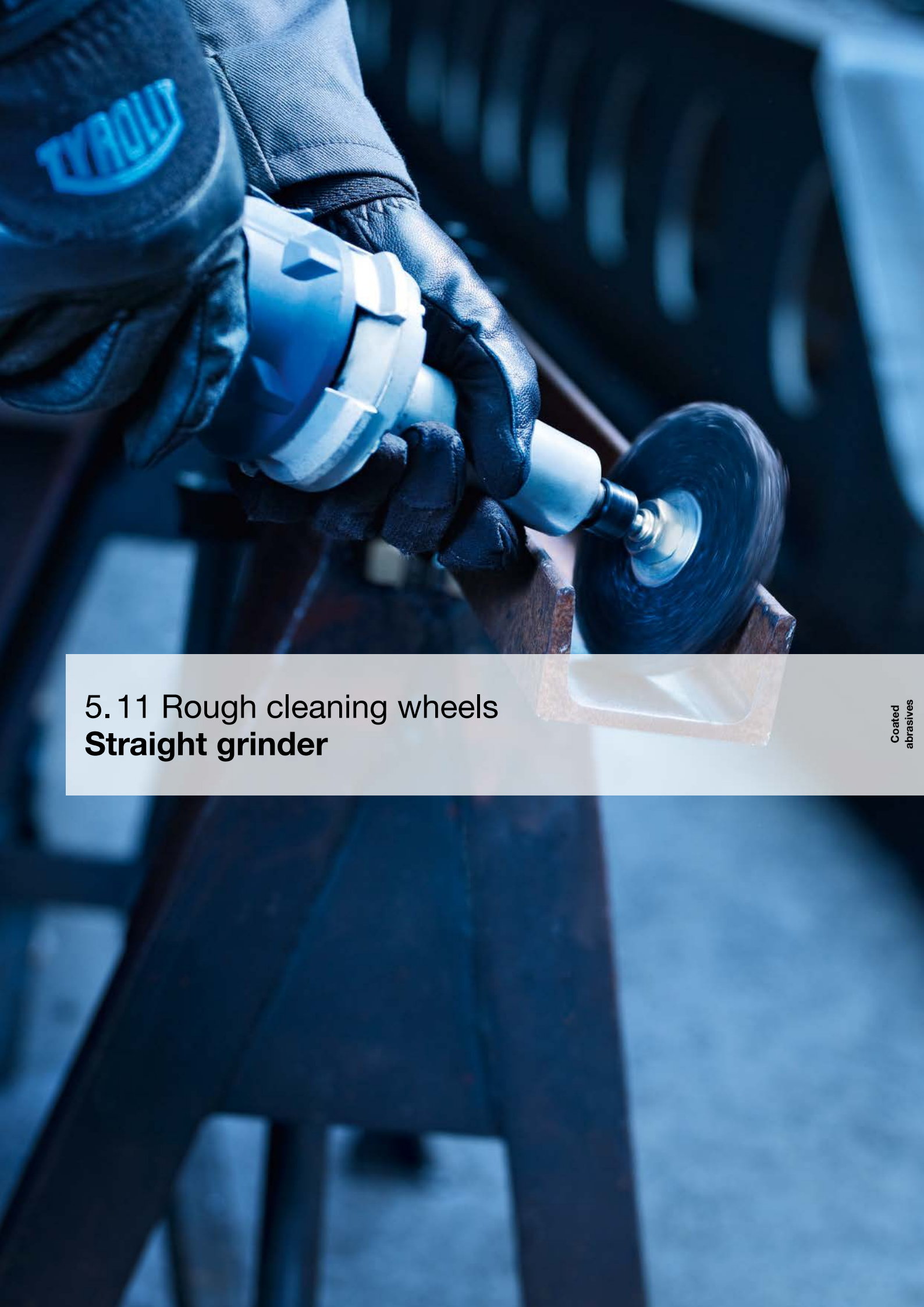


5.11 Rough cleaning wheels
Straight grinder

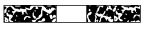


Rough cleaning wheels **for straight grinder**

Straight grinders are used when you need to work precisely in hard-to-reach locations. Would you like to remove rust, paint and varnish with a minimum of effort? Or do you need to prepare surfaces for welding, soldering or anodising?

The highly porous nylon fibres are evenly treated with aggressive abrasives and are able to meet any challenge.
All of our rough cleaning discs resist loading or smearing and offer long life with an even grinding pattern, but also low heat generation and quiet, stress-free working.

Shapes



1GR Rough cleaning wheel

Application recommendations

Performance level	Design	All in One	Pages
★★★ PREMIUM	C COARSE, A EX. COARSE	●	421

Items with grey lettering are only available on request.

★★★ PREMIUM

Rough cleaning wheel
Universal use

With the TYROLIT rough cleaning wheel you can effortlessly remove rust, paint, lacquer and underbody sealant from your workpiece. The porous nylon fibres, treated with aggressive abrasives, meet any challenge. At the same time, they prevent clogging or loading of the wheel.

This wheel offers the user quiet, non-strenuous grinding combined with low generation of heat. When using the longer clamping spike, two 1GR can be clamped providing a greater contact area and faster progress.

	Shape	Type no.	Dimension	Design	Colour	Max. RPM	Rec. speed	PU
	1GR	898048	75x13x8	C COARSE	BLACK	10 500	8 000	5
		898044	100x13x13	C COARSE	BLACK	8 000	6 000	5
		898051	150x13x13	C COARSE	BLACK	5 300	4 100	5
		943167	178x13x13	C COARSE	BLACK	4 500	3 400	5
		943168	200x13x13	C COARSE	BLACK	4 000	3 000	5
		34206234	100x13x13	A EX. COARSE	BLUE	8 000	6 000	5
		34206235	150x13x13	A EX. COARSE	BLUE	5 300	4 100	5

Accessories
For rough cleaning wheel

These accessories enable the 1GR rough cleaning wheel to be clamped onto straight grinders. Easy handling and the highest possible levels of safety are guaranteed for the operator. Please observe the maximum permissible speed of your tool.

		Type no.	Dimension	Specification	PU
	100SS	905335	S6/H8/L67	SS596	1
		905336	S6/H13/L52	SS597	1
		905337	S8/H13/L67	SS598	1

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SCANTOOL
SCANTOOL



5.12 Belts
Belt grinder



Belts
for mini belt grinders, portable belt grinders and contact grinders

In this chapter you will find belts for metal and wood processing in different sizes for mini belt grinders, portable belt grinders and large, stationary contact grinders.

Depending on the application, we have the right belt for an optimum result, whether you need long life, maximum stock removal or a perfect surface finish. With their high stock removal rate, belts with embedded ceramic grain offer a quick and easy way of grinding metal.
We also offer products with a range of flexible underlays and additional coatings. These allow you to work on harder materials, such as stainless steel, alloys, structural steel and non-ferrous metals. They can also be used with woods, paints and lacquers.
TYROLIT coated abrasives have been developed with particular applications in mind and thus achieve the best possible results in day-to-day use.

Shapes



Belt 1
For mini belt grinders



Belt 2
For portable belt grinders

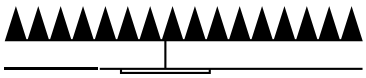


Belt 3
For contact grinders

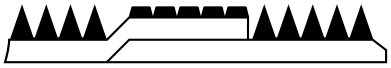
Belt joints

TYROLIT belts are available with two different belt joints.

JTS (Joint Tape Straight) mainly for metal processing



JOT (Joint Overlap Top) mainly for wood processing



Application recommendations

Performance level	Design	Steel	Stainless steel	NF metals	PVC	Wood	All in One	Pages
★★★ PREMIUM	ZA-P48 PE YF	●	●	●				426, 427
	ZA-P41 PC X	●		●				426, 427, 433, 434
	ZA-P48 PE Y	●	●					432
	ZA-P43 PE Y	●		●				434
	CA-P93	●	●					432
★ BASIC	A-B06 PC X	●			●	●		428, 429, 430
SCM BELTS	FLEX						●	431
★★★ PREMIUM	COARSE, MEDIUM, VERY FINE						●	427, 428, 435

Items with grey lettering are only available on request.

★★★ PREMIUM

ZA-P48 PE Y F / ZA-P41 PC X mini belts

For steel, stainless steel and aluminium

The PREMIUM*** belts have been specially designed for the mini belt grinder and prevent grain break outs on the tool due to their special curvature. A good stock removal rate and long lifetime allow consistent results to be delivered in shorter working hours. Our belts are easy to handle and mount. TYROLIT mini belts can be used on all steel, stainless steel and nonferrous metals.



Shape	Type no.	Dimension	Grain	Connection	PU
 Belt 1	706281	6x533	40	JTS	50
	706282	6x533	60	JTS	50
	706283	6x533	80	JTS	50
	706284	6x533	120	JTS	50
	706285	6x610	40	JTS	50
	706286	6x610	60	JTS	20
	706290	6x610	80	JTS	20
	706291	6x610	120	JTS	20
	706292	9x533	40	JTS	33
	706293	9x533	60	JTS	33
	706295	9x533	80	JTS	33
	706299	9x533	120	JTS	33
	706300	10x330	40	JTS	20
	706301	10x330	60	JTS	20
	706302	10x330	80	JTS	20
	706303	10x330	120	JTS	20
	706305	12x330	40	JTS	20
	706306	12x330	60	JTS	20
	706307	12x330	80	JTS	20
	706308	12x330	120	JTS	20
	706309	12x457	40	JTS	20
	706310	12x457	60	JTS	20
	706311	12x457	80	JTS	20
	706312	12x457	120	JTS	20
	706313	12x533	40	JTS	20
	706314	12x533	60	JTS	20
	706315	12x533	80	JTS	20
	706316	12x533	120	JTS	20
	706317	13x455	40	JTS	20
	706318	13x455	60	JTS	20
	706320	13x455	80	JTS	20
	706323	13x455	120	JTS	20
	706324	13x610	40	JTS	20
	706325	13x610	60	JTS	20

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Items with grey lettering are only available on request.

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Shape	Type no.	Dimension	Grain	Connection	PU
Belt 1	706327	13x610	80	JTS	20
	706328	13x610	120	JTS	20
	706329	15x475	40	JTS	20
	706330	15x475	60	JTS	20
	706331	15x475	80	JTS	20
	706333	15x475	120	JTS	20
	706336*	20x480	40	JTS	20
	706337*	20x480	60	JTS	20
	706338*	20x480	80	JTS	20
	706340*	20x480	120	JTS	20
	706341*	20x520	40	JTS	20
	706342*	20x520	60	JTS	20
	706343*	20x520	80	JTS	20
	706344*	20x520	120	JTS	20
	706345*	29x533	40	JTS	20
	706346*	29x533	60	JTS	20
	706347*	29x533	80	JTS	20
	706348*	29x533	120	JTS	20

**ZA-P41 PC X*

★★★ PREMIUM

SCM belts
Universal use

With belts from the TYROLIT SCM range, TYROLIT is taking another step towards economic efficiency. The machining time of the workpiece can now be greatly reduced. A saving of one to three work steps is thus the key benefit.

Thanks to the quick and high stock removal rate, applications such as the reduction of surface roughness, removal of discolouration, smoothing of surfaces and the cleaning and removal of weld seams can be realised. In addition, the TYROLIT SCM range boasts the best results in terms of lifetime.



Shape	Type no.	Dimension	Design	Specification	Colour	PU
Belt 1	34206164	6x457	COARSE	FLEX	BROWN/LIGHT GREEN	20
	34206165	6x457	MEDIUM	FLEX	RED/LIGHT GREEN	20
	34206166	6x457	VERY FINE	FLEX	BLUE/LIGHT GREEN	20
	34183498	6x520	MEDIUM	FLEX	RED/LIGHT GREEN	20
	34206167	6x610	COARSE	FLEX	BROWN/LIGHT GREEN	20
	34206168	6x610	MEDIUM	FLEX	RED/LIGHT GREEN	20
	34206169	6x610	VERY FINE	FLEX	BLUE/LIGHT GREEN	20
	34206170	12x520	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206171	12x520	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206172	12x520	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34206173	13x457	COARSE	FLEX	BROWN/LIGHT GREEN	10

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★★★ PREMIUM

SCM belts
Universal use






Shape	Type no.	Dimension	Design	Specification	Colour	PU
 Belt 1	34206174	13x457	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206175	13x457	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34206176	13x533	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206177	13x533	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206178	13x533	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34206179	13x610	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206180	13x610	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206191	13x610	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34206192	19x457	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206193	19x457	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206194	19x457	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34206195	19x520	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206196	19x520	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206197	19x520	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34206198	20x815	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206199	20x815	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206200	20x815	VERY FINE	FLEX	BLUE/LIGHT GREEN	10
	34071718	30x520	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206201	30x533	COARSE	FLEX	BROWN/LIGHT GREEN	10
	34206202	30x533	MEDIUM	FLEX	RED/LIGHT GREEN	10
	34206203	30x533	VERY FINE	FLEX	BLUE/LIGHT GREEN	10

★ BASIC

A-B06 PC X belts
Universal use







The BASIC* belts for the portable belt grinder can be used universally, but are most commonly used on wood. They are suited to this use as they comprise aluminium oxide and polycotton backing. A special grain coating prevents loading of the belts when grinding soft materials, such as wood and paints.

This delivers a good grinding power and long lifetime. Simple handling and mounting save extra working time.



Shape	Type no.	Dimension	Grain	Connection	PU
 Belt 2	706349	40x305	40	JOT	14
	706350	40x305	60	JOT	14
	706351	40x305	80	JOT	14
	706352	40x305	120	JOT	14
	706353	60x400	40	JOT	10
	706354	60x400	60	JOT	10
	706356	60x400	80	JOT	10

Items with grey lettering are only available on request.

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	Shape	Type no.	Dimension	Grain	Connection	PU
	 Belt 2	706361	60x400	100	JOT	10
		706362	60x400	120	JOT	10
		706363	65x410	40	JOT	10
		706364	65x410	60	JOT	10
		706365	65x410	80	JOT	10
		706366	65x410	100	JOT	10
		706367	65x410	120	JOT	10
		706368	75x457	40	JOT	10
		706369	75x457	60	JOT	10
		706370	75x457	80	JOT	10
		706371	75x457	100	JOT	10
		706372	75x457	120	JOT	10
		706375	75x480	40	JOT	10
		706376	75x480	60	JOT	10
		706377	75x480	80	JOT	10
		706380	75x480	100	JOT	10
		706381	75x480	120	JOT	10
		706383	75x533	40	JOT	10
		706384	75x533	60	JOT	10
		706385	75x533	80	JOT	10
		706386	75x533	100	JOT	10
		706387	75x533	120	JOT	10
		706388	100x552	40	JOT	10
		706393	100x552	60	JOT	10
		706394	100x552	80	JOT	10
		706395	100x552	100	JOT	10
		706397	100x552	120	JOT	10
		706398	100x560	40	JOT	10
		706399	100x560	60	JOT	10
		706401	100x560	80	JOT	10
		706402	100x560	100	JOT	10
		706403	100x560	120	JOT	10
		706404	100x610	40	JOT	10
		706405	100x610	60	JOT	10
		706406	100x610	80	JOT	10
		706407	100x610	100	JOT	10
		706408	100x610	120	JOT	10
		706409	100x620	40	JOT	10
		706410	100x620	60	JOT	10
		706411	100x620	80	JOT	10

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Items with grey lettering are only available on request.

★★★ PREMIUM

A-B06 PC X belts

Universal use





Belt 2

Type no.	Dimension	Grain	Connection	PU
706413	100x620	100	JOT	10
706414	100x620	120	JOT	10
741455	100x690	40	JOT	10
741460	100x690	60	JOT	10
741464	100x690	80	JOT	10
741471	100x690	100	JOT	10
741474	100x690	120	JOT	10
706415	110x620	40	JOT	10
706416	110x620	60	JOT	10
706417	110x620	80	JOT	10
706418	110x620	100	JOT	10
706419	110x620	120	JOT	10

★★★ PREMIUM

SCM belts

Universal use

+ **Reduces working hours**
The working hours are significantly reduced through the long lifetime and the saving of one to three work steps.

+ **Noticeable cost reduction**
Fewer work steps also means reduced tool costs.



+ **Comprehensive assortment**
The SCM program currently includes belts in the most varied of sizes and specifications.

With the belts from the TYROLIT SCM range, TYROLIT is taking another step towards economic efficiency. The machining time of the workpiece can now be greatly reduced. A saving of one to three work steps is thus the main argument.
Thanks to the quick and high stock removal rate, applications such as the reduction of surface roughness, removal of discolouration, smoothing of surfaces and the cleaning and removal of welding seams can be realised. In addition, the TYROLIT SCM range boasts the best results in terms of lifetime.

Items with grey lettering are only available on request.

★★★ PREMIUM

SCM Belts
Universal use

	Shape	Type no.	Dimension	Design	Specification	Colour	PU
	 Belt 2	34206204	90x395	COARSE	FLEX	BROWN/LIGHT GREEN	5
		34206205	90x395	MEDIUM	FLEX	RED/LIGHT GREEN	5
		34206206	90x395	VERY FINE	FLEX	BLUE/LIGHT GREEN	5
		34206828	100x287	COARSE	FLEX	BROWN/LIGHT GREEN	5
		34170120	100x287	MEDIUM	FLEX	RED/LIGHT GREEN	5
		34206829	100x287	VERY FINE	FLEX	BLUE/LIGHT GREEN	5

★★★ PREMIUM

CA-P93 PE Y Belts

For steel and stainless steel

+ **Reduced load**
The high abrasiveness of the belts means that the operator can apply less pressure.

+ **Consistent surface result**
Even grinding surface pattern thanks to uniform easy-cutting ceramic grain.



+ **Maximum abrasiveness**
The ceramic PREMIUM*** belts achieve the highest values in terms of abrasiveness and therefore offer the greatest possible stock removal rate.

Belts with self-sharpening ceramic grain offer a high stock removal rate on steel and stainless steel. Thanks to this self-sharpening effect, an even surface quality is achieved over the entire lifetime of the abrasive belts. Moreover, the composition of the abrasive belt reduces effort for the operator as less pressure is required.

Items with grey lettering are only available on request.

★★★ PREMIUM

CA-P93 PE Y Belts

For steel and stainless steel

	Shape	Type no.	Dimension	Grain	Connection	VE
	 Belt 3	34168478	75x2000	24	JTS	10
		34168479	75x2000	36	JTS	10
		34168480	75x2000	40	JTS	10
		34168481	75x2000	60	JTS	10
		34168482	75x2000	80	JTS	10
		34168483	75x2000	120	JTS	10
		34239044	150x2000	24	JTS	10
		34221594	150x2000	36	JTS	10
		34218343	150x2000	40	JTS	10
		34218356	150x2000	60	JTS	10
		34228323	150x2000	80	JTS	10
		34228324	150x2000	120	JTS	10

★★★ PREMIUM

ZA-P48 PE Y Belts

For steel and stainless steel

Due to the hard zirconium used in these PREMIUM*** belts they are ideal for very high pressure and deliver above-average stock removal rates. Active coolants reduce the generation of heat while grinding. This high-performance product equipped with durable polyester backing has been developed for demanding steel and stainless steel applications. These products are mainly used for dry applications.

	Shape	Type no.	Dimension	Grain	Connection	PU
	 Belt 3	706437	50x2000	36	JTS	10
		706438	50x2000	60	JTS	10
		706441	50x2000	80	JTS	10
		706442	50x2000	120	JTS	10
		706473	75x2000	36	JTS	10
		706474	75x2000	60	JTS	10
		706475	75x2000	80	JTS	10
		706477	75x2000	120	JTS	10

Items with grey lettering are only available on request.

★★★ PREMIUM

ZA-P41 PC X Belts

For steel and nonferrous metals

This high-performance product equipped with durable polycotton has been developed for demanding steel and nonferrous metal applications. Combined with hard zirconium, these belts are ideal for very high pressure and deliver above-average stock removal rates. Active coolants reduce the generation of heat while grinding.

Another special feature: the product can also be used wet with oil, emulsion or water and still delivers optimal results.



Shape	Type no.	Dimension	Grain	Connection	PU
 Belt 3	706420	50x1000	40	JTS	12
	706421	50x1000	60	JTS	12
	706422	50x1000	80	JTS	12
	706424	50x1000	120	JTS	12
	706426	50x2000	40	JTS	10
	706428	50x2000	60	JTS	10
	706429	50x2000	80	JTS	10
	706430	50x2000	120	JTS	10
	706443	50x2500	40	JTS	12
	706444	50x2500	60	JTS	12
	706446	50x2500	80	JTS	12
	706447	50x2500	120	JTS	12
	706449	50x3000	40	JTS	12
	706450	50x3000	60	JTS	12
	706451	50x3000	80	JTS	12
	706452	50x3000	120	JTS	12
	706453	50x3500	40	JTS	12
	706454	50x3500	60	JTS	12
	706455	50x3500	80	JTS	12
	706456	50x3500	120	JTS	12
	706457	50x4000	40	JTS	12
	706459	50x4000	60	JTS	12
	706460	50x4000	80	JTS	12
	706461	50x4000	120	JTS	12
	706463	75x2000	40	JTS	10
	706464	75x2000	60	JTS	10
	706465	75x2000	80	JTS	10
	706466	75x2000	120	JTS	10
	706478	75x2250	40	JTS	12
	706480	75x2250	60	JTS	10
	706481	75x2250	80	JTS	12
	706482	75x2250	120	JTS	12
	706483	75x2500	40	JTS	12

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Items with grey lettering are only available on request.

★★★ PREMIUM ZA-P41 PC X Belts

For steel and nonferrous metals





Belt 3

Type no.	Dimension	Grain	Connection	PU
706484	75x2500	60	JTS	12
706489	75x2500	80	JTS	12
706492	75x2500	120	JTS	12
706493	100x915	40	JTS	10
706494	100x915	60	JTS	10
706497	100x915	80	JTS	10
706499	100x915	120	JTS	10
706500	100x1000	40	JTS	12
706501	100x1000	60	JTS	12
706502	100x1000	80	JTS	12
706503	100x1000	120	JTS	10
706504	150x2000	40	JTS	10
706506	150x2000	60	JTS	10
706507	150x2000	80	JTS	10

★★★ PREMIUM ZA-P43 PE Y Belts

For steel and nonferrous metals

This PREMIUM*** product equipped with polyester has been developed for steel and nonferrous metal applications. Combined with hard zirconium, these belts are ideal for low to medium pressure and deliver a good stock removal rate. Active coolants reduce the generation of heat while grinding.





Belt 3

Type no.	Dimension	Grain	Connection	PU
706432	50x2000	36	JTS	12
706433	50x2000	40	JTS	10
706434	50x2000	60	JTS	10
706435	50x2000	80	JTS	10
706436	50x2000	120	JTS	10
706467	75x2000	36	JTS	10
706469	75x2000	40	JTS	10
706470	75x2000	60	JTS	10
706471	75x2000	80	JTS	10
706472	75x2000	120	JTS	10

Items with grey lettering are only available on request.

★★★ PREMIUM

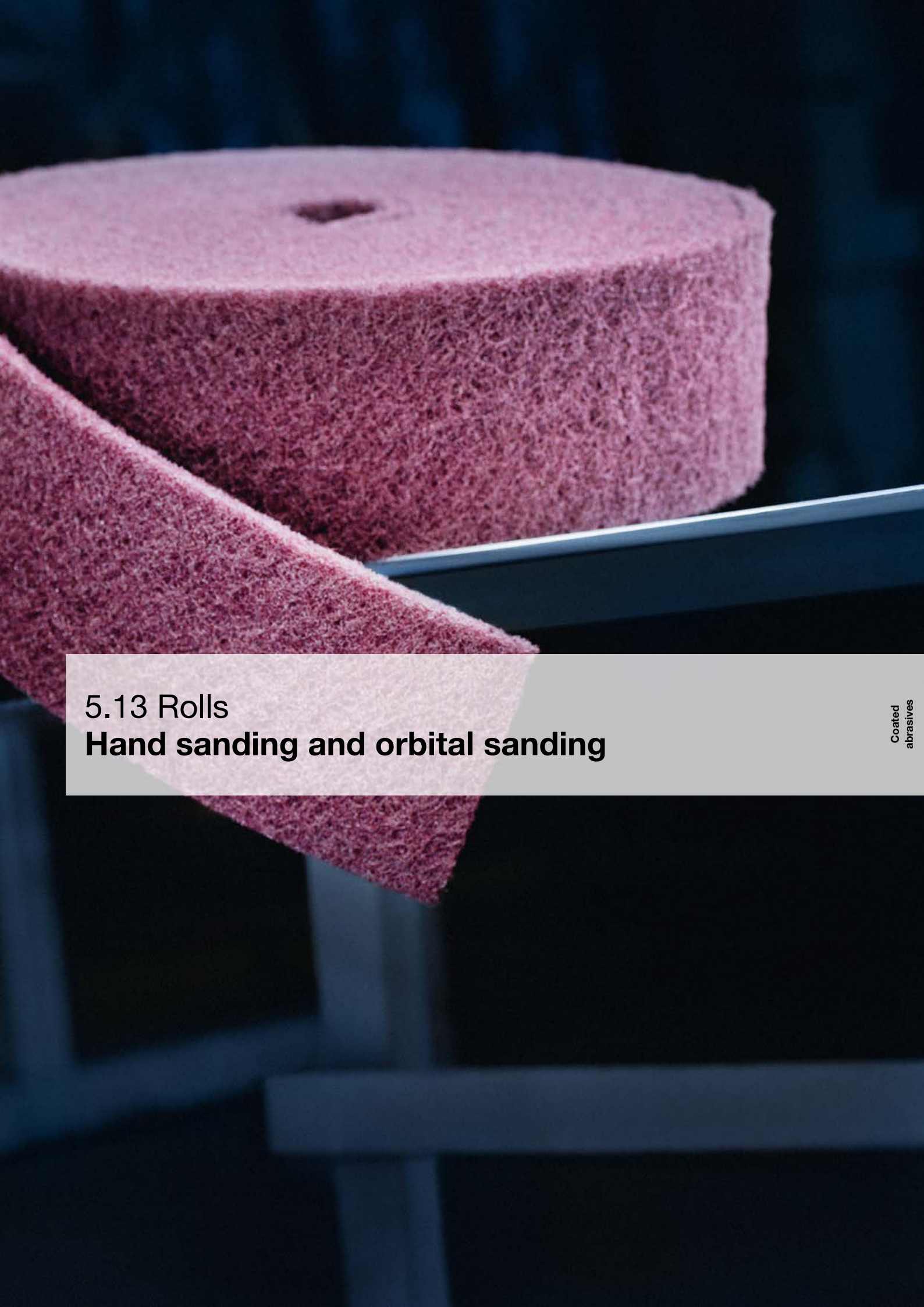
SCM Belts
Universal use

With belts from the TYROLIT SCM range, TYROLIT is taking another step towards economic efficiency. The machining time of the workpiece can now be greatly reduced. A saving of one to three work steps is thus the key benefit. Thanks to the quick and high stock removal rate, applications such as the reduction of surface roughness, removal of discolouration, smoothing of surfaces and the cleaning and removal of weld seams can be realised. In addition, the TYROLIT SCM range boasts the best results in terms of lifetime.

	Shape	Type no.	Dimension	Design	Connection	Colour	PU
	 Belt 3	34049705	50x2000	COARSE	JTS	BROWN	6
		34049706	50x2000	MEDIUM	JTS	RED	6
		34049709	50x2000	VERY FINE	JTS	BLUE	6
		34049731	75x2000	COARSE	JTS	BROWN	4
		34049732	75x2000	MEDIUM	JTS	RED	4
		34049734	75x2000	VERY FINE	JTS	BLUE	4
		34049736	150x2000	COARSE	JTS	BROWN	2
		34049737	150x2000	MEDIUM	JTS	RED	2
		34049738	150x2000	VERY FINE	JTS	BLUE	2

Items with grey lettering are only available on request.





5.13 Rolls
Hand sanding and orbital sanding



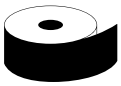
Rolls
for hand and orbital sanding

Any kind of surface finishing requires thorough preparation. This can be done by hand or using an orbital sander.

Wood, paint or lacquer are usually abraded by hand. Deburring work can also be accomplished by hand. However, for perfect intermediate sanding, we recommend using an orbital sander. This also allows smooth finishing of coatings and smoothing of composite materials.

For jobs such as these we offer abrasive rolls in a wide range of designs, such as cloth, paper and fleece rolls. They allow easy and flexible working on virtually any material.

Shapes



Roll

Application recommendations

Performance level	Design	Steel	NF metals	Paint / lacquer	Wood	Wet	PVC	All in One	Pages
PAPER ROLLS ★★★ PREMIUM	A-P07 P C	●	●	●	●	●			440
PAPER ROLLS ★★★ PREMIUM	A-P21 D				●		●		440, 441
CLOTH ROLLS ★ BASIC	A-B01 C JX							●	441, 442, 443
	A-B01 C JJ							●	443, 444
FLEECE ROLLS ★★★ PREMIUM	A COARSE, A MEDIUM, A FINE, A VERY FINE, C ULTRA FINE, A GP-GREEN							●	445

Items with grey lettering are only available on request.

★★★ PREMIUM

A-P07 P C paper rolls

For steel, nonferrous metals, wood, paints and lacquers

The special feature of the PREMIUM*** paper rolls is a latex-finished backing, which makes them ideal for wet and dry applications. This is the perfect product for preparing and machining metal, wood, paint and lacquer.

The closed coating of the PREMIUM*** paper roll delivers an excellent surface finish.



Shape	Type no.	Dimension	Grain	PU
Roll	705945	100x50M	60	1
	705946	100x50M	80	1
	705947	100x50M	100	1
	705948	100x50M	120	1
	705959	100x50M	150	1
	705960	100x50M	180	1
	705962	100x50M	240	1
	705965	115x50M	60	1
	705966	115x50M	80	1
	705967	115x50M	100	1
	705968	115x50M	120	1
	705969	115x50M	150	1
	705970	115x50M	180	1
	705972	115x50M	240	1

Coated abrasives

★★★ PREMIUM

A-P21 D paper rolls

For plastics, wood, paints and lacquers

With a semi-open grain distribution on a light paper backing, TYROLIT PREMIUM*** paper rolls are ideally suited to hand sanding or for use on orbital sanders.

The semi-open coating of the PREMIUM*** paper roll prevents loading of the product and delivers an excellent surface finish.



Shape	Type no.	Dimension	Grain	PU
Roll	34231862	100x5M	40	1
	34231863	100x5M	60	1
	34231864	100x5M	80	1
	34231865	100x5M	100	1
	34231866	100x5M	120	1
	34231867	100x5M	150	1
	34231868	100x5M	180	1
	34231869	100x5M	240	1
	34231870	115x5M	40	1
	34231871	115x5M	60	1
	34231872	115x5M	80	1
	34231873	115x5M	100	1

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Items with grey lettering are only available on request.

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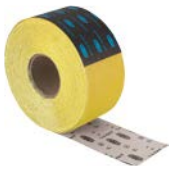

Shape		Type no.	Dimension	Grain	PU
	Roll	34231874	115x5M	120	1
		34231875	115x5M	150	1
		34231876	115x5M	180	1
		34231877	115x5M	240	1
		34230618	100x50M	40	1
		34230619	100x50M	60	1
		34230620	100x50M	80	1
		34230631	100x50M	100	1
		34230632	100x50M	120	1
		34230633	100x50M	150	1
		34230634	100x50M	180	1
		34230635	100x50M	240	1
		34230636	115x50M	40	1
		34230637	115x50M	60	1
		34230638	115x50M	80	1
		34230639	115x50M	100	1
		34230640	115x50M	120	1
		34230641	115x50M	150	1
		34230642	115x50M	180	1
		34230643	115x50M	240	1

Coated abrasives

★ BASIC

A-B01 C JX cloth rolls

Universal use

ALL IN ONE

With flexible cloth rolls from TYROLIT you can machine almost any material. When finishing surfaces, preparation either by hand or using an orbital sander is required. When machining wood, paint and lacquer, TYROLIT recommends BASIC* cloth rolls for hand-guided grinding.

For finishing coatings, smoothing and cleaning composites, and for clean intermediate grinding, we recommend cloth rolls on an orbital sander.



Shape		Type no.	Dimension	Grain	PU
	Roll	705824	25x50M	40	1
		705825	25x50M	60	1
		705826	25x50M	80	1
		705828	25x50M	100	1
		705830	25x50M	120	1
		705831	25x50M	150	1
		705832	25x50M	180	1
		705833	25x50M	220	1
		705834	25x50M	240	1
		705836	25x50M	320	1
		705837	25x50M	400	1

▶

Items with grey lettering are only available on request.

BASIC

A-B01 C JX cloth rolls

Universal use



Shape	Type no.	Dimension	Grain	PU
Roll	705839	40x25M	40	1
	705840	40x25M	60	1
	705841	40x25M	80	1
	705842	40x25M	100	1
	705843	40x25M	120	1
	705844	40x25M	150	1
	705845	40x25M	180	1
	705846	40x25M	220	1
	705850	40x25M	240	1
	705851	40x25M	320	1
	705852	40x25M	400	1
	705853	40x25M	600	1
	705854	40x50M	40	1
	705855	40x50M	60	1
	705856	40x50M	80	1
	705857	40x50M	100	1
	705858	40x50M	120	1
	705859	40x50M	150	1
	705860	40x50M	180	1
	705861	40x50M	220	1
	705862	40x50M	240	1
	705863	40x50M	320	1
	705864	40x50M	400	1
	705873	50x25M	40	1
	705874	50x25M	60	1
	705875	50x25M	80	1
	705876	50x25M	100	1
	705877	50x25M	120	1
	705878	50x25M	150	1
	705879	50x25M	180	1
	705880	50x25M	220	1
	705881	50x25M	240	1
	705882	50x25M	320	1
	705883	50x25M	400	1
	705884	50x25M	600	1
	705885	50x50M	40	1
	705886	50x50M	60	1
	705887	50x50M	80	1

Items with grey lettering are only available on request.

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	Shape		Type no.	Dimension	Grain	PU
		Roll	705888	50x50M	100	1
			705889	50x50M	120	1
			705891	50x50M	150	1
			705892	50x50M	180	1
			705894	50x50M	220	1
			705895	50x50M	240	1
			705896	50x50M	320	1
			705898	50x50M	400	1

★ BASIC

A-B01 C JJ cloth rolls

Universal use




With highly flexible cloth rolls from TYROLIT you can machine almost any material. When finishing surfaces, preparation either by hand or using an orbital sander is required. When machining wood, paint and lacquer,

TYROLIT recommends BASIC* cloth rolls for hand-guided grinding. For finishing coatings, smoothing and cleaning composites, and for clean intermediate grinding, we recommend cloth rolls on an orbital sander.

	Shape		Type no.	Dimension	Grain	PU
		Roll	20781	40x50M	60	1
			20793	40x50M	80	1
			20794	40x50M	100	1
			20796	40x50M	120	1
			20797	40x50M	150	1
			20798	40x50M	180	1
			20799	40x50M	220	1
			20801	40x50M	240	1
			20803	40x50M	320	1
			20805	40x50M	400	1
			20806	50x50M	60	1
			20807	50x50M	80	1
			20811	50x50M	100	1
			20813	50x50M	120	1
			20816	50x50M	150	1
			20817	50x50M	180	1
			20819	50x50M	220	1
			20821	50x50M	240	1
			20822	50x50M	320	1
			20824	50x50M	400	1
			34061912	100x50M	60	1
			34061913	100x50M	80	1

▶

Items with grey lettering are only available on request.

BASIC

A-B01 C JJ cloth rolls

Universal use



Shape		Type no.	Dimension	Grain	PU
	Roll	34061919	100x50M	100	1
		34061934	100x50M	120	1
		34061938	100x50M	150	1
		34061939	100x50M	180	1
		34061951	100x50M	240	1
		34061953	100x50M	320	1
		34061954	100x50M	400	1
		34061960	115x50M	60	1
		34062015	115x50M	80	1
		34062021	115x50M	100	1
		34062022	115x50M	120	1
		34062023	115x50M	150	1
		34062024	115x50M	180	1
		34062025	115x50M	240	1
		34062026	115x50M	320	1
		34062027	115x50M	400	1

Items with grey lettering are only available on request.

★★★
PREMIUM

Fleece rolls

Universal use



+ **Long lifetime**
Thanks to 100 % impregnation, the abrasive grain is not only located on the surface, but also inside the fleece.

+ **Flexible use**
The abrasive fabric adapts perfectly to any workpiece surface.

+ **Universal use**
The assortment offers a wide selection of possible uses on all common materials.

TYROLIT fleece rolls are used for cleaning and processing surfaces using orbital sanders or for hand-guided grinding. A wide range of specifications offer the user a variety of surface finish options.
The assortment extends from coarse specifications for cleaning weld seams through to ultra-fine and polishing fleece.

★★★
PREMIUM

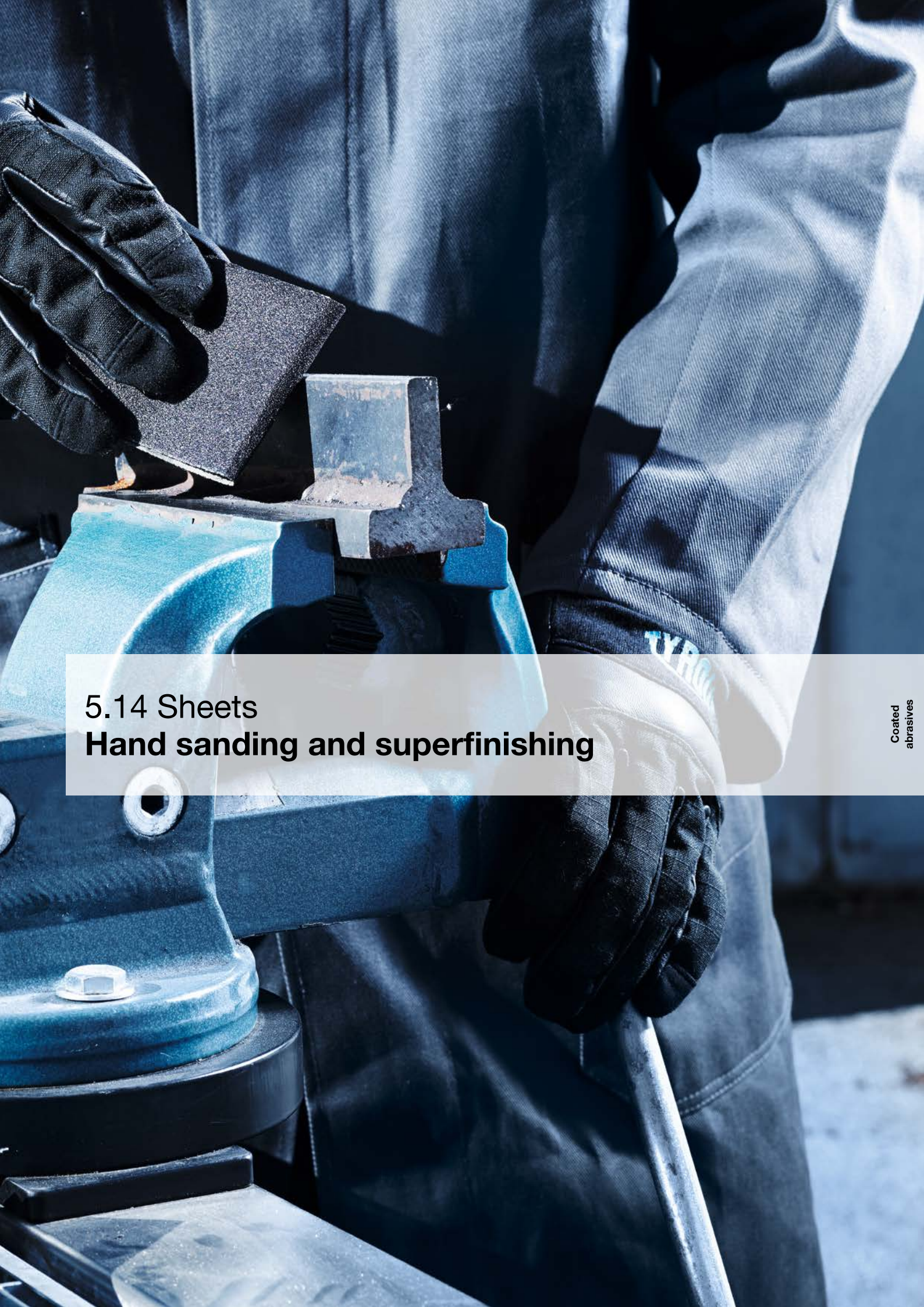
Fleece rolls
Universal use



Shape	Type no.	Dimension	Conforms to	Design	Colour	PU
Roll	120653	100x10m	P150	A COARSE	BROWN	1
	120667	100x10m	P220–240	A MEDIUM	REDBROWN	1
	120671	100x10m	P320	A FINE	REDBROWN	1
	120674	100x10m	P400–500	A VERY FINE	REDBROWN	1
	120676	100x10m	P800	C ULTRA FINE	GREY	1
	120682	100x10m	P400–500	A GP-GREEN	GREEN	1
	120688	115x10m	P150	A COARSE	BROWN	1
	120689	115x10m	P220–240	A MEDIUM	REDBROWN	1
	120693	115x10m	P320	A FINE	REDBROWN	1
	120694	115x10m	P400–500	A VERY FINE	REDBROWN	1
	120700	115x10m	P800	C ULTRA FINE	GREY	1
	120716	115x10m	P400–500	A GP-GREEN	GREEN	1

Items with grey lettering are only available on request.





5.14 Sheets
Hand sanding and superfinishing



Sheets
for hand sanding and superfinishing

Any kind of surface finishing requires thorough preparation. This can be done by hand or using an orbital sander.

Wood, paint or lacquer are usually abraded by hand. Deburring work can also be accomplished by hand. However, for perfect intermediate sanding, we recommend using an orbital sander. This also allows smooth finishing of coatings and smoothing of composite materials.

For jobs like these we offer abrasive sheets in a wide range of designs, such as cloth, paper and fleece rolls. They allow easy and flexible working on virtually any material.

Shapes



Sheet

Application recommendations

Performance level	Specification	Steel	NF metals	Paint / lacquer	Wood	Wet	Stone	PVC	All in One	Pages
PAPER SHEETS	A-P07 P C	●	●	●	●	●				450
★★★ PREMIUM	C-P68 P A	●	●	●	●	●	●			450
	C-P68 P C	●	●	●	●	●	●			450
	A-P21 PD			●	●			●		451
CLOTH SHEETS	A-B01 C JX								●	451
★ BASIC	A-B01 C JJ								●	452
FLEECE SHEETS									●	453
★★★ PREMIUM										

Items with grey lettering are only available on request.

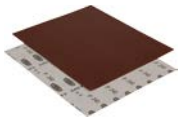
★★★ PREMIUM

A-P07 P C paper sheets

For steel, nonferrous metals, wood, paints and lacquers

The special feature of the PREMIUM*** paper sheets is a latex-finished backing, which makes them ideal for wet and dry finishing. This is the perfect product for preparing and machining metal, wood, paint and lacquer.

The closed coating of the PREMIUM*** paper sheets delivers an excellent surface finish.



Shape		Type no.	Dimension	Grain	PU
■	Sheet	706001	230x280	60	50
		706002	230x280	80	50
		706003	230x280	100	50
		706004	230x280	120	50
		706005	230x280	150	50
		706006	230x280	180	50
		706007	230x280	220	50
		706008	230x280	240	50
		706009	230x280	320	50
		706010	230x280	400	50
		706011	230x280	600	50
		706012	230x280	800	50
		706013	230x280	1000	50
		706014	230x280	1200	50

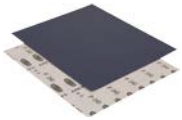
★★★ PREMIUM

C-P68 P C | C-P68 P A paper sheets

For steel, nonferrous metals, wood, paints and lacquers

The paper sheets made of silicon carbide are the perfect product for preparing and machining metal, wood, paint and lacquer. The special feature of the PREMIUM*** sheets is a latex-finished backing, which makes them ideal for wet and dry finishing.

The closed coating of the PREMIUM*** paper sheets delivers an excellent surface finish.



Shape		Type no.	Dimension	Grain	PU
■	Sheet	724257	230x280	80	50
		724264	230x280	100	50
		724267	230x280	120	50
		724268	230x280	150	50
		724271*	230x280	180	50
		724272*	230x280	220	50
		724273*	230x280	240	50
		724275*	230x280	320	50
		724276*	230x280	400	50
		724281*	230x280	600	50
		724283*	230x280	800	50
		724284*	230x280	1000	50
		724285*	230x280	1200	50

** C-P68 P A*

Items with grey lettering are only available on request.

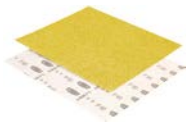
★★★ PREMIUM

A-P21 PD paper sheets

For plastics, wood, paints and lacquers

With a semi-open grain distribution on a light paper backing, TYROLIT PREMIUM*** paper sheets are ideally suited to hand sanding or for use on orbital sanders.

The semi-open coating of the PREMIUM*** paper sheets prevents loading of the product and delivers an excellent surface finish.



Shape		Type no.	Dimension	Grain	PU
■	Sheet	34230644	230x280	40	25
		34230677	230x280	60	25
		34230678	230x280	80	25
		34230679	230x280	100	50
		34230680	230x280	120	50
		34230701	230x280	150	50
		34230702	230x280	180	50
		34230703	230x280	240	50

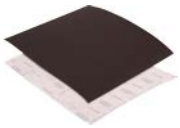
★ BASIC

A-B01 C JX cloth sheets

Universal use

With the flexible cloth sheets from TYROLIT you can machine almost any material. When finishing surfaces, preparation either by hand or using an orbital sander is required. When machining wood, paint and lacquer, TYROLIT recommends BASIC* cloth sheets.

However, our products can also be used for finishing coatings, or smoothing and cleaning composites.



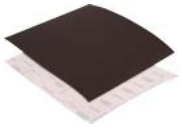
Shape		Type no.	Dimension	Grain	PU
■	Sheet	705989	230x280	40	50
		705990	230x280	60	50
		705991	230x280	80	50
		705992	230x280	100	50
		705993	230x280	120	50
		705994	230x280	150	50
		705995	230x280	180	50
		705996	230x280	220	50
		705997	230x280	240	50
		705998	230x280	320	50
		705999	230x280	400	50
		706000	230x280	600	50

Items with grey lettering are only available on request.

★ BASIC

A-B01 C JJ cloth sheets
Universal use

With highly flexible cloth sheets from TYROLIT you can machine almost any material. When finishing surfaces, preparation either by hand or using an orbital sander is required. When machining wood, paint and lacquer, TYROLIT recommends the BASIC* cloth sheets.
However, our products can also be used for finishing coatings, or smoothing and cleaning composites.



Shape		Type no.	Dimension	Grain	PU
■	Sheet	20832	230x280	60	50
		20833	230x280	80	50
		20834	230x280	100	50
		20835	230x280	120	50
		20836	230x280	150	50
		20842	230x280	180	50
		20844	230x280	220	50
		20851	230x280	240	50
		20860	230x280	320	50
		20868	230x280	400	50

★★★ PREMIUM

Fleece sheets
Universal use

+ **Universal use**
The assortment offers a wide selection of possible uses on all common materials.

+ **Flexible use**
The abrasive fabric adapts perfectly to any workpiece surface.



+ **Long lifetime**
Thanks to 100 % impregnation, the abrasive grain is not only located on the surface, but also inside the fleece.

Our fleece sheets are used for cleaning and processing surfaces using orbital sanders or for hand-guided grinding. A wide range of specifications offer the user a variety of surface finish options.
The assortment extends from coarse specifications for cleaning weld seams through to ultra-fine and polishing fleece.

▶

Items with grey lettering are only available on request.

◀

★★★ PREMIUM

Fleece sheets

Universal use



Shape		Type no.	Dimension	Conforms to	Design	Colour	PU
■	Sheet	120769	152x229	P150	A COARSE	BROWN	10
		120770	152x229	P220–240	A MEDIUM	REDBROWN	10
		120777	152x229	P220–240	C MEDIUM	BLACK	10
		120772	152x229	P320	A FINE	REDBROWN	10
		120774	152x229	P400–500	A VERY FINE	REDBROWN	10
		120779	152x229	P800	C ULTRA FINE	GREY	10
		120781	152x229	P400–500	A GP-GREEN	GREEN	10
		120787	152x229	–	POLISH	WHITE	10

Items with grey lettering are only available on request.


TYROLIT
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503
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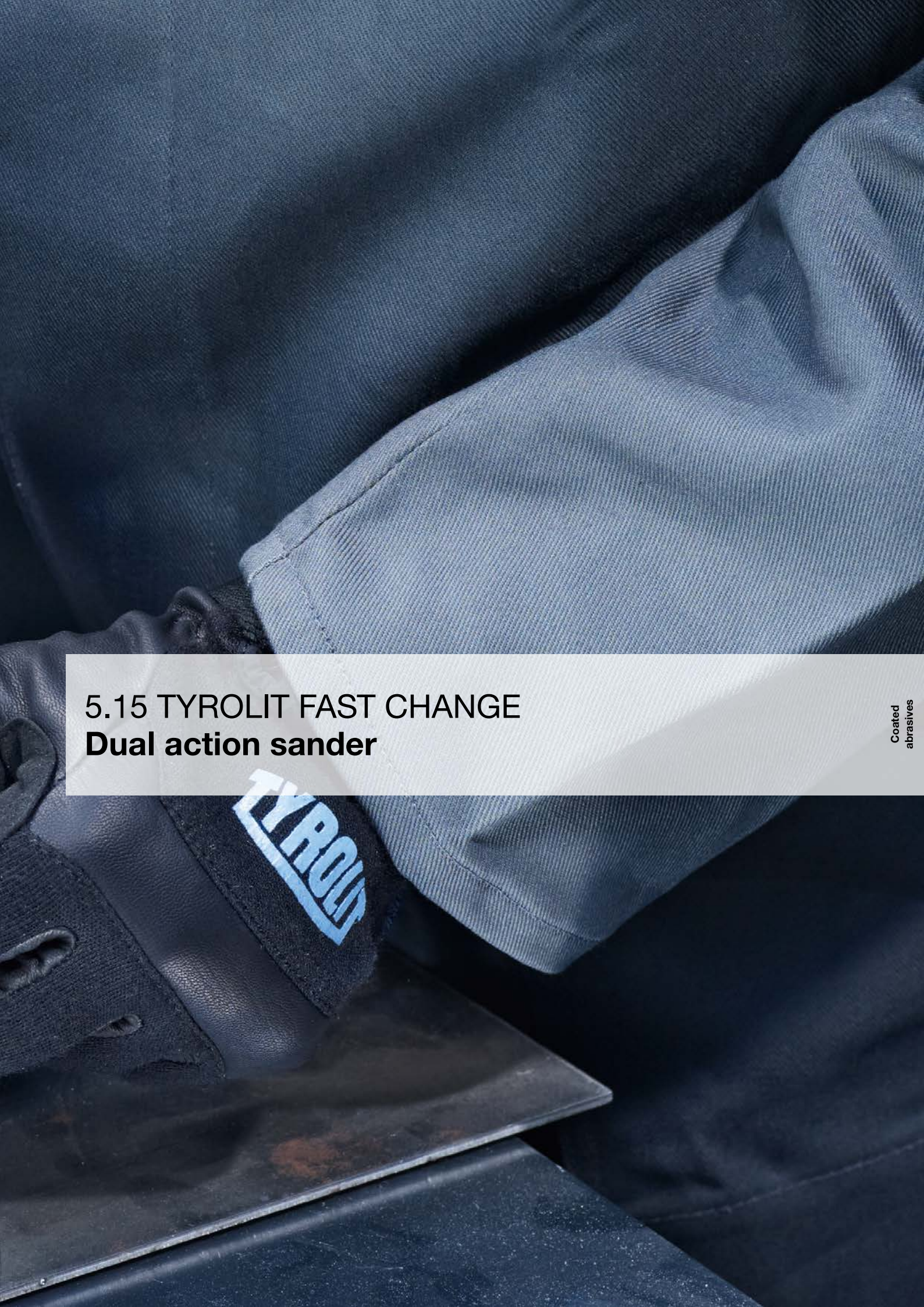
70745 Leinfelden – Echterdingen



5.15 TYROLIT FAST CHANGE
Dual action sander



TYROLIT FAST CHANGE
for dual action sanders

TYROLIT FAST CHANGE discs offer a simple and convenient solution for surface treatment. Disc changes are quick and easy thanks to the Velcro fastening.

These tools are available with paper or film backings and can be used on nearly all materials. We offer discs with different numbers of holes for optimum material removal or extraction. They are easily applied to our back up pads.

The different grit sizes allow grinding from coarse to fine on ferrous and nonferrous metals and on wood, lacquers, paint and composites.

Application recommendations

Performance level	Specification	Steel	All in One	Compos-ites	PVC	Gel-Coat	Colour/ Lack	Wood	Hard Stone	Marble	Pages
★★★ PREMIUM	ZA-P45 V		●								458
	ZA-P45 P F		●								458
	A-P22 FI			●	●	●		●			458, 459
	A-P21 P C			●	●	●		●			459
	A-P22 P E (=Grain 40)			●	●	●	●	●			461, 462
	A-P22 P D (=Grain 60–180)			●	●	●	●	●			461, 462
	A-P22 P C (=Grain > 180)			●	●	●	●	●			461, 462
	C-P65 P E	●		●	●				●	●	460
	A-P31 P F		●								463, 464

Items with grey lettering are only available on request.

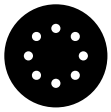
Shapes



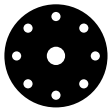
Disc



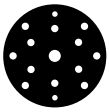
Disc 7H



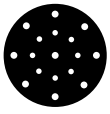
Disc 8H



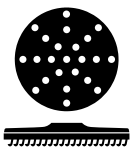
Disc 9H



Disc 15H



Disc 17H



Pad TFC 23

★★★ PREMIUM

ZA-P45 V | ZA-P45 P F TFC

Universal use

TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. A unique, strong paper backing combined with zirconium makes this product extremely abrasive and durable, and active coolants enable cool, clean grinding to be performed on the workpiece. Thanks to the thin fibre backing with grit 40 and strong paper backing the TFC is the optimal tool for removing smaller welding and spot weld seams.



Shape		Type no.	Diameter	Grain	Max. RPM	PU
●	Disc	706139	125	40	10 500	50
		706141*	125	60	10 500	50
		706142*	125	80	10 500	50
		706143*	125	120	10 500	50
		706144*	150	60	8 800	50
		706145*	150	80	8 800	50
		706146*	150	120	8 800	50

** ZA-P45 P F*

★★★ PREMIUM

A-P22 FI TFC

For plastic, composites, gel coat and wood

TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. This durable and flexible product has been developed with a special film backing to achieve improved edge stability and stock removal rate.

The product delivers an exceptionally even finish on lacquers, paints and composites. Clogging and loading of the disc is reduced, thus increasing the product's lifetime.



Shape		Type no.	Diameter	Grain	Holes	Max. RPM	PU
●	Disc 8H	706147	125	40	8	10 500	50
		706148	125	60	8	10 500	50
		706149	125	80	8	10 500	50
		706150	125	100	8	10 500	50
		706151	125	120	8	10 500	50
		706152	125	150	8	10 500	50
		706154	125	180	8	10 500	50
		706155	125	240	8	10 500	50
		706157	125	320	8	10 500	50
		706158	125	400	8	10 500	50
●	Disc 15H	34063266	150	40	15	8 800	50
		34063267	150	60	15	8 800	50
		34063292	150	80	15	8 800	50
		34063294	150	100	15	8 800	50
		34063296	150	120	15	8 800	50

▶

Items with grey lettering are only available on request.

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	Shape		Type no.	Diameter	Grain	Holes	Max. RPM	PU
		Disc 15H	34063298	150	150	15	8 800	50
			34063299	150	180	15	8 800	50
			34063300	150	240	15	8 800	50
			34063301	150	320	15	8 800	50
			34063303	150	400	15	8 800	50
		Disc 17H	34036456	150	40	17	8 800	50
			34036457	150	60	17	8 800	50
			34036458	150	80	17	8 800	50
			34036459	150	100	17	8 800	50
			34036460	150	120	17	8 800	50
			34036501	150	150	17	8 800	50
			34036502	150	180	17	8 800	50
			34036503	150	240	17	8 800	50
			34036504	150	320	17	8 800	50
			34036505	150	400	17	8 800	50

★★★ PREMIUM

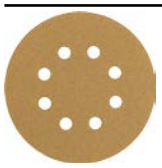
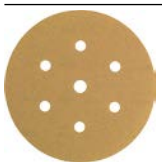
A-P21 P C TFC

For plastic, composites, gel coat and wood



TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. The thin paper backing makes the disc ideal for finishing various wood surfaces and for preparing paint, lacquer or wax surfaces.

The product delivers an exceptionally even finish on lacquers, paints and composites. Clogging and loading of the disc is reduced, thus increasing the product's lifetime.

	Shape		Type no.	Diameter	Grain	Holes	Max. RPM	PU
		Disc 8H	706219	125	40	8	10 500	50
			706221	125	60	8	10 500	50
			706222	125	80	8	10 500	50
		Disc	706244	150	40		8 800	50
			706245	150	60		8 800	50
			706246	150	80		8 800	50
		Disc 7H	706255	150	40	7	8 800	50
			706258	150	60	7	8 800	50
			706259	150	80	7	8 800	50
		Disc 9H	706268	150	40	9	8 800	50
			706269	150	60	9	8 800	50
			706270	150	80	9	8 800	50

Items with grey lettering are only available on request.

★★★ PREMIUM

C-P65 P E TFC

For hard stone, steel, composites, plastics and soft stone

TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. The thin paper backing makes the disc ideal for finishing tasks. The product delivers an exceptionally even finish on metals, lacquers, composites, marble and stone.

The product delivers an exceptionally even finish on hard stone, steel and composites. Clogging and loading of the disc is reduced, thus increasing the product's lifetime.



Shape		Type no.	Diameter	Grain	Max. RPM	PU
●	Disc	6957	125	40	10 500	50
		6958	125	60	10 500	50
		6960	125	80	10 500	50
		6964	125	120	10 500	50
		6968	125	180	10 500	50
		6969	125	220	10 500	50
		6979	125	320	10 500	50
		6991	125	400	10 500	50
		6993	125	600	10 500	50
		7007	125	800	10 500	50
		7008	180	40	7 300	50
		7030	180	60	7 300	50
		7055	180	80	7 300	50
		7058	180	120	7 300	50
		7070	180	180	7 300	50
		7072	180	220	7 300	50
		7086	180	320	7 300	50
		7087	180	400	7 300	50
		7093	180	600	7 300	50
		7100	180	800	7 300	50

Items with grey lettering are only available on request.

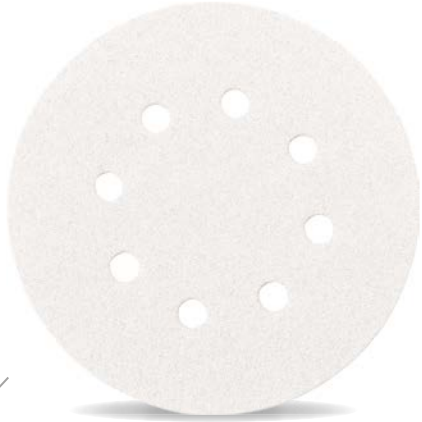
★★★
PREMIUM

A P 22 PD
TYROLIT FAST CHANGE

For composites, plastics, gel coat, wood, paints and lacquer

+ **Increased lifetime**
No loading or clogging of the TFC disc.

+ **Easy handling**
Disc changes are quick and easy thanks to the Velcro fastening.



+ **Great overall abrasion**
An improved backing increases abrasion on the workpiece.

TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. The sturdy paper backing enables high-speed grinding on many surfaces. The product delivers an exceptionally even finish on lacquers, paints and composites. Clogging and loading of the disc is reduced thanks to a special stearate layer, thus increasing the product's lifetime.

★★★
PREMIUM

A-P 22 PD, PE, PC TFC

For composites, plastics, gel coat, wood, paints and lacquers

Shape		Type no.	Diameter	Grain	Holes	Max. RPM	PU
	Disc 8H	34230261	125	40	8	10 500	50
		34230417*	125	60	8	10 500	50
		34230419*	125	80	8	10 500	50
		34230420*	125	100	8	10 500	100
		34230422*	125	120	8	10 500	100
		34230446*	125	150	8	10 500	100
		34230447*	125	180	8	10 500	100
		34230449**	125	220	8	10 500	100

*A-P 22 PE **A-P 22 PC

▶

Items with grey lettering are only available on request.

★★★ PREMIUM

A-P 22 PD, PE, PC TFC

For composites, plastics, gel coat, wood, paints and lacquers

	Shape		Type no.	Diameter	Grain	Holes	Max. RPM	PU
		Disc 8H	34230450**	125	240	8	10 500	100
			34230452**	125	320	8	10 500	100
			34230453**	125	400	8	8 800	100
		Disc	34230486	150	40		8 800	50
			34230487*	150	60		8 800	50
			34230488*	150	80		8 800	100
			34230490*	150	120		8 800	100
			34230531*	150	180		8 800	100
			34230532**	150	220		8 800	100
			34230533**	150	240		8 800	100
		Disc 15H	34230534	150	40	15	8 800	50
			34230535*	150	60	15	8 800	50
			34230591*	150	80	15	8 800	100
			34230592*	150	100	15	8 800	100
			34230593*	150	120	15	8 800	100
			34230595*	150	150	15	8 800	100
			34230597*	150	180	15	8 800	100
			34230598**	150	220	15	8 800	100
			34230599**	150	240	15	8 800	100
			34230600**	150	320	15	8 800	100
			34230601**	150	400	15	8 800	100
		Disc 17H	34230605	150	40	17	8 800	50
			34230606*	150	60	17	8 800	50
			34230607*	150	80	17	8 800	100
			34230608*	150	100	17	8 800	100
			34230609*	150	120	17	8 800	100
			34230610*	150	150	17	8 800	100
			34230612*	150	180	17	8 800	100
			34230613**	150	220	17	8 800	100
			34230614**	150	240	17	8 800	100
			34230615**	150	320	17	8 800	100
			34230616	150	400	17	8 800	100

**A-P 22 PE* ***A-P 22 PC*

Items with grey lettering are only available on request.

★★★
PREMIUM

TYROLIT FAST CHANGE

Universal use

+ **Increased lifetime**
Stronger backing for abrasiveness, resistivity and lifetime.



+ **Good assortment**
PREMIUM*** TYROLIT FAST CHANGE discs are available in grit sizes 40 to 400.

+ **Easy handling**
Disc changes are quick and easy thanks to the Velcro fastening.

TYROLIT FAST CHANGE enables you to change a disc very quickly thanks to the Velcro fastening. The heavy paper backing facilitates use on soft materials such as wood or paint and on stubborn works.
This product offers an especially sturdy backing that supports the grain with a maximum stock removal rate and longest lifetime. Extremely resistant when used on edges.

★★★
PREMIUM

A-P31 P F TFC

Universal use



Shape		Type no.	Diameter	Grain	Max. RPM	PU
●	Disc	34230705	115	40	12 300	50
		34230706	115	60	12 300	50
		34230707	115	80	12 300	50
		34230708	115	100	12 300	50
		34230709	115	120	12 300	50
		34230710	115	150	12 300	50
		34230711	115	180	12 300	50
		34230712	115	240	12 300	50
		34230713	125	40	10 500	50
		34230714	125	60	10 500	50
		34230715	125	80	10 500	50
		34230716	125	100	10 500	50
		34230717	125	120	10 500	50

▶

Items with grey lettering are only available on request.

★★★ PREMIUM

A-P31 P F TFC
Universal use



Shape	Type no.	Diameter	Grain	Max. RPM	PU
Disc	34230718	125	150	10 500	50
	34230719	125	180	10 500	50
	34230720	125	240	10 500	50
	34230721	150	40	8 800	50
	34230722	150	60	8 800	50
	34230723	150	80	8 800	50
	34230724	150	120	8 800	50
	34230725	150	150	8 800	50
	34230726	150	180	8 800	50

★★★ PREMIUM

Accessories
For TFC

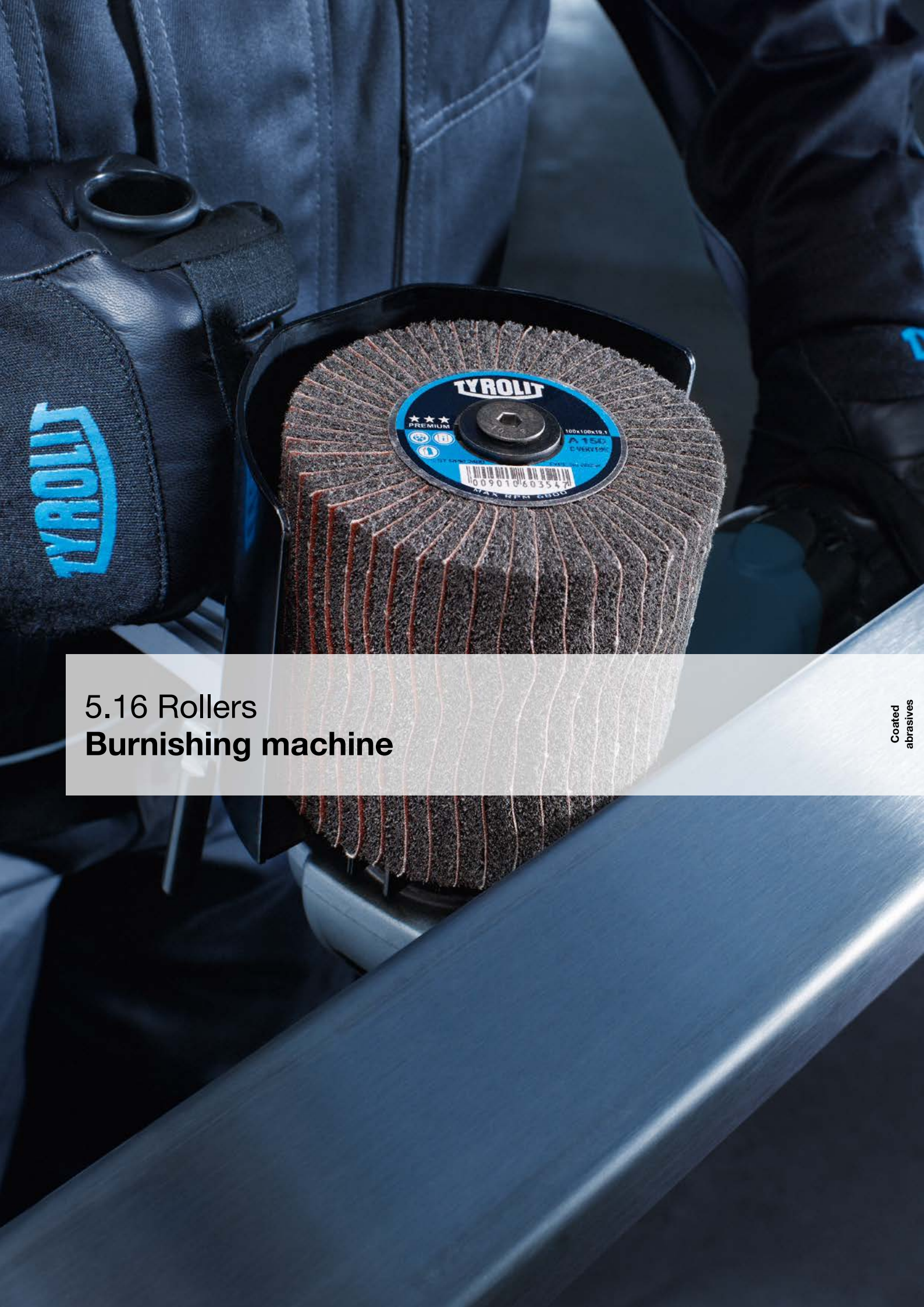
The TFC back up pad has been developed to allow grinding wheels with Velcro fastenings to be used for grinding tougher materials and for finishing. The high-quality product design enables it to be used on different materials, including wood and paints.

The back up pad is characterised by easy handling and mounting on speed-controlled angle grinders.



Shape	Type no.	Diameter	Design	Holes	Grade	Max. RPM	PU	
PAD TFC	710006	115	M14		HARD	13 300	5	
	710007	125	M14		HARD	12 300	5	
	34177464	150	5/16-M8	21	HARD	10 500	1	Suitable for discs with 0, 6, 7, 9, 15 holes
	710008	150	5/16-M8	23	HARD	10 500	1	Suitable for discs with 0, 6, 7, 9, 15 holes
	710009	150	5/16-M8	23	MEDIUM	10 500	1	Suitable for discs with 0, 6, 7, 9, 15 holes

Items with grey lettering are only available on request.



5.16 Rollers
Burnishing machine



Rollers
for burnishing machines

TYROLIT rollers are used on portable equipment such as burnishing machines for general grinding jobs, cleaning, finishing and for polishiang uneven or curved surfaces.

Our products allow a consistent, high-quality surface finish throughout their lifetime. With our comprehensive assortment, we offer products for removing welding tracks, scratches or oxidation residues. These tools are especially popular for surface pre-treatment over large areas.

The patented shape of the newly developed spiral rollers means they are extremely easy and convenient to use without lateral deflection. You can also increase your productivity by avoiding typical roller imprinting on the workpiece. In addition, vibrations are considerably reduced and the load is minimised.

Application recommendations

Performance level	Steel	Stainless steel	NF metals	PVC	Pages
ROLLERS ★★★ PREMIUM	●	●	●		468
SPIRAL ROLLERS ★★★ PREMIUM	●	●	●		469
ROUGH GRINDING WHEEL ★★★ PREMIUM	●	●		●	470

Items with grey lettering are only available on request.

Shapes



1LA C Flap wheel



1LA VL Fleece wheel



1LA VL-C
Fleece flap wheel

★★★ PREMIUM

Rollers

For steel, stainless steel and nonferrous metals

PREMIUM*** rollers are used on burnishing machines for general grinding processes, cleaning, finishing and for polishing uneven or curved surfaces. As the wear pattern remains stable throughout the product lifetime, a consistent high-quality surface finish is delivered.

The comprehensive assortment offers products for removing welding tracks, scratches and oxidation residue, as well as for pre-treating surfaces.

	Shape		Type no.	Dimension	Grain	Design	Colour	Max. RPM	Rec. speed	PU
		1LA C	62144	100x100x19.1 S4	40			6 800	3 700	1
			62153	100x100x19.1 S4	60			6 800	3 700	1
			62154	100x100x19.1 S4	80			6 800	3 700	1
			62155	100x100x19.1 S4	120			6 800	3 700	1
			62178	100x100x19.1 S4	180			6 800	3 700	1
		1LA VL	60159	100x100x19.1 S4		A COARSE	REDBROWN	6 800	2 400	1
			60170	100x100x19.1 S4		A MEDIUM	REDBROWN	6 800	2 400	1
			60184	100x100x19.1 S4		A FINE	REDBROWN	6 800	2 400	1
			60185	100x100x19.1 S4		A VERY FINE	REDBROWN	6 800	2 400	1
		1LA VL-C	60337	100x100x19.1 S4	60	A COARSE	GREY	6 800	2 400	1
			60351	100x100x19.1 S4	80	C MEDIUM	GREY	6 800	2 400	1
			60352	100x100x19.1 S4	120	C FINE	GREY	6 800	2 400	1
			60354	100x100x19.1 S4	180	C VERY FINE	GREY	6 800	2 400	1

Items with grey lettering are only available on request.

★★★
PREMIUM

Spiral rollers

For steel, stainless steel and nonferrous metals

+ **Reduced working times**
Work steps do not need to be repeated, as roller imprinting is avoided.

+ **Reduced load**
Significantly reduced vibrations prevent damage to health.



+ **Consistent results**
Consistent high-quality finish thanks to the stable grinding surface pattern.

The patented shape of the newly developed PREMIUM*** spiral rollers means they are extremely easy and convenient to use without lateral deflection. Using the PREMIUM*** spiral rollers significantly increases productivity by avoiding typical roller imprinting on the workpiece. This means grinding processes do not have to be performed again.
In addition, vibrations are considerably reduced and the load is minimised. The convenient and intuitive operation does not require extensive training to learn, meaning convincing results are achieved immediately.

★★★
PREMIUM

Spiral rollers

For steel, stainless steel and nonferrous metals

	Shape		Type no.	Dimension	Grain	Design	Colour	Max. RPM	Rec. speed	PU
		1LA VL	94134	100x100x19.1 S4		A COARSE	REDBROWN	6 800	2 400	1
			94204	100x100x19.1 S4		A MEDIUM	REDBROWN	6 800	2 400	1
			94210	100x100x19.1 S4		A VERY FINE	REDBROWN	6 800	2 400	1
		1LA VL-C	94223	100x100x19.1 S4	60	A COARSE	GREY	6 800	2 400	1
			94234	100x100x19.1 S4	80	C MEDIUM	GREY	6 800	2 400	1
			94237	100x100x19.1 S4	120	C FINE	GREY	6 800	2 400	1

Items with grey lettering are only available on request.

★★★
PREMIUM

Rough cleaning rollers

For steel, stainless steel and PVC

+ **Powerful**
TYROLIT rough cleaning wheels are characterised by a long lifetime and an excellent grinding surface pattern.

+ **User-friendly**
Enables the user to perform quiet, non-strenuous work.



+ **Versatile tool**
Not only for removing rust, paint, lacquer and underbody sealant, but also for preparing surfaces for welding, soldering and anodising.

With the TYROLIT rough cleaning roller for burnishing machines, you can effortlessly remove rust, paint, lacquer and underbody sealant from your workpiece. The porous nylon fibres, treated with aggressive abrasives, meet any challenge. Particularly suitable for cleaning large, even surfaces. At the same time, they prevent clogging or loading.

★★★
PREMIUM

Rough cleaning rollers

For steel, stainless steel and PVC

		Type no.	Dimension	Grain	Design	Colour	Max. RPM	Rec. speed	PU
	1GR	34077301	100x100x19.1 S4		C COARSE	BLACK	6 800	2 400	1

Items with grey lettering are only available on request.



5.17 Rollers
Floorstanding grinder



Rollers
for floorstanding grinders

TYROLIT rollers are used on stationary machines such as floorstanding grinders for general grinding jobs, cleaning, finishing and for polishing uneven or curved surfaces.

Our products allow a consistent, high-quality surface finish throughout their lifetime. With our comprehensive assortment, we offer products for removing welding tracks, scratches or oxidation residues. These tools are especially popular for surface pre-treatment over large areas.

Rollers for floorstanding grinders are available in many different grain sizes and so always produce the desired result.

Application recommendations

Performance level	Steel	Stainless steel	NF metals	Pages
ROLLERS ★★★ PREMIUM	●	●	●	474, 475

Items with grey lettering are only available on request.

Shapes



1 LA C

★★★ PREMIUM

Rollers

For steel, stainless steel and nonferrous metals

PREMIUM*** rollers for bench grinders can be used for general grinding processes, including cleaning, finishing and for polishing uneven or curved surfaces. As the wear pattern remains stable throughout the product life-time, a consistent high-quality surface finish is delivered.

The comprehensive assortment offers products for removing welding tracks, scratches and oxidation residue, as well as for pre-treating surfaces.

	Shape	Type no.	Shape	Dimension	Grain	Max. RPM	Rec. speed	PU
	 1LA C	62180	1LA	165x25x25.4	40	5 200	3 300	2
		62181	1LA	165x25x25.4	60	5 200	3 300	2
		62190	1LA	165x25x25.4	80	5 200	3 300	2
		62194	1LA	165x25x25.4	120	5 200	3 300	2
		62197	1LA	165x25x25.4	150	5 200	3 300	2
		62202	1LA	165x25x25.4	180	5 200	3 300	2
		62212	1LA	165x25x25.4	220	5 200	3 300	2
		62239	1LA	165x25x25.4	320	5 200	3 300	2
		62258	1LA	165x30x54	40	5 200	3 300	2
		62274	1LA	165x30x54	60	5 200	3 300	2
		62277	1LA	165x30x54	80	5 200	3 300	2
		62291	1LA	165x30x54	100	5 200	3 300	2
		62298	1LA	165x30x54	120	5 200	3 300	2
		62299	1LA	165x30x54	150	5 200	3 300	2
		62304	1LA	165x30x54	180	5 200	3 300	2
		62332	1LA	165x30x54	220	5 200	3 300	2
		62334	1LA	165x30x54	240	5 200	3 300	2
		62342	1LA	165x30x54	320	5 200	3 300	2
		62353	1LA	165x50x54	40	5 200	3 300	1
		62384	1LA	165x50x54	50	5 200	3 300	1
		62409	1LA	165x50x54	60	5 200	3 300	1
		62416	1LA	165x50x54	80	5 200	3 300	1
		62419	1LA	165x50x54	100	5 200	3 300	1
		62434	1LA	165x50x54	120	5 200	3 300	1
		62436	1LA	165x50x54	150	5 200	3 300	1
		62437	1LA	165x50x54	180	5 200	3 300	1
		62448	1LA	165x50x54	220	5 200	3 300	1
		62453	1LA	165x50x54	240	5 200	3 300	1
		62471	1LA	165x50x54	320	5 200	3 300	1
		62484	1LA	200x50x54	40	3 800	2 600	1
		62491	1LA	200x50x54	60	3 800	2 600	1
		62505	1LA	200x50x54	80	3 800	2 600	1
		62506	1LA	200x50x54	100	3 800	2 600	1
		62507	1LA	200x50x54	180	3 800	2 600	1

▶

Items with grey lettering are only available on request.

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	Shape	Type no.	Shape	Dimension	Grain	Max. RPM	Rec. speed	PU
	 1LA C	62516	1LA	200x50x54	320	3 800	2 600	1
		62518	1LA	250x50x100	60	3 000	2 000	1
		62521	1LA	250x50x100	80	3 000	2 000	1
		62524	1LA	250x50x100	100	3 000	2 000	1
		62547	1LA	250x50x100	120	3 000	2 000	1
		62548	1LA	250x50x100	220	3 000	2 000	1

★★★ PREMIUM

Accessories

For rollers

These reduction bushes can be used for bench grinder roller applications. With this set, you have the option of reducing the original bore diameter to 32, 25, 22, 20, 16 or 12 millimetres.

		Type no.	Dimension	Design	PU
	27	34024028	54x32	Reduction from 54 to 32, 25, 22, 20, 16, 12	1

Items with grey lettering are only available on request.





5.18 Compact wheels
Bench grinders



Compact wheels **for bench grinders**

Compact wheels from TYROLIT are used on stationary machines such as bench grinders for general grinding work, cleaning, finishing and polishing surfaces.

Our products enable a consistent, high-quality surface finish throughout their lifetime. With the compact wheel range, TYROLIT offers you an ideal tool for the machining of surfaces without changing the surface geometry, particularly for the removal of rust and dirt.

Compact wheels consist of multilayer unitised fleece and are available in coarse to fine specifications depending on the number of layers. Due to their soft structure, MMF (multi metal finishing) compact wheels are especially suitable for the fine machining of all metal surfaces, whereas

DB (deburring) compact wheels are particularly hard due to several layers and high pressure and are therefore suitable for deburring work.
On the following pages, you will find our range of unitised and convolute compact wheels for bench grinders.

Application recommendations

Performance level	Design	Steel	Stainless steel	All in One	Pages
★★★ PREMIUM	2 A MEDIUM, 2 C MEDIUM, 2 C COARSE, 2 C FINE, 3 C FINE, 5 A MEDIUM, 6 A MEDIUM, 6 C FINE, 7 C FINE, 8 A MEDIUM, 8 A COARSE, 8 C FINE, 9 C FINE			●	480, 481, 482

Items with grey lettering are only available on request.

Shapes



1UW Unitized wheel



1 CW Convolute wheel

★★★
PREMIUM

Unitised wheels

Universal use

+ **Enhanced safety**
Compact wheels offer a higher safety standard compared to other tools.

+ **High economic efficiency**
Cool grinding and low clogging of the wheel result in a long lifetime for the product.



+ **Versatile**
This product is extremely versatile and can be used for deburring, removal of scratches, fading, glazing, finishing and machining of welding seams.

The assortment of unitised wheels ranges from abrasive, rigid deburring tools to tools for a soft, perfect surface finish. The softer specification does not alter the surface geometry of the workpiece in any way. Application areas are primarily the deburring, cleaning, fading, finishing and machining of welding seams.
Its long lifetime gives it the edge over conventional tools. Material can be easily machined and structured using unitised wheels.

★★★
PREMIUM

Unitised wheels
Universal use

	Shape		Type no.	Dimension	Design	Max. RPM	Rec. speed	VE
		1UW	34190233	152x6x12.7	2 A MEDIUM	5 000	3 000	8
			34190235	152x6x12.7	2 C FINE	5 000	3 000	8
			34190236	152x6x12.7	3 C FINE	5 000	3 000	8
			34190237	152x6x12.7	6 A MEDIUM	7 500	4 500	8
			34190238	152x6x12.7	6 C FINE	7 500	4 500	8
			34190239	152x6x12.7	8 A COARSE	7 500	4 500	8
			34190280	152x13x12.7	2 A MEDIUM	5 000	3 000	4
			34190291	152x13x12.7	2 C FINE	5 000	3 000	4
			34190292	152x13x12.7	3 C FINE	5 000	3 000	4
			34190293	152x13x12.7	6 A MEDIUM	7 500	4 500	4
			34190294	152x13x12.7	6 C FINE	7 500	4 500	4
			34190295	152x13x12.7	8 A COARSE	7 500	4 500	4

▶

Items with grey lettering are only available on request.

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	Shape		Type no.	Dimension	Design	Max. RPM	Rec. speed	VE
		1UW	34190297	152x25x12.7	2 A MEDIUM	5 000	3 000	2
			34190298	152x25x12.7	2 C FINE	5 000	3 000	2
			34190299	152x25x12.7	3 C FINE	5 000	3 000	2
			34190301	152x25x12.7	6 A MEDIUM	7 500	4 500	2
			34190302	152x25x12.7	6 C FINE	7 500	4 500	2
			34190303	152x25x12.7	8 A COARSE	7 500	4 500	2
			34190304	152x25x25.4	2 A MEDIUM	5 000	3 000	2
			34190305	152x25x25.4	2 C FINE	5 000	3 000	2
			34190306	152x25x25.4	3 C FINE	5 000	3 000	2
			34190308	152x25x25.4	6 A MEDIUM	7 500	4 500	2
			34190309	152x25x25.4	6 C FINE	7 500	4 500	2
			34190310	152x25x25.4	8 A COARSE	7 500	4 500	2

★★★ PREMIUM

Convolute wheels

Universal use

ALL IN ONE

Convolute DB compact wheels are primarily used as deburring wheels for lasered and stamped workpieces. The surface geometry is not altered during machining and the edges are not chamfered. However, at the same time the burr is completely removed.

This product is mainly used on floorstand grinders or polishing machines. The machining of surfaces can deliver a very fine finish.

	Shape		Type no.	Dimension	Design	Max. RPM	Rec. speed	VE
		1CW	34200286	152x13x25.4	7 C FINE	6 000	3 600	4
			34200287	152x13x25.4	8 A MEDIUM	6 000	3 600	4
			34200379	152x13x25.4	8 C FINE	6 000	3 600	4
			34200380	152x13x25.4	9 C FINE	6 000	3 600	4
			34200559	152x25x25.4	7 C FINE	6 000	3 600	2
			34200611	152x25x25.4	8 A MEDIUM	6 000	3 600	2
			34200612	152x25x25.4	8 C FINE	6 000	3 600	2
			34200614	152x25x25.4	9 C FINE	6 000	3 600	2
			34200616	203x13x76.2	7 C FINE	4 500	2 700	4
			34200618	203x13x76.2	8 A MEDIUM	4 500	2 700	4
			34200619	203x13x76.2	8 C FINE	4 500	2 700	4
			34200620	203x13x76.2	9 C FINE	4 500	2 700	4
			34200621	203x25x76.2	7 C FINE	4 500	2 700	2
			34200622	203x25x76.2	8 A MEDIUM	4 500	2 700	2
			34200623	203x25x76.2	8 C FINE	4 500	2 700	2
			34200624	203x25x76.2	9 C FINE	4 500	2 700	2
			34200626	203x50x76.2	7 C FINE	4 500	2 700	1
			34200627	203x50x76.2	8 A MEDIUM	4 500	2 700	1
			34200628	203x50x76.2	8 C FINE	4 500	2 700	1
			34200630	203x50x76.2	9 C FINE	4 500	2 700	1

Items with grey lettering are only available on request.

★★★ PREMIUM

MMF convolute wheels
Universal use

This MMF product is mainly used on floorstand grinders or polishing machines. The machining of surfaces can deliver a very fine finish. The surface geometry is not altered during machining and the edges are not chamfered.
However, at the same time the burr is completely removed.

	Shape		Type no.	Dimension	Design	Max. RPM	Rec. speed	VE
		1CW	34244220	125x20x32	7 C FINE	7 200	4 300	1
			34244232	125x20x32	9 C FINE	7 200	4 300	1
			34244233	150x20x32	7 C FINE	6 000	3 600	1
			34244235	150x20x32	9 C FINE	6 000	3 600	1
			34257324	152x25x25.4	7 C FINE	6 000	3 600	1
			34257327	152x25x25.4	9 C FINE	6 000	3 600	1
			34200686	152x25x25.4	2 C COARSE	6 000	3 600	2
			34200687	152x25x25.4	2 C MEDIUM	6 000	3 600	2
			34200688	152x25x25.4	5 A MEDIUM	6 000	3 600	2
			34200689	152x50x25.4	2 C COARSE	6 000	3 600	1
			34200690	152x50x25.4	2 C MEDIUM	6 000	3 600	1
			34200712	152x50x25.4	5 A MEDIUM	6 000	3 600	1
			34200714	203x25x76.2	2 C COARSE	4 500	2 700	2
			34200716	203x25x76.2	2 C MEDIUM	4 500	2 700	2
			34200718	203x25x76.2	5 A MEDIUM	4 500	2 700	2
			34257328	203x25x76.2	7 C FINE	4 500	2 700	1
			34257331	203x25x76.2	9 C FINE	4 500	2'700	1
			34200719	203x50x76.2	2 C COARSE	4 500	2 700	1
			34200720	203x50x76.2	2 C MEDIUM	4 500	2 700	1
			34200721	203x50x76.2	5 A MEDIUM	4 500	2 700	1

★★★ PREMIUM

Accessory set
For convolute wheels

This accessory set contains two aluminium flanges for use with convolute wheels.

	Type no.	Dimension	VE
	34214174	76.2 FLANGE	1

Items with grey lettering are only available on request.



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Catalogue 20 Diamond tools and machines

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Specific information
Diamond tools

Product label



Registered trademark

Max. speed

Performance Level

Application and safety pictograms

TYROLIT, founding member of oSa®

Specification

Dimensions: external x internal Ø

Segment length and height

Type number

Material suitability

Colour codes



Label	Universal	Concrete	Hard stone	Tiles	Marble	Asphalt	Abrasive materials
Colour code	YELLOW	RED	BLUE	GREEN	GREEN	GREY	GREY
Material	Universal building materials	Concrete	Hard stone	Tiles, ceramic materials	Soft stone, marble	Abrasive materials	Abrasive materials

Specification

DC A B*-FC**

FC	FASTCUT
S	SILENT
LL	LONGLIFE
P	PREMIUM***
S	STANDARD**
B	BASIC*
AB	Abrasive materials
U	Universal building materials
C	Concrete
H	Hard stone
A	Asphalt
M	Marble, soft stone
T	Soft stone, ceramics
DC	Dry cutting
TS	Table sawing
DG	Dry grinding
HS	Hand sawing
RS	Ring sawing

Machines


Angle grinder


Petrol cutting saw


Table saw


Wet core drill


Dry core drill


Joint cutter


Electrical hand saw

Convincing, **technologies**

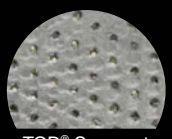


TGD®
TYROLIT GRAIN DISTRIBUTION

TGD® – TYROLIT GRAIN DISTRIBUTION

TYROLIT diamond tools with TGD® technology feature intelligently distributed diamonds that enable even load distribution, optimised cooling and a constantly high cutting performance. This significantly extends the tool lifetime and the load on the machines is reduced.

+ Long lifetime
+ High cutting ability
+ Enhanced efficiency



TGD® Segment



Conventional segment

Products with these technologies are identified by these icons on the following pages.

P2®
PERMANENT
POWER

P2® - PERMANENT POWER

P2® - PERMANENT POWER - is a high-frequency technology registered by TYROLIT, which combines the compact design of electrical systems with the reliability and performance of hydraulic systems in a single machine to optimum effect. This innovative drive concept is based on the principle of drive motors with permanent magnets and enables operation at a high torque, with simultaneously reduced motor speeds. The maintenance-friendly layout of the compact devices makes servicing easier and reduces costs.

+ High reliability
+ Powerful performance
+ Compact design



Modular
System

Modular System

Thanks to the TYROLIT Modular System, individual components can be used for the same area of application and for different applications. This not only makes the work easier and more efficient, it also saves on costs. One part of the TYROLIT Modular System is the ModulDrill™ quick clamping system, for example, which enables our drill motors to be rapidly attached to different TYROLIT drill rigs.



+ High cost efficiency
+ Efficient working
+ Easy operation


TYROLIT
TYROLIT
WORK WEAR



6.1 Dry cutting saw blades
Angle grinder



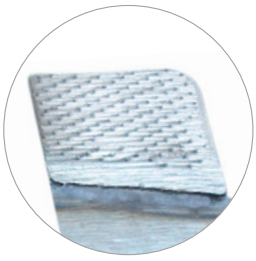
Dry cutting saw blades **for angle grinders**

TYROLIT provides laser welded and directly sintered dry cutting saw blades that meet the highest standards of quality and safety.

With TYROLIT dry cutting saw blades, plastics, fibreglass or bullet-proof glass can be machined in addition to countless standard materials, such as hard stone, concrete or asphalt. Innovative products, such as ultra-thin and sound-insulated dry cutting saw blades, underline the continuous further development and optimisation of diamond products.

TGD®-technology

TGD® (TYROLIT GRAIN DISTRIBUTION) is a unique technology developed by TYROLIT, which ensures consistently fast cutting rates, an extremely long lifetime and noticeable smooth running through optimised grain distribution. This provides for clean cuts that require no reworking. Furthermore, significantly less vibration is generated, resulting in less strain on the operator and the machine. These advantages are particularly economically evident in continuous operation: The operator can distribute his effort evenly over the day and machines remain serviceable longer.



TGD®
TYROLIT GRAIN DISTRIBUTION

Service

+ Quick delivery
+ Available in all relevant diameters
+ Conventional dimensions on stock

Remarks / Recommendations

+ Observe safety and user instructions
+ On request safety instructions may also be sent separately
+ Maximum working speed 80 m/s

Application recommendation

Performance Level	Specification	Universal	Concrete	Hard stone	Abrasive materials	Soft stone	Asphalt	Tiles	Steel	PVC	Pages
★★★ PREMIUM	DCU*** 4in1 TGD®	●	●	●					●		494
	DCU***	●									495
	DCU***-FC 4in1	●									495
	DCU***-S	●									495
	DCCI*** Combi									●	495
	DCC***		●								497
	DCC***-FC		●								497
	DCH*** TGD®			●							498
	DCH***			●							498
	DCH***-FC			●							499
	DCM***					●					499
	DCT***							●			500
	Roofer's cutting wheel	●									501
★★ STANDARD	DCU**	●									496
	DCU**-FC	●									496
	DCC**		●								497
★ BASIC	DCU*	●									496
	DCU*-FC	●									496
	DCT*							●			500

FC - FASTCUT **S - SILENT** **LL - LONGLIFE**

★★★
PREMIUM

Dry cutting saw blade

DCU*** 4in1 | in TGD®-Technology

+ **Low cutting costs** because of high cutting speed.

+ **Universal use** on concrete, hard stone, abrasive materials and steel.



+ **Reduced load for the user** as a result of unique smooth running.

Materials able to be machined: Universal building materials, such as concrete, natural stone, clay brick, cellular concrete, etc. Details: the DCU***4in1 dry cutting saw blade impresses with excellent results when cutting concrete, hard stone, abrasive materials and steel.
The possibility for universal use offers the user a product which is ready-to-use at any time without a wheel change and ensures the successful completion of a project.

Diamond tool

★★★
PREMIUM

Dry cutting saw blade

DCU*4in1 | in TGD®-Technology**

	Shape		Type number	Dimension	Segment height
		C3W	704617	230x2.4x22.23	14

★★★ PREMIUM

Dry cutting saw blade
DCU***

Materials able to be machined: Universal building materials, such as concrete, clay brick, natural stone, steel, etc.

	Shape		Type number	Dimension	Segment height
		C6W	464537	115x2.2x22.23	10
			464539	125x2.2x22.23	10
			464540	150x2.4x22.23	12
			464543	180x2.4x22.23	12
			464544	230x2.4x22.23	12
DCU*-FC 4in1**					
		C6R	474743	115x2x22.23	10
			474746	125x2x22.23	10
			474751	150x2.4x22.23	9
			474752	180x2.4x22.23	9
			474753	230x2.4x22.23	9
DCU*-S | in SILENT design**					
		C3G	474771	230x2.6x22.23	9

★★★ PREMIUM

Cutting and chamfering disc
DCCI* Combi**

The new cutting and chamfering disc DCCI*** Combi has been especially developed for the treatment of plastic pipes. The galvanized cutting edge and the diamond-coated chamfering enable a constant and clean cutting and chamfering at the same time. A cutting depth stop serves as an additional aid.

	Shape		Type number	Dimension	Segment height
		UC3	34228075	125x3x22.23	3

★★ STANDARD

Dry cutting saw blade
DCU**

Materials able to be machined: Universal building materials, such as concrete, clay brick, natural stone, steel, etc.

	Shape		Type number	Dimension	Segment height
		C3	467443	115x2x22.23	7
			467444	125x2x22.23	7
			467445	150x2.6x22.23	9
			467446	180x2.6x22.23	9
			467448	230x2.6x22.23	9
DCU-FC**					
		C3R	467414	115x2x22.23	7
			467416	125x2x22.23	7
			467428	150x2.4x22.23	9
			467430	180x2.4x22.23	9
			467431	230x2.4x22.23	9

★ BASIC

Dry cutting saw blade
DCU*

Materials able to be machined: Universal building materials, such as concrete, clay brick, natural stone, etc. Details: A 20–16 mm reduction bush is supplied with a disc diameter of 105 mm.

	Shape		Type number	Dimension	Segment height
		C3	466082	105x2x20	7
			466083	115x2x22.23	7
			466084	125x2x22.23	7
			466086	150x2.6x22.23	9
			466087	180x2.6x22.23	9
			466090	230x2.6x22.23	9
DCU*-FC					
		C3R	467266	105x2x20	7
			467267	115x2x22.23	7
			467268	125x2x22.23	7
			467271	150x2.4x22.23	9
			467273	180x2.4x22.23	9
			467276	230x2.4x22.23	9

★★★ PREMIUM

Dry cutting saw blade
DCC***

Materials able to be machined: concrete, reinforced concrete, concrete products, hard materials, etc.



Shape		Type number	Dimension	Segment height
	C6W	465488	115x2.2x22.23	10
		465489	125x2.2x22.23	10
		465490	150x2.4x22.23	12
		465491	180x2.4x22.23	12
		465492	230x2.4x22.23	12

★★★ PREMIUM

Dry cutting saw blade
DCC***-FC Wall chaser blade

Materials able to be machined: Concrete, clay brick, cellular concrete.
Details: tool for the milling of slots in concrete and masonry.

For use with all common wall chasers.



Shape		Type number	Dimension	Segment height
	C3R	598008	125x2x22.23	7
		598010	140x2.4x22.23	9
		598011	150x2.4x22.23	9

★★ STANDARD

Dry cutting saw blade
DCC**

Materials able to be machined: concrete, reinforced concrete, concrete products, hard materials, etc.



Shape		Type number	Dimension	Segment height
	C3	474774	115x2x22.23	7
		474775	125x2x22.23	7
		536789	130x2.2x22.23	7
		474777	150x2.6x22.23	9
		474778	180x2.6x22.23	9
		474780	230x2.6x22.23	9

★★★
PREMIUM

Dry cutting saw blade

DCH*** | in TGD®-Technology

+ **Low cutting costs**
because of high cutting speed.

+ **No reworking**
due to very clean cutting edges.

+ **Reduced load for the user**
as a result of unique smooth running.



+ **Consistently very fast cutting performance, very long lifetime and noticeable smooth running**
with TGD©-Technology (TYROLIT GRAIN DISTRIBUTION), a unique technology developed by TYROLIT for the optimised distribution of grain.

Materials able to be machined: Concrete blocks, granite, gneiss, porphyry, paving slab, etc. Details: the DCH*** dry cutting saw blade, specially developed using TGD®

Technology for hard stone, impresses with its cutting ability and smooth running. Reduced effort over the entire lifetime allows for higher productivity.

The perfectly optimised segments for the application create very clean, chip-free edges and ensure a flawless result.

Diamond tool

★★★
PREMIUM

Dry cutting saw blade

DCH* | in TGD®-Technology**

	Shape		Type number	Dimension	Segment height
		C3W	707365	230x2.4x22.23	14

★★★ PREMIUM

Dry cutting saw blade
DCH***

Materials able to be machined: Granite, gneiss, porphyry, paving slab, hard limestone, etc.

	Shape		Type number	Dimension	Segment height
		C6W	464698	125x2.2x22.23	10

★★★ PREMIUM

Dry cutting saw blade
DCH***-FC

The DCH***-FC from TYROLIT enables the user to carry out cutting work swiftly and to precise dimensions, without any great exertion. The DCH***-FC is an ultra-thin diamond cut-off wheel with a segment thickness of 1.2 or 1.9 mm. It is distinguished by an extremely high cutting ability with minimal dust generation and extremely smooth running.

	Shape		Type number	Dimension	Segment height
		C3	475790	115x1.2x22.23	7
			475793	125x1.2x22.23	7
		C3W	475797	180x1.9x22.23	9
			475800	230x1.9x22.23	9

★★★ PREMIUM

Dry cutting saw blade
DCM***

Materials able to be machined: marble, fibreglass reinforced plastic, PVC, carbon fibre, composites, fibreglass, bulletproof glass, etc. Details: with electroplated coating, also suitable for rescue operations.

	Shape		Type number	Dimension	Segment height
		UC3	315968	115x2.5x22.23	2
			315967	125x2.5x22.23	2
			547611	150x3x22.23	2
			315966	180x3x22.23	2
			315965	230x3x22.23	2

★★★ PREMIUM

Dry cutting saw blade
DCT*

Materials able to be machined: Ceramic tile, fine stoneware, porcelain. Details:
A 20–16 mm reduction bush is supplied with a disc diameter of 105 mm.

	Shape		Type number	Dimension	Segment height
		1A1R	639558	105x1x20	10
			639559	115x1.2x22.23	10
			639560	125x1.2x22.23	10
			639634	180x1.4x22.23	10
			676791	200x1.6x22.23	10
			639635	230x1.6x22.23	10

★ BASIC

Dry cutting saw blade
DCT*

Materials able to be machined: Ceramic tiles.

	Shape		Type number	Dimension	Segment height
		1A1R	475975	100x1.6x22.23	7
			475978	115x1.6x22.23	7
			475980	125x1.6x22.23	7
			475983	180x2x22.23	9
			475986	230x2x22.23	9

Accessories dry cutting saw blade
Sharpening plate for tiles

		Type number	Dimension
	SP6	662791	55x25x320

★★★
PREMIUM

Roofer’s cutting wheel

+ **Universal use**
for all common roofing materials.

+ **Overheating-free**
even in the case of high loads.



+ **Ribbed cutting rim**
for minimal cutting pressure.

+ **Ensures straight cuts**
and clean-cut edges.

The TYROLIT roofer’s cutting wheel was specially developed for the wide-ranging roofing application scenarios and is suitable for cutting all common roofing materials – from concrete and clay roof tiles through to fibre cement. The ribbed cutting rim and the hardened steel core ensure minimum cutting pressures and clean straight cuts throughout the wheel life.

★★★
PREMIUM

Roofer’s cutting wheel

	Shape		Type number	Dimension	Segment height
		C6R	103283	230x2.4x22.23	9





6.2 Diamond cup wheel
Angle grinder



Diamond cup wheel **for angle grinders**

TYROLIT diamond cup wheels enable quick and accurate grinding of uneven concrete, stone and floor pavement surfaces. In addition to their universal range of applications, high stock removal rates and a long lifetime are main characteristics of TYROLIT diamond cup wheels.

Service

+ Quick delivery
+ Available in all relevant diameters
+ Conventional dimensions on stock

Remarks / Recommendations

+ Observe safety and user instructions
+ On request safety instructions may also be sent separately

Application recommendation

Performance Level	Specification	 Hard stone	 Concrete	 Abrasive materials	 Universal	Pages
★★★ PREMIUM	DGU*** Turbo				●	506
	DGU***				●	507
★★ STANDARD	DGU** Single row				●	507
	DGU** Double row				●	507
	DGU** Turbo				●	508
	DGU**-T | Continuous				●	508
	DGAB**			●		508
	DGC**		●			509
	DGH**	●				509
	DGU**-FC				●	509

FC - FASTCUT **S - SILENT** **LL - LONGLIFE**

★★★
PREMIUM

Diamond cup wheel

DGU***-Turbo | W-Segment

+ **Fine grinding surface pattern and clean shaping of corners and edges**
due to turbo style arranged segments.

+ **Quick dust removal.**



+ **Impressive performance**
and lifetime.

Machinable materials: Concrete, natural stone and general building materials. Details: turbo style arranged segments for a fine grinding surface pattern and shaping of corners and edges. Quick dust removal.

A 22, 23–16 mm reduction bush is supplied with a wheel diameter of 100 mm.

★★★
PREMIUM

Diamond cup wheel

DGU*-Turbo | W-Segment**

	Shape	Type number	Dimension	Segment height
	 STS-T	598061	100x20x22.23	5
		34179930	125x23x22.23	5
		34179971	180x32x22.23	5

★★★ PREMIUM

Diamond cup wheel
DGU***

Materials able to be machined: Concrete, natural stone and general building materials. Details: with PU foam coating for quiet grinding and shaping of corners and edges.

	Shape	Type number	Dimension	Segment height
	 STHD	356569	100x18x22.23	5
		350694	110x18x22.23	5
		367833	110x18xM14	5
		348387	125x18x22.23	5
		828013	180x19x22.23	5

★★ STANDARD

Diamond cup wheel
DGU** Single row

Materials able to be machined: Concrete, natural stone and general building materials. Details: single row segments for high stock removal. A 22, 23–16 mm reduction bush is supplied.

	Shape	Type number	Dimension	Segment height
	 STS-S	494333	100x18x22.23	5

★★ STANDARD

Diamond cup wheel
DGU** Double row

Materials able to be machined: Concrete, natural stone and general building materials. Details: double row segments for medium stock removal and long lifetime. A 22, 23–16 mm reduction bush is supplied with wheel diameters of 100 and 110 mm.

	Shape	Type number	Dimension	Segment height
	 STS-D	494339	100x18x22.23	5
		494349	110x18x22.23	5
		494361	125x18x22.23	5
		494394	180x32x22.23	5

★★ STANDARD

Diamond cup wheels
DGU**-Turbo

Machinable materials: Concrete, natural stone and general building materials. Details: Turbo style arranged segments for a fine grinding surface pattern and shaping of corners and edges. Quick dust removal.

A 22.23–16 mm reduction bush is supplied with a wheel diameter of 100 mm.



Shape	Type number	Dimension	Segment height
STS-T	494342	100x18x22.23	5
	494365	125x20x22.23	5
	494391	180x32x22.23	5

★★ STANDARD

Diamond cup wheels
DGU**-T | Continuous

Machinable materials: Concrete, natural stone and general building materials. Details: Turbo style arranged segments for exceptional surface finish and high grinding power.



Shape	Type number	Dimension	Segment height
STS-TC	34247005	100x18.5x22.23	6
	34247126	115x18.5x22.23	6
	34247127	125x18.5x22.23	6
	34247128	180x18.5x22.23	6

★★ STANDARD

Diamond cup wheels
DGAB** | T-Segment

Machinable materials: Abrasive concrete, cellular concrete, floor pavement, plaster, pumice stone, etc. Details: Grinding disc with T segment for abrasive materials. Excellent grinding power.



Shape	Type number	Dimension	Segment height
STS-TS	34247129	100x21x22.23	5
	34247130	115x21x22.23	5
	34247151	125x21x22.23	5
	34247152	180x30.2x22.23	5

★★ STANDARD

Diamond cup wheels

DGC | T-Segment**

Machinable materials: Concrete and general building materials. Details:
Grinding disc with T segment for universal use. Excellent grinding power.



Shape	Type number	Dimension	Segment height
STS-TS	34247153	100x21x22.23	5
	34247154	115x21x22.23	5
	34247155	125x21x22.23	5
	34247156	180x30.2x22.23	5

★★ STANDARD

Diamond cup wheels

DGH | T-Segment**

Machinable materials: Natural stone, granite and hard building materials. Details:
Grinding disc with T segment for hard materials. Excellent grinding power.



Shape	Type number	Dimension	Segment height
STS-TS	34247157	100x21x22.23	5
	34247158	115x21x22.23	5
	34247159	125x21x22.23	5
	34247160	180x30.2x22.23	5

★★ STANDARD

Diamond cup wheels

DGU-FC | L-Segment**

Machinable materials: Concrete and general building materials. Details:
Grinding disc with L segment, with particularly large holes for better extraction, for universal use. Fast Cut Version – very high stock removal rate.



Shape	Type number	Dimension	Segment height
STS-LS	34247161	100x20.5x22.23	5
	34247162	115x20.5x22.23	5
	34247164	125x20.5x22.23	5
	34247165	180x30x22.23	5


TYROLIT



6.3 Dry cutting saw blades
Petrol saws



Dry cutting saw blades **for petrol saws**

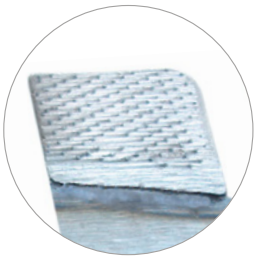
TYROLIT provides laser welded and directly sintered dry cutting saw blades that meet the highest standards of quality and safety.

With TYROLIT dry cutting saw blades, plastics, fibreglass or bullet-proof glass can be machined in addition to countless standard materials, such as hard stone, concrete or asphalt. Innovative products, such as ultra-thin and sound-insulated dry cutting saw blades, underline the continuous further development and optimisation of diamond products.

TGD®-technology

TGD® (TYROLIT GRAIN DISTRIBUTION) is a unique technology developed by TYROLIT, which ensures consistently fast cutting rates, an extremely long lifetime and noticeable smooth running through optimised grain distribution. This provides for clean cuts that require no reworking. Furthermore, significantly less vibration is generated, resulting in less strain on the operator and the machine. These advantages are particularly economically evident in continuous operation:

The operator can distribute his effort evenly over the day and machines remain serviceable longer.



TGD®
TYROLIT GRAIN DISTRIBUTION

Service

+ Quick delivery
+ Available in all relevant diameters
+ Conventional dimensions on stock

Remarks / Recommendations

+ Observe safety and user instructions
+ On request safety instructions may also be sent separately
+ Maximum working speed 80 m/s

Application recommendation

Performance Level	Specification	Universal	Concrete	Hard stone	Abrasive materials	Soft stone	Asphalt	Tiles	Steel	PVC	Pages
★★★ PREMIUM	DCU*** 4in1 TGD®	●	●	●					●		514
	DCU***	●									515
	DCC***		●								516
	DCH*** TGD®			●							518
	DCH***			●							519
	DCM***					●					519
	DCA***						●				520
	DCA+C*** 2in1		●				●				522
★★ STANDARD	DCU**	●									515
	DCU**-FC	●									515
	DCC**		●								517
	DCA**						●				520
	DCA+C** 2in1		●				●				522
★ BASIC	DCU*	●									516
	DCU*-FC	●									516
	DCH*			●							519
	DCA*						●				521
	DCA+C* 2in1		●				●				522

FC - FASTCUT **S - SILENT** **LL - LONGLIFE**

★★★
PREMIUM

Dry cutting saw blade

DCU*** 4in1 | in TGD®-Technology

+ **Low cutting costs** because of high cutting speed.

+ **Universal use** on concrete, hard stone, abrasive materials and steel.



+ **Reduced load for the user** as a result of unique smooth running.

Materials able to be machined: Universal building materials, such as concrete, natural stone, clay brick, cellular concrete, etc. Details: the DCU***4in1 dry cutting saw blade impresses with excellent results when cutting concrete, hard stone, abrasive materials and steel.
The possibility for universal use offers the user a product which is ready-to-use at any time without a wheel change and ensures the successful completion of a project.

Diamond tool

★★★
PREMIUM

Dry cutting saw blade

DCU*4in1 | in TGD®-Technology**





Shape	Type number	Dimension	Segment height
C3W	736088	300x2.6x20	14
	22373	300x2.6x22.23	14
	59580	300x2.6x25.4	14
	736102	350x3x20	14
	22377	350x3x25.4	14
	59543*	400x3.2x20	14
	59545*	400x3.2x25.4	14

*Only permitted for wet grinding

★★★ PREMIUM

Dry cutting saw blade
DCU***

Materials able to be machined: Universal building materials, such as concrete, clay brick, natural stone, steel, etc.

	Shape		Type number	Dimension	Segment height
		C6W	464545	300x2.6x20	12
			464546	300x2.6x22.23	12
			464549	300x2.6x25.4	12
			464551	350x3x20	12
			464552	350x3x22.23	12
			464553	350x3x25.4	12
			464555	400x3.2x20	12
			464556	400x3.2x25.4	12

★★ STANDARD

Dry cutting saw blade
DCU**

Materials able to be machined: Universal building materials, such as concrete, clay brick, natural stone, steel, etc.

	Shape		Type number	Dimension	Segment height
		C3	464853	300x2.6x20	10
			464854	300x2.6x22.23	10
			464855	300x2.6x25.4	10
			464858	350x3x20	10
			464859	350x3x25.4	10
			465667	400x3.2x20	10
DCU-FC**					
		C3R	467433	300x3x20	10
			467434	300x3x22.23	10
			467435	300x3x25.4	10
			467436	350x3x20	10
			467439	350x3x25.4	10

★ BASIC

Dry cutting saw blade
DCU*

Materials able to be machined: Universal building materials, such as concrete, clay brick, natural stone, etc. Details: A 20–16 mm reduction bush is supplied with a disc diameter of 105 mm.

	Shape		Type number	Dimension	Segment height
		C3	466093	300x2.6x20	10
			466094	300x2.6x22.23	10
			466095	300x2.6x25.4	10
			466096	350x3x20	10
			466098	350x3x22.23	10
			466099	350x3x25.4	10
			529399	400x3.2x25.4	10
			529401	450x3.2x25.4	10
DCU*-FC					
		C3R	467280	300x3x20	10
			467281	300x3x22.23	10
			467282	300x3x25.4	10
			467285	350x3x20	10
			467288	350x3x22.23	10
			467289	350x3x25.4	10

★★★ PREMIUM

Dry cutting saw blade
DCC***

Materials able to be machined: concrete, reinforced concrete, concrete products, hard materials, etc.

	Shape		Type number	Dimension	Segment height
		C6W	465493	300x2.6x20	12
			465494	300x2.6x22.23	12
			465495	300x2.6x25.4	12
			465496	350x3x20	12
			465498	350x3x22.23	12
			465499	350x3x25.4	12
			465501	400x3.2x20	12

★★ STANDARD

Dry cutting saw blade
DCC**

Materials able to be machined: concrete, reinforced concrete, concrete products, hard materials, etc.

	Shape		Type number	Dimension	Segment height
		C3	465503	300x2.6x20	10
			465505	300x2.6x22.23	10
			465507	300x2.6x25.4	10
			465509	350x3x20	10
			465662	350x3x22.23	10
			465512	350x3x25.4	10
			485041	400x3.2x20	10

★★★
PREMIUM

Dry cutting saw blade

DCH*** | in TGD®-Technology

+ **Low cutting costs** because of high cutting speed.

+ **No reworking** due to very clean cutting edges.

+ **Reduced load for the user** as a result of unique smooth running.



+ **Consistently very fast cutting performance, very long lifetime and noticeable smooth running** with TGD©-Technology (TYROLIT GRAIN DISTRIBUTION), a unique technology developed by TYROLIT for the optimised distribution of grain.

Materials able to be machined: Concrete blocks, granite, gneiss, porphyry, paving slab, etc. Details: the DCH*** dry cutting saw blade, specially developed using TGD®

Technology for hard stone, impresses with its cutting ability and smooth running. Reduced effort over the entire lifetime allows for higher productivity.

The perfectly optimised segments for the application create very clean, chip-free edges and ensure a flawless result.

Diamond tool

★★★
PREMIUM

Dry cutting saw blade

DCH* | in TGD®-Technology**

	Shape		Type number	Dimension	Segment height
		C3W	736095	300x2.6x20	14
			43485	300x2.6x25.4	14
			736105	350x3x20	14
			43490	350x3x25.4	14

★★★ PREMIUM

Dry cutting saw blade
DCH***

Materials able to be machined: Granite, gneiss, porphyry, paving slab, hard limestone, etc.



Shape		Type number	Dimension	Segment height
	C6W	464702	300x2.6x20	12
		464703	300x2.6x22.23	12
		464706	300x2.6x25.4	12
		464707	350x3x20	12
		464710	350x3x22.23	12
		464711	350x3x25.4	12
		464712	400x3.2x20	12

★ BASIC

Dry cutting saw blade
DCH*

Materials able to be machined: Granite, porphyry, paving slab, hard limestone, etc.



Shape		Type number	Dimension	Segment height
	C3	467391	300x2.6x20	10
		467392	300x2.6x22.23	10
		467394	300x2.6x25.4	10
		467395	350x3x20	10
		467396	350x3x22.23	10
		467400	350x3x25.4	10

★★★ PREMIUM

Dry cutting saw blade
DCM***

Materials able to be machined: marble, fibreglass reinforced plastic, PVC, carbon fibre, composites, fibreglass, bulletproof glass, etc. Details: with electroplated coating, also suitable for rescue operations.



Shape		Type number	Dimension	Segment height
	UC3	490961	350x3x20	2.5
		490962	350x3x25.4	2.5

★★★ PREMIUM

Dry cutting saw blade
DCA***

Materials able to be machined: Asphalt, sandstone, extremely abrasive materials. Details: protective segments against the undercutting-effect.



Shape		Type number	Dimension	Segment height
	C7SW	465982	300x2.8x20	10
		465983	300x2.8x22.23	10
		465984	300x2.8x25.4	10
		465985	350x3x20	10
		465987	350x3x25.4	10

★★ STANDARD

Dry cutting saw blade
DCA**

Materials able to be machined: Asphalt, sandstone, extremely abrasive materials. Details: protective segments against the undercutting-effect.



Shape		Type number	Dimension	Segment height
	C1SW	465519	300x2.8x20	10
		465520	350x3x20	10
		465522	350x3x25.4	10
		465525	400x3.2x25.4	10
		465526	450x3.6x25.4	10

★★★ PREMIUM

Dry cutting saw blade
DCA*

Materials able to be machined: Asphalt, sandstone, extremely abrasive materials.



Shape		Type number	Dimension	Segment height
	C1SW	465649	300x2.8x20	10
		465656	300x2.8x22.23	10
		465650	300x2.8x25.4	10
		465651	350x3x20	10
		465652	350x3x25.4	10
		529402	400x3.2x25.4	10
		529403	450x3.6x25.4	10

Diamond tool

★★★
PREMIUM

Dry cutting saw blade

DCA+C*** 2in1

+ **Increased flexibility**
suitable for cutting stone and concrete.

+ **Can also be used on floor saws and for wet cutting**
thanks to optimised specification.



+ **Inclined protective segments guard against segment loss**
reduce the effect of the undercutting of the core.

Materials able to be machined: asphalt, green concrete with soft to hard material aggregates and a small amount of cured concrete. Details: protective segments against the undercutting-effect.

★★★
PREMIUM

Dry cutting saw blade

DCA+C* 2in1**

	Shape		Type number	Dimension	Segment height
		C73SW	465640	300x2.6x20	10
			465642	350x3x25.4	10

★★ STANDARD

Dry cutting saw blade
DCA+C 2in1**

Materials able to be machined: asphalt, green concrete with soft to hard material aggregates and a small amount of cured concrete.

Details: protective segments against the undercutting-effect.

	Shape		Type number	Dimension	Segment height
		C1SW	34168634	300x2.8x20	10
			34237091	300x2.8x25.4/20	10
			34168635	350x3x20	10
			34237092	350x3x25.4/20	10

★ BASIC

Dry cutting saw blade
DCA+C* 2in1

Materials able to be machined: asphalt, green concrete with soft to hard material aggregates and a small amount of cured concrete.

Details: protective segments against the undercutting-effect.

	Shape		Type number	Dimension	Segment height
		C1SW	736309	300x2.8x20	10
			736311	300x2.8x25.4	10
			736313	350x3x20	10
			80653	350x3x25.4	10



6.4 Hand- and ring saw blades
Petrol saws



Hand- and ring saw blades **for petrol saws**

The leadership of TYROLIT is based on years of experience in the fields of production and application of hand saw blades. This allows us to provide innovative solutions for large scale projects and at the same time, our tools achieve efficient results in everyday use at construction sites.

Hand saw blades are especially suitable for openings and breaking through walls or ceilings with minor depths. TYROLIT ring saw blades convince with quick and simple handling and clean cutting edges. The outstanding cutting performance remains constant over the whole blade lifetime. The range of TYROLIT products covers all common applications and machines (electrical, hydraulic, petrol driven).

Application recommendation

Operation only for wet cutting

Performance Level	Specification	Concrete	Pages
★★★ PREMIUM	HSL*** TGD®	●	526
	RSL***	●	526
	RSL***-C	●	526
	RSL***-FC	●	527
	RSM***	●	527

Colour indication

Low Power / for hard, non-abrasive materials	
Medium Power / for soft, abrasive materials	

★★★ PREMIUM

Hand saw blade
HSL* | in TGD®-Technology**

Machinable materials: Usage on reinforced or normal concrete with wall thicknesses of up to 15 cm. Details: Application in system with fuel operated, electric or hydraulic cut-off machines.

	Shape		Type number	Dimension	Segment height
		C77W	54902	405x2.8x25.4	10
			732290	416x2.8x25.4	10

★★★ PREMIUM

Ring saw blade
RSL* | Ø 406 mm / 506 mm**

Machinable materials: Usage on reinforced or normal concrete with wall thicknesses of up to 40 cm (Ø 506 mm) / 30 cm (Ø 406 mm).
Details: The ring saw blades have been optimised to work perfectly with the TYROLIT HRG500*** Hydrostress machine. With every replacement blade the wear plate is included and should also be replaced with each ring saw blade.

	Shape		Type number	Dimension	Segment height
		C1W	738471	406x3.9x326.8	10
			738473	506x3.9x421.7	10

★★★ PREMIUM

Ring saw blade
RSL* | Ø 366 mm**

Machinable materials: Usage on reinforced or normal concrete with wall thicknesses of up to 26 cm. Details: Application in system with fuel operated, electric or hydraulic ring saw machines.

With every replacement blade the wear plate is included and should also be replaced with each ring saw blade.

	Shape		Type number	Dimension	Segment height
		C1W	739886	366x4.2x288	10

Diamond tool

● = *low*

★★★ PREMIUM

Ring saw blade
RSL*-C | Ø 406 mm**

Machinable materials: Usage on reinforced or normal concrete with wall thicknesses of up to 30 cm (Ø 406 mm). Details: The ring saw blades have been optimised to work perfectly with the TYROLIT Hydrostress machines.

With every replacement blade the wear plate is included and should also be replaced with each ring saw blade.



Shape		Type number	Dimension	Segment height
	C1W	34058668	406x3.9x326.78	10

★★★ PREMIUM

Ring saw blade
RSL*-FC | Ø 306 mm / Ø 406 mm**

Machinable materials: For fast cutting on reinforced or normal concrete with wall thicknesses of up to 30 cm (Ø 406 mm). Details: The ring saw blades have been optimised to work perfectly with the TYROLIT Hydrostress machines.

With every replacement blade the wear plate is included and should also be replaced with each ring saw blade.



Shape		Type number	Dimension	Segment height
	C1W	34249061	306x3.9x225.2	10
		34258692	406x3.9x326.78	10

★★★ PREMIUM

Ring saw blade
RSM* | Ø 366 mm**

Machinable materials: Usage on reinforced or normal concrete with wall thicknesses of up to 26 cm. Details: Application in system with fuel operated, electric or hydraulic ring saw machines.

With every replacement blade the wear plate is included and should also be replaced with each ring saw blade.



Shape		Type number	Dimension	Segment height
	C1W	739887	366x4.2x25.4	10

Diamond tool

● = low ● = medium

★★★
PREMIUM

Hand saw HBE350***

Cutting depth up to 125 mm





355 mm saw blade with cutting depth up to 125 mm



2.8 kW electric motor with fully integrated electronics



Integrated dust extraction connection for dust-free, clean working

The HBE350*** is an electric hand-held saw with a cutting depth up to 125 mm. The saw is suitable for both wet and dry applications. An integrated dust extraction connection enables clean working. The compact design, low weight and detachable guide rollers ensure ease of handling and machine guidance. The 230V electric drive enables flexible indoor and outdoor use.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	125 mm
Max. saw blade Ø	355 mm
Saw blade uptake	25.4 mm

Drive	
Drive / motor	Electric
Voltage / frequency	230 V / 50–60 Hz
Power	2.8 kW

Dimensions & Weight	
Length	625 mm
Width	250 mm
Height	365 mm
Weight (without blade)	7.9 kg

System & Accessories

Hand saw HBE350* **	
10996674	Hand saw HBE350*** / 230 V
10997263	Suction frame

★★★
PREMIUM

Ring saw HRE400***

Cutting depth up to 317 mm





Unique cutting depth up to 317 mm.



2.8 kW electric motor with fully integrated electronics.



Exceptional power transfer and no slippage thanks to patented drive roller system.

The HRE400*** is an electric hand-held saw for wall and floor cuts to a depth of 317 mm.The ring saw enables work without overcuts, providing an alternative to corner drilling and diamond chain saws. The patented, self-torque and anti-slip drive roller system ensures excellent power transfer and prevents slippage. The saw impresses with its highly compact, lightweight design with intelligent weight distribution. The 230 V electric drive enables flexible indoor and outdoor use.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	317 mm
Max. saw blade Ø	406 mm

Drive	
Drive / motor	Electric
Voltage / frequency	230 V / 50–60 Hz
Voltage / frequency optional	110 V / 50–60 Hz
Power	2.8 kW

Dimensions & Weight	
Length	568 mm
Width	186 mm
Height	450 mm
Weight (without blade)	10 kg

System & Accessories

Ring saw HRE400***	
10996672	Ring saw HRE400*** / 230 V
10996673	Ring saw HRE400*** / 110 V

Accessories	
10997013	Complete cut 300 mm
10997014	Complete cut 400 mm
10996678	Upper drive roller
10996679	Lower drive roller
10997164	Gear oil container (5 ml)

★★★
PREMIUM

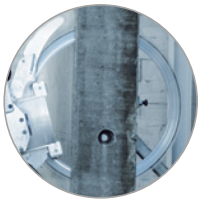
Ring saw HRH500***

Cutting depth up to 400 mm





Exceptional power transfer and no slippage thanks to patented drive roller system



Unique cutting depth up to 400 mm



Optional flow divider for use with hydraulic power packs

The HRH500*** is a unique, hydraulic hand saw for wall and floor cuts to 400 mm. The ring saw prevents overcuts and therefore offers an alternative to corner drilling and diamond chain saws. The patented, self-torque and anti-slip drive roller system ensures excellent power transfer and prevents slippage. An optional flow divider permits use with a variety of hydraulic drive systems.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	400 mm
Max. saw blade Ø	500 mm

Drive	
Drive / motor	Hydraulic
Type	Casappa
Max. flow	30 l/min
Max. pressure	172.5 bar

Dimensions & Weight	
Length	660 mm
Width	260 mm
Height	483 mm
Weight	12.6 kg

System & Accessories

Ring Saw HRH500* **	
10991469	Ring Saw HRH500***

Accessories	
10991989	Flow-volume splitter (30 l/min, 170 bar)
10991881	Hydraulic seal / bearing rebuild kit
10992895	Upper drive roller
10991813	Lower drive roller

★★★
PREMIUM

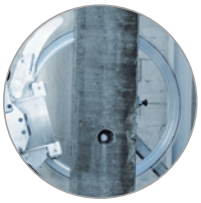
Ring saw HRG500***

Cutting depth up to 400 mm





Exceptional power transfer and no slippage thanks to patented drive roller system



Unique cutting depth up to 400 mm



Reliable Dolmar petrol engine

The HRG500*** is a unique, petrol-powered hand saw for wall and floor cuts to 400 mm. The ring saw prevents overcuts and therefore offers an alternative to corner drilling and diamond chain saws. The patented, self-torque and anti-slip drive roller system ensures excellent power transfer and prevents slippage.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	400 mm
Max. saw blade Ø	500 mm

Drive	
Drive / motor	Petrol, 2 stroke
Type	Dolmar 6400
Power	4.8 HP
Displacement	64 ccm

Dimensions & Weight	
Length	640 mm
Width	260 mm
Height	510 mm
Weight	13.5 kg

System & Accessories

Ring Saw HRG500* **	
10991778	Ring Saw HRG500***

Accessories	
10992895	Upper drive roller
10991813	Lower drive roller


TYROLIT



6.6 Table saw blades
Table sawing



Diamond saw blades **for table saws**

TYROLIT table saw blades impress with an excellent cutting performance and a long lifetime. They are optimised for the relevant material or application.

TYROLIT table saw blades are developed to work perfectly with TYROLIT Hydrostress machines and therefore meet all cutting work challenges and deliver the best results.

Application recommendation

Performance Level	Specification	Universal	Hard stone	Engineering bricks	Abrasive materials	Soft stone	Tiles	Pages
★★★ PREMIUM	TSU***	●						540
	TSU***-SILENT	●						541
	F40***				●			541
	TSS10***			●				542
	ES-T***					●		542
	DCT***						●	542
	TSH***		●					541
	TSH***-SILENT		●					541

Service

+ Quick delivery
+ Available in all relevant diameters
+ All relevant dimensions on stock
+ Designed to perfectly harmonise with TYROLIT Hydrostress machines
+ Reduction bushes for various machine types

Remarks / Recommendations

+ Please observe the safety and user instructions
+ On request safety instructions may also be sent separately
+ Maximum working speed 63 m/s
+ Tools only to be used for wet-cutting (exceptions are explicitly stated)

★★★
PREMIUM

Table saw blade

TSU***

+ **Universal use**
for various building materials, such as clay brick, concrete, sand-lime brick, etc.

+ **Maximum performance**
and lifetime.



+ **Broad product range.**

Materials able to be machined: Cellular concrete, sand-lime brick, pumice stone, clay brick, etc. Details: 35–30 mm and 30–25.4 mm reduction bushes are included with disc diameters up to 550 mm. A 60–55 mm reduction bush is supplied with disc diameters of 625 mm and upwards.

★★★
PREMIUM

Table saw blade

TSU***



	Shape	Type number	Dimension	Segment height
	 C2W	34180849	250x2.2x35	10
		34180294	300x2.4x35	10
		34180293	350x2.8x35	10
		34180291	400x3.2x35	10
		34180270	450x3.2x35	10
		34218744	500x3.6x35	10
		34180268	550x3.6x35	10
	 C1W	34180263	625x3.6x60/55	10
		34171018	650x3.9x60/55	10
		34171019	700x3.9x60/55	10
		34171020	900x4.8x60/55	10
		34171031	1000x4.8x60/55	10

★★★ PREMIUM

Table saw blade
TSU***-SILENT



Materials able to be machined: Cellular concrete, sand-lime brick, pumice stone, clay brick, etc. Details: 35–30 mm and 30–25.4 mm reduction bushes are included with disc diameters up to 550 mm. A 60–55 mm reduction bush is supplied with disc diameters of 625 mm and upwards.

	Shape		Type number	Dimension	Segment height
		C2GW	34180292	350x2.8x35	10
		C1GW	34181275	625x3.6x60	10
			34180295	700x3.9x60/55	10
			34305288	900x4.8x60/55	10

★★★ PREMIUM

Table saw blade
TSH***



Materials able to be machined: Granite, gneiss, hard sand-lime brick, hard clay brick. Details: 35–30 mm and 30–25.4 mm reduction bushes are supplied.

	Shape		Type number	Dimension	Segment height
		C2	34277672	250x2.2x35	10
			34221327	300x2.8x35	14
			34221325	350x2.8x35	14

TSH*-SILENT**

		C2G	34221324	300x2.8x35	14
			34097755	350x2.8x35	14

★★★ PREMIUM

Table saw blade
F40***



Materials able to be machined: Type F40 is designed primarily for refractory cutting.

	Shape		Type number	Dimension	Segment height
		C2W	817603	350x2.8x25.4	7
			817607	400x3.2x25.4	7
			547136	500x3.6x25.4	7

★★★ PREMIUM

Table saw blade
TSS10***

Materials able to be machined: Type TSS10 has been specially designed for the machining of engineering bricks (e.g. Stradalit).

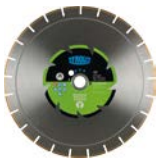
Details: 35–30 mm and 30–25.4 mm reduction bushes are supplied.

	Shape	Type number	Dimension	Segment height
	C1	894258	350x2.8x35	9

★★★ PREMIUM

Table saw blade
ES-T***

Materials able to be machined: Soft stone, such as marble and sand-lime brick. Details: 35–30 mm and 30–25.4 mm reduction bushes are supplied.

	Shape	Type number	Dimension	Segment height
	C2	5684	300x2.4x35	7
		5685	350x2.8x35	7

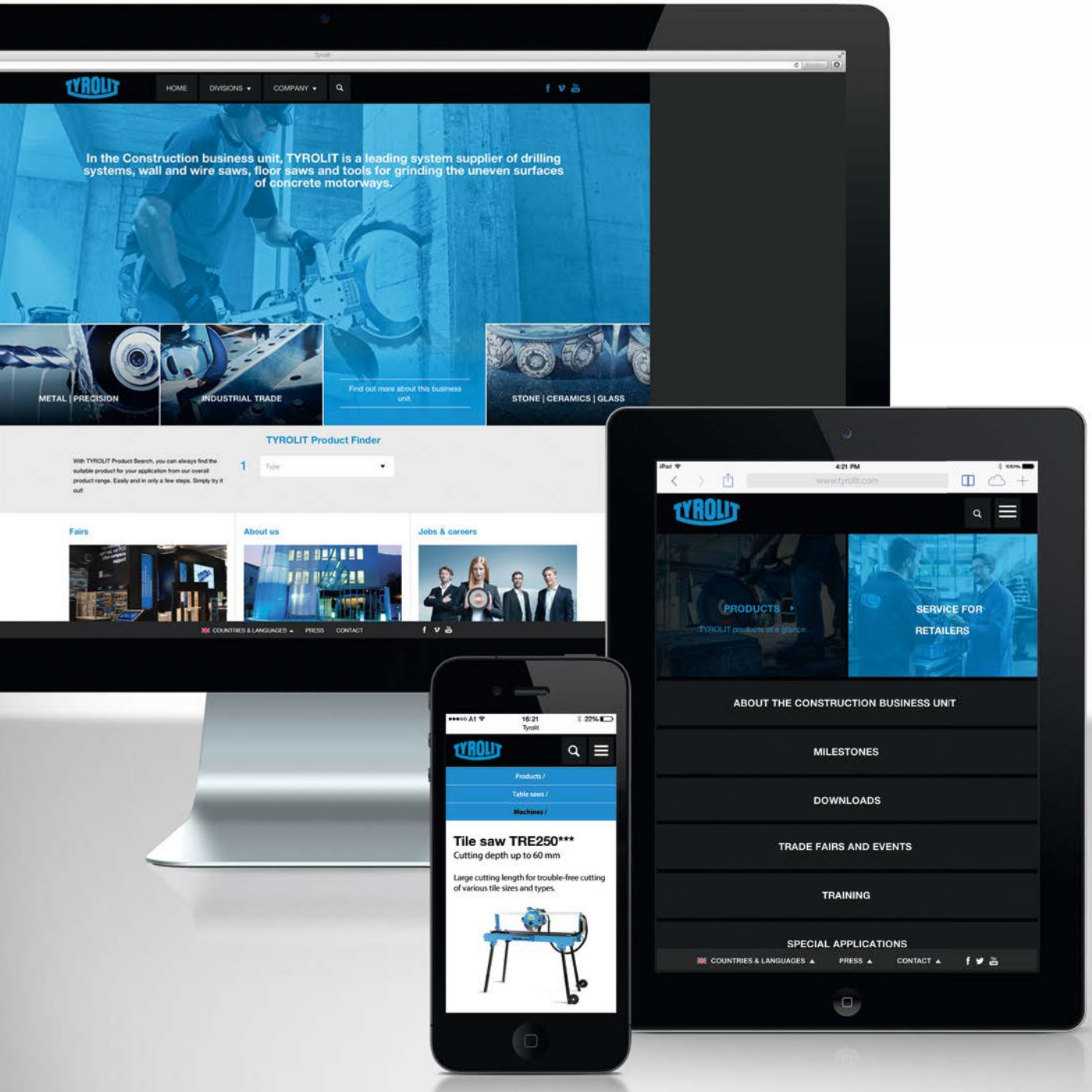
★★★ PREMIUM

Table saw blade
DCT***

Materials able to be machined: Ceramic tiles, fine stoneware, porcelain, terrazzo slabs. Details: ultra-thin saw blades with excellent properties.

35–30 mm and 30–25.4 mm reduction bushes are supplied.

	Shape	Type number	Dimension	Segment height
	1A1R	639566	180x1.4x35	10
		701934	200x1.6x35	10
		639568	230x1.6x35	10
		639569	250x1.6x35	10
		639570	300x2x35	10
		639571	350x2x35	10


HOME
DIVISIONS
COMPANY
In the Construction business unit, TYROLIT is a leading system supplier of drilling systems, wall and wire saws, floor saws and tools for grinding the uneven surfaces of concrete motorways.
METAL | PRECISION
INDUSTRIAL TRADE
Find out more about this business unit.
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Products /
Table saws /
Machines /
Tile saw TRE250***
Cutting depth up to 60 mm
Large cutting length for trouble-free cutting of various tile sizes and types.

★★★
PREMIUM

Tile saw TRE250***

Cutting depth up to 60 mm





Cutting length up to 1 m for cutting large tiles



Clean cuts thanks to precise saw head guide and robust design



Safe and easy transport thanks to folding feet and transport wheels

The TRE250*** tile saw enables the cutting of various tile sizes and types to a cutting length of 1 m. A range of adjustment and application options ensure maximum flexibility. The robust design and precise saw head guide guarantee a clean cut. Transport wheels and folding table feet facilitate transport and position at the location of use.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	60 mm
Max. saw blade Ø	250 mm
Cutting length	940 mm (1 050 mm)*
Saw blade speed	2 800 rpm
Saw blade holder Ø	25.4 mm

** Plunge cut*

Drive	
Drive / motor	Electric
Output	1.3 kW
Standard voltage / frequency	230 V / 50 Hz
Optional voltage / frequency	110 V / 60 Hz
Engine cooling	Air cooling
Saw blade drive	Direct

Design
Infinitely adjustable cutting depths
Angle cutting function (angle stop)
Mitre cutting function
Cap cutting function
Electric water pump
Folding legs

Dimensions & Weight	
Length	1 375 mm
Width	740 mm
Height	1 275 mm
Weight	79 kg

System & Accessories

Tile saw TRE250* **	
10989500	Tile saw TRE250*** / 230 V
10989100	Tile saw TRE250*** / 110 V

Accessories	
10995459	Side splash guard
10995489	Parallel guide

★★
STANDARD

Masonry saw TBE350**

Cutting depth up to 110 mm





Swivelling saw head enables 45° mitre cuts



Two robust castors ensure total manoeuvrability in the deployment location



Angle stop provided for cuts of 30° to 90°

The TBE350** table saw offers an uncompromising price-performance ratio as well as high flexibility through numerous settings and application options. A sturdy saw table with anti-slip support guarantees clean cuts. The swivelling saw head allows mitre cuts to be made with ease. Detachable table feet and transport wheels ensure trouble-free transport.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	110 mm
Max. saw blade Ø	400 mm
Cutting length	600 mm
Saw blade speed	2 800 rpm
Saw blade holder Ø	25.4 mm

Drive	
Drive / motor	Electric
Output	2.2 kW
Standard voltage / frequency	230 V / 50 Hz
Optional voltage / frequency	110 V / 60 Hz
Engine cooling	Air cooling
Saw blade drive	Direct

Design
Infinitely adjustable cutting depths
Angle cutting function (angle stop)
Mitre cutting function (swiveling saw head)
Cap cutting function
Water tank made from powder-coated steel
Electric water pump
Dismantable

Dimensions & Weight	
Length	1 140 mm
Width	640 mm
Height	1 230 mm
Weight	79 kg

System & Accessories

Masonry saw TBE350**	
10981423	Masonry saw TBE350** / 230 V
10981424	Masonry saw TBE350** / 110 V

★★★
PREMIUM

Masonry saw TME700***

Cutting depth up to 270 mm

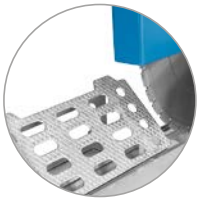




Removable water tank for easier cleaning



Sturdy, balanced transport hook for easy crane transport



Precise mitre cutting thanks to mitre stop

The TME700*** convinces through maximum stability and robustness. The precise stainless-steel saw table guide guarantees a clean cut. Construction-site suitable leading pulleys, forklift guides and a crane hook ensure trouble-free transport.

The anti-contamination positioning of the water pump reduces servicing requirements to a minimum and ensures permanent tool cooling. The intelligent blade guard construction enables quick and easy blade installation.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	270 mm
Max. saw blade Ø	700 mm
Cutting length	600 mm
Saw blade speed	1 380 rpm
Saw blade holder Ø	60 mm
Carrier Ø	11.5 mm
Reference circle Ø	120 mm

Drive	
Drive / motor	Electric
Output	5.5 kW
Standard voltage / frequency	400 V / 50 Hz
Engine cooling	Air cooling
Saw blade drive	Direct

Design
Infinitely adjustable cutting depths
Angle cutting function (angle stop)
Mitre cutting function (swiveling saw head)
Transport hook and fork lift guides
Pull-out water tank
Electric water pump

Dimensions & Weight	
Length	1 470 mm
Width	910 mm
Height	1 350 mm
Weight	220 kg

System & Accessories

Masonry saw TME700* **	
10989600	Masonry saw TME700*** / 400 V

Accessories	
10978735	Mitre stop (Jolly table)

★★★
PREMIUM

Masonry saw TME1000***

Cutting depth up to 380 mm





Large cutting depths to 380 mm possible (with saw blade Ø 1 000 mm)



Precise mitre cutting due to mitre stop



Fork lift guides for easy and secure transport

The TME1000*** convinces through maximum stability and robustness. The precise stainless-steel saw table guide guarantees a clean cut. Construction-site suitable leading pulleys, forklift guides and a crane hook ensure trouble-free transport.

The intelligent blade guard construction enables quick and easy blade installation. Servicing requirements are reduced to a minimum due to low-maintenance saw blade drive via a transmission.

System & Accessories

Technical data

Saw blade	
Max. cutting depth	380 mm
Max. saw blade Ø	1 000 mm
Cutting length	660 mm
Saw blade speed	910 rpm
Saw blade holder Ø	60 mm
Carrier Ø	11.5 mm
Reference circle Ø	120 mm

Drive	
Drive / motor	Electric
Output	7.5 kW
Standard voltage / frequency	400 V / 50 Hz
Engine cooling	Air cooling
Saw blade drive	Via gears

Design
Infinitely adjustable cutting depths
Angle cutting function (angle stop)
Mitre cutting function (optional mitre stop)
Transport hook and fork lift guides
Pull-out water tank
Electric water pump

Dimensions & Weight	
Length	1 800 mm
Width	1 030 mm
Height	1 500 mm
Weight	324 kg

System & Accessories

Masonry saw TME1000***	
10989800	Masonry saw TME1000*** / 400 V

Accessories	
10978735	Mitre stop (Jolly table)


TYROLIT
TYROLIT
TYROLIT



6.8 Floor saw blades
Floor sawing



Floor saw blades

Decades of experience in the production and application of floor saws and machines give TYROLIT the edge in the marketplace. As a result, our products can be seen as innovative solutions for large-scale projects while remaining cost-effective for everyday construction site use.

TYROLIT floor saw blades are designed to work perfectly with TYROLIT Hydrostress machines as well as all common floor saws.

- Exceptional and consistent cutting performance coupled with a long service life
- Universal use
- Innovative diamond segment design
- Quiet when working on reinforced concrete
- Clean cutting edges
- Large product range: diameters from 300–1.200 mm in various segment widths

Colour indication

	Concrete	Asphalt
Low Power (≤15 kW)		
Medium Power (>15–25 kW)		

Application recommendation

Performance Level	Specification	 Universal	 Cured concrete	 Asphalt	 Green concrete	Pages
★★★ PREMIUM	FSC***		●			556
	FSL***-A			●		557
	FSA***			●		558
	DCA+C*** 2in1			●	●	559
★ BASIC	DCU*	●				556
	DCA*			●		558
	DCA+C* 2in1			●	●	559

Information / Recommendations

+ Optimum application conditions / peripheral speed

Asphalt		55–60 m/s
Cured concrete	soft aggregates with little reinforcement	40–50 m/s
Cured concrete	hard aggregates	35–45 m/s
Green concrete		50–55 m/s

+ The safety and operating instructions sent with the machine must be observed at all times when using floor saws. The safety manual will be sent to you on request

Service

+ Bores and drive holes for special machines are available on request

★★★ PREMIUM

Floor saw blade | Cured concrete

FSC***

Machines up to 15 kW | soft to medium-hard aggregates. Details: Laser welded up to a diameter of 600 mm. Equipped with measuring bore for easy wear control of the segment height.

A 35–25.4 mm reduction bush is supplied for saw blades with a 35 mm bore.

	Shape	Type number	Dimension	Segment height
	 C7W	574853	300x3.2x25.4	12
		574854	350x3.2x25.4	12
		574855	400x3.2x25.4	12
		574856	450x3.6x25.4	12
		574857	500x3.6x25.4	12
		574858	600x3.6x25.4	12
		34237521	700x3.6x35/25.4	12
		34237523	800x3.9x35	12

★ BASIC

Floor saw blade | Cured concrete

DCU*

Machines up to 15 kW | soft to medium-hard aggregates. Details:
All tools are laser welded. Also suitable for petrol cutting saws.

	Shape	Type number	Dimension	Segment height
	 C3W	466095	300x2.6x25.4	10
		466099	350x3.0x25.4	10
		529399	400x3.2x25.4	10
		529401	450x3.6x25.4	10

★★★
PREMIUM

Floor saw blade | Asphalt

FSL***-A

+ **Consistently fast cutting performance, long lifetime** using wide spacing.



+ **Inclined protective segments** to guard against premature steel blade wear in the contact zone – (undercutting-effect).

Machines up to 25 kW | soft to very hard aggregates. Details: Laser welded up to a diameter of 600 mm. With protective segments to guard against premature steel blade wear in the contact zone – (undercutting-effect). A 35–25.4 mm reduction bush is supplied for saw blades with a 35 mm bore. Suitable for the reconstruction of asphalt road surfaces, for installation work (cables, channels, etc.) as well as for the removal of damaged asphalt cover up to a thicknessof 50 cm. The tool is perfect for extremely fast cutting speet ratio, very long life and a low machine cutting pressure.

★★★
PREMIUM

Floor saw blade | Asphalt

FSL*-A**

	Shape		Type number	Dimension	Segment height
		C7SW	620541	350x3.2x25.4	11
			620542	400x3.2x25.4	11
			620544	450x3.6x25.4	11
			621163	450x5x25.4	11
			599004	500x3.6x25.4	11
			620558	600x3.6x25.4	11
			621164	600x5x35/25.4	11
			34237486	700x4.7x35/25.4	11
			34237487	800x4.7x35/25.4	11
		C1S	620553	900x4.7x35/25.4	11
			620555	1000x4.7x35/25.4	11
			620556	1200x4.7x35/25.4	11

○ = low ● = medium

★★★ PREMIUM

Floor saw blade | Asphalt

FSA***

Machines up to 15 kW | soft to very hard aggregates. Details: Laser welded up to a diameter of 600 mm. With protective segments to guard against premature steel blade wear in the contact zone – (undercutting-effect) and measuring bore for easy wear control of the segment height. A 35–25.4 mm reduction bush is supplied for saw blades with a 35 mm bore.

	Shape	Type number	Dimension	Segment height
	 C7SW	574838	300x3.2x25.4	9
		574844	350x3.2x25.4	9
		574845	400x3.2x25.4	9
		574846	450x3.6x25.4	9
		574848	500x3.6x25.4	9
		574850	600x3.6x25.4	9
		34237480	700x4.2x35/25.4	9
		34237482	800x4.2x35/25.4	9

★ BASIC

Floor saw blade | Asphalt

DCA*

Machines up to 15 kW | soft to medium-hard aggregates. Details: All tools are laser welded. With protective segments to guard against premature steel blade wear in the contact zone – (undercutting-effect). Also suitable for petrol cutting saws.

	Shape	Type number	Dimension	Segment height
	 C1SW	465650	300x2.8x25.4	10
		465652	350x3.0x25.4	10
		529402	400x3.2x25.4	10
		529403	450x3.6x25.4	10

Diamond tool

★★★ PREMIUM

Floor saw blade

DCA+C* 2in1**

Machines up to 15 kW | soft to medium-hard aggregates. Materials able to be machined: Green concrete, asphalt and a small amount of cured concrete. Details: all diameters are laser welded. With protective segments to guard against premature steel blade wear in the contact zone – (undercutting-effect). Also suitable for petrol cutting saws.

	Shape	Type number	Dimension	Segment height
	 C73SW	465640	300x2.6x20	10
		465642	350x3.0x25.4	10

= *low*

★ BASIC

Floor saw blade

DCA+C* 2in1

Materials able to be machined: Asphalt, green concrete with soft to hard material surcharges and a small amount of cured concrete.

Details: Protective segments against the undercutting-effect.

	Shape	Type number	Dimension	Segment height
	 C1SW	736309	300x2.8x20	10
		736311	300x2.8x25.4	10
		736313	350x3x20	10
		80653	350x3x25.4	10

★★★
PREMIUM

Floor saw FSG513***

Cutting depth up to 170 mm





User-friendly cutting depth setting and convenient speed control



Optimised centre of gravity above the shaft



Universal field of application with left and right cutting function

Thanks to its extremely robust, high-quality chassis, the FSG513*** is highly robust and flexible thanks to the left- and right-handed as well as corner flush cutting functions. The reliable Honda petrol engine is equipped with a cyclone air filter.

System & Accessories

Saw blade

Saw blade	
Max. cutting depth	170 mm
Max. saw blade Ø	450 mm
Saw blade speed	2 600 rpm
Saw blade uptake Ø	25.4 mm
Carrier Ø	11.5 mm
Reference circle Ø	57.4 mm

Drive	
Drive / motor	Petrol
Type	Honda
Power	8.2 kW / 11 HP
Fuel	Lead free
Fuel tank	6.1 l
Engine cooling	Air cooling
Feed	Manual
Blade drive	Via V-belt

Design
Manual, cutting depth adjustment via spindle
Cutting depth indicator
Tool cooling using water fork
Left and right hand cutting function
Flush corner cut function
25 l water tank

Dimensions & Weight	
Length	1 136 mm
Width	578 mm
Height	1 016 mm
Weight	113 kg

System & Accessories

Floor saw FSG513***	
10988800	Floor saw FSG513*** incl. water tank kit


HYDROSTRESS



6.10 Diamond wet drill bits
Core drilling



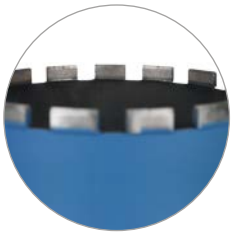
Drill bits
for wet drilling

Decades of experience in the production and application of core drill bits and core drill systems give TYROLIT the edge in the marketplace.

As a result, our products can be viewed as innovative solutions for large-scale projects while remaining cost-effective for everyday construction site use. Especially suitable for drilling reinforced or normal concrete. Can be operated on a drill rig or hand-held. TYROLIT core drill bits are designed to work perfectly with TYROLIT Hydrostress machines.

TGD®-Technology

The TYROLIT GRAIN DISTRIBUTION achieves a constant and high cutting performance due to optimum diamond grain distribution.



TGD®
TYROLIT GRAIN DISTRIBUTION

Speeds

Diameter	Speed	Drive power
	Concrete (2–3 m/s)	
mm	min–1	kW
18	2.100–3.200	1
32	1.200–1.800	
42	900–1.400	
52	750–1.100	
62	620–950	2
72	550–800	
82	470–700	
102	370–550	
122	310–470	3
152	250–380	
162	240–350	
182	210–320	4
202	190–280	
250	150–230	
300	130–190	
400	100–140	
500	80–120	

Service

+ Products for concrete (asphalt, masonry, steel and special applications on request)
+ Mountings and connection threads available to comply with local standards and tailored to suit all types of motors (electric, hydraulic)
+ Perfect system solution in conjunction with TYROLIT Hydrostress drill motors and drill rigs
+ Extensive range of accessories available
+ Special dimensions and individual solutions available on request
+ We will be pleased to provide technical support and system solutions for special construction sites

Information / Recommendations

+ Highest levels of performance at peripheral speeds of 2–3 m/s on concrete (1.2–1.8 m/s on reinforced concrete, 3.2–3.8 m/s on very abrasive materials)
+ For core drills with a diameter of 450 mm or more, we recommend to use the drill flange GR-F. The core drill program with GR-F flange is available on request
+ The correct drill rig mounting is essential
+ The correct coolant quantity is also important for the optimum drilling performance (“milky” consistency of the water)
+ The machine safety and user instructions must be read and understood before starting work. The drilling safety manual will be sent to you on request

Application recommendation
TYROLIT wet drill bits

Material properties

Specification	Aggregates				Abrasiveness			Reinforcement		
	soft	medium	hard	very hard	low	medium	high	low	medium	high
CDL* **	●	●	◑	○	◑	●	●	●	●	◑
CD660* **	●	●	◑	○	◑	●	◑	●	◑	
CDL**	◑	◑	○		○	◑	◑	◑	○	
CDM**	○	◑	●	●		○	●	◑	●	●
	Limestone Granite	Quartz Granite	Rhine gravel Danube gravel	Flint						

Machine power

Specification	Machine power			Speed		
	–2.4 kW	–3.5 kW	>3.5 kW	low	medium	high
CDL* **	●	●	○	○	●	●
CD660* **	●	◑			◑	●
CDL**	◑	◑	○	○	◑	◑
CDM**	○	◑	●	◑	●	○

Suitability

Optimal	●
Good	◑
Acceptable	○
Not suitable	

Diamond tool

★★★
PREMIUM

Wet drill bits

CDL*** | in TGD®-Technology (from Ø 47 mm)

+ **Consistently very fast cutting performance and noticeable smooth running** with TGD® Technology (TYROLIT GRAIN DISTRIBUTION), a unique technology developed by TYROLIT for the optimised distribution of grain.



+ **Very long lifetime.**

Drill motors up to 3 kW | soft to medium-hard concrete aggregates. Quality tools for the most demanding applications and maximum economic efficiency. Excellent and consistent performance, universal use and smooth core removal. Segmented drill from Ø 47 mm with TGD® Technology and new segment height of 11.3 mm. Laser welded segments up to a Ø 250 mm for maximum safety.

★★★
PREMIUM

Wet drill bits

CDL* | in TGD®-Technology (from Ø 47 mm)**



	Type number	Dimension	Segment height
HOHL3	854317	14x400xR½"	7
	474990	15x400xR½"	7
	474991	16x400xR½"	7
	474993	18x400xR½"	7
	474995	20x400xR½"	7
	474997	22x400xR½"	7
	475000	24x400xR½"	7
	475009	25x400xR½"	7
	475010	28x400xR½"	7
	475011	30x400xR½"	7
	475012	32x400xR½"	7

▶

● = *low*

Diamond tool

★★★ PREMIUM

Wet drill bits

CDL* | in TGD®-Technology (from Ø 47 mm)**



	Type number	Dimension	Segment height
HOHL3	475014	37x450xR½"	7
	475015	40x450xR½"	7
	475016	42x450xR½"	7
	34178733	47x450x1¼"	11.3
	34067834	52x450x1¼"	11.3
	34072174	52x500xPIXIE	11.3
	34170724	57x450x1¼"	11.3
	34159556	62x450x1¼"	11.3
	34072175	62x500xPIXIE	11.3
	34067836	67x450x1¼"	11.3
	34178734	72x450x1¼"	11.3
	34072176	72x500xPIXIE	11.3
	34017777	82x450x1¼"	11.3
	34018370	82x500xPIXIE	11.3
	34018473	92x450x1¼"	11.3
	34018474	92x500xPIXIE	11.3
	34018475	102x450x1¼"	11.3
	34018476	102x500xPIXIE	11.3
	34018477	107x450x1¼"	11.3
	34018478	112x450x1¼"	11.3
	34018479	112x500xPIXIE	11.3
	34018480	117x450x1¼"	11.3
	34018511	122x450x1¼"	11.3
	34018512	122x500xPIXIE	11.3
	34018513	127x450x1¼"	11.3
	34018514	132x450x1¼"	11.3
	34018515	132x500xPIXIE	11.3
	34018516	138x500xPIXIE	11.3
	34018517	142x450x1¼"	11.3
	34018518	142x500xPIXIE	11.3
	34017778	152x450x1¼"	11.3
	34018519	152x500xPIXIE	11.3
	34018520	162x450x1¼"	11.3
	34018521	162x500xPIXIE	11.3
	34018523	172x450x1¼"	11.3
	34018524	172x500xPIXIE	11.3
	34018525	182x450x1¼"	11.3
	34018526	182x500xPIXIE	11.3
	34018527	186x500xPIXIE	11.3
	34018528	192x450x1¼"	11.3

● = *low*

◀

		Type number	Dimension	Segment height
	HOHL3	34017779	202x450x1¼"	11.3
		34018529	202x500xPIXIE	11.3
		34018530	212x450x1¼"	11.3
		34018531	226x500xPIXIE	11.3
		34018533	250x450x1¼"	11.3
		34018534	250x500xPIXIE	11.3

★★★ PREMIUM

Wet drill bits
CD660***

Drill motors up to 2.5 kW | soft concrete aggregate. Quality tools for the most demanding applications and maximum cost efficiency. Universal use and smooth core removal. New segment height of 11.3 mm for a long lifetime, new segment geometry for a high stock removal rate.

Laser welded segments up to Ø 250 mm for maximum safety.

		Type number	Dimension	Segment height
	HOHL1D	34239202	47x450x1¼"	11.3
		34238995	52x450x1¼"	11.3
		34238996	57x450x1¼"	11.3
		34238997	62x450x1¼"	11.3
		34238998	67x450x1¼"	11.3
		34238999	72x450x1¼"	11.3
		34239203	75x450x1¼"	11.3
		34239000	82x450x1¼"	11.3
		34239011	92x450x1¼"	11.3
		34233009	102x450x1¼"	11.3
		34239012	107x450x1¼"	11.3
		34239013	112x450x1¼"	11.3
		34239015	122x450x1¼"	11.3
		34239017	127x450x1¼"	11.3
		34239021	132x450x1¼"	11.3
		34239023	142x450x1¼"	11.3
		34233010	152x450x1¼"	11.3
		34239027	162x450x1¼"	11.3
		34239029	172x450x1¼"	11.3
		34239030	182x450x1¼"	11.3
		34233012	202x450x1¼"	11.3
		34239984	212x450x1¼"	11.3
		34239985	250x450x1¼"	11.3
		34239986	300x450x1¼"	11.3
		34239987	350x450x1¼"	11.3
		34239988	400x450x1¼"	11.3
		34239989	450x450x1¼"	11.3
		34239990	500x450x1¼"	11.3

● = *low*

★★ STANDARD

Wet drill bits
CDL**

Drill motors up to 3 kW | soft to medium-hard concrete aggregates. Details: Quality tools for everyday use. An impressive drilling speed-lifetime ratio. Universal use, lasting quality.

Laser welded segments up to a diameter of 250 mm for maximum safety.



	Type number	Dimension	Segment height
HOHL3	475019	32x400xR½"	7
	475024	42x450xR½"	7
HOHL1D	466842	52x450x1¼"	8.5
	466843	62x450x1¼"	8.5
	466844	72x450x1¼"	8.5
	466845	82x450x1¼"	8.5
	466846	92x450x1¼"	8.5
	466847	102x450x1¼"	8.5
	466848	107x450x1¼"	8.5
	466849	112x450x1¼"	8.5
	466850	122x450x1¼"	8.5
	466852	127x450x1¼"	8.5
	466853	132x450x1¼"	8.5
	500056	142x450x1¼"	8.5
	466854	152x450x1¼"	8.5
	466855	162x450x1¼"	8.5
	466856	182x450x1¼"	8.5
	466857	202x450x1¼"	8.5
	466858	250x450x1¼"	8.5

★★ STANDARD

Wet drill bits
CDM**

Drill motors up to 3 kW | soft to medium-hard concrete aggregates. Details: Quality tools for everyday use. An impressive drilling speed-lifetime ratio. Universal use, lasting quality.

Laser welded segments up to a diameter of 250 mm for maximum safety.



	Type number	Dimension	Segment height
HOHL1D	466887	52x450x1¼"	8.5
	476408	52x450xPIXIE	8.5
	466888	62x450x1¼"	8.5
	466889	72x450x1¼"	8.5
	500259	77x450x1¼"	8.5
	466890	82x450x1¼"	8.5
	476438	82x450xPIXIE	8.5

▶

● = *low*

◀

		Type number	Dimension	Segment height
	HOHL1D	466891	92x450x1¼"	8.5
		466892	102x450x1¼"	8.5
		476440	102x450xPIXIE	8.5
		466893	107x450x1¼"	8.5
		466894	112x450x1¼"	8.5
		476442	112x450xPIXIE	8.5
		466895	122x450x1¼"	8.5
		466896	127x450x1¼"	8.5
		466898	132x450x1¼"	8.5
		500268	142x450x1¼"	8.5
		546639	142x450xPIXIE	8.5
		466899	152x450x1¼"	8.5
		476449	152x450xPIXIE	8.5
		466900	162x450x1¼"	8.5
		476450	162x450xPIXIE	8.5
		466902	182x450x1¼"	8.5
		466903	202x450x1¼"	8.5
		476452	202x450xPIXIE	8.5
		500289	225x450x1¼"	8.5
		544172	225x450xPIXIE	8.5
		466904	250x450x1¼"	8.5
		476453	250x450xPIXIE	8.5

★★ STANDARD

Wet drill bits
CDM** thin-walled

Medium-hard to hard concrete aggregates. Quality tools for everyday use. an impressive drilling speed-lifetime ratio. Universal use, lasting quality. 2.0 mm segment width up to a diameter of 121 mm and 2.5 mm segment width from a diameter of 131 mm upwards.

		Type number	Dimension	Segment height
	HOHL2	495674	36x350xR½"	7
		495817	41x350xR½"	7
		495818	51x350xR½"	7
		495820	61x350xR½"	7
		495824	71x350xR½"	7
		495826	81x350xR½"	7
		495830	91x350xR½"	7
		495832	101x400xR½"	7
		495833	111x400xR½"	7

▶

Diamond tool

● = *medium*

◀

★★ STANDARD

Wet drill bits
CDM thin-walled**

		Type number	Dimension	Segment height
	HOHL2	495834	121x400xR½"	7
		495836	131x400xR½"	7
		495837	141x400xR½"	7
		495838	151x400xR½"	7
		495841	161x400xR½"	7
		495842	171x400xR½"	7
		495843	181x400xR½"	7
		495844	191x400xR½"	7
		495845	201x400xR½"	7

Accessories wet drill bits
Adapter

		Type number	Machine connection	Tool connection
	ADAPT	374035	1¼" F	R½" F
		381983	R½" M	1¼" M
		462700	HT 1.5 F	1¼" M
		681095	HT 2 F	1¼" M
		759007	R½" M	10
		909220	1¼" F	3-LOCH

Accessories wet drill bits
Sharpening plates

		Type number	Dimension
	SP1	497322	55x25x320
		484627	160x30x320
		484672	320x55x320

Accessories wet drill bits
Carrying handle

	Type number	Connection
	34277925	½" / 1¼"

Diamond tool

Accessories wet drill bits
Brazing magnets

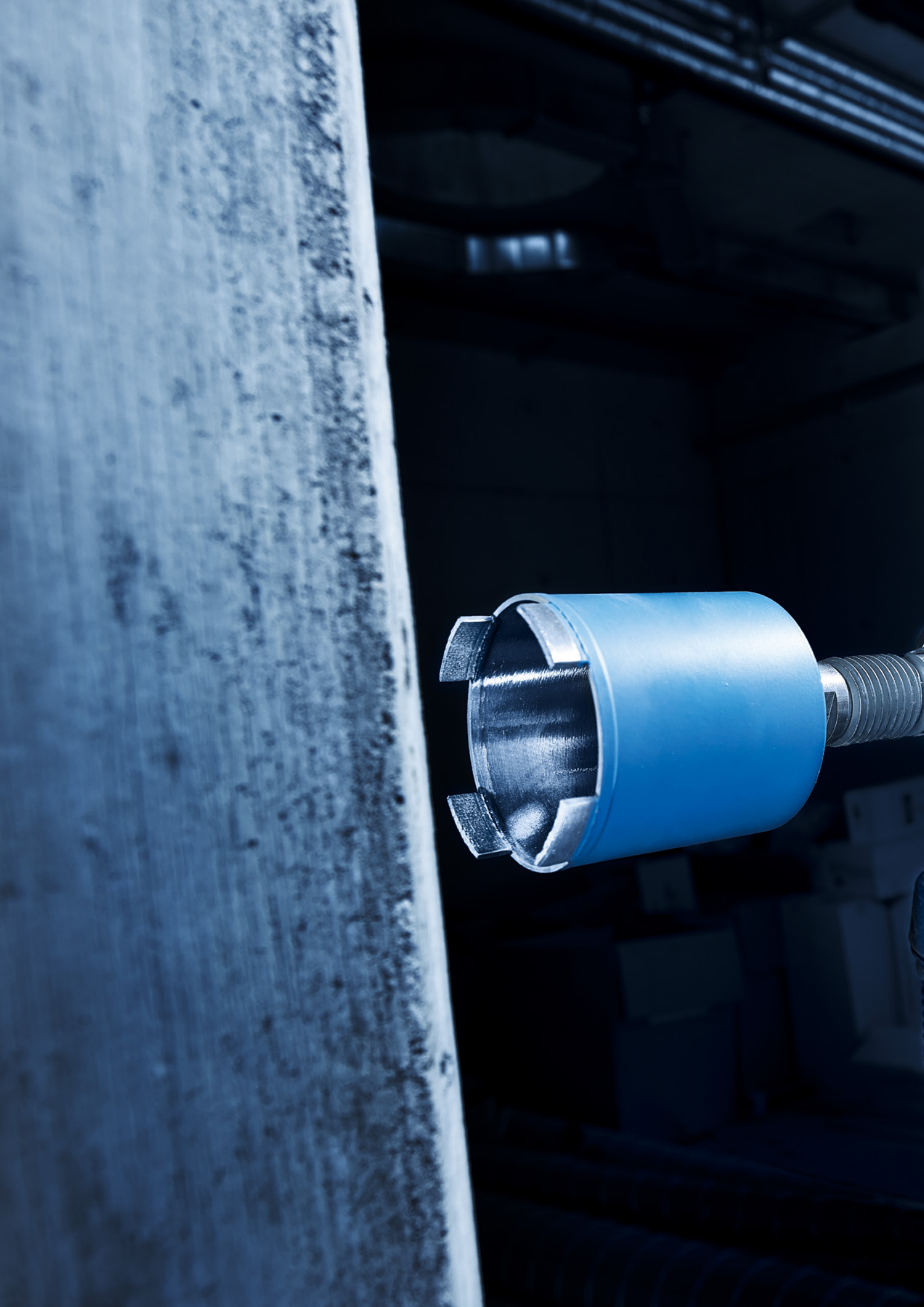
		Type number	Dimension
	HMAG	529455	56x0.75x1
		529456	56x0.5x1.25

Accessories wet drill bits
Water liners

		Type number	Length	Connection
	HVERL	400439	100	R½"
		378198	100	1¼"
		359475	200	R½"
		359471	200	1¼"
		359476	300	R½"
		359472	300	1¼"
		889232	400	R½"
		359473	400	1¼"
		707230	500	R½"
		359474	500	1¼"

Accessories wet drill bits
Water liners

		Type number	Connection	Tool connection
	WSPB	478074	SW12	R½"





6.11 Diamond dry drill bits
Core drilling



Drill bits
for dry drilling

Decades of experience in the production and application of core drill bits and core drill systems give TYROLIT the edge in the marketplace.

As a result, our products can be viewed as innovative solutions for large-scale projects while remaining cost-effective for everyday construction site use. Especially suitable for drilling reinforced or normal concrete. Can be operated on a drill rig or hand-held.

TYROLIT core drill bits are designed to work perfectly with TYROLIT Hydrostress machines.

Selecting the right dry drill bit

Plasterboard Cellular concrete Plastic tubes (PVC, PP, PE) Soft fire-resistant bricks Sandstone, porous natural stone Tiles Roof tiles Clinker Fine stoneware	Without hammer operation
Soft sand-lime brick Clay brick Lightweight concrete slabs Woodchip-concrete blocks and slabs Fireclay bricks	Hammer operation recommended (no percussion drills)
Concrete block Hard sand-lime brick Terrazzo Concrete Lightly reinforced concrete	Hammer operation required (no percussion drills)

Service

+ Whole product range ex stock
+ From a diameter of 91 mm onwards an additional distance washer is included for optional use of a vacuum-suction hood

Information / Recommendations

+ For use with drilling motors within the range of 1.000–2.000 W with or without soft impact
+ Do not use rotary percussion drills as it will destroy the tool
+ Observe the safety and user instructions shipped with the tool
+ On request these safety instructions may also be sent separately

Dry drilling
in reinforced concrete

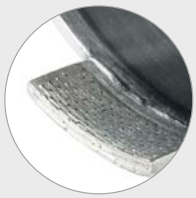
When it comes to dry drilling, the TYROLIT experts know what counts. And our expertise from special projects, such as the safe decommissioning of nuclear power stations, is put to use in the development of our dry drilling product range. The brand new TYROLIT dry drilling system is the first commercial system on the market that ensures easy and cost-efficient drilling in reinforced concrete.

One of a kind

+ Easy operation
+ Clean working without a compressor
+ Inexpensive
+ Excellent results in reinforced concrete

TYROLIT **dry drill bits** in TGD® Technology

+ Durable, laser-welded segments
+ Ideal for drilling reinforced concrete
+ Large choice of usable lengths and diameters
+ Short lengths for hand-guided drilling



TGD® dry drill bits reliably drill reinforced concrete without deformation.

TGD® TYROLIT GRAIN DISTRIBUTION



★★★ PREMIUM

Drill motor DME19DP***

+ Switchable soft impact function and 1 ¼" and ½" attachments
+ Soft start system and LED monitoring display for optimum drilling speed
+ Centring aid for precise drill bit guidance

System & Accessories

System & Accessories

Drill motor DME19DP* **	
10988200	**Drill motor DME19DP*** **
10990100	Vacuum set
10995437	Vacuum pump CV 45 l/min, 0.8 bar EU
10995156	Vacuum pump CV 45 l/min, 0.8 bar EU
10995087	Vacuum hose 3 m complete

Accessories

10995373	Centring spike 450 mm
10997916	Centring spike 250 mm
10995661	Centring blade Ø 52 mm
10995662	Centring blade Ø 62 mm
10995663	Centring blade Ø 68 mm
10995664	Centring blade Ø 72 mm
10995665	Centring blade Ø 82 mm
10995666	Centring blade Ø 92 mm
10995667	Centring blade Ø 102 mm
10995668	Centring blade Ø 112 mm
10995669	Centring blade Ø 122 mm
10995670	Centring blade Ø 127 mm
10995671	Centring blade Ø 132 mm
10995672	Centring blade Ø 142 mm
10995673	Centring blade Ø 152 mm
10995674	Centring blade Ø 162 mm

961955	Adapter ½" > M16
10994032	Adapter 1 ¼" > M16
10983964	Dust extraction adapter M16
10983845	Centring spike 140 mm
10986189	Centring spike 233 mm
10986190	Strap wrench

497322	Sharpening plate
980304	Chisel
34215616	Abrasive grain for dry drilling
10996089	Dry vacuum cleaner BSS 506 (230 V)

Accessories

976014	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar EU
975381	Vacuum hose 3 m complete

★★★
PREMIUM

Dry drill bits

DDL***-RM | in TGD®-Technology

+ **Consistently very fast cutting performance and noticeable smooth running**
with TGD® Technology (TYROLIT GRAIN DISTRIBUTION), a unique technology developed by TYROLIT for the optimised distribution of grain.



+ **Very long lifetime.**

In conjunction with the DME19DP*** drill motor, the dry drill bits in TGD®-Technology are the perfect solution for rig-guided dry drilling applications in reinforced concrete.

★★★
PREMIUM

Dry drill bits

DDL*-RM | in TGD®-Technology**



	Type number	Dimension	Segment height
HOHLT	34227784	47x450x1¼"	11.3
	34203041	52x450x1¼"	11.3
	34203212	57x450x1¼"	11.3
	34220540	62x450x1¼"	11.3
	34210273	82x450x1¼"	11.3
	34203220	102x450x1¼"	11.3
	34279921	107x450x1¼"	11.3
	34267610	112x450x1¼"	11.3
	34220543	122x450x1¼"	11.3
	34227727	132x450x1¼"	11.3
	34227728	142x450x1¼"	11.3
	34227729	152x450x1¼"	11.3
	34227730	162x450x1¼"	11.3

★★★ PREMIUM

Dry drill bits
DDL***-HH | in TGD®-Technology

The newly developed PREMIUM*** dry drill bit for hand-guided drilling impresses in many respects. With TGD®-Technology (TYROLIT GRAIN DISTRIBUTON), a unique technology developed by TYROLIT for the optimised distribution of grain.



	Type number	Dimension	Segment height
HOHLT	34074200	52x250x1¼"	8
	34074212	62x250x1¼"	8
	34074213	68x250x1¼"	8
	34074214	82x250x1¼"	8
	34074215	92x250x1¼"	8
	34074216	102x250x1¼"	8
	34074217	107x250x1¼"	8
	34074218	112x250x1¼"	8
	34074219	122x250x1¼"	8
	34074220	127x250x1¼"	8
	34074221	132x250x1¼"	8
	34074223	142x250x1¼"	8
	34074224	152x250x1¼"	8
	34074225	161x250x1¼"	8

★★★ PREMIUM

Dry drill bits
DDE*** | in TGD®-Technology

Perfect tool for installing sockets and junction boxes as well as smaller breakthrough jobs.



	Type number	Dimension	Segment height
HOHLT	34201286	68x70xM16	11.3
	34201288	82x70xM16	11.3

★★ STANDARD

Dry drill bits
DDL**

Quality tool for daily use, impressive performance and lifetime.



	Type number	Dimension	Segment height
HOHLT	899272	32x150xM16	6.5
	899271	42x150xM16	6.5
	252911	52x150xM16	6.5
	252912	56x150xM16	6.5

▶

◀

★★ STANDARD Dry drill bits
DDL**

		Type number	Dimension	Segment height
	HOHLT	252913	62x150xM16	6.5
		252914	68x150xM16	6.5
		252915	72x150xM16	6.5
		252916	82x150xM16	6.5
		252917	92x150xM16	6.5
		252918	102x150xM16	6.5
		252919	107x150xM16	6.5
		252920	117x150xM16	6.5
		252921	127x150xM16	6.5
		252923	162x150xM16	6.5
		252924	200x150xM16	6.5

★ BASIC Dry drill bits
DDL*

Tool for installing sockets and junction boxes as well as smaller breakthrough jobs.

		Type number	Dimension	Segment height
	HOHLT	650292	68x70xM16	6.5
		650293	82x70xM16	6.5

Diamond tool

Dry drill bits accessories
Connections for all common machines

Adapter suitable for all commercial machines - with and without soft impact drill bit connection: M16.

	Type no.	Machine connection	Pilot drills / Centering spikes
	850026	⅝"	Pilot drill SDS
	850011	HEX SW12	Pilot drill SDS
	116264	HEX SW12	Pilot drill Konus
	707827	HEX SW12	Centering spike 120/233 mm

▶

◀

	Type no.	Machine connection	Pilot drills / Centering spikes
	707831	SDS	Centering spike 120/233 mm
	707834	M18x2.5	Centering spike 120/233 mm
	707824	⅝"	Centering spike 120/233 mm
	762471	HEX SW12	Pilot drill SDS
	762477	⅝" M16	Pilot drill SDS

Dry drill bits accessories

Compact universal dust extraction system



Dust extraction adapter compatible with all drilling diameters.

	Type number	Description	Product info
	10983845	Centring spike 140 mm	Core drill BASIC* Core drill PREMIUM*** NL 70 mm
	10986189	Centring spike 233 mm	Core drill NL 150 mm
	10986190	Strap wrench	To remove the drill bit from the adaptor
	10983964	Dust extraction adapter with M16 Connection	For attaching an industrial vacuum cleaner

Dry drill bits accessories

Centring aids



Pilot drill with SDS connection or cone facilitates the precise positioning of the drill bits and enables exact results. When using a centring shaft, openings can also be made in 30 cm thick walls using 150 mm drill bits.

	Type number	Description	Product info
	579420	Pilot drill SDS 160 mm	Core drill NL 60/70 mm
	579424	Pilot drill SDS 260 mm	Core drill NL 150 mm
	116263	Pilot drill A-taper 160 mm for adaptor 116264	Core drill NL 60/70 mm
	579503	Centering shaft SDS 250 mm	Core drill NL 150 mm


TYROLIT



6.12 Tile drills
Core drilling

★★★
PREMIUM

Tile drills

DDT***

+ **Maximum drilling comfort**
thanks to optimised moistening of the diamonds with water and easy core removal.

+ **Fast, accurate drilling**
no edge chipping.



+ **Universal use**
for ceramictiles, fine stoneware and marble slabs.

TYROLIT vacuum brazed diamond coring bit for all ceramic tiles, fine stoneware and marble slabs.

Maximum drilling comfort, suitable for universal use with M14 connection for angle grinders, and adapter for drilling machines. Suitable for dry and wet drilling. Perfect, chip-free drilling in tiled and sanitary areas.

★★★
PREMIUM

Tile drills
DDT***

		Type number	Dimension	Segment height
	HOHLT	34180136	5x35xHEX	4
		69833	6x35xHEX	4
		69848	8x35xHEX	4
		69855	10x35xHEX	4
		69856	12x35xHEX	4
		69860	14x35xHEX	4
		34251679	6x35xM14	10
		34251680	8x35xM14	10
		34251711	10x35xM14	10
		34251712	12x35xM14	10
		69769	20x45xM14	4
		34214903	25x45xM14	4
		34214904	35x45xM14	4
		69768	38x45xM14	4
		34214905	42x45xM14	4
		69767	52x45xM14	4
		69766	65x45xM14	4
		51392	75x45xM14	4

Accessories Tile drill bits
Adapter M14

	Type number	Machine connection	Pilot drills
	69774	SDS	Pilot drill Konus
	69801	HEX	Pilot drill Konus

★★★ PREMIUM

Tile drill-set HEX
DDT***

	Type number	Content
	34215809	Tile drills Ø 5, 6, 8, 10, 12, 14 mm
		Allen key

★★★ PREMIUM

Tile drill-Kit HEX
DDT***

	Type number	Content
	34215843	Tile drills Ø 5, 6, 8, 10, 12, 14 mm
		Water bottle 1 l (Type No. 34215846)
		Drilling aid (Type No. 34215847)
		Allen key

★★★ PREMIUM

Tile drill-set M14 Ø 20+
DDT***

		Type number	Content
	HOHLT	34229331	Tile drills Ø 20, 25, 35, 38, 42, 52, 65, 75 mm
			Adapter M14/HEX, M14/SDS
			Allen key
			Pilot drill 7x110
			Open ended spanner SW19

Tile drill-set M14

★★★ PREMIUM

DDT***





Type number	Content
34294535	Tile drills Ø 6, 8, 10, 12, 20, 25, 35 mm
	Wrench

Tile drill-set XL

★★★ PREMIUM

DDT***





Type number	Content
34245899	Tile drills HEX wet Ø 5, 6, 8, 10, 12, 14 mm
	Tile drills M14 dry Ø 20, 38, 52, 65, 75 mm
	69774 SDS Adapter on request
	69801 HEX Adapter on request
	Center Drill Ø 7
	Open-ended spanner SW 19
	Hex key
	34215846 1 l water bottle (hose included)
	34215847 drilling aid




TYROLIT
HYDROSTRESS



6.13 Core drill systems
Core drilling

Selecting guide
for core drill systems

	Power in kW	Application	Drill diameter range in mm m/s		Drill rig recommendation
 DME19DP***	1.8		52	162	 DRU160***
 DME22SU**	2.2		20	180	 DRA150**
 DME20PU***	2.0		15	180	 DRU160***
 DME20PW***	2.0		15	180	 DRU160***
 DRS162**	2.5		40	160	Integriert
 DME24MW***, DME24UW***	2.2		40	250	 DRU250***  DRA250***

wet *dry* *also handheld*

Diamond tool

Accessories

 Adaptor M16	 Dust vacuum adaptor, M16	 Centering spike	 Vakuum fixing	 Fastening bolt assembly	 Quick grip device	 Celling prop	 Watertank	 Water retention ring	 Extension	 ModulDrill™-distance plate	 Antifriction-Element	 Trolley chassis
●	●	●	●	●					●			
	●	●	●	●			●	●	●			
		●	●	●	●		●	●	●		●	
		●	●	●	●		●	●	●		●	
			●	●			●		●		●	
			●	●	●	●	●	●	●		●	●
				●	●	●	●	●	●		●	●

● *available / suitable*

★★★
PREMIUM

Drill motor DME19DP***

Core drilling up to Ø 162 mm





System solution for dry drilling reinforced concrete



Activatable/deactivatable soft impact function accelerates work progress



Electronics for soft start and LED indicator for optimum drilling performance

The DME19DP*** in conjunction with TYROLIT TGD® dry drill bits is the solution for dry drilling applications in reinforced concrete. The practical centring aid ensures precise drill bit guidance and a longer diamond tool lifetime. Switchable soft impact function accelarates work progress, particularly in hard materials. The soft start and the LED indicator aid the user in selecting the optimal drilling speed.

System & Accessories

Technical data

Drill motor DME19DP***		
Voltage / Frequency	230 V / 50 Hz	110 V / 60 Hz
Type no.	10988200	10988700
Drill diameter range	52–162 mm	
Max. drill diameter in reinforced concrete	122 mm	
Nominal power	1.8 kW	
Speed	1 150 rpm	
Impact frequency	28 000/min	
Motor cooling	Air	
Tool attachment	1 ¼" and R ½"	
Operation	Hand-held / rig-based	
Application	Dry	
Electronic overload cut-out	•	
Mechanical overload cut-out	•	
Drill rig attachment	Clamping collar 60 mm	

Dimensions & Weight	
Length	510 mm
Width	95 mm
Height	170 mm
Weight	5.2 kg

Accessories	
976014	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar CH
975381	Vacuum hose 3 m complete

System & Accessories

Drill motor DME19DP***	
10990100	Dry drill rig DRU160***
10995437	Centering device for DRU160***
10995156	Core stop ½"
10995087	ModulDrill™ clamping collar plate
10996089	Vacuum cleaner BSS 506

Accessories	
10995373	Centering spike 450 mm
10997916	Centering spike 250 mm
10995661	Centering insert Ø 52 mm
10995662	Centering insert Ø 62 mm
10995663	Centering insert Ø 68 mm
10995664	Centering insert Ø 72 mm
10995665	Centering insert Ø 82 mm
10995666	Centering insert Ø 92 mm
10995667	Centering insert Ø 102 mm
10995668	Centering insert Ø 112 mm
10995669	Centering insert Ø 122 mm
10995670	Centering insert Ø 127 mm
10995671	Centering insert Ø 132 mm
10995672	Centering insert Ø 142 mm
10995673	Centering insert Ø 152 mm
10995674	Centering insert Ø 162 mm
961955	Adaptor ½" > M16
10994032	Adaptor 1 ¼" > M16
10983964	Dust vacuum adaptor M16
10983845	Centering spike 140 mm
10986189	Centering spike 233 mm
10986190	Strap wrench
497322	Sharpening plate
980304	Chisel
34215616	Abrasive grain for dry drilling

★★
STANDARD

Drill motor DME22SU**

Core drilling up to Ø 180 mm





Three-speed transmission for optimum rotational speeds



Dry drilling with the included M16 adapter



Comes in a handy transport case

The DME22SU** drill motor is ideal for electrical and installation work. It features a 3-speed transmission and variable speed setting with soft start.

Integrated overload cut-outs and the PRCD safety switch ensure safe working. Dry drilling is also possible with the included M16 adapter.

System & Accessories

Technical data

Drill motor DME22SU**		
Voltage / Frequency	230 V / 50–60 Hz	110 V / 50–60 Hz
Type no.	10993027	10993028
Drill diameter range	20–180 mm	
Nominal power	2.2 kW	
Nominal current	9.5 A	18 A
Load speed	400/750/1 550 rpm	
No load speed	850/1 650/3 450 rpm	
Motor cooling	Air	
Tool attachment (external)	1 ¼"	
Tool attachment (internal)	½"	
Operation	Hand-held / rig-based	
Application	Wet / dry	
Electronic overload cut-out	•	
Mechanical overload cut-out	•	
PRCD protection switch	•	
Drill rig attachment	Clamping collar 60 mm	

Dimensions & Weight	
Length	552 mm
Width	110 mm
Height	150 mm
Weight	6.0 kg

System & Accessories

Core drilling system with DRU160* Drill rig**	
10993027	Electric drill motor DME22SU**
10987400	Drill rig DRU160***
977619	Fastening bolt assembly

Accessories	
400439	Extension ½" 100 mm
359475	Extension ½" 200 mm
359476	Extension ½" 300 mm
889232	Extension ½" 400 mm
707230	Extension ½" 500 mm
378198	Extension 1 ¼" 100 mm
359471	Extension 1 ¼" 200 mm
359472	Extension 1 ¼" 300 mm
359473	Extension 1 ¼" 400 mm
359474	Extension 1 ¼" 500 mm
10983964	Dust vacuum adaptor M16
10983845	Centering spike 140 mm
10986189	Centering spike 233 mm
10986190	Strap wrench

★★★
PREMIUM

Drill motors
DME20PW*** | DME20PU***

Core drilling up to Ø 180 mm





Performance and service indicator as well as levelling aid



Compact and ergonomic design



Quick changeover between wet and dry drilling with DME20PU***

The DME20*** drill motor provides impressive drilling performance in the power range up to 2 kW. The mechanical and electronic overload cut-out and the full metal housing ensure high reliability. Built-in performance and service indicators, as well as the levelling aid, also enable easy operation. The drill motor is suitable for universal use and covers a wide variety of application areas: manual/drill-rig guided and wet/dry (DME20PU***).

System & Accessories

Technical data

Drill motors	DME20PW***		DME20PU***	
Voltage / Frequency	230 V / 50 Hz	110 V / 60 Hz	230 V / 50 Hz	110 V / 60 Hz
Type no.	10992077	10992078	10992079	10992080
Drill diameter range	15–180 mm			
Nominal power	2.0 kW			
Nominal current	9.5 A	18 A	9.5 A	18 A
Load speed	520/1 400/2 900 rpm			
No load speed	830/2 200/4 600 rpm			
Motor cooling	Air			
Tool attachment (external)	1 ¼"			
Tool attachment (internal)	½"			
Operation	Hand-held / rig-based			
Application	Wet		Wet / dry	
Electric overload cut-out	•			
Mechanical overload cut-out	•			
PRCD protection switch	•			
Performance indicator	•			
Service indicator	•			
Drill rig attachment	Clamping collar 60 mm			

Dimensions & Weight

Length	435 mm	450 mm
Width	115 mm	
Height	300 mm	
Weight	6.3 kg	6.5 kg

System & Accessories

Core drilling system with DRU160*** Drill rig	
10992077	Electric drill motor DME20PW***
10992079	Electric drill motor DME20PU***
10987400	Drill rig DRU160***
976014	Vakuum set
984035	Vakuum pump CV 45 l/min, 0.8 bar EU
975381	Vakuum hose 3 m complete

Accessories

400439	Extension ½" 100 mm
359475	Extension ½" 200 mm
359476	Extension ½" 300 mm
889232	Extension ½" 400 mm
707230	Extension ½" 500 mm
378198	Extension 1 ¼" 100 mm
359471	Extension 1 ¼" 200 mm
359472	Extension 1 ¼" 300 mm
359473	Extension 1 ¼" 400 mm
359474	Extension 1 ¼" 500 mm
10996327	Centering spike 250–300 mm
10996328	Centering spike 400–450 mm
963339	Anti-friction element 1 ¼", max. 2.4 kW
974984	Supporting ring alum. 1 ¼"

★★★
PREMIUM

Drill motors
DME24MW*** | DME24UW***

Core drilling up to Ø 250 mm





Especially compact and light



Performance and service indicator, as well as levelling aid



Time saving drill rig mounting via ModulDrill™ quick change clamping system

Diamond tool

The low weight and extremely compact size are the highlights of the DME24*** and ensure perfect handling. The mechanical and electronic overload cut-out and the full metal housing ensure high reliability. Built-in performance and service indicators, as well as the levelling aid, also enable easy operation. The drill motor is available with different drill rig attachments (ModulDrill™ quick clamping system or universal plate).

System & Accessories

Technical data

Drill motors	DME24MW***		DME24UW***	
Voltage / Frequency	230 V / 50 Hz	110 V / 60 Hz	230 V / 50 Hz	110 V / 60 Hz
Type no.	10992081	10992082	10992083	10992084
Drill diameter range	40–250 mm			
Nominal power	2.2 kW			
Nominal current	10 A	20 A	10 A	20 A
Load speed	370/590/990 rpm			
No load speed	710/1 130/1 900 rpm			
Motor cooling	Air			
Tool attachment (external)	1 ¼"			
Tool attachment (internal)	½“			
Operation	Rig-based			
Application	Wet			
Electric overload cut-out	•			
Mechanical overload cut-out	•			
PRCD protection switch	•			
Performance indicator	•			
Service indicator	•			
Drill rig attachment	ModulDrill™		Universal plate	

Dimensions & Weight

Length	465 mm	
Width	115 mm	
Height	175 mm	155 mm
Weight	7.6 kg	7.7 kg

System & Accessories

Core drilling system with DRA250*** (Steel dowel foot)	
10992081	Electric drill motor DME24MW***
10987500	Drill rig DRA250***
977619	Fastening bolt assembly

Core drilling system with DRU250*** (Alu. dowel-vacuum foot)	
10992081	Electric drill motor DME24MW***
10984500	Drill rig DRU250***
960795	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975381	Vacuum hose 3 m complete

Accessories	
400439	Extension ½" 100 mm
359475	Extension ½" 200 mm
359476	Extension ½" 300 mm
889232	Extension ½" 400 mm
378198	Extension 1 ¼" 100 mm
359471	Extension 1 ¼" 200 mm
359472	Extension 1 ¼" 300 mm
359473	Extension 1 ¼" 400 mm
359474	Extension 1 ¼" 500 mm
963339	Anti-friction element 1 ¼", max. 2.4 kW
974984	Supporting ring alum. 1 ¼"

★★
STANDARD

Core drilling system DRS162**

Core drilling up to Ø 162 mm

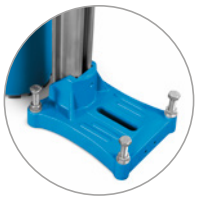




Powerful 2.5 kW Motor



One speed for drilling diameters up to 162 mm



Space-saving attachment facility via dowel foot

The DRS162** drill system is the ideal core drill entry model. The drill motor and drill rig complement each other perfectly and form a single unit. The preset speed and compact, lightweight construction guarantee easy handling and user-friendliness. An integrated PRCD safety switch ensures maximum safety. Optional vacuum plate offers more flexibility in fixing the system.

System & Accessories

Technical data

Drill rig (integrated)	
Bore hole diameter	40–162 mm
Max. drill bit length	556 mm

Drill rig (integrated)	
Drill diameter range in concrete ca.	40–162 mm
Nominal power	2.5 kW
Nominal current	11.5 A
Nom. voltage / frequency standard	230 V / 50 Hz
Load speed	450 rpm
Cooling	Air cooling
Tool attachment external thread	1 ¼"
Tool attachment internal thread	½"
Operation	Drill rig operation
Application	Wet
Electronic overload cut-out	
Mechanical overload cut-out	
PRCD protection switch	

Design
Aluminium dowel foot
Feed using hand crank
Adjustable feet (M12)
1 handle
Motor fixed integrated

Dimensions & Weight	
Length	365 mm
Width	185 mm
Height	855 mm
Weight (drilling system)	15.5 kg

System & Accessories

Core drilling system DRS162**	
10990700	Core drilling system DRS162** / 230 V (dowel feet)
10993966	Fastening bolt assambly

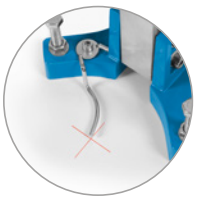
Accessories	
974270	Extraction device for core bits
977353	Extraction device for cores
10991465	Water tank 10 l
10993961	Vacuum plate complete
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar CH
975381	Vacuum hose complete 3 m

★★
STANDARD

Drill rig DRA150**

Core drilling up to Ø 152 mm

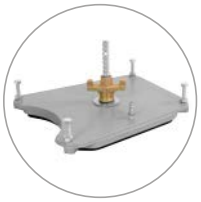




Integrated centre indicator



Compact dowel foot



Optional vacuum plate

The DRA150** is extremely well-suited for electrical and installation work. This drill rig is suitable for 550 mm drill bits and angle drilling. A centre indicator, spirit level and carrying handle facilitate handling.

System & Accessories

Technical data

Drill rig DRA150**	
Drill diameter range	20–152 mm
Max. drill bit length	550 mm

Design
Dowel foot
Feed using hand crank
Diagonal adjustment 90°–45°
Centre indicator
Angle indicator
Spirit level
Adjustable feet
Handle
Clamping collar Ø 60 mm

Dimensions & Weight	
Length	330 mm
Width	240 mm
Height	950 mm
Weight	9.5 kg

System & Accessories

Core drilling system with DRA150**	
10993967	Drill rig DRA150**
10993027	Electric drill motor DME22SU**
10993966	Fastening bolt assembly

Accessories	
10993961	Vacuum plate complete
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar CH
975381	Vacuum hose 3 m komplett
10993964	Water retention ring complete Ø 152 mm
10993965	Gasket Ø 152 mm
974270	Extraction device for core bits
977353	Extraction device for cores
10991465	Water tank 10 l

★★★
PREMIUM

Drill rig DRU160***

Core drilling up to Ø 160 mm





Precision work due to high quality support with sturdy roller guide



Universal field of application thanks to 90°–45° diagonal adjustment



Efficient drill rig set-up using a standard centre indicator

The DRU160*** is the lightweight among drill rigs up to Ø 160 mm. The standardised clamping collar system enables quick mounting of common drill motors. In addition, a centre indicator, angle indicator and spirit level enhance user-friendliness and help save valuable time during drill rig set-up. The anchor or vacuum attachment facility also increase flexibility.

System & Accessories

Technical data

Drill rig DRU160***	
Drill diameter range	15–160 mm
Max. drill diameter with water collecting ring	130 mm
Max. drill bit length	560 mm

Design
Aluminium dowel-vacuum foot
Feed using hand crank
Diagonal adjustment 90°–45°
Centre indicator
Angle indicator
Spirit level
Adjustable feet (M12)
Adjustable and interchangeable roller guides
2 handles
Clamping collar Ø 60 mm

Dimensions & Weight	
Length	400 mm
Width	200 mm
Height	866 mm
Weight	9 kg

System recommendation

Core drilling system with DRU160***	
10987400	Drill rig DRU160***
10992077	Electric drill motor DME20PW***
976014	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975381	Vacuum hose 3 m complete

System & Accessories

Accessories	
976014	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar CH
975381	Vacuum hose 3 m complete
977394	Quick grip device, 1.7–3.1 m
977448	Clamp for quick grip device, 1.7–3.1 m
977593	Fastening bolt assembly for vacuum base
977614	Fastening bolt assembly (masonry), for vacuum base
976136	Water retention ring complete Ø 70 mm
976134	Water retention ring complete Ø 130 mm
977437	Water retention ring holder, with centering device
977348	Gasket Ø 70 mm
976128	Gasket Ø 130 mm
974270	Extraction device for core bits
977353	Extraction device for cores
976616	Tool bag
10991465	Water tank 10 l

★★★
PREMIUM

Drill rigs DRA250*** | DRU250***

Core drilling up to Ø 250 mm





ModulDrill™ quick change clamping system – quick, easy and safe drill motor attachment



Non-strenuous, ergonomic working thanks to fine feed operation (i=1:3.5)



DRU250*** With aluminium dowel-vacuum base



Drilling in the most restricted space with steel dowel foot DRA250***

The DRA250*** | DRU250*** drill rigs offer impressive stability and drilling performance thanks to sturdy workmanship and robust drilling columns with wide gear teeth. The optimised support with sturdy roller guide guarantees precise drilling. The proven ModulDrill™ quick clamping system enables fast and secure mounting of drill motors. In addition, a centre indicator (DRU250***), angle indicator and two-speed feed gear enhance user-friendliness and help save valuable working time. The compact lightweight construction for easy transport, assembly and disassembly complete the system.

System & Accessories

Technical data

Drill rigs	DRA250***	DRU250***
Drill diameter range	40–250 mm	
Max. drill diameter with water colle-cting ring		200 mm
Max. drill bit length	600 mm	582 mm

Design

Aluminium dowel-vacuum foot (DRU250***)		
Steel dowel foot (DRA250***)		
Two speed feed gearbox i=1:1 & i=1:3.5		
Feed using hand crank		
Diagonal adjustment 90°–45°		
Centre indicator (DRU250***)		
Angle indicator		
Spirit level		
Adjustable feet (M12)		
Adjustable and interchangeable roller guides		
Handle	1 piece	2 pieces
ModulDrill™ quick change clamping system		

Dimensions & Weight

Length	305 mm	447 mm
Width	205 mm	250 mm
Height	933 mm	908 mm
Weight	17 kg	14 kg

System recommendation

Core drilling system with DRA250* (Steel dowel foot)**

10987500	Drill rig DRA250***
10992081	El. drill. motor DME24MW***
977619	Fastening bolt assembly

Accessories DRA250*

975378	Vacuum plate complete
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar CH
975381	Vacuum hose 3 m complete
961614	Ceiling prop
977394	Quick grip device, 1.7–3.1 m
977448	Clamp for quick grip device, 1.7–3.1 m
977619	Fastening bolt assembly (concret)
977464	ModulDrill™ mounting plate
974270	Extraction device for core bits
977353	Extraction device for cores
977392	Trolley chassis
967588	Tool bag
10991465	Water tank 10 l

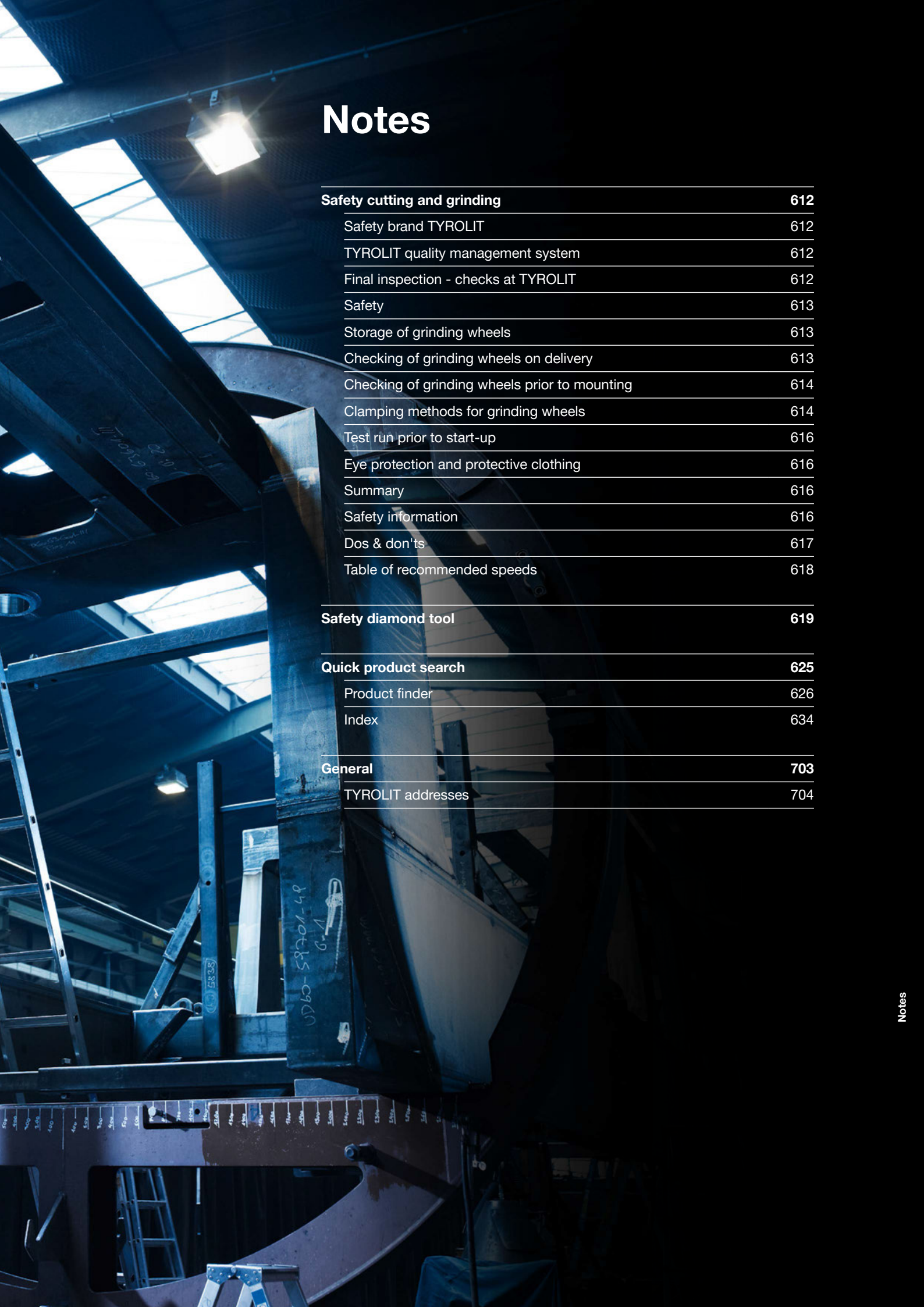
Core drilling system with DRU250* (Dowel-vacuum foot)**

10984500	Drill rig DRU250***
10992081	Electric drill motor DME24MW***
960795	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975381	Vacuum hose 3 m complete

Accessories DRU250*

960795	Vacuum set
984035	Vacuum pump CV 45 l/min, 0.8 bar EU
975372	Vacuum pump CV 45 l/min, 0.8 bar CH
975381	Vacuum hose 3 m complete
961614	Ceiling prop
977394	Quick grip device, 1.7–3.1 m
977448	Clamp for quick grip device, 1.7–3.1 m
977593	Fastening bolt assembly for vacuum base
977614	Fastening bolt assembly (masonry), for vacuum base
977464	ModulDrill™ mounting plate
10988902	Water retention ring complete Ø 200 mm
960785	Water retention ring holder, with centering device
960693	Gasket Ø 200 mm
974270	Extraction device for core bits
977353	Extraction device for cores
977392	Trolley chassis
967588	Tool bag
10991465	Water tank 10 l


DEMAG 250kg
HYMO
DEMAG



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Safety cutting and grinding

Safetybrand TYROLIT

We strive to provide operators products with maximum safety. We achieve this through our work as the founder member of the “Organisation for the Safety of Abrasives (oSa)”, through close cooperation with the safety authorities and through practical communication with our operators across the globe.

aim of oSa®

The main aim of oSa® is defined in terms of absolute protection for the users of grinding tools, whereby members undertake to provide a consistently high level of quality, adopt a rigorous approach towards quality assurance and strive to develop new, improved standards of safety.

TYROLIT quality management system

The TYROLIT quality management system has been certified to ISO 9001:2015 for the entire production area by an external authorised body. The products are manufactured and tested in line with European safety standards:

- EN 12413 for grinding wheels made of bonded abrasives
- EN 13236 for grinding wheels made of diamond or boron nitride
- EN 13743 for special abrasives on an underlay such as vulcanised fibre grinding wheels, flap grinding wheels, flap discs and mounted points

On account of the fact that in the approval principles (EN-Standard) very high requirements are set on the grinding tools concerning defined technical grinding parameters, TYROLIT basically delivers all grinding tools corresponding to these principles. As a result we guarantee a constantly high safety level, also in countries without compulsory approvals.

Final inspection – checks at TYROLIT

TYROLIT carries out final inspections in accordance with EN safety standards. In addition, internal testing procedures are also used to determine efficiency and material properties.

Resin bonded products undergo a final inspection regarding a visual and identification test, a geometry, imbalance, bursting and side load test as well as a control grinding and cutting process.

Resin and ceramic bonded products undergo a final inspection regarding a visual and identification test, a geometry, imbalance, bursting and side load test as well as a test run, a sound test.

Notes

Safety

The following plays an equal part when it comes to safety when grinding: machine manufacturer, grinding wheel producer and user.

Grinding wheels are subject to a high load during the grinding process. This is why grinding machines, grinding bodies, handling and application must be optimally harmonised to ensure safe grinding. For the grinding machines, it is generally important to observe the machine conditions and the stipulation of the protection cover.

Whereas the manufacturer implements the safety measures in line with regulations in relation to the grinding machine and grinding wheels, the user is responsible for safety when grinding through use of the grinding machine for the intended purpose, as well as through correct handling and application of the grinding wheels.

The following must be observed:

- Checking of grinding bodies on delivery
- Handling and storage of grinding bodies
- Labelling, synchronisation with machine data
- Checking of grinding wheels prior to clamping
- Clamping methods for grinding wheels
- Test run of grinding bodies prior to start-up
- Eye protection and protective clothing (see also FEPA safety code)

Storage of the grinding wheels

Grinding wheels are to be stored in suitable racks or containers so that they are not damaged and so that it is easily possible to remove wheels without disturbing the storage setup. Older stock should be used first.

During storage, the following must be noted

Store the grinding wheels in a dry, rust-free condition and do not expose grinding wheels to large temperature fluctuations.

Storage for different types of grinding bodies

- Store cut-off wheels on a level underlay without intermediate layers and weigh them down with a steel or cast iron plate
- Store large straight grinding wheels in an upright position and make sure they cannot roll away
- Stack cylinder wheels, cylindrical grinding discs and grinding plates using soft intermediate layers
- Stack grinding discs, shape 11, in each cases faces or bases together
- Store small grinding wheels in suitable containers

Checking of grinding wheels on delivery

Check packaging on delivery. If damage is visible on the packaging, the grinding wheel should be checked particularly thoroughly for any possible transport damage.

Identification of the grinding wheels

The purpose of the identification is to give people, in particular those who carry out the clamping of the grinding wheels, information for safe use and proper application.

Grinding wheels may only be used if they are identified with the following minimum information

- Manufacturer
- Dimensions of grinding wheel
- Material (at least the type of bond)
- Maximum permissible RPM of new grinding wheel and maximum operating speed in m/s

The user is obliged to match the machine speed to the maximum permissible speed given in the identification.

Notes

Checking of grinding wheels prior to clamping

Each time before clamping, the grinding wheels must be cleaned and checked for damage by means of visual inspection.

The sound test should be repeated. Damaged grinding wheels must not be mounted.

For the sound test, lightweight grinding wheels are pushed onto a mandrel or shaft, heavy grinding wheels are placed on a firm floor.

The grinding wheel is tapped with a non-metal object at several points.

An undamaged grinding wheel gives a clear ring, while a damaged on gives a dull or clanking sound.

All contact surfaces on grinding wheels, intermediate layers and wheel flanges must be level (flat) and be free from foreign bodies. Foreign particles between grinding wheels and wheel flanges create pressure points and stresses, which can lead to breakage of the grinding wheel.

Clamping methods for grinding wheels

Depending on the type of machine and grinding method, as well as the grinding wheel shape, a distinction can be made between the following clamping methods

- Mounting in the central bore using wheel flanges
- Mounting using embedded fixing elements
- Mounting using support plates
- Mounting using clamping head

Mounting in the central bore using wheel flanges

A distinction should be made between the following wheel flange types for central bores

- Recessed wheel flange
- Straight wheel flanges for portable grinding machines
- Special flanges
- Stepped flanges
- Locating flanges and tapered wheel flanges

The purpose of the wheel flanges is to transfer drive forces. They must therefore be in such a condition that there is no deformation of the wheel flange during clamping. The contact surfaces must be level (flat) and must not show any burring, and the run-out of the grinding wheel must be safeguarded.

Only wheel flanges that have the same external diameter and the same shape on the contact side may be used. They must be recessed so that only a ring-shaped area of the wheel flange is on the surface.

Clamping using embedded fixing elements

The grinding wheels are fixed using embedded fixing ele- ments on the grinding machine. Examples of this are the clamping of cylindrical and taper cup wheels, or the fixing of mounted points with embedded steel shafts in collets on portable grinding machines.

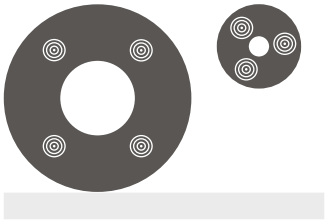
Clamping of grinding wheels on support plates

The grinding wheels are either cemented or fixed with inserted nuts.

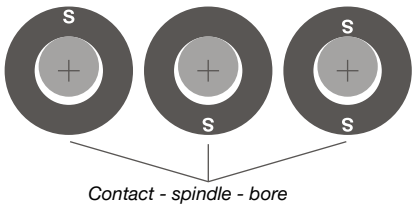
Clamping of grinding segments in clamping heads

Grinding segments are clamped to one grinding unit (segment head) in clamping heads. On the contact surfaces between the grinding segments and the clamping pieces, adhesive strips can be placed on the grinding segments to avoid stresses in the grinding segments.

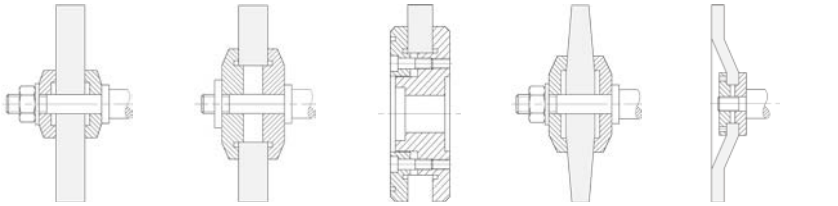
Notes



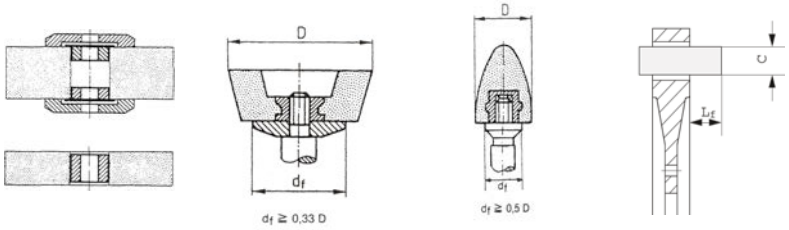
Examples of tapping points during the sound test



Examples of identifying wheel orientation



Recessed wheel flange | Stepped flange | Locating flange | Tapered wheel flange | Straight wheel flange



Example of the correct way to use reducing rings | Clamping of taper cup wheels with a thread insert | Clamping of a grinding cone, shape 16, with a thread insert | Clamping of grinding segments in clamping heads Lf = 1.5 C

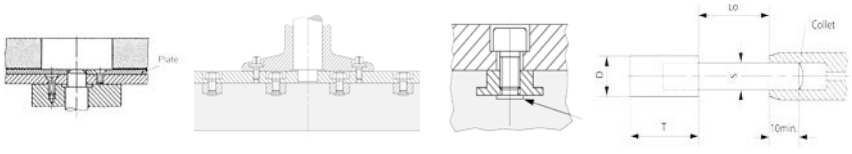


Figure 1 | Figure 2 | Figure 3 | Figure 4

Fig. 1: Grinding wheel, cemented
Fig. 2: Grinding wheel with inserted nuts
Fig. 3: Correct bolt connection, bolt end must not touch the base of the grinding wheel
Fig. 4: Clamping of mounted points

Test run prior to start-up

Every grinding wheel without a diameter restriction must undergo a test run at maximum operating speed before being used for the first time and after every re-clamping.

The duration of a test run is one minute.

The test run may only be carried out once the danger zone has been secured and – where the grinding wheel must be used with the machine guard – this has been placed on it. The grinding wheel can only be used for the intended work once the test run has been passed without complaint.

Eye protection and protective clothing

All grinding tasks where people are at risk form flying particle off grinding wheels or workpieces must only be carried out using eye protection (safety glasses) and when necessary, other protective clothing (e.g. leather apron and leather gloves).

Summary

The most important points for safe use of grinding wheels are summarised again below:

- Adjustment of the machine data to the identification data
- Checking of grinding wheels prior to mounting
- Mounting carried out by skilled people
- Checking of the functionality of the machine guard
- Test run of grinding wheels prior to grinding work
- Personal safety

Notes

Safety information


Use gloves


Use dust mask


Wet grinding


Not permitted for side grinding


Use eye protection


Declaration of conformity, EN safety standard


Dry grinding


No freehand work


Use ear protection


Pay attention to the safety recommendations


Do not use damaged wheels



Free from Fe, S, Cl

Do’s & don’ts

- ✓ Handle and store grinding tools carefully; use the oldest tools first.
- ✓ Prior to mounting or use, grinding wheels must be cleaned and undergo a visual check for cracks or possible damage.
- ✓ Ceramic bonded grinding tools must undergo a sound check before mounting.
- ✓ Make sure that the speed of the machine (RPM) does not exceed the maximum operating speed specified on the packaging or on the abrasive.
- ✓ Ensure that the bore of the grinding tool – with or without thread – fits the shaft of the machine perfectly; and that the wheel flanges are clean, flat, the same size and suitable for the grinding tool to be clamped.
- ✓ As intended or supplied, use the intermediate layers between the grinding wheel and wheel flanges.
- ✓ Only use machines with protection/guards and ensure their proper condition and fixture before the machine is switched on.
- ✓ After each mounting, carry out a test run for at least one minute at the operating speed and ensure machine guard is mounted correctly. In doing so, ensure that any fragments would not be able to hit you or someone else in the event of a possible breakage.
- ✓ Eye protection is always recommended for all grinding processes. For off-hand grinding, protective goggles or a safety mask is recommended.
- ✓ When working with cut-off or roughing wheels, ensure that the air supply and protective measures sufficiently correspond with the material to be processed. Suitable extraction systems should be fitted for all dry grinding processes.
- ✓ Only use machines that are also suitable for grinding tools with hub.
- ✓ Before stopping the machine, cut off the supply of cooling lubricant and remove the excess cooling lubricant from the grinding wheel.

- × Do not use abrasives that are exposed to particularly humid/wet conditions or high temperatures prior to mounting.
- × Never use abrasives that have been dropped, damaged or that look like they would not be fit for purpose.
- × Never exceed the maximum permissible operating speed specified.
- × Do not use wheel flanges with surfaces that are not free of foreign bodies (e. g. grinding swarf), flat or burrfree.
- × Do not tighten the clamping device or wheel flange too much.
- × Do not use recessed wheel flanges or flanges with recesses for grinding discs or cones.
- × Never use force when clamping and do not make any changes to the grinding tool.
- × Only use one-way adapters (hubs) once.
- × Only switch on the machine when the protection cover is correctly and securely fixed (machine guards or covers should be set in such a way that they divert sparks and grinding particles away from the body).
- × Only start the machine if there is no contact between the workpiece and the grinding tool.
- × Never work with grinding tools without sufficient air supply (never without breathing apparatus and ear protection, particularly in enclosed spaces) and without personal safety equipment (see pictogram).
- × Use a suitable grinding tool – an unsuitable product can create excessive grinding particles and dust.
- × Avoid mechanical damage to the grinding wheel as a result of force effects, jolting or heating.
- × Never use grinding machines in an improper condition or that contain faulty components.
- × Do not use cut-off wheels for grinding work (do not exert a lateral load on any cut-off wheels of shape 41 or 42).
- × Never mount more than one grinding tool on one shaft.
- × Never use grinding tools after the indicated expiry date. This is expressed as a month and year (e.g. 04/2016) and is usually located on the metal ring around the bore on cut-off or roughing wheels. On other tool types (e.g. cup wheels), the expiry date may also be located on the label.

Notes

Speed recommendations

Rotational speeds and peripheral speeds depending on the external diameter Ø=D of the grinding wheels.

	Rotations n per minute min-1 depends on external diameter D of grinding wheel and the maximum operating speed V_s										
	Maximum operating speed V_s in m/s										
D in mm	**16**	**20**	**25**	**32**	**35**	**40**	**50**	**63**	**80**	**100**	**125**
3											
4	75 300	95 400									
5	61 100	76 300	95 400								
6	50 900	63 600	79 500								
8	38 100	47 700	59 600	76 300	83 500	95 400					
10	30 500	38 100	47 700	61 100	66 800	76 300	95 400				
13	23 500	29 300	36 700	47 000	51 400	58 700	73 400	92 500			
16	19 000	23 800	29 800	38 100	41 700	47 700	59 600	75 200	95 400		
20	15 200	19 000	23 800	30 500	33 400	38 100	47 700	60 100	76 300	95 400	
25	12 200	15 200	19 000	24 400	26 700	30 500	38 100	48 100	61 100	76 300	95 400
32	9 540	11 900	14 900	19 000	20 800	23 800	29 800	37 600	47 700	59 600	74 600
35	8 730	10 900	13 600	17 400	19 000	21 800	27 200	34 300	43 600	54 400	68 200
40	7 630	9 540	11 900	15 200	16 700	19 000	23 800	30 000	38 100	47 700	59 600
50	6 110	7 630	9 540	12 200	13 300	15 200	19 000	24 000	30 500	38 100	47 700
63	4 850	6 060	7 570	9 700	10 600	12 100	15 100	10 000	24 200	30 300	37 800
80	3 810	4 770	5 960	7 630	8 350	9 540	11 900	15 000	19 000	23 800	29 800
100	3 050	3 810	4 770	6 110	6 680	7 630	9 540	12 000	15 200	19 000	23 800
115	2 650	3 320	4 150	5 310	5 810	6 640	8 300	10 400	13 200	16 600	20 700
125	2 440	3 050	3 810	4 880	5 340	6 110	7 630	9 620	12 200	15 200	19 000
150	2 030	2 540	3 180	4 070	4 450	5 090	6 360	8 020	10 100	12 700	15 900
175	1 740	2 180	2 720	3 490	3 810	4 360	5 450	6 870	8 730	10 900	13 600
180	1 690	2 120	2 650	3 390	3 710	4 240	5 300	6 680	8 480	10 600	13 200
200	1 520	1 900	2 380	3 050	3 340	3 810	4 770	6 010	7 630	9 540	11 900
225	1 350	1 690	2 120	2 710	2 970	3 390	4 240	5 340	6 790	8 480	10 600
230	1 320	1 660	2 070	2 650	2 900	3 320	4 150	5 230	6 640	8 300	10 300
250	1 220	1 520	1 900	2 440	2 670	3 050	3 810	4 810	6 110	7 630	9 540
300	1 010	1 270	1 590	2 030	2 220	2 540	3 180	4 010	5 090	6 360	7 950
350	870	1 090	1 360	1 740	1 900	2 180	2 720	3 430	4 360	5 450	6 820
400	760	950	1 190	1 520	1 670	1 900	2 380	3 000	3 810	4 770	5 960
450	670	840	1 060	1 350	1 480	1 690	2 120	2 670	3 390	4 240	5 300
500	610	760	950	1 220	1 330	1 520	1 900	2 400	3 050	3 810	4 770
600	500	630	790	1 010	1 110	1 270	1 590	2 000	2 540	3 180	3 970
700	430	540	680	870	950	1 090	1 360	1 710	2 180	2 720	3 410
750	400	500	630	810	890	1 010	1 270	1 600	2 030	2 540	3 180
800	380	470	590	760	830	950	1 190	1 500	1 900	2 380	2 980
900	330	420	530	670	740	840	1 060	1 330	1 690	2 120	2 650
1 000	300	380	470	610	660	760	950	1 200	1 520	1 900	2 380
1 060	280	360	450	570	630	720	900	1 130	1 440	1 800	2 250
1 250	250	310	390	500	550	630	790	1 000	1 270	1 590	1 980
1 500	200	250	310	400	440	500	630	800	1 010	1 270	1 590

Notes



Safety diamond tool

Notes

Diamond tool
Recommended RPM

	Revolutions per minute [RPM] depending on the external tool diameter [D] and the operating speed [V_s]						
	Recommended operating speed V_s in m/s						
	Drilling		**Sawing**			**Dry-cutting**	
D in mm	**2**	**3**	**40**	**50**	**60**	**80**	**100**
14	2 730	4 090					
16	2 390	3 580					
20	1 910	2 860					
25	1 530	2 290					
32	1 190	1 790					
42	910	1 360					
52	730	1 100					
62	620	920					
72	530	800					
82	470	700					
100	380	570	7 640	9 550	11 460	15 280	19 100
115	330	500	6 640	8 300	9 960	13 290	16 610
125	310	460	6 110	7 640	9 170	12 220	15 280
150	250	380	5 090	6 370	7 640	10 190	12 730
180	210	320	4 240	5 310	6 370	8 490	10 610
200	190	290	3 820	4 770	5 730	7 640	9 550
230	170	250	3 320	4 150	4 980	6 640	8 300
250	150	230	3 060	3 820	4 580	6 110	7 640
300	130	190	2 550	3 180	3 820	5 090	6 370
350	110	160	2 180	2 730	3 270	4 370	5 460
400	100	140	1 910	2 390	2 860	3 820	4 770
450	80	130	1 700	2 120	2 550	3 400	4 240
500	80	110	1 530	1 910	2 290		
600	60	100	1 270	1 590	1 910		
700	50	80	1 090	1 360	1 640		
800	50	70	950	1 190	1 430		
900	40	60	850	1 060	1 270		
1 000	40	60	760	950	1 150		
1 200	30	50	640	800	950		

Notes

Trouble-shooting
Wet core drill

1. Excessive wear of diamond segments

- Insufficient coolant supply. Adjust the water supply and/or check the water lines.
- The operating speed of the core drill is too low. Increase the RPM (see RPM recommendations).
- The engine power is too high. Match the motor power to the drilling diameter.
- The machine is vibrating. Fix the drill rig and/or check the general state of the machine (e.g. bearings and rollers).
- The selected core drill may not be suitable for the material being drilled, or the material is too abrasive. Use a harder specification (e.g. CDL - CDM).

2. Excessive wear of the steel tube

- The machine is vibrating. Fix the drill rig and/or check the general state of the machine (e.g. bearings and rollers) .
- The core drill is warped / is not running true.
- The core drill is not fixed properly. Check if the core drill is aligned with the motor spindle.
- There are remains in the hole, which have not been removed by the coolant. Increase the coolant supply temporarily.
- You are drilling in loose material (e.g. gravel).

3. Broken segments

- In case of brazed segments, a short interruption of the cooling can lead to overheating and thus to a destruction of the soldered joint.
- The core drill has struck multiple times against reinforcements or fragments. Remove all loose steel and segment parts before introducing a new core drill.
- The core drill is cutting into loose reinforcement. Reduce the RPM when drilling reinforcements in order to avoid damage to the core drill.

4. Drill bit does not drill

segments are overloaded

Flat segment surface, possible deformation of the segments, high number of pull-outs (>50 %), drill chatters.

- The operating speed is too low. Increase the RPM.
- The grinding pressure is too high. Reduce the pressure.
- The material may be too soft and abrasive for the used specification. Use a harder specification (e.g. CDL - CDM).

5. Drill bit does not drill

segments are underchallenged

Smooth segment surface, polished diamonds (shining, no sharp edges)

- The diamond segments are smooth (polished).
- Re-sharpen the drill bit by drilling into soft, abrasive material or use a TYROLIT sharpening plate.
- The operating speed is too high. Reduce the RPM.
- The grinding pressure is too low. Increase the pressure.
- The engine power is too low. Match the motor power to the drilling diameter.
- Excessive coolant supply, only clear water is coming out of the drill hole (no slurry). Reduce the coolant supply and check the consistency (should be milky/cloudy).
- The material may be too hard for the used specification. Use a softer specification (e.g. CDL - CDM).

6. The core drill is jammed

- Debris is blocked between the core and the tube wall (steel, pieces of material). Remove the drill rig and, using a wrench, turn the core drill alternately in both directions until it can be removed. Take the debris out of the drill hole before introducing a new core drill.
- The drill rig was not fixed correctly and has moved during drilling. Drill rig and core drill are no longer aligned. Align and re-fix the drill rig.

Trouble-shooting **Diamond saw blade**

1. Excessive wear

- The saw blade is not suitable for the material being cut. Use a harder specification.
- Insufficient water supply. Adjust the water supply and/or check the water lines.
- The blade is pounding, which accelerates the wearing. The reasons could be poor bearings, a worn spindle shaft or the use of a too hard specification for the material being cut. Check the state of the machine or use a softer specification.
- The operating speed (RPM) is too low. Use the correct RPM for the diameter of the blade (see RPM recommendations).

2. Undercutting

Undercutting is a condition in which the steel center wears faster than the diamond segment, especially in the areas where the segment and core are joined. This is caused by highly abrasive material grinding against the blade during the sawing operation. Finally this can lead to segment loss.

- Be sure to have sufficient water supply. Only with sufficient water the abrasive grinding slurry will be transported out of the contact zone and will thus reduce the undercutting effect.
- Do not cut into the sub base of the pavement (lose gravel or sand). The loose material scrubs strongly on the body and tips it below the segments.

Caution! For safety reasons, do not use the saw blade any longer!

3. The blade does not cut

- The saw blade is too hard for the material being cut. Check if the specification is appropriate. A glazed blade can be sharpened by cutting into soft, abrasive material.
- The output power of the machine is insufficient to permit the blade to cut properly. Make sure that the specification is appropriate for the machine power and the material being cut. Repeatedly check the tension of the V-belt in order to guarantee an optimal transmission of power.
- The speed is too high. To reduceThe speed. Should theSpeed can not be changedcan perform the cut inseveral deliveries.
- The blade is not mounted correctly. Look for the correct oneDirection of the saw (direction of rotation arrow).

4. Overheating

Overheating may lead to several problems like loss of core tension, cracks in the steel core and segment loss (in case of brazed segments). Overheating can be identified by a discoloration (blue and/or black oxidation) of the blade or the segments.

- Make sure that wet-cutting saws have a sufficient water supply. Check the water lines and make sure flow is adequate on both sides of blade.
- An excessive cutting pressure leads to overheating of dry-cutting tools. Use several passes of 2 to 5 cm deep for cutting solid materials. On a regular basis, release the pressure on the diamond blade and allow it to rotate freely for cooling in the air. Do not use excessive pressure – the weight of the machine is sufficient.

5. Loss of blade segment

- The machine was not held firmly or the material was not fixed, which caused the blade to twist or jam in the cut. Secure the material firmly while cutting and and maintain a firm grip on the machine.
- The blade is too hard for the material being cut which causes the blade to chatter. Use a softer specification.
- The blade has been undercut. Make sure that there is sufficient water supply and do not cut into the base layer of the pavement (gravel).
- In case of brazed segments, a short interruption of the cooling can lead to overheating and thus to a destruction of the soldered joint.
- The saw has not been mounted correctly and starts to chatter.

Caution! For safety reasons, do not use the saw blade any longer!

Notes

6. Cracks in the segment

- The saw blade is too hard for the material being cut; the saw blade starts to chatter during cutting. Use a softer specification.
- Insufficient cooling supply (overheating). Adjust the water supply and/or check the water lines.

7. Cracks in the steel core

- The saw blade is too hard for the material being cut. Use a softer specification.
- Excessive cutting pressure. Extreme strain on the blade can create material fatigue, which can then lead to a fracture in the steel core.
- The saw blade is chattering. Check the state of the machine (e.g. spindle and bearings) and the mounting of the saw blade.
- The cut is not straight which results in friction and heat. Properly align the machine and do not exert excessive side pressure on the handles as a method of steering. Check the alignment of the drive shaft.

Caution! For safety reasons, do not use the saw blade any longer!

8. Uneven segment wear

- Make sure that wet-cutting saws have a sufficient water supply. Check the water lines and make sure flow is adequate on both sides of blade.
- The saw blade is irregularly worn due to defective bearings, a damaged blade bore or machine spindle. Exchange or repair the bearings and/or spindle. Ensure the engine runs smoothly and does not cause the blade to chatter on a regular cycle basis.
- The cut is not straight which results in friction and heat. Properly align the machine and do not exert excessive side pressure on the handles as a method of steering. Check the alignment of the drive shaft.

9. Loss of tension

- Blade has been overheated. Make sure that wet-cutting saws have sufficient water cooling.
- The saw blade is too hard for this application. The reason for the loss of tension is a high lateral friction.
- Check if the correct RPM has been chosen and if the proper flanges are being used.
- Ensure that the saw blade has been fixed correctly on the spindle. Make sure that drive pins are used for all machines.
- The cut is not straight which results in tension and heat. Properly align the machine and do not exert excessive side pressure on the handles as a method of steering. Check the alignment of the drive shaft.

In case of loss of tension send the saw blade back to the manufacturer for repair.

10. Damaged bore

- The flanges or the spindle are worn out. Check the flanges and spindle for wearing and replace the worn parts.
- The saw blade has not been mounted properly. Ensure that the blade is mounted on the proper diameter of spindle.Fix the wheel flanges properly (with a wrench, not by hand). Do not remove the drive pins, because they guarantee an optimal transmission of power.

Send the saw blade back to the manufacturer for repair.


ROLIT



Quick product search

Notes

Product finder

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5843	9003170058438	9009010058439	290
5886	9003170058865	9009010058866	289
5887	9003170058872	9009010058873	289
5889	9003170058896	9009010058897	289
6207	9003170062077	9009010062078	113
6216	9003170062169	9009010062160	317
6309	9003170063098	9009010063099	248
6310	9003170063104	9009010063105	248
6313	9003170063135	9009010063136	246
6314	9003170063142	9009010063143	247
6315	9003170063159	9009010063150	247
6316	9003170063166	9009010063167	247
6317	9003170063173	9009010063174	247
6318	9003170063180	9009010063181	247
6321	9003170063210	9009010063211	247
6322	9003170063227	9009010063228	247
6324	9003170063241	9009010063242	247
6335	9003170063357	9009010063358	250
6341	9003170063418	9009010063419	245
6400	9003170064002	9009010064003	112
6401	9003170064019	9009010064010	112
6402	9003170064026	9009010064027	112
6404	9003170064040	9009010064041	114
6405	9003170064057	9009010064058	114

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6411	9003170064118	9009010064119	116
6413	9003170064132	9009010064133	116
6660	9003170066600	9009010066601	113
6661	9003170066617	9009010066618	113
6673	9003170066730	9009010066731	60
6710	9003170067102	9009010067103	62
6718	9003170067188	9009010067189	61
6874	9003170068741	9009010068742	115
6879	9003170068796	9009010068797	111
6881	9003170068819	9009010068810	115
6884	9003170068840	9009010068841	116
6886	9003170068864	9009010068865	115
6896	9003170068963	9009010068964	111
6898	9003170068987	9009010068988	111
6899	9003170068994	9009010068995	111
6910	9003170069106	9009010069107	115
6920	9003170069205	9009010069206	111
6928	9003170069281	9009010069282	111
6932	9003170069328	9009010069329	111
6941	9003170069410	9009010069411	112
6943	9003170069434	9009010069435	112
6949	9003170069496	9009010069497	116
6957	9003170069571	9009010069572	460
6958	9003170069588	9009010069589	460
6959	9003170069595	9009010069596	112
6960	9003170069601	9009010069602	460
6961	9003170069618	9009010069619	112
6964	9003170069649	9009010069640	460
6967	9003170069670	9009010069671	112
6968	9003170069687	9009010069688	460
6969	9003170069694	9009010069695	460
6974	9003170069748	9009010069749	112
6979	9003170069793	9009010069794	460
6991	9003170069915	9009010069916	460
6993	9003170069939	9009010069930	460
7007	9003170070072	9009010070073	460
7008	9003170070089	9009010070080	460
7030	9003170070300	9009010070301	460
7035	9003170070355	9009010070356	315
7055	9003170070553	9009010070554	460

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7058	9003170070584	9009010070585	460
7070	9003170070706	9009010070707	460
7072	9003170070720	9009010070721	460
7086	9003170070867	9009010070868	460
7087	9003170070874	9009010070875	460
7093	9003170070935	9009010070936	460
7100	9003170071000	9009010071001	460
7133	9003170071338	9009010071339	266
7186	9003170071864	9009010071865	267
7203	9003170072038	9009010072039	267
7204	9003170072045	9009010072046	266
7205	9003170072052		256
7210	9003170072106		259
7213	9003170072137	9009010072138	173
7318	9003170073189	9009010073180	273
7328	9003170073288	9009010073289	274
7348	9003170073486		260
7362	9003170073622	9009010073623	267
7374	9003170073745		259
8434	9003170084345	9009010084346	380
8641	9003170086417	9009010086418	289
8749	9003170087490		209
8804	9003170088046	9009010088047	248
8807	9003170088077	9009010088078	245
8808	9003170088084	9009010088085	245
8833	9003170088336	9009010088337	61
9009	9003170090094	9009010090095	317
9017	9003170090179	9009010090170	248
9292	9003170092920	9009010092921	49
9293	9003170092937	9009010092938	273
9398	9003170093989	9009010093980	291
9572	9003170095723		256
9627	9003170096270	9009010096271	289
9651	9003170096515	9009010096516	260
9652	9003170096522		260
9653	9003170096539	9009010096530	260
9833	9003170098335	9009010098336	291
10016	9003170100168	9009010100169	266
10051	9003170100519	9009010100510	380
10054	9003170100540	9009010100541	380

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10055	9003170100557	9009010100558	380
10056	9003170100564	9009010100565	380
10058	9003170100588	9009010100589	380
10265	9003170102650	9009010102651	273
10845	9003170108454	9009010108455	214
11182	9003170111829		261
11362	9003170113625	9009010113626	110
11480	9003170114806	9009010114807	113
11481	9003170114813	9009010114814	113
12695	9003170126953		213
12696	9003170126960		213
12836	9003170128360	9009010128361	112
12950	9003170129503		209
12970	9003170129701	9009010129702	62
13068	9003170130684	9009010130685	116
13529	9003170135290	9009010135291	115
13616	9003170136167	9009010136168	82
13695	9003170136952	9009010136953	61
14364	9003170143646	9009010143647	111
15321	9003170153218	9009010153219	319
15383	9003170153836	9009010153837	112
15685	9003170156851	9009010156852	61
15839	9003170158398		256
15842	9003170158428		256
15885	9003170158855	9009010158856	248
15892	9003170158923	9009010158924	115
16022	9003170160223	9009010160224	258
16044	9003170160445	9009010160446	111
16422	9003170164221	9009010164222	153
16425	9003170164252	9009010164253	153
16427	9003170164276	9009010164277	153
16577	9003170165778		257
16615	9003170166157		259
16746	9003170167468	9009010167469	160
17256	9003170172561		274
18825	9003170188258	9009010188259	273
19012	9003170190121	9009010190122	159
19040	9003170190404	9009010190405	289
19117	9003170191173	9009010191174	275
19220	9003170192200		295

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19659	9003170196598	9009010196599	291
20020	9003170200202	9009010200203	113
20023	9003170200233	9009010200234	113
20026	9003170200264	9009010200265	110
20031	9003170200318	9009010200319	113
20037	9003170200370	9009010200371	113
20047	9003170200479	9009010200470	114
20311	9003170203111	9009010203112	248
20313	9003170203135	9009010203136	248
20332	9003170203326	9009010203327	248
20450	9003170204507		250
20487	9003170204873		127
20553	9003170205535	9009010205536	127
20555	9003170205559	9009010205550	127
20557	9003170205573	9009010205574	127
20565	9003170205658	9009010205659	127
20587	9003170205870	9009010205871	127
20590	9003170205900	9009010205901	127
20781	9003170207812	9009010207813	443
20793	9003170207935	9009010207936	443
20794	9003170207942	9009010207943	443
20796	9003170207966	9009010207967	443
20797	9003170207973	9009010207974	443
20798	9003170207980	9009010207981	443
20799	9003170207997	9009010207998	443
20801	9003170208017	9009010208018	443
20803	9003170208031	9009010208032	443
20805	9003170208055	9009010208056	443
20806	9003170208062	9009010208063	443
20807	9003170208079	9009010208070	443
20811	9003170208116	9009010208117	443
20813	9003170208130	9009010208131	443
20816	9003170208161	9009010208162	443
20817	9003170208178	9009010208179	443
20819	9003170208192	9009010208193	443
20821	9003170208215	9009010208216	443
20822	9003170208222	9009010208223	443
20824	9003170208246	9009010208247	443
20832	9003170208321	9009010208322	452

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20833	9003170208338	9009010208339	452
20834	9003170208345	9009010208346	452
20835	9003170208352	9009010208353	452
20836	9003170208369	9009010208360	452
20842	9003170208420	9009010208421	452
20844	9003170208444	9009010208445	452
20851	9003170208512	9009010208513	452
20860	9003170208604	9009010208605	452
20868	9003170208680	9009010208681	452
21094	9003170210942	9009010210943	110
21125	9003170211253	9009010211254	110
21137	9003170211376	9009010211377	110
21160	9003170211604	9009010211605	110
21166	9003170211666	9009010211667	110
21192	9003170211925	9009010211926	110
21202	9003170212021	9009010212022	110
21232	9003170212328	9009010212329	110
21233	9003170212335	9009010212336	110
21239	9003170212397	9009010212398	110
21262	9003170212625	9009010212626	380
21381	9003170213813	9009010213814	349
22257	9003170222570	9009010222571	267
22373	9003170223737		514
22377	9003170223775		514
22411	9003170224116	9009010224117	267
23469	9003170234696	9009010234697	163
23470	9003170234702	9009010234703	163
23471	9003170234719	9009010234710	163
23472	9003170234726	9009010234727	167
23473	9003170234733	9009010234734	167
23474	9003170234740	9009010234741	167
23509	9003170235099	9009010235090	96
23525	9003170235259	9009010235250	96
23875	9003170238755	9009010238756	74
24299	9003170242998	9009010242999	291
25473	9003170254731		197
25590	9003170255905	9009010255906	60
26567	9003170265676	9009010265677	111
27420	9003170274203	9009010274204	214
28162	9003170281621	9009010281622	296

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28465	9003170284653	9009010284654	248
28466	9003170284660	9009010284661	248
28467	9003170284677	9009010284678	249
28549	9003170285490	9009010285491	274
28584	9003170285841		261
28692	9003170286923	9009010286924	57
28869	9003170288699	9009010288690	249
29238	9003170292382	9009010292383	115
29382	9003170293822	9009010293823	249
30271	9003170302715		212
30741	9003170307413	9009010307414	36
30806	9003170308069		282
30840	9003170308403		259
31009	9003170310093	9009010310094	291
31675	9003170316750	9009010316751	290
31694	9003170316941		256
32023	9003170320238	9009010320239	61
32141	9003170321419	9009010321410	36
32142	9003170321426	9009010321427	36
32765	9003170327657	9009010327658	267
32963	9003170329637		209
32965	9003170329651		209
32981	9003170329811		257
33199	9003170331999	9009010331990	91
33249	9003170332491	9009010332492	274
33435	9003170334358		258
33436	9003170334365	9009010334366	61
33502	9003170335027		209
33531	9003170335317	9009010335318	319
34480	9003170344807		283
34924	9003170349246	9009010349247	289
34937	9003170349376	9009010349377	237
34983	9003170349833		256
35677	9003170356770	9009010356771	250
35917	9003170359177	9009010359178	60
35937	9003170359375	9009010359376	33
35944	9003170359443	9009010359444	33
35946	9003170359467	9009010359468	33
35950	9003170359504	9009010359505	33
36576	9003170365765		198
36579	9003170365796		213
36579	9003170365796		214
36663	9003170366632	9009010366633	115
36890	9003170368902		215
36918	9003170369183		215
37348	9003170373487	9009010373488	54
38012	9003170380126	9009010380127	296
39110	9003170391108	9009010391109	61
39128	9003170391283	9009010391284	112
39321	9003170393218	9009010393219	36
39540	9003170395403		258
39594	9003170395946	9009010395947	61
39624	9003170396240	9009010396241	36
39867	9003170398671		196
39869	9003170398695		196
41489	9003170414890	9009010414891	33
41491	9003170414913	9009010414914	33
41492	9003170414920	9009010414921	33
41493	9003170414937	9009010414938	33
41494	9003170414944	9009010414945	33
41495	9003170414951	9009010414952	33
41499	9003170414999	9009010414990	33
41501	9003170415019	9009010415010	33
41504	9003170415040	9009010415041	33
41505	9003170415057	9009010415058	33
41506	9003170415064	9009010415065	33
41507	9003170415071	9009010415072	33
41508	9003170415088	9009010415089	33
41509	9003170415095	9009010415096	33
41510	9003170415101	9009010415102	33
41511	9003170415118	9009010415119	33
41513	9003170415132	9009010415133	33
42216	9003170422161		197
42808	9003170428088	9009010428089	61
42809	9003170428095	9009010428096	61
43017	9003170430173	9009010430174	237
43311	9003170433112	9009010433113	317
43485	9003170434850		519
43490	9003170434904		519
43588	9003170435888	9009010435889	295

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45362	9003170453622	9009010453623	109
45421	9003170454216	9009010454217	113
45422	9003170454223	9009010454224	113
45701	9003170457019		209
45919	9003170459198	9009010459199	82
46198	9003170461986		295
46586	9003170465861	9009010465862	83
46633	9003170466332	9009010466333	60
47005	9003170470056		274
47009	9003170470094		274
47010	9003170470100		274
47636	9003170476362	9009010476363	61
47763	9003170477635	9009010477636	83
49273	9003170492737	9009010492738	289
49680	9003170496803		260
49856	9003170498562	9009010498563	404
50184	9003170501842		258
50801	9003170508018	9009010508019	337
50845	9003170508452	9009010508453	273
51392	9003170513920		586
51494	9003170514941	9009010514942	273
52223	9003170522236		256
52433	9003170524339		380
52679	9003170526791	9009010526792	159
54072	9003170540728	9009010540729	116
54072	9003170540728	9009010540729	116
54119	9003170541190		290
54820	9003170548205	9009010548206	289
54902	9003170549028		526
55282	9003170552820	9009010552821	237
55375	9003170553759	9009010553750	273
56155	9003170561556		260
56484	9003170564847	9009010564848	206
56895	9003170568951	9009010568952	97
56918	9003170569187	9009010569188	56
57004	9003170570046	9009010570047	91
57005	9003170570053	9009010570054	91
57006	9003170570060	9009010570061	91
57038	9003170570381		213

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58158	9003170581585	9009010581586	61
58293	9003170582933	9009010582934	159
58964	9003170589642		260
59543	9003170595438		514
59580	9003170595803		514
59861	9003170598613		261
60159	9003170601597	9009010601598	468
60170	9003170601702	9009010601703	468
60184	9003170601849	9009010601840	468
60185	9003170601856	9009010601857	468
60337	9003170603379	9009010603370	468
60351	9003170603515	9009010603516	468
60352	9003170603522	9009010603523	468
60354	9003170603546	9009010603547	468
60474	9003170604741	9009010604742	75
60572	9003170605724	9009010605725	62
61571	9003170615716		209
62144	9003170621441	9009010621442	468
62153	9003170621533	9009010621534	468
62154	9003170621540	9009010621541	468
62155	9003170621557	9009010621558	468
62178	9003170621786	9009010621787	468
62180	9003170621809	9009010621800	474
62181	9003170621816	9009010621817	474
62190	9003170621908	9009010621909	474
62194	9003170621946	9009010621947	474
62197	9003170621977	9009010621978	474
62202	9003170622028	9009010622029	474
62212	9003170622127	9009010622128	474
62239	9003170622394	9009010622395	474
62258	9003170622585	9009010622586	474
62274	9003170622745	9009010622746	474
62277	9003170622776	9009010622777	474
62291	9003170622912	9009010622913	474
62298	9003170622981	9009010622982	474
62299	9003170622998	9009010622999	474
62304	9003170623049	9009010623040	474
62332	9003170623322	9009010623323	474
62334	9003170623346	9009010623347	474

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62353	9003170623537	9009010623538	474
62384	9003170623841	9009010623842	474
62409	9003170624091	9009010624092	474
62416	9003170624169	9009010624160	474
62419	9003170624190	9009010624191	474
62434	9003170624343	9009010624344	474
62436	9003170624367	9009010624368	474
62437	9003170624374	9009010624375	474
62448	9003170624480	9009010624481	474
62453	9003170624534	9009010624535	474
62471	9003170624718	9009010624719	474
62484	9003170624848	9009010624849	474
62491	9003170624916	9009010624917	474
62505	9003170625050	9009010625051	474
62506	9003170625067	9009010625068	474
62507	9003170625074	9009010625075	474
62516	9003170625166	9009010625167	475
62518	9003170625180	9009010625181	475
62521	9003170625210	9009010625211	475
62524	9003170625241	9009010625242	475
62547	9003170625470	9009010625471	475
62548	9003170625487	9009010625488	475
62694	9003170626941	9009010626942	114
62726	9003170627269	9009010627260	36
62874	9003170628747	9009010628748	62
63195	9003170631952	9009010631953	290
63824	9003170638241		209
64598	9003170645980	9009010645981	206
66141	9003170661416		197
66490	9003170664905	9009010664906	56
66491	9003170664912	9009010664913	56
66493	9003170664936	9009010664937	56
67472	9003170674720		209
68134	9003170681346	9009010681347	256
68340	9003170683401		259
69502	9003170695022	9009010695023	293
69766	9003170697668		586
69767	9003170697675		586
69768	9003170697682		586
69769	9003170697699		586
69833	9003170698337		586
69848	9003170698481		586
69855	9003170698559		586
69856	9003170698566		586
69860	9003170698603		586
70092	9003170700924	9009010700925	290
70128	9003170701280	9009010701281	290
70954	9003170709545		196
71212	9003170712125	9009010712126	267
71665	9003170716659		196
72045	9003170720458		261
73385	9003170733854	9009010733855	61
73667	9003170736671		259
74492	9003170744928	9009010744929	319
74493	9003170744935	9009010744936	319
74497	9003170744973	9009010744974	319
74499	9003170744997	9009010744998	114
75020	9003170750202	9009010750203	46
75079	9003170750790		260
75193	9003170751933	9009010751934	329
75306	9003170753067	9009010753068	61
75647	9003170756471	9009010756472	113
75669	9003170756693		301
75679	9003170756792		302
75685	9003170756853		302
75803	9003170758031	9009010758032	290
75915	9003170759151	9009010759152	319
75934	9003170759342	9009010759343	49
75935	9003170759359	9009010759350	49
75936	9003170759366	9009010759367	49
75937	9003170759373	9009010759374	49
75938	9003170759380	9009010759381	49
75939	9003170759397	9009010759398	49
76253	-	-	174
76618	9003170766180	9009010766181	174
76628	9003170766289	9009010766280	174
76648	9003170766487	9009010766488	174
77824	9003170778244	9009010778245	290
78049	9003170780490	9009010780491	335

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79292	9003170792929	9009010792920	174
79664	9003170796644	9009010796645	249
79957	9003170799577	9009010799578	61
80143	9003170801430	9009010801431	61
80653	9003170806534		522
80653	9003170806534		522
82070	9003170820707	9009010820708	405
82078	9003170820783	9009010820784	405
82079	9003170820790	9009010820791	405
82117	9003170821179	9009010821170	406
82125	9003170821254	9009010821255	406
82127	9003170821278	9009010821279	406
82256	9003170822565	9009010822566	407
82257	9003170822572	9009010822573	407
82646	9003170826464	9009010826465	36
83585	9003170835855	9009010835856	97
83618	9003170836180	9009010836181	46
83827	9003170838276	9009010838277	294
84363	9003170843638	9009010843639	54
84809	9003170848091		290
85536	9003170855365		210
86734	9003170867344	9009010867345	296
87215	9003170872157	9009010872158	24
87216	9003170872164	9009010872165	24
87910	9003170879101	9009010879102	408
88461	9003170884617	9009010884618	60
88504	9003170885041	9009010885042	113
88905	9003170889056	9009010889057	111
89383	9003170893831	9009010893832	97
89504	9003170895040	9009010895041	113
90998	9003170909983	9009010909984	295
91350	9003170913508		290
91441	9003170914413	9009010914414	290
91963	9003170919630	9009010919631	251
92284	9003170922845		213
94110	9003170941105	9009010941106	56
94134	9003170941341	9009010941342	469
94204	9003170942041	9009010942042	469

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94234	9003170942348	9009010942349	469
94237	9003170942379	9009010942370	469
94720	9003170947206		213
95717	9003170957175	9009010957176	251
96205	9003170962056	9009010962057	62
96235	9003170962353		209
96821	9003170968218	9009010968219	315
97442	9003170974424	9009010974425	62
97785	9003170977852	9009010977853	113
97868	9003170978682	9009010978683	296
99864	9003170998642		258
100660	9003171006605	9009011006606	63
100757	9003171007572	9009011007573	110
100758	9003171007589	9009011007580	110
101000	9003171010008	9009011010009	63
101508	9003171015089	9009011015080	112
102804	9003171028041		282
102811	9003171028119	9009011028110	38
102813	9003171028133	9009011028134	38
102814	9003171028140	9009011028141	57
102831	9003171028317	9009011028318	57
102850	9003171028508	9009011028509	57
102855	9003171028553	9009011028554	57
102856	9003171028560	9009011028561	57
102859	9003171028591	9009011028592	57
102902	9003171029024	9009011029025	296
103283	9003171032833		501
103394	9003171033946	9009011033947	112
103622	9003171036220	9009011036221	249
103851	9003171038514		260
103872	9003171038729		259
104376	9003171043761	9009011043762	296
104604	9003171046045	9009011046046	109
104894	9003171048940	9009011048941	113
104962	9003171049626	9009011049627	109
104968	9003171049688	9009011049689	109
105009	9003171050097	9009011050098	111
105367	9003171053678	9009011053679	109

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108261	9003171082616	9009011082617	109
108262	9003171082623	9009011082624	109
108479	9003171084795	9009011084796	291
108728	9003171087284	9009011087285	63
109336	9003171093360	9009011093361	208
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110032	9003171100327		256
110554	9003171105544	9009011105545	274
110964	9003171109641		213
111434	9003171114348		262
111436	9003171114362		262
111562	9003171115628	9009011115629	390
111567	9003171115673	9009011115674	390
111570	9003171115703	9009011115704	390
111577	9003171115772	9009011115773	390
111584	9003171115840	9009011115841	390
111585	9003171115857	9009011115858	390
111611	9003171116113	9009011116114	390
111631	9003171116311	9009011116312	390
111799	9003171117998	9009011117999	259
112055	9003171120554		319
112203	9003171122039	9009011122030	390
112204	9003171122046	9009011122047	390
112205	9003171122053	9009011122054	390
112242	9003171122428	9009011122429	390
112253	9003171122534	9009011122535	390
112254	9003171122541	9009011122542	390
112268	9003171122688	9009011122689	390
112273	9003171122732	9009011122733	390
112279	9003171122794	9009011122795	390
112283	9003171122831	9009011122832	390
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112309	9003171123098	9009011123099	391
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112401	9003171124019	9009011124010	388
112406	9003171124064	9009011124065	388
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112469	9003171124699	9009011124690	388
112471	9003171124712	9009011124713	388
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112505	9003171125054	9009011125055	388
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112542	9003171125429	9009011125420	111
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112550	9003171125504	9009011125505	392
112551	9003171125511	9009011125512	392
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112588	9003171125887	9009011125888	392
112589	9003171125894	9009011125895	392
112590	9003171125900	9009011125901	392
112591	9003171125917	9009011125918	392
112592	9003171125924	9009011125925	392
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112924	9003171129243	9009011129244	389
112928	9003171129281	9009011129282	389
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112935	9003171129359	9009011129350	389
112937	9003171129373	9009011129374	389
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112950	9003171129502	9009011129503	390
112961	9003171129618	9009011129619	390
112988	9003171129885	9009011129886	390
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113023	9003171130232	9009011130233	390
113026	9003171130263	9009011130264	390
113027	9003171130270	9009011130271	390
113031	9003171130317	9009011130318	390
113057	9003171130577	9009011130578	390
113059	9003171130591	9009011130592	390
113299	9003171132991	9009011132992	115
114648	9003171146486		213
116061	9003171160611	9009011160612	387
116065	9003171160659	9009011160650	387
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116111	9003171161113	9009011161114	387
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116264	9003171162646		592
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116725	9003171167252	9009011167253	111
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117058	9003171170580	9009011170581	79
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117074	9003171170740	9009011170741	79
117241	9003171172416	9009011172417	207
117871	9003171178715		319
119325	9003171193251	9009011193252	293
119385	9003171193855		196
119392	9003171193923		196
119395	9003171193954	9009011193955	63
120033	9003171200331	9009011200332	111
120093	9003171200935	9009011200936	115
120653	9003171206531	9009011206532	445
120667	9003171206678	9009011206679	445
120671	9003171206715	9009011206716	445
120674	9003171206746	9009011206747	445
120676	9003171206760	9009011206761	445
120682	9003171206821	9009011206822	445
120688	9003171206883	9009011206884	445
120689	9003171206890	9009011206891	445
120693	9003171206937	9009011206938	445
120694	9003171206944	9009011206945	445
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120777	9003171207774	9009011207775	453
120779	9003171207798	9009011207799	453
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120787	9003171207873	9009011207874	453
121385	9003171213850	9009011213851	115
121878	9003171218787	9009011218788	25
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123432	9003171234329	9009011234320	116
123633	9003171236330	9009011236331	260
123644	9003171236446	9009011236447	110
123688	9003171236880		274
123696	9003171236965	9009011236966	110
123716	9003171237160		276
124549	9003171245493	9009011245494	115
124644	9003171246445		293
126245	9003171262452	9009011262453	290
126460	9003171264609	9009011264600	110
126665	9003171266658		258
126781	9003171267815		319
127347	9003171273472	9009011273473	111
127356	9003171273564	9009011273565	237
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127775	9003171277753	9009011277754	113
128345	9003171283457	9009011283458	173
128618	9003171286182	9009011286183	111
129260	9003171292602	9009011292603	110
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130009	9003171300093	9009011300094	112
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131786	9003171317862	9009011317863	394
131991	9003171319910	9009011319911	289
132297	9003171322972		319
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135853	9003171358537	9009011358538	114
136087	9003171360875	9009011360876	410
136090	9003171360905	9009011360906	410
136161	9003171361612	9009011361613	410
136164	9003171361643	9009011361644	410
136168	9003171361681	9009011361682	410
136173	9003171361735	9009011361736	411
136193	9003171361933	9009011361934	411
136535	9003171365351		251
136777	9003171367775	9009011367776	54
139155	9003171391558		291
139648	9003171396485	9009011396486	337
139651	9003171396515	9009011396516	337
139653	9003171396539	9009011396530	337
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140088	9003171400885		206
140351	9003171403510	9009011403511	111
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142682	9003171426823	9009011426824	112
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148656	9003171486568	9009011486569	222
148718	9003171487183	9009011487184	410
148722	9003171487220	9009011487221	410
150085	9003171500851	9009011500852	112
150402	9003171504026		275
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154545	9003171545456	9009011545457	86
157800	9003171578003	9009011578004	63
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160235	9003171602357	9009011602358	333
160240	9003171602401	9009011602402	333
160242	9003171602425	9009011602426	333
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160245	9003171602456	9009011602457	334
160246	9003171602463	9009011602464	334
160247	9003171602470	9009011602471	334
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160251	9003171602517	9009011602518	334
160252	9003171602524	9009011602525	334
160254	9003171602548	9009011602549	334
160255	9003171602555	9009011602556	334
160256	9003171602562	9009011602563	334
160257	9003171602579	9009011602570	334
160258	9003171602586	9009011602587	334
160260	9003171602609	9009011602600	334
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162390	9003171623901	9009011623902	116
162874	9003171628746	9009011628747	276
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167333	9003171673333	9009011673334	59
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167344	9003171673449	9009011673440	59
167351	9003171673517	9009011673518	59
167352	9003171673524	9009011673525	59
167354	9003171673548	9009011673549	60
169096	9003171690965	9009011690966	110
169477	9003171694772	9009011694773	59
169479	9003171694796	9009011694797	59
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170606	9003171706062		197
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172352	9003171723526	9009011723527	276
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175220	9003171752205	9009011752206	250
176979	9003171769791		213
179959	9003171799590		275
180994	9003171809947		212
181071	9003171810714	9009011810715	46
183592	9003171835922	9009011835923	49
184247	9003171842470		259
185988	9003171859881	9009011859882	247
186109	9003171861099	9009011861090	247
186445	9003171864458	9009011864459	290
194540	9003171945409	9009011945400	295
195112	9003171951127	9009011951128	318
196324	9003171963243	9009011963244	54
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199657	9003171996579	9009011996570	178
199678	9003171996784	9009011996785	181
199682	9003171996821	9009011996822	179
199689	9003171996890	9009011996891	179
202159	9003172021591	9009012021592	60
202294	9003172022949		197
203176	9003172031767	9009012031768	290
205056	9003172050560	9009012050561	349
205058	9003172050584	9009012050585	349
205060	9003172050607	9009012050608	349
205822	9003172058221	9009012058222	62
210314	9003172103143		290
212627	9003172126272		212
215813	9003172158136	9009012158137	296
215986	9003172159867	9009012159868	206
216066	9003172160665		197
216068	9003172160689		198
216789	9003172167893	9009012167894	291
217976	9003172179766	9009012179767	293
220394	9003172203942	9009012203943	62
222042	9003172220420	9009012220421	37
222043	9003172220437	9009012220438	87
222044	9003172220444	9009012220445	31
222045	9003172220451	9009012220452	47
222854	9003172228549	9009012228540	77
222858	9003172228587	9009012228588	77
222860	9003172228600	9009012228601	77
222861	9003172228617	9009012228618	77
222863	9003172228631	9009012228632	77
222865	9003172228655	9009012228656	77
222868	9003172228686	9009012228687	77
222870	9003172228709	9009012228700	77
222872	9003172228723	9009012228724	87
222873	9003172228730	9009012228731	87
222889	9003172228891	9009012228892	87
222892	9003172228921	9009012228922	87
222898	9003172228983	9009012228984	87
222996	9003172229966	9009012229967	30
222997	9003172229973	9009012229974	30
222998	9003172229980	9009012229981	30
222999	9003172229997	9009012229998	31
223000	9003172230009	9009012230000	31
223002	9003172230023	9009012230024	31
223010	9003172230108	9009012230109	37
223012	9003172230122	9009012230123	37
223015	9003172230153	9009012230154	37
223016	9003172230160	9009012230161	37
223019	9003172230191	9009012230192	37
223020	9003172230207	9009012230208	31
223021	9003172230214	9009012230215	31
223022	9003172230221	9009012230222	31
223023	9003172230238	9009012230239	31
223024	9003172230245	9009012230246	37
223025	9003172230252	9009012230253	37
223027	9003172230276	9009012230277	37
223029	9003172230290	9009012230291	37
223031	9003172230313	9009012230314	37
223032	9003172230320	9009012230321	55
223033	9003172230337	9009012230338	55
223035	9003172230351	9009012230352	47
223037	9003172230375	9009012230376	47
223039	9003172230399	9009012230390	47
223040	9003172230405	9009012230406	47
223042	9003172230429	9009012230420	47
223043	9003172230436	9009012230437	47
223129	9003172231297	9009012231298	50
223131	9003172231310	9009012231311	50
223132	9003172231327	9009012231328	50
223134	9003172231341	9009012231342	50
223135	9003172231358	9009012231359	50
223136	9003172231365	9009012231366	50
223516	9003172235165	9009012235166	61
223733	9003172237336		275
226295	9003172262956		274
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228819	9003172288192		209
229899	9003172298993		229
230691	9003172306919	9009012306910	61
231513	9003172315133		208
232665	9003172326658		213
232678	9003172326788		213
232811	9003172328119		236
233756	9003172337562	9009012337563	85
233757	9003172337579	9009012337570	85
233759	9003172337593	9009012337594	85
233760	9003172337609	9009012337600	85
233762	9003172337623	9009012337624	85
233765	9003172337654	9009012337655	85
233768	9003172337685	9009012337686	85
233771	9003172337715	9009012337716	85
233773	9003172337739	9009012337730	85
233774	9003172337746	9009012337747	85
233776	9003172337760	9009012337761	85
233777	9003172337777	9009012337778	85
233778	9003172337784	9009012337785	85
234387	9003172343877		234
234390	9003172343907		234
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235260	9003172352602		209
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236317	9003172363172	9009012363173	87
236318	9003172363189	9009012363180	87
236319	9003172363196	9009012363197	87
236320	9003172363202	9009012363203	87
237227	9003172372273		275
239448	9003172394480	9009012394481	411
241413	9003172414133	9009012414134	96
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246985	9003172469850	9009012469851	386
246986	9003172469867	9009012469868	386
246987	9003172469874	9009012469875	338
246988	9003172469881	9009012469882	338
246990	9003172469904	9009012469905	338
246994	9003172469942	9009012469943	338
246995	9003172469959	9009012469950	338
246996	9003172469966	9009012469967	338
246998	9003172469980	9009012469981	338
247001	9003172470016	9009012470017	338
247165	9003172471655	9009012471656	337
247175	9003172471754	9009012471755	337
247366	9003172473666	9009012473667	337
248826	9003172488264		210
249717	9003172497174	9009012497175	295
250165	9003172501659	9009012501650	31
250169	9003172501697	9009012501698	31
250491	9003172504919		315
251584	9003172515847	9009012515848	319
252911	9003172529110		581
252912	9003172529127		581
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255450	9003172554501	9009012554502	49
255451	9003172554518	9009012554519	46
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265130	9003172651309		209
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267341	9003172673417	9009012673418	116
272894	9003172728940	9009012728941	54
273756	9003172737560	9009012737561	112
274654	9003172746548	9009012746549	116
275634	9003172756349	9009012756340	96
278979	9003172789798	9009012789799	63
280358	9003172803586		213
281719	9003172817194	9009012817195	258
282077	9003172820774	9009012820775	60
282078	9003172820781	9009012820782	60
282079	9003172820798	9009012820799	60
282080	9003172820804	9009012820805	60
282085	9003172820859	9009012820850	61
282105	9003172821054	9009012821055	61
282110	9003172821108	9009012821109	60
282111	9003172821115	9009012821116	60
282112	9003172821122	9009012821123	61
282113	9003172821139	9009012821130	61
282114	9003172821146	9009012821147	61
282149	9003172821498	9009012821499	33
282150	9003172821504	9009012821505	33
285439	9003172854397	9009012854398	76
286864	9003172868646		279
289327	9003172893273	9009012893274	386
289329	9003172893297	9009012893298	386
289330	9003172893303	9009012893304	386
290670	9003172906706		198
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291587	9003172915876	9009012915877	33
291588	9003172915883	9009012915884	33
291603	9003172916033	9009012916034	295
291947	9003172919478	9009012919479	31
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293645	9003172936451	9009012936452	381
293737	9003172937373	9009012937374	381
293738	9003172937380	9009012937381	381
293739	9003172937397	9009012937398	381
293740	9003172937403		381
293789	9003172937892		198
293790	9003172937908	9009012937909	381
293798	9003172937984		236
293802	9003172938028		213
293865	9003172938653		213
293867	9003172938677		213
294602	9003172946023		212
295600	9003172956008		206
297324	9003172973241	9009012973242	78
297325	9003172973258	9009012973259	78
297327	9003172973272	9009012973273	78
297329	9003172973296	9009012973297	78
297331	9003172973319	9009012973310	78
297333	9003172973333	9009012973334	78
299109	9003172991092		63
299269	9003172992693	9009012992694	42
299270	9003172992709	9009012992700	42
302416	9003173024164		206
305234	9003173052341		212
305260	9003173052600		212
305269	9003173052693		212
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305285	9003173052853		212
306283	9003173062838		210
307001	9003173070017		212
307876	9003173078761	9009013078762	46
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310980	9003173109809	9009013109800	97
310992	9003173109922	9009013109923	97
310993	9003173109939	9009013109930	97
310994	9003173109946	9009013109947	97
310995	9003173109953	9009013109954	97
310997	9003173109977	9009013109978	96
311096	9003173110966	9009013110967	96
311250	9003173112502		295
311791	9003173117910		211
311922	9003173119228		212
313127	9003173131275	9009013131276	316
313466	9003173134665	9009013134666	316
313636	9003173136362		275
314463	9003173144633	9009013144634	97
314990	9003173149904		212
315877	9003173158777	9009013158778	316
315965	9003173159651		499
315966	9003173159668		499
315967	9003173159675		499
315968	9003173159682		499
316272	9003173162729	9009013162720	316
316286	9003173162866	9009013162867	316
317307	9003173173077	9009013173078	97
317532	9003173175323	9009013175324	63
318070	9003173180709	9009013180700	97
319980	9003173199800		238
320074	9003173200742	9009013200743	97
320075	9003173200759	9009013200750	97
320369	9003173203699	9009013203690	267
321211	9003173212110	9009013212111	97
321395	9003173213957	9009013213958	96
323970	9003173239704	9009013239705	42
323976	9003173239766	9009013239767	42
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324303	9003173243039	9009013243030	42
324402	9003173244029	9009013244020	42
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325222	9003173252222	9009013252223	42
325224	9003173252246	9009013252247	42
325228	9003173252284	9009013252285	42
326166	9003173261668		222
326214	9003173262146	9009013262147	97
328027	9003173280270		280
330772	9003173307724	9009013307725	113
331135	9003173311356		280
331500	9003173315002	9009013315003	290
331692	9003173316924	9009013316925	206
331997	9003173319970	9009013319971	316
332459	9003173324592		57
332479	9003173324790		57
332480	9003173324806		57
333180	9003173331804		260
333396	9003173333969		210
334166	9003173341667		290
335803	9003173358030		295
336499	9003173364994	9009013364995	97
337051	9003173370513	9009013370514	293
337183	9003173371831	9009013371832	222
338237	9003173382370	9009013382371	290
339583	9003173395837		134
342583	9003173425831	9009013425832	97
344194	9003173441947		212
344195	9003173441954		212
348387	9003173483879		507
350694	9003173506943		507
351386	9003173513866	9009013513867	96
351654	9003173516546		284
351767	9003173517673	9009013517674	318
351901	9003173519011		206
355251	9003173552513	9009013552514	49
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359474	9003173594742		573
359475	9003173594759		573
359476	9003173594766		573
361668	9003173616680		212
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363478	9003173634783	9009013634784	46
363993	9003173639931		303
364685	9003173646854	9009013646855	291
365327	9003173653272		200
365327	9003173653272		216
365824	9003173658246	9009013658247	290
365997	9003173659977		207
366794	9003173667941	9009013667942	46
366816	9003173668160	9009013668161	200
366816	9003173668160	9009013668161	216
366888	9003173668887	9009013668888	36
367377	9003173673775	9009013673776	72
367545	9003173675458	9009013675459	82
367546	9003173675465	9009013675466	87
367548	9003173675489	9009013675480	82
367549	9003173675496	9009013675497	87
367550	9003173675502	9009013675503	82
367551	9003173675519	9009013675510	82
367552	9003173675526	9009013675527	87
367553	9003173675533	9009013675534	82
367554	9003173675540	9009013675541	82
367556	9003173675564	9009013675565	82
367557	9003173675571	9009013675572	87
367565	9003173675656	9009013675657	22
367566	9003173675663	9009013675664	37
367569	9003173675694	9009013675695	22
367572	9003173675724	9009013675725	37
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367583	9003173675830	9009013675831	22
367585	9003173675854	9009013675855	37
367771	9003173677711	9009013677712	72
367772	9003173677728	9009013677729	72
367773	9003173677735	9009013677736	72
367775	9003173677759	9009013677750	72
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367777	9003173677773	9009013677774	34
367781	9003173677810	9009013677811	23
367782	9003173677827	9009013677828	37
367783	9003173677834	9009013677835	34
367785	9003173677858	9009013677859	23
367786	9003173677865	9009013677866	23
367787	9003173677872	9009013677873	37
367788	9003173677889	9009013677880	34
367789	9003173677896	9009013677897	23
367791	9003173677919	9009013677910	34
367800	9003173678008	9009013678009	23
367801	9003173678015	9009013678016	37
367802	9003173678022	9009013678023	34
367803	9003173678039	9009013678030	23
367804	9003173678046	9009013678047	37
367833	9003173678336		507
368002	9003173680025	9009013680026	72
368008	9003173680087	9009013680088	87
368009	9003173680094	9009013680095	22
368010	9003173680100	9009013680101	23
368012	9003173680124	9009013680125	37
368014	9003173680148	9009013680149	82
368016	9003173680162	9009013680163	34
368017	9003173680179	9009013680170	34
369110	9003173691106		277
369514	9003173695142		209
372339	9003173723395	9009013723396	410
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379577	9003173795774		277
379577	9003173795774		277
379653	9003173796535	9009013796536	109
381983	9003173819838		572
384142	9003173841426	9009013841427	24
384143	9003173841433	9009013841434	24
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384755	9003173847558	9009013847559	46
384756	9003173847565	9009013847566	46
384757	9003173847572	9009013847573	46
384758	9003173847589	9009013847580	46
384759	9003173847596	9009013847597	50
384760	9003173847602	9009013847603	50
384761	9003173847619	9009013847610	50
384762	9003173847626	9009013847627	50
384763	9003173847633	9009013847634	50
384764	9003173847640	9009013847641	50
386001	9003173860014	9009013860015	50
386002	9003173860021	9009013860022	46
387531	9003173875315		279
388126	9003173881262	9009013881263	410
389569	9003173895696		279
390531	9003173905319	9009013905310	55
390532	9003173905326	9009013905327	55
390582	9003173905821		279
390970	9003173909706		303
391718	9003173917183	9009013917184	319
394560	9003173945605		200
394560	9003173945605		216
395773	9003173957738	9009013957739	319
396678	9003173966785	9009013966786	54
400439	9003174004394		573
401205	9003174012054	9009014012055	24
401616	9003174016168	9009014016169	284
405549	9003174055495		278
407610	9003174076100		259

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408972	9003174089728		307
410277	9003174102779	9009014102770	49
413027	9003174130277		315
413774	9003174137740		259
415841	9003174158417	9009014158418	109
416671	9003174166719		296
419688	9003174196884	9009014196885	46
422374	9003174223740	9009014223741	56
424846	9003174248460	9009014248461	97
432975	9003174329756	9009014329757	405
433019	9003174330196	9009014330197	406
433020	9003174330202	9009014330203	406
433039	9003174330394	9009014330395	407
433068	9003174330684	9009014330685	408
436472	9003174364726	9009014364727	296
436484	9003174364849	9009014364840	293
437634	9003174376347	9009014376348	275
438088	9003174380887	9009014380888	290
439059	9003174390596	9009014390597	102
439061	9003174390619	9009014390610	102
441033	9003174410331	9009014410332	115
441203	9003174412038	9009014412039	102
441204	9003174412045	9009014412046	102
441206	9003174412069	9009014412060	102
441207	9003174412076	9009014412077	102
441219	9003174412199	9009014412190	102
441223	9003174412236	9009014412237	102
441224	9003174412243	9009014412244	102
441226	9003174412267	9009014412268	102
441227	9003174412274	9009014412275	102
441230	9003174412304	9009014412305	103
441231	9003174412311	9009014412312	102
441233	9003174412335	9009014412336	102
441238	9003174412380	9009014412381	102
441239	9003174412397	9009014412398	102
441241	9003174412410	9009014412411	102
441243	9003174412434	9009014412435	102
441245	9003174412458	9009014412459	102

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441248	9003174412489	9009014412480	103
441250	9003174412502	9009014412503	103
441301	9003174413011		274
441302	9003174413028		274
441342	9003174413424		210
441348	9003174413486		211
441350	9003174413509		211
441351	9003174413516		211
441352	9003174413523		211
441399	9003174413998		207
441401	9003174414018		207
441403	9003174414032		207
443944	9003174439448	9009014439449	315
445055	9003174450559		234
446432	9003174464327		316
446453	9003174464532		316
448482	9003174484820	9009014484821	315
448603	9003174486039	9009014486030	273
449559	9003174495598		258
450328	9003174503286		261
451151	9003174511519	9009014511510	290
454393	9003174543930	9009014543931	337
454396	9003174543961	9009014543962	337
454693	9003174546931		281
455038	9003174550389		289
455124	9003174551249	9009014551240	273
455303	9003174553038	9009014553039	337
455312	9003174553120	9009014553121	337
455314	9003174553144	9009014553145	337
455318	9003174553182	9009014553183	336
455324	9003174553243	9009014553244	336
457370	9003174573708	9009014573709	410
458028	9003174580287	9009014580288	334
458029	9003174580294	9009014580295	334
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458033	9003174580331	9009014580332	334
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460744	9003174607441	9009014607442	56
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461733	9003174617334	9009014617335	228
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462514	9003174625148		279
462630	9003174626305		277
462630	9003174626305		277
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462654	9003174626541		277
462658	9003174626589		280
462673	9003174626732		304
462700	9003174627005		572
462756	9003174627562		279
462757	9003174627579		279
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462889	9003174628897		279
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462911	9003174629115		281
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464290	9003174642909	9009014642900	319
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464539	9003174645399		495
464540	9003174645405		495
464543	9003174645436		495
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464545	9003174645450		515
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464546	9003174645467		515
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464552	9003174645528		515
464553	9003174645535		515
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464698	9003174646983		499
464702	9003174647027		519
464703	9003174647034		519
464706	9003174647065		519
464707	9003174647072		519
464710	9003174647102		519
464711	9003174647119		519
464712	9003174647126		519
464853	9003174648536		515
464854	9003174648543		515
464855	9003174648550		515
464858	9003174648581		515
464859	9003174648598		515
465488	9003174654889		497
465489	9003174654896		497
465490	9003174654902		497
465491	9003174654919		497
465492	9003174654926		497
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465509	9003174655091		517
465512	9003174655121		517
465519	9003174655190		520
465520	9003174655206		520
465522	9003174655220		520
465525	9003174655251		520
465526	9003174655268		520
465640	9003174656401		522
465642	9003174656425		522
465649	9003174656494		521
465649	9003174656494		521
465650	9003174656500		521
465651	9003174656517		521
465652	9003174656524		521
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465656	9003174656562		521
465656	9003174656562		521
465662	9003174656623		517
465982	9003174659822		520
465983	9003174659839		520
465984	9003174659846		520
465985	9003174659853		520
465987	9003174659877		520
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466083	9003174660835		496
466084	9003174660842		496
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466087	9003174660873		496
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466754	9003174667544	9009014667545	78
466762	9003174667629	9009014667620	78
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467391	9003174673910		519
467392	9003174673927		519
467394	9003174673941		519
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467396	9003174673965		519
467400	9003174674009		519
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467422	9003174674221		237
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467433	9003174674337		515
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467443	9003174674436		496
467444	9003174674443		496
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467446	9003174674467		496
467448	9003174674481		496
467466	9003174674665		207
468182	9003174681823	9009014681824	36
468751	9003174687511	9009014687512	228
469614	9003174696148		228
469619	9003174696193		228
469827	9003174698272		207
470272	9003174702726		304
471114	9003174711148		258
471747	9003174717478		275
473086	9003174730866		200
473086	9003174730866		216
473304	9003174733041	9009014733042	315

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474528	9003174745280	9009014745281	85
474529	9003174745297	9009014745298	85
474531	9003174745310	9009014745311	86
474532	9003174745327	9009014745328	85
474533	9003174745334	9009014745335	85
474534	9003174745341	9009014745342	85
474535	9003174745358	9009014745359	86
474564	9003174745648		280
474743	9003174747437		495
474751	9003174747512		495
474752	9003174747529		495
474753	9003174747536		495
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474774	9003174747741		497
474775	9003174747758		497
474777	9003174747772		497
474778	9003174747789		497
474780	9003174747802		497
474990	9003174749905		567
474991	9003174749912		567
474993	9003174749936		567
474995	9003174749950		567
474997	9003174749974		567
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475009	9003174750093		567
475010	9003174750109		567
475011	9003174750116		567
475012	9003174750123		567
475014	9003174750147		568
475015	9003174750154		568
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475019	9003174750192		570
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475978	9003174759782		500
475980	9003174759805		500
475983	9003174759836		500
475986	9003174759867		500
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477283	9003174772835	9009014772836	251
477289	9003174772897	9009014772898	251
477335	9003174773351	9009014773352	239
477342	9003174773429	9009014773420	239
477346	9003174773467	9009014773468	239
477349	9003174773498	9009014773499	239
477352	9003174773528	9009014773529	239
477356	9003174773566	9009014773567	239
477358	9003174773580	9009014773581	239
477360	9003174773603	9009014773604	239
477403	9003174774037	9009014774038	238
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477418	9003174774181	9009014774182	238
477422	9003174774228		251
477430	9003174774303	9009014774304	251
477724	9003174777243	9009014777244	318
477726	9003174777267	9009014777268	318
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480500	9003174805007		296
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485041	9003174850410		517
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485142	9003174851424		216
485338	9003174853381	9009014853382	111
485430	9003174854302		197
485953	9003174859536		275
487467	9003174874676		275
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490259	9003174902591		307
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494259	9003174942597		198
494271	9003174942719		198
494274	9003174942740		213
494333	9003174943334		507
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494349	9003174943495		507
494361	9003174943617		507
494365	9003174943655		508
494391	9003174943914		508
494394	9003174943945		507
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495818	9003174958185		571
495820	9003174958208		571
495824	9003174958246		571
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495832	9003174958321		571
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495837	9003174958376		572
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495841	9003174958413		572
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495843	9003174958437		572
495844	9003174958444		572
495845	9003174958451		572
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508495	9003175084951		216
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514745	9003175147458	9009015147459	46
515988	9003175159888	9009015159889	81
515989	9003175159895	9009015159896	81
516594	9003175165940	9009015165941	256
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523435	9003175234356		197
523437	9003175234370		197
524016	9003175240166		207
524159	9003175241590		211
525355	9003175253555	9009015253556	36
525686	9003175256860	9009015256861	274
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528580	9003175285808	9009015285809	333
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529401	9003175294015		516
529401	9003175294015		556
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529402	9003175294022		521
529403	9003175294039		521
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529456	9003175294565		573
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532529	9003175325290		303
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532571	9003175325719		302
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536789	9003175367894		497
537021	9003175370214	9009015370215	337
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537089	9003175370894	9009015370895	337
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537095	9003175370955	9009015370956	337
537097	9003175370979	9009015370970	337
537110	9003175371105	9009015371106	337
537111	9003175371112	9009015371113	337
537112	9003175371129	9009015371120	337
537113	9003175371136	9009015371137	337

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538503	9003175385034	9009015385035	56
540688	9003175406883	9009015406884	334
540689	9003175406890	9009015406891	334
543615	9003175436156		258
545254	9003175452545	9009015452546	75
545255	9003175452552	9009015452553	75
545256	9003175452569	9009015452560	75
547136	9003175471362		541
547611	9003175476114		499
548169	9003175481699	9009015481690	112
548170	9003175481705	9009015481706	49
548613	9003175486137		207
548815	9003175488155		256
549002	9003175490028	9009015490029	62
551616	9003175516162	9009015516163	56
553403	9003175534036	9009015534037	97
554635	9003175546350		213
556715	9003175567157		307
557153	9003175571536		208
559743	9003175597437	9009015597438	56
561390	9003175613908	9009015613909	295
561391	9003175613915	9009015613916	292
563191	9003175631919		234
563857	9003175638574		277
566308	9003175663088		206
566387	9003175663873		211
567352	9003175673520	9009015673521	86
567353	9003175673537	9009015673538	86
568265	9003175682652	9009015682653	289
570473	8032973219075	9009015704737	410
570485	8032973219112	9009015704850	410
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572741	9003175727414		307
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574845	9003175748457		558
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574858	9003175748587		556
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576050	9003175760503	9009015760504	83
577274	9003175772742		213
577953	9003175779536	9009016789535	319
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579420	9003175794201		593
579424	9003175794249		593
579503	9003175795031		593
580650	9003175806508	9009015806509	337
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590433	9003175904334		283
590725	9003175907250		213
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591103	9003175911035	9009015911036	60
591104	9003175911042	9009015911043	61
591680	9003175916801	9009015916802	61
593711	9003175937110		211
593712	9003175937127		207
594356	9003175943562	9009015943563	61
594357	9003175943579	9009015943570	61
594360	9003175943609	9009015943600	61
594362	9003175943623	9009015943624	61
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596597	9003175965977		260
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597041	9003175970414	9009015970415	59
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598971	9003175989713	9009015989714	61
599004	9003175990047		557
599666	9003175996667	9009015996668	62
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603818	9003176038182	9009016038183	152
607744	9003176077440	9009016077441	61
608080	9003176080808	9009016080809	273
608409	9003176084097	9009016084098	60
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614644	9003176146443	9009016146444	38
614686	9003176146863	9009016146864	60
615549	9003176155490	9009016155491	54
617388	9003176173883	9009016173884	292
619701	9003176197018		315
619800	9003176198008	9009016198009	404
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620118	9003176201180	9009016201181	196
620464	9003176204648	9009016204649	294
620541	9003176205416		557
620542	9003176205423		557
620544	9003176205447		557
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620558	9003176205584		557
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623097	9003176230975	9009016230976	46
630054	9003176300548		211
630116	9003176301163	9009016301164	54
630117	9003176301170	9009016301171	54
630537	9003176305376	9009016305377	54
631057	9003176310578	9009016310579	290
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636399	9003176363994	9009016363995	54
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636789	9003176367893	9009016367894	82
637066	9003176370664	9009016370665	22
637067	9003176370671	9009016370672	22
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641854	9003176418540	9009016418541	292
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647256	9003176472566	9009016472567	54
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651998	9003176519988	9009016519989	32
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657669	9003176576691		213
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669110	9003176691103		266
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34200773	9003172014098	9009012003161	84
34200775	9003172014104	9009012003178	84
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