

# INDUSTRIAL SUPPLY

A Company of the SWAROVSKI Group

**TYROLIT**



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## RESTRUCTURED: PRODUCT CATALOGUE

Dear business partners,

We have taken the liberty of making the product catalogue clearer.

It is split into the main sections **cutting, grinding and precision**, where in each section

— **cutting** through the subsections/machines used – straight grinders, angle grinders, petrol cutting saws and stationary cut-off wheels

— **grinding** through the subsections/machines used – straight grinders, angle grinders and floorstand grinders and

— **precision** through the subsections/applications – grinding, sharpening, cutting and dressing

you are guided to the individual products.





## TYROLIT IS

one of the largest manufacturers of bonded grinding, cutting, sawing, drilling and dressing tools in the world.

The company is also a provider of tools and machines.

A system partner that tailors its complete cutting and grinding solutions in close cooperation with its customers, Tyrolit achieves and provides customer-specific solutions through the hard work of highly-skilled application engineers.

A company that is continuously investing to ensure that its products are as environmentally friendly as possible in terms of their manufacture, use and disposal.

## TYROLIT IN EXPANSION

TYROLIT, with its workforce of approximately 4,113 and a wide range of products (over 80,000), has every intention of pushing ahead with its ambitious expansion plans.

The company has 28 production centres in 13 countries and a global network of sales companies and distributors that is growing all the time.





## PRINCIPLES

### CUSTOMER RELATIONS

We view our customers as partners with the aim of achieving a lasting win-win situation.

The success of our customers lies in the quality of our products, our knowledge of application technology and the provision of customer-specific on-site solutions.

Close cooperation with our customers leads to remarkable strategic developments and ensures long-term success for both parties.

Our global network of production centres, sales companies and our carefully selected local service provision means that we see TYROLIT as a global company for our internationally-active customers all over the world.



# PRINCIPLES

## QUALITY

Our strength was, is and remains an unbeatable combination of tradition, innovation and quality.

Our quality level is characterised by our constant striving to improve quality, an attribute that is embedded in the strategic orientation of the company. It is this characteristic that guarantees our customers the usual high quality standards they expect of TYROLIT.

The TYROLIT quality management system has been certified to ISO 9001:2000 by an external authorised body for the entire production area. Production is carried out in accordance with European Standards:

EN12413 for grinding wheels made of bonded abrasives

EN13236 for grinding wheels made of diamond or boron nitride

EN13743 for special abrasives on an underlay such as

- └ Vulcanised fibre grinding wheels
- └ Flap grinding wheels
- └ Flap Discs
- └ Mounted points

## INNOVATION

The development and implementation of our visions and ideas for the future has always been and remains a key factor in the success of our company.

The creative potential of our employees is therefore not just employed constantly looking out for new technology, developing new materials or continuously optimising the entire production process, it also helps to gain us a competitive edge over our rivals.





## **SAFETY BRAND TYROLIT**

Our aim was and is to make our products even safer for our users:

- Through our work as the founder member of the "Organisation for the Safety of Abrasives (oSa),"
- through close cooperation with the safety authorities,
- through practical communication with our users all over the world.

## **AIM OF OSA**



The main aim of oSa is defined in terms of absolute protection for the users of grinding tools. Members undertake to:

- provide a consistently high level of quality,
- adopt a rigorous approach towards quality assurance,
- strive to develop new, improved standards of safety.





## QUALITY LINES

The restructuring of the product markings carried out in 2008, the aim of which was to make it easier to select the best product, has proved to be extremely successful.

### PREMIUM ★★★

**Quality tools for maximum performance:**

TYROLIT PREMIUM products are highest performers in the category, offering outstanding life and efficiency for optimum performance

### STANDARD ★★

**Quality tools for daily use:**

TYROLIT STANDARD products have been designed where high demands and frequent use are placed upon the tool in industrial and trade applications. They offer excellent price to performance ratio, reinforced with high efficiency

### BASIC ★

**Quality tools for universal use:**

TYROLIT BASIC products offer an excellent price to performance ratio, whilst still maintaining good performance and service life with assured total safety





## THE NEW PRODUCT DESIGN

The investment in the relaunch of our product image, also in 2008 has exceeded our expectations in just the same way as the restructuring of the product markings: Making the image of the TYROLIT brand even more visible and ultimately user-friendly.

### Since 2008, TYROLIT has presented:

- a new, simplified product marking broken down by quality levels
- a new, attractive product image
- a new, clearly structured POS
- new ways of promoting sales

#### Aim

To standardise, simplify and make the entire appearance of the TYROLIT brand more user-friendly.

#### Benefits

Easier to sell





## **PROMOTING SALES** THE CATALOGUE SERIES BY TYROLIT



**Construction related trade**

This catalogue contains everything about: **Construction related trade**



**Construction professionals**

This catalogue contains everything about: **Construction professionals**



**Industrial Supply**

This catalogue contains everything about: **Industrial Supply**

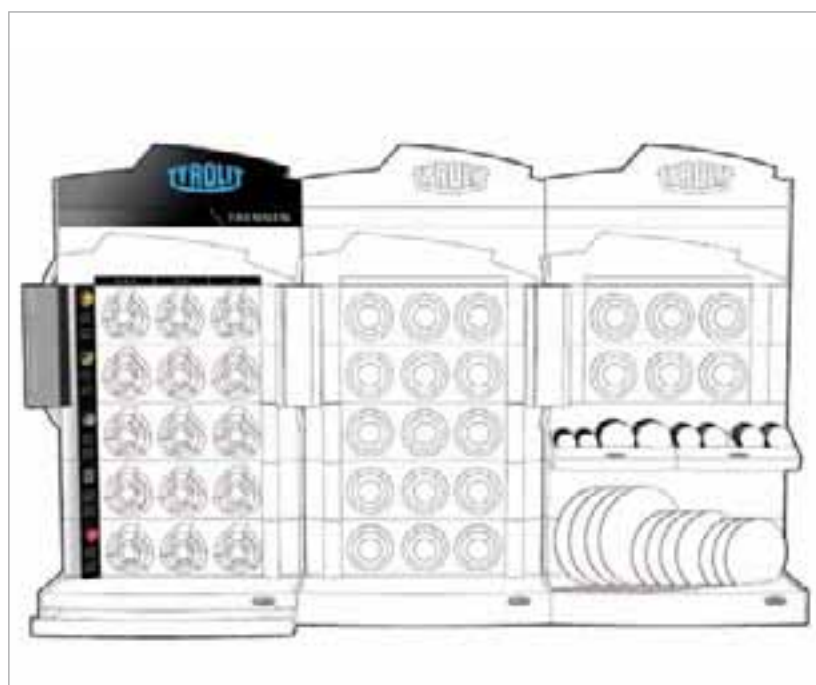


## PROMOTING SALES THE POS

It gives the right impression of the brand TYROLIT and ensures a clear organisation of the product in terms of

- areas of application
- levels of quality
- Diameter

the POS also has enough space for additional information materials for customers.



### We're here for you

If requested, we can take on the planning of your range to meet customer requirements and will be happy to advise you regarding the best selling positions.

### Assembly

The POS is easy to assemble using the enclosed assembly diagram and is available in the following versions:

- Wall system
- Sales element in the room
- Counter displays



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# SPECIFIC INFORMATION

## RESIN-BONDED

### LABEL



### SPECIFICATION

Abrasive designation	Grit size in mesh			Designation of hardness			Type of bond
A = regular aluminium oxide (long-chipping materials/metals)	24	46	80	N	Q	T	B = bond/bonding agent (resin)
C = silicon carbide (short-chipping materials/stone)	30	46		O	R	S	F = fibre-reinforced - with fibre glass (for safety, lateral load and max. operating speed)
ZA = zirconium aluminium oxide (cast materials or for flap discs)	30	60	120	P	S		

## SHAPES

**41** Cut-off wheel  
(straight design)



**27** Flap disc (conical design)



**42** Cut-off wheel  
(depressed-centre design)



**28** Flap disc (flat design)



**27** Rough grinding wheels



**29** Rondeller  
(semi-flexible grinding wheel)



**28** Rough grinding wheels



## COLOUR CODES

						
<b>Label</b>	Steel	2in1 / 3in1	INOX	Stone	NF metals	Cast iron
<b>Colour codes</b>	Blue	Blue	Red	Green	Orange	Purple
<b>Materials</b>	Steel	2in1 (steel/ stainless steel) or 3in1 (cast iron/steel/ stainless steel)	Rust and acid resistant steels	Stone	Aluminium, copper, zinc, brass, bronze, stone	Cast materials

# SPECIFIC INFORMATION

## DIAMOND

### LABEL



### SPECIFICATION

#### Example: DCAB\*\*\*-FC / DCABP-FC

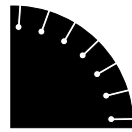
Position 1-2	Program	DC	Dry cutting
Position 3-4	Application	AB	Abrasive materials
		U	Universal (gen. building materials)
		C	Concrete
		H	Hard stone, granite
		A	Asphalt
		M	Marble, soft stone
		T	Tiles
Position 5-7	Quality line		PREMIUM ***
			STANDARD **
			BASIC *
Position 8-9	Special quality	FC	Fast cut
		S	Silent
		LL	Long life



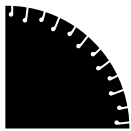
## SHAPES



**1A1R** Continuous cutting rim



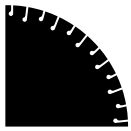
**C3** Close spacing, narrow slots with slot hole



**C6** Close spacing, narrow slots with slot hole



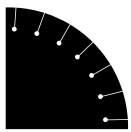
**C3S** Close spacing, narrow slots with hole slot. Protected with a drop wear segment to guard against the undercutting effect



**C6R** Turbo layer, close spacing, narrow slots with slot hole



**C1** Wide spacing, wide slots



**C3R** Turbo layer, close spacing, narrow slots with slot hole



**C1S** Wide spacing, wide slots. Protected with a drop wear segment to guard against the undercutting effect



## COLOUR CODES

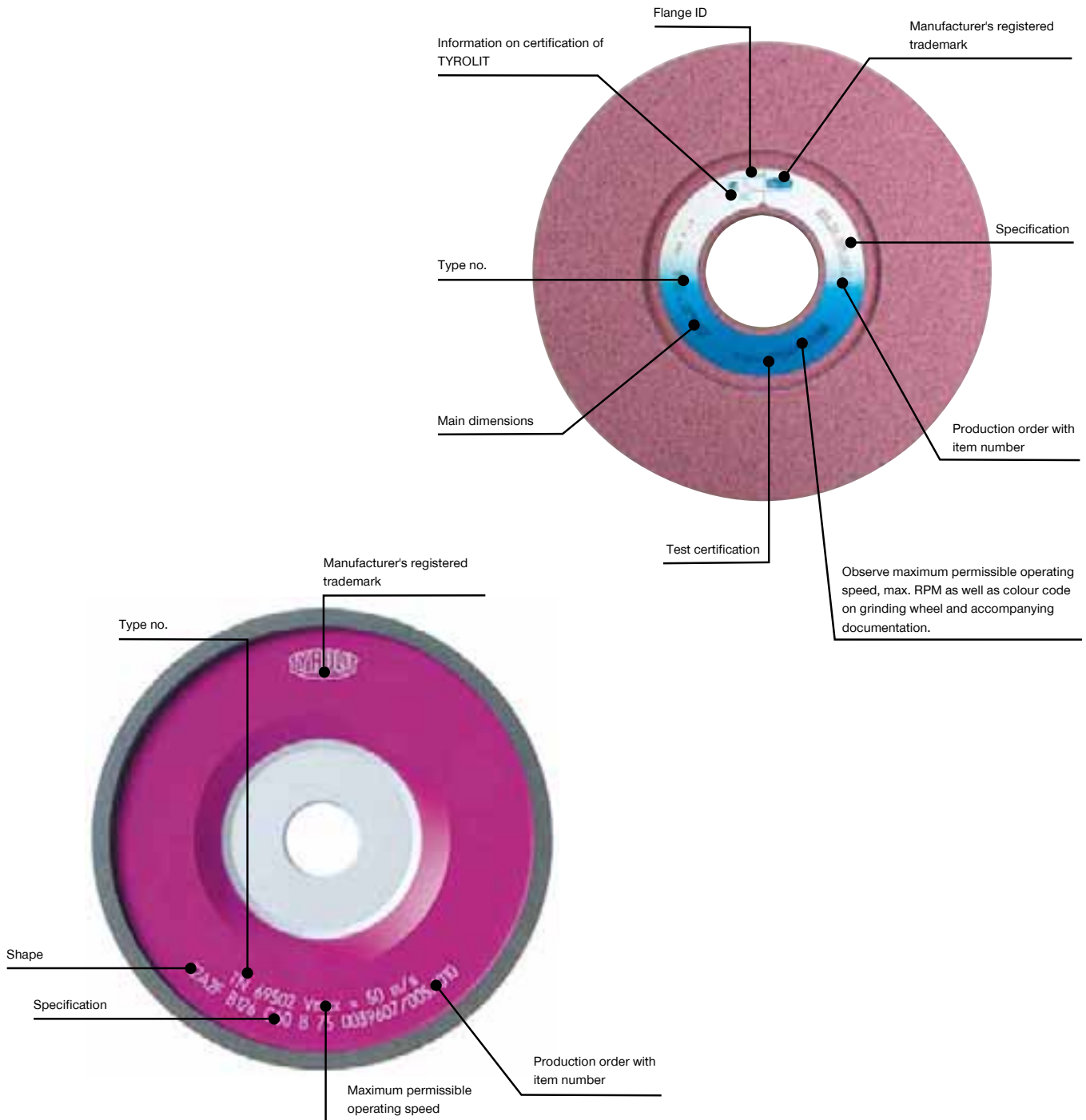
							
<b>Label</b>	Universal	Concrete	Hard stone	Tiles	Marble	Abrasive materials	Asphalt
<b>Colour codes</b>	Yellow	Red	Blue	Green	Green	Grey	Grey
<b>Materials</b>	4 in 1	Concrete	Hard stone	Tiles	Marble	Abrasive materials	Asphalt

# SPECIFIC INFORMATION

## GRINDING WHEEL

### DESIGNATION

Products from TYROLIT are labelled such that all important information can be directly read off right away.

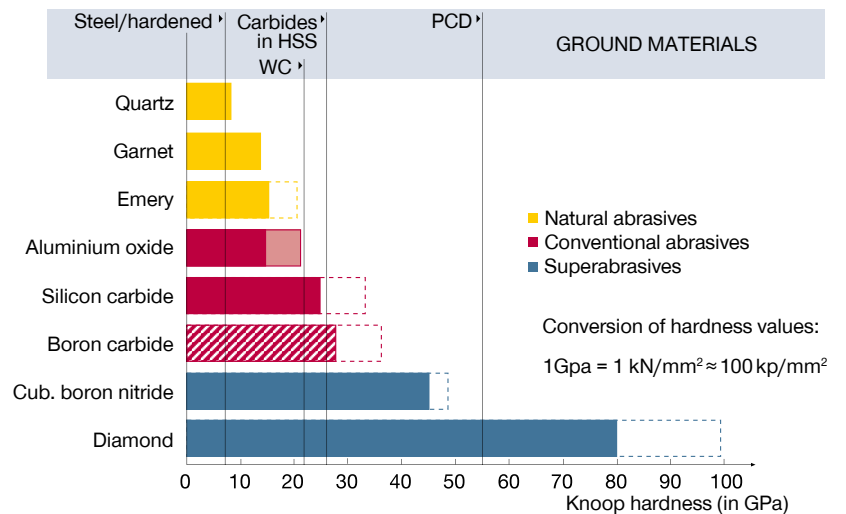


# ABRASIVE

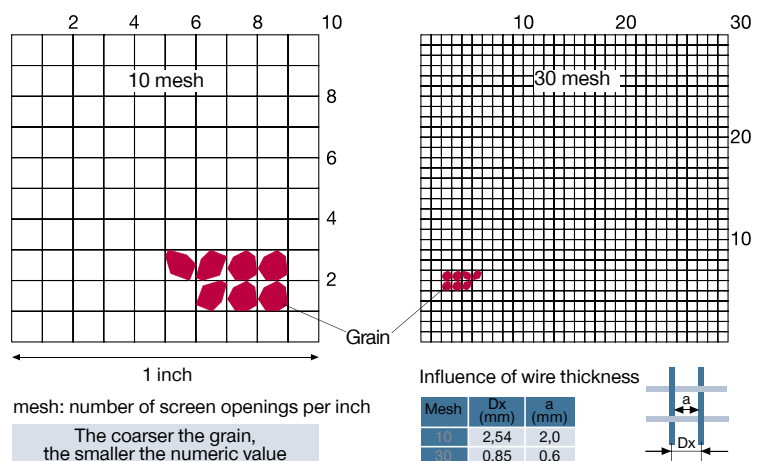
Classification, abbreviation and area of application of the four main types of abrasive grains used. Classification as conventional abrasive and superabrasive is generally standard.



Hardness comparison of abrasives and materials. The following generally applies: The greater the hardness difference between the abrasive grain and the ground workpiece, the higher the grinding power.

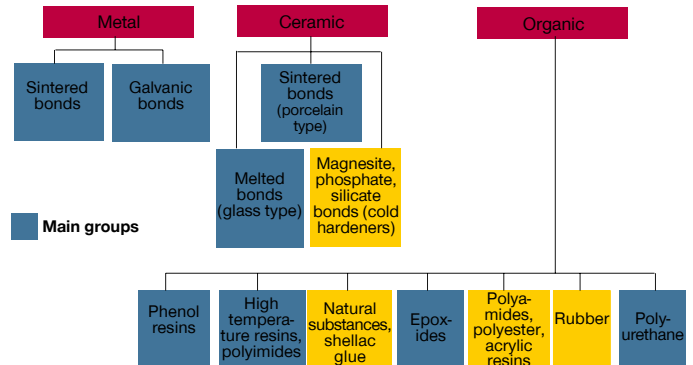


Grain sizes in "mesh" in accordance with FEPA standard. The number of sieve openings (mesh) per inch is used as the grit size. The reduction of the openings as a result of the wire thickness is also considered by the standard.

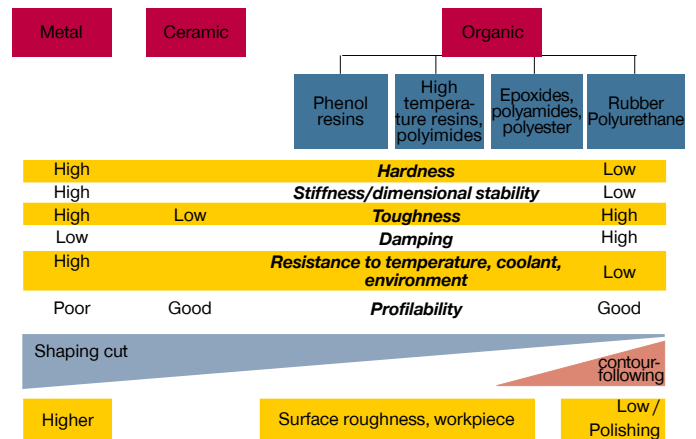


# BOND

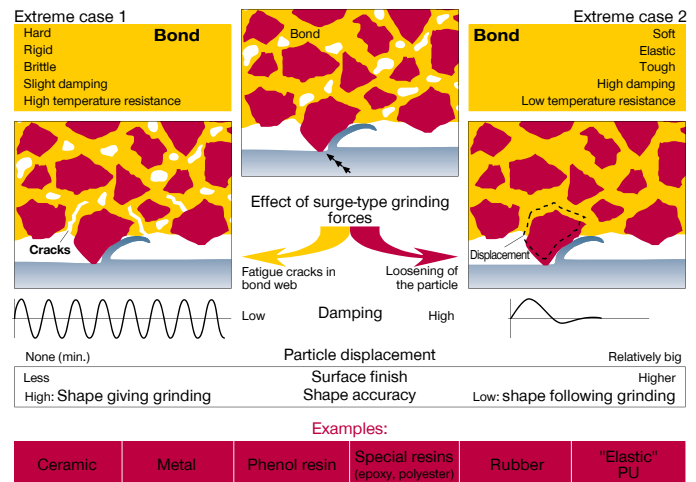
Important bond types for grinding tools.  
The choice of bonding type depends on the grinding task, the selected grain type and the machine conditions.



Properties of grinding wheel bonds.  
The extremes of the bonds are represented by the metal bonds on one side of the table and the organic bonds on the other.



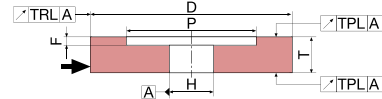
Comparison of the properties of various bonding systems and their reaction to the impact effect of grinding forces during chip formation. In the case of rigid bonds, the grains remain in place and oscillate; with elastic bonds, they barely oscillate and are displaced.



## DESCRIPTION OF WHEEL SHAPES

Examples of different grinding tool groups:  
Conventional grinding wheels, grinding wheels with superabrasives.

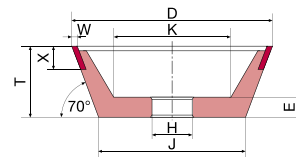
Conventional grinding wheel recessed on one side



**Shape 5**

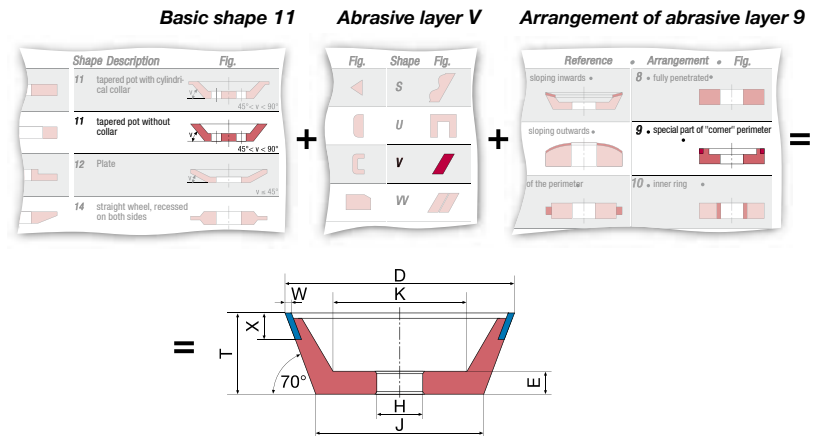
Order details:  $D \times T \times H - P \times F$

Tool grinding wheel with superabrasive  
"Cup wheel" e.g. TYROLIT Amigo or Diago

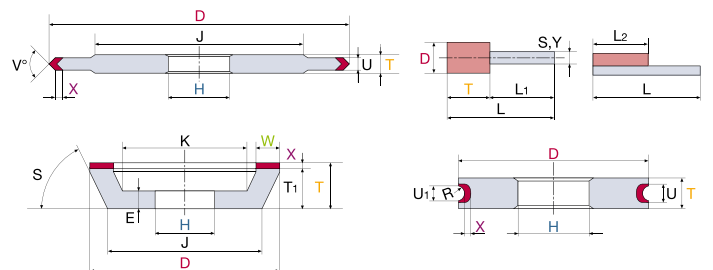


**Shape 11V9** Order details:  $D \times T \times H$   
 $D - W - X$

An example of the designation of grinding wheels with superabrasives:  
Tool grinding wheel 11V9



Designation of dimensions of grinding tools for precision and rough grinding.



<b>Diam.</b> External diameter	E	Radius	V	Abrasive coating angle
E	Floor thickness	S	W	Grinding wheel width
H	Bore diameter		X	Abrasive coating thickness
J	Diameter of hub		Y	Diameter of mandrel
K	Diameter of face			
L	Total length			
L1	Length of shaft			
L2	Abrasive coating length			
		E		
		S		
		T		
		T1		
		U		
		U1		

# DRESSING - THE BASICS





## DRESSING WITH STATIONARY DRESSERS

As a result of changes in the bond, the abrasive grain and the shape of the grinding wheel stemming from the wear of the grinding 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 narrow flanks and radii)	External cylindrical, surface and centreless grinding Single and small-lot production
multi-edge	Multi-grain dresser 	Linear (cylindrical, conical)	Surface and external cylindrical grinding Single and small-lot production

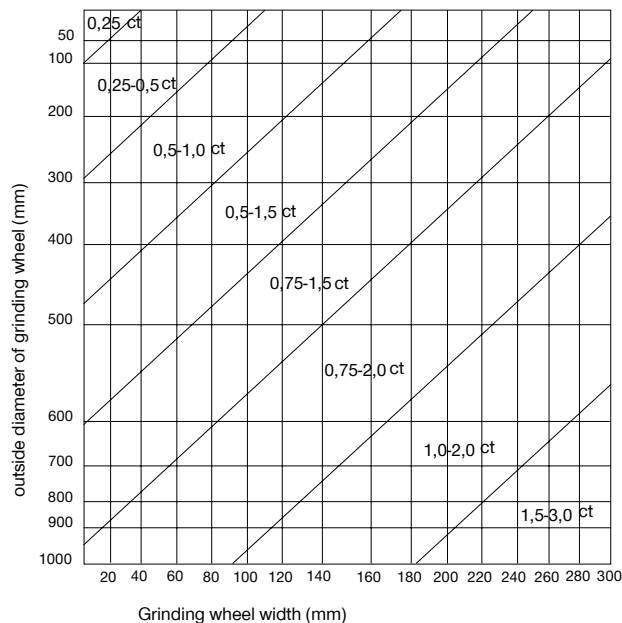
## Choosing the right dresser

DRESSING TOOL		GRINDING WHEEL PROFILE	GRINDING PROCESS / PRODUCTION TYPE
PHOTO	DETAILED DESCRIPTION		
multi-edge	Multi-set 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 MKD rods 	Linear (cylindrical, conical) Single-profile (convex, concave radii)	External cylindrical, internal cylindrical, surface and centreless grinding Single to large-scale production

## COMMON ERRORS WHEN DRESSING:

- If the dressing tool is driven over the ( $a_e = 0$ ) grinding wheel without infeed, the wheel becomes blunt and clogs up. The results in a greater risk of overheating when grinding.
- The free clamping length of the dresser is too large. Vibrations arise and the grinding wheel surface becomes irregular. This face is reproduced on the workpiece in the subsequent grinding process.
- When the dressing infeed selected ( $a_e > 0.03\text{mm}$ ) is too high, this causes a fracture in the bond bridges in the grinding wheel and the grains to come out too soon. This results in a poorer workpiece surface due to formations of comma-shaped scratches.
- The cooling system is not switched on in time. As a result of thermal overload, the diamond is destroyed because of the quenching or because temperatures are too high. Remedy: The cooling system should be switched on before the grinding wheel first comes into contact with the dresser.
- The cooling system is switched on too soon after dressing. The grain and bond residue that has come out through dressing cannot be sufficiently removed (rinsed out). This can lead, amongst other things, to the formation of comma-shaped scratches on the workpiece surface.
- The single-grain diamond is ground down too much, meaning that implementation of the diamond is no longer possible.

## DIAMOND SIZE (ct) in relation to grinding wheel dimensions





## INTERRELATIONSHIP; SURFACE ROUGHNESS / GRIT SIZE

The table below will help you select the right grit size to achieve the surface roughness result required. Variable process parameters (e.g. the dressing method) have a significant effect as to which surface roughness can be achieved with a grit size. Therefore, the table below also lists the surface areas / grain size.

You should take into account that large grain sizes remove slivers (material) more simply. It is not necessary to select the finest for each initial selection of the grit size.

INTERRELATIONSHIP; SURFACE ROUGHNESS / GRIT SIZE										
Surface		Grit size								
micro inch CLA	µm Ra	36	46	60	80	100	120	150	180	220
42	1,1	*								
32	0,8	*	*							
26	0,7		*							
21	0,5		*	*						
16	0,4			*						
14	0,35			*	*					
11	0,25				*					
8	0,2				*	*				
7	0,17					*				
6	0,14					*	*			
5	0,12						*	*		
4	0,1							*	*	
3	0,08								*	*
2	0,05									*

## INTERRELATIONSHIP; 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.

INTERRELATIONSHIP; PROFILE RADIUS / GRIT SIZE										
Grit size		36	46	60	80	100	120	150	180	220
Min. profile radius	mm	1	0,8	0,6	0,45	0,3	0,2	0,15	0,12	0,1
	inches	0,04	0,03	0,03	0,02	0,1	0,01	0,01	0,01	0,00

# SPEED RECOMMENDATIONS

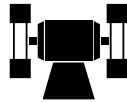
Rotational speeds and peripheral speeds depending on the external diameter  $\varnothing=D$  of the grinding wheels.

Rotations n per minute $\text{min}^{-1}$ depends on external diameter D of grinding wheel and the maximum operating speed $V_s$												
D in mm	Maximum operating speed $V_s$ in m/s											
	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	
1000	300	380	470	610	660	760	950	1.200	1.520	1.900	2.380	
1060	280	360	450	570	630	720	900	1.130	1.440	1.800	2.250	
1250	250	310	390	500	550	630	790	1.000	1.270	1.590	1.980	
1500	200	250	310	400	440	500	630	800	1.010	1.270	1.590	

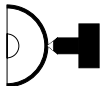
# PICTOGRAMS | MACHINES



Hand guided dressing



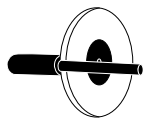
Floorstand grinder



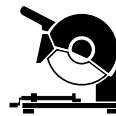
Dressing with diamond



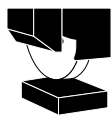
Pedestal and Swing frame grinding



External cylindrical grinding



Stationary cutting-off machine



Surface grinding



Cut-off grinder



Straight grinders



Tool grinding



Hand guided tool



Angle grinder



Internal cylindrical grinding



Angle grinder with brush



Saw sharpening



Angle grinder with cup wheel



0-5° Grinding, brushing, drilling


















20-30° Roughing








90° Cutting-off

# PICTOGRAMS | MATERIALS

	Steel		Rails
	Stainless steel		Plastics, lacquers, paints
	Steel/stainless steel		Asphalt
	Stone, universal building materials		Concrete
	Cast iron		Abrasive materials
	Nonferrous metals		Hard stone, granite
	HSS: tool steel		Ceramics, tiles
	HM-TC: tungsten carbide		Soft stone
	Stone and nonferrous metals		Cast iron, steel, INOX

# SAFETY INFORMATION

	Pay attention to the safety recommendations		Personal safety
	Use dust mask		Not permitted for side grinding
	Use eye protection		Dry grinding
	Use ear protection		Wet grinding
	Use gloves		No freehand work
	Do not use damaged wheels		

## Examples of identifying wheel orientation

The following play 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)

## 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.

## 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
- Do not expose grinding wheels to large temperature fluctuations

Storage for different types of grinding body:

- 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 case faces or bases together
- Store small grinding wheels in suitable containers



## Identification of the grinding wheels

The purpose of the identification is to give persons, 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
- Maximum operating speed in m/s.

The user is obliged to match the machine speed to the maximum permissible speed given in the identification.

Additional identification markings are as follows:

- Colour strips – they are assigned to certain maximum operating speeds:
  - blue 50 m/s
  - yellow 63 m/s
  - red 80 m/s
  - green 100 m/s
  - blue with yellow 125 m/s
- Use restrictions – they are assigned to certain grinding processes and application methods.

## Checking of Grinding Wheels prior to Clamping

Each time before clamping, the grinding wheels must be cleaned and checked for damage by means of a visual inspection. See figure, bottom left.

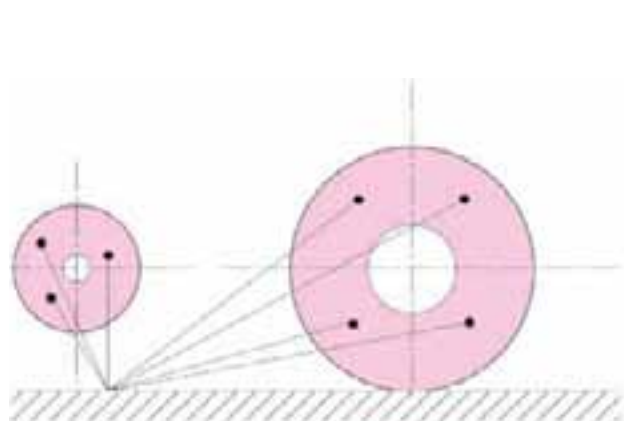
The sound test should be repeated. Damaged grinding wheels must not be mounted.

For the sound test, lightweight grinding wheels are pushed onto a mandrel or shaft, heavy grinding wheels are placed on a firm floor.

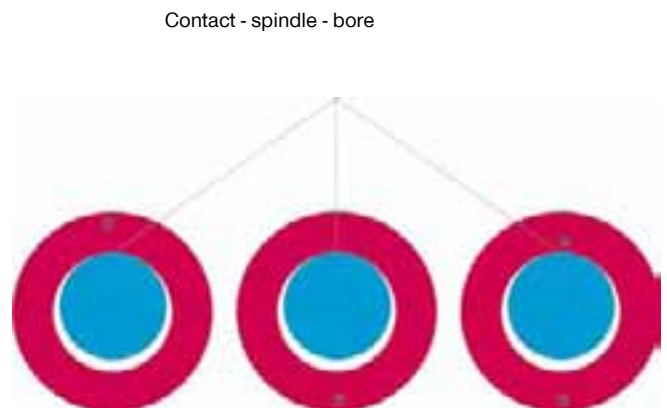
The grinding wheel is tapped with a non-metal object at several points.

An undamaged grinding wheel gives a clear ring, while a damaged one 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.



Examples of tapping points during the sound test



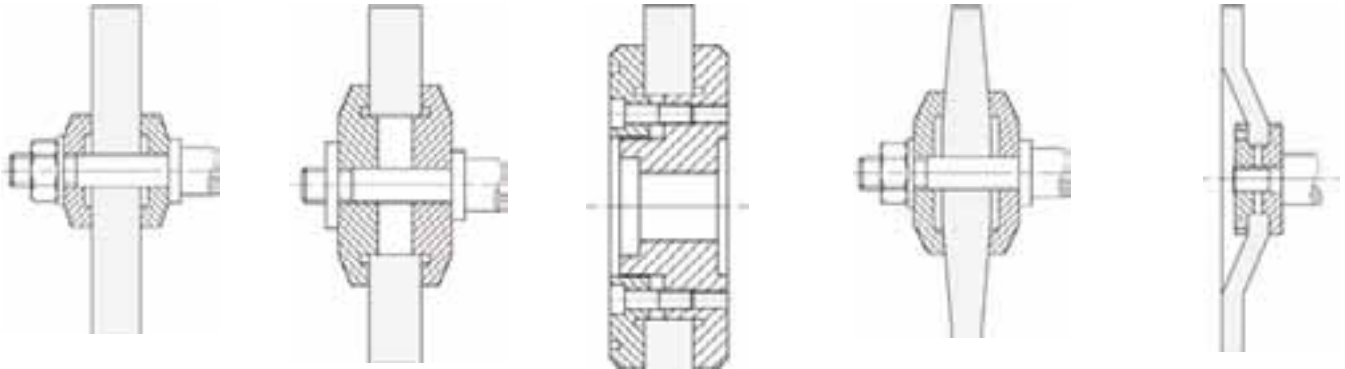
Examples of identifying wheel orientation

## Clamping Methods for Grinding Wheels

The clamping of the grinding wheels must be carried out and supervised by a qualified person.

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



Recessed wheel flange      Stepped flange      Locating flange      Tapered wheel flange      Straight wheel flange

### 5.1. MOUNTING IN THE CENTRAL BORE USING WHEEL FLANGES

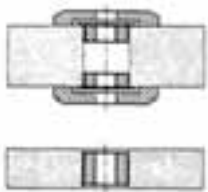
A distinction should be made between the following wheel flange types for central bores:

- Recessed wheel flange
- Straight wheel flanges for portable grinding machines
- Special flanges
- Stepped flanges
- Locating flanges
- 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.

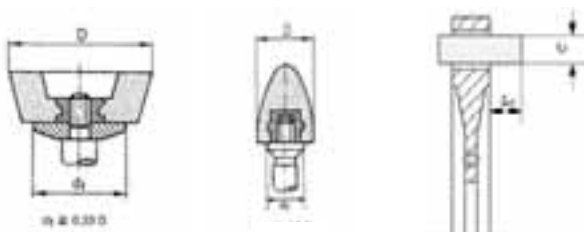
Only wheel flanges that have the same external diameter and the same shape on the contact side may be used. They must be recessed so that only a ring-shaped area of the wheel flange is on the surface.



Example of the correct way to use reducing rings

### 5.2. CLAMPING USING EMBEDDED FIXING ELEMENTS

The grinding wheels are fixed using embedded fixing elements on the grinding machine.



Figure, left: Clamping of taper cup wheels with a thread insert

Figure, centre: Clamping of a grinding cone, shape 16, with a thread insert

Figure, right: Clamping of grinding segments in clamping heads  $L_f = 1.5 C$

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.

### 5.3. CLAMPING OF GRINDING WHEELS ON SUPPORT PLATES

The grinding wheels are either cemented or fixed with inserted nuts.

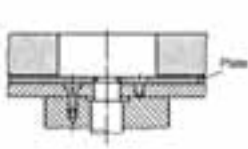


Figure 1

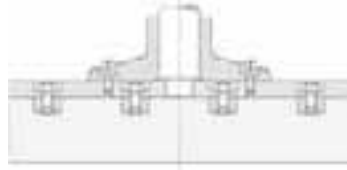


Figure 2

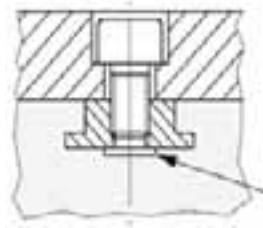


Figure 3

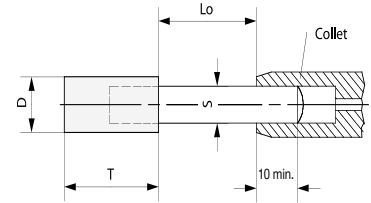


Figure 4

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

### 5.4. 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.

## Test Run prior to Start-Up

Every standard grinding wheel (D greater than 80 mm) must undergo a test run at maximum operating speed before being used for the first time and after every re-mounting.

The duration of a test run for grinding wheels is:

- on portable grinding machines 1/2 minute
- on all other grinding machines 1 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 persons are at risk from flying particles off grinding wheels or workpieces must only be carried out using eye protection (protective goggles) 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 persons
- Checking of the functionality of the machine guard
- Test run of grinding wheels prior to grinding work
- Personal safety



Example of the use of protective tape on ceramic wheels



## DOS & 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 burr-free.
- 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.





## **CUTTING**

- STRAIGHT GRINDER RESIN
- ANGLE GRINDER RESIN
- PETROL CUTTING GRINDER RESIN
- STATIONARY RESIN

- ANGLE GRINDER DIAMOND
- PETROL CUTTING GRINDER DIAMOND



## STRAIGHT GRINDER

PRODUCTS	QUALITY LINES	AREAS OF APPLICATION	TARGET GROUPS
Resin-bonded cut-off wheels	Premium ★★★	INOX, steel	Steel construction, terotechnology, shipbuilding, building construction, vehicle repair workshops, heating, plumbing and air-conditioning technology



## ANGLE GRINDER

PRODUCTS	QUALITY LINES	AREAS OF APPLICATION	TARGET GROUPS
Diamond dry-cutting saws	Premium ★★★	Concrete, hard stone, tiles/marble, asphalt and abrasive materials, for universal use	Building construction, road and garden construction, interior finishing, tilers, stonemasons
	Standard ★★		
	Basic ★		
Resin-bonded cut-off wheels	Premium ★★★	Steel, rust and acid resistant steels, aluminium, brass, bronze, copper, zinc, cast materials, plastics	Steel construction, terotechnology, shipbuilding, building construction, vehicle repair workshops, heating, plumbing and air-conditioning technology
	Standard ★★		
	Basic ★		



## PETROL CUTTING GRINDER

PRODUCTS	QUALITY LINES	AREAS OF APPLICATION	TARGET GROUPS
Diamond dry-cutting saws	Premium ★★★	Concrete, hard stone, tiles/marble, asphalt and abrasive materials, for universal use	Building construction, road and garden construction, interior finishing, tilers, stonemasons
	Standard ★★		
	Basic ★		
Resin-bonded cut-off wheels	Premium ★★★	Steel, rust and acid resistant steels, aluminium, brass, bronze, copper, zinc, cast materials, plastics	Steel construction, terotechnology, shipbuilding, building construction, vehicle repair workshops, heating, plumbing and air-conditioning technology
	Standard ★★		
	Basic ★		



## STATIONARY CUT-OFF WHEELS

PRODUCTS	QUALITY LINES	AREAS OF APPLICATION	TARGET GROUPS
Resin-bonded cut-off wheels	Premium ★★★	Steel, rust-resistant and acid-resistant steels, aluminium, brass, bronze, copper, zinc, cast materials, plastics	Steel construction, terotechnology, shipbuilding, building construction, vehicle repair workshops, heating, plumbing and air-conditioning technology
	Standard ★★		
	Basic ★		

# APPLICATION TABLES

## CUT-OFF WHEELS

### PREMIUM ★★★

Specification	Material						
	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	Stone
TA60P-BFXA	◐	●	◐	◐		◐	
A60R-BFXA	◐	●	◐	◐		◐	
A46R-BFXA	◐	●	◐	◐		◐	
A30R-BFXA	◐	●					
A60S-BFXA	●		◐	◐		◐	
A46S-BFXA	●		◐	◐		◐	
A30S-BFXA	●						
A60Q-BFXA	●	●	◐	◐		◐	
A46Q-BFXA	●	●	◐	◐		◐	
A30Q-BFXA	●	●					
A46P4BF59A2			●	◐		◐	
A30P4BF59A2			●	◐			
ZA30R-BFXA	◐				●		
ZA30P-BFXA	◐				●		
C46S-BFXA			●	●		◐	●

### STANDARD ★★

Specification	Material						
	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	Stone
A60-BF INOX	◐	●	◐	◐		◐	
A46-BF INOX	◐	●	◐	◐		◐	
A30-BF INOX	◐	●					
A30-BF	●						
C30-BF							●

### BASIC ★

Specification	Material						
	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	Stone
A60-BF INOX	◐	●	◐	◐		◐	
A46-BF	●	●	◐	◐		◐	
A30-BF	●	●					
C30-BF							●

●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability



# APPLICATION TABLES

UP TO Ø 230 MM

PREMIUM ★★★



Material		FAST CUT	SILENT			FAST CUT			
Asphalt							◐		
Abrasive concrete	◐	◐	◐	◐	◐		●		
Concrete	●	●	●	●	●	◐			
Concrete roofing tiles	◐	◐	◐	◐	◐	●			
Hard concrete	●	●	●	●	●	◐			
Lightly reinforced concrete	●	●	●	●	●	◐			
Concrete blocks	●	●	●	●	●	●			
Pumice stone	◐	◐	◐	◐	◐	◐	●		
Floor pavement/plaster							●		
Soft fire-resistant bricks							●		
Gas concrete	◐	◐	◐	◐	◐	●			
Fibreglass reinforced plastic	●	●	●	●	●	●		●	
Gneiss	●	●	●	●	●	◐			
Granite	●	●	●	●	●	◐			
Hard sand-lime brick	●	●	●	●	●	●			
Soft sand-lime brick							◐		
Clinkers	●	●	●	●	●				◐
Marble								●	
Poroton	◐	◐	◐	◐	◐	◐			
Porphyry	●	●	●	●	●	◐			
Sandstone							●		
Slate	●	●	●	●	●	◐			
Slag concrete	●	●	●	●	●				
Clay bricks + slabs	●	●	●	●	●	●			
Washed-out concrete	●	●	●	●	●	◐			
Ceramic tiles									●
Porcelain stoneware									●





●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability.



# APPLICATION TABLES

UP TO Ø 230 MM

STANDARD ★★

Material				
		FAST CUT		FAST CUT
Asphalt				
Abrasive concrete	●		●	
Concrete	◐	●	◐	●
Concrete roofing tiles	◐	●	◐	
Hard concrete		●		●
Lightly reinforced concrete		◐		●
Concrete blocks	◐	●	◐	●
Pumice stone	◐		◐	
Floor pavement/plaster	◐		◐	
Soft fire-resistant bricks	◐		◐	
Gas concrete	◐	◐	◐	●
Fibreglass reinforced plastic		◐		
Gneiss		◐		◐
Granite		◐		◐
Hard sand-lime brick		◐		●
Soft sand-lime brick	◐	◐	◐	◐
Clinkers				◐
Marble				
Poroton	◐	◐	◐	
Porphyry				
Sandstone	◐		◐	
Slate				
Slag concrete				
Clay bricks + slabs	●	●	●	●
Washed-out concrete		●		●
Ceramic tiles				
Porcelain stoneware				

●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability



# APPLICATION TABLES

UP TO Ø 230 MM

## BASIC ★



Material		FAST CUT			
Asphalt					
Abrasive concrete					
Concrete					
Concrete roofing tiles					
Hard concrete					
Lightly reinforced concrete					
Concrete blocks					
Pumice stone					
Floor pavement/plaster					
Soft fire-resistant bricks					
Gas concrete					
Fibreglass reinforced plastic					
Gneiss					
Granite					
Hard sand-lime brick					
Soft sand-lime brick					
Clinkers					
Marble					
Poroton					
Porphyry					
Sandstone					
Slate					
Slag concrete					
Clay bricks + slabs					
Washed-out concrete					
Ceramic tiles					
Porcelain stoneware					

	Long service life combined with maximum cutting ability.
	Long service life and good cutting ability.





# APPLICATION TABLES

UP TO Ø 400 MM

PREMIUM ★★★



Material		FAST CUT			FAST CUT	2 in 1	
Asphalt					●	●	
Abrasive concrete	◐	◐	◐	◐		●	
Concrete	●	●	●	●		◐	
Concrete roofing tiles	◐	◐	◐	◐			
Hard concrete	●	●	●	●			
Lightly reinforced concrete	●	●	●	●			
Concrete blocks	●	●	●	●		◐	
Pumice stone	◐	◐	◐	◐		◐	
Floor pavement/plaster					●	●	
Soft fire-resistant bricks					●	◐	
Gas concrete	◐	◐	◐	◐			
Fibreglass reinforced plastic	●	●	●	●			●
Gneiss	●	●	●	●			
Granite	●	●	●	●			
Hard sand-lime brick	●	●	●	●			
Soft sand-lime brick	◐					◐	
Clinkers	●	●	●	●			
Marble							●
Poroton	◐	◐	◐	◐		◐	
Porphyry	●	●	●	●			
Sandstone						◐	
Slate	●	●	●	●			
Slag concrete	●	●	●	●		◐	
Clay bricks + slabs	●	●	●	●			
Washed-out concrete	●	●	●	●			
Ceramic tiles							
Porcelain stoneware							

●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability



# APPLICATION TABLES

UP TO Ø 400 MM

## STANDARD \*\*



Material		FAST CUT		LONG LIFE	
Asphalt					●
Abrasive concrete	●		●	◐	
Concrete	◐	●	◐	●	
Concrete roofing tiles	◐	●	◐	●	
Hard concrete		●		◐	
Lightly reinforced concrete		◐		◐	
Concrete blocks	◐	●	◐	●	
Pumice stone	◐		◐	◐	◐
Floor pavement/plaster	◐		◐	◐	●
Soft fire-resistant bricks	◐		◐	◐	●
Gas concrete	◐	◐	◐		
Fibreglass reinforced plastic		◐			
Gneiss		◐			
Granite		◐			
Hard sand-lime brick		◐			
Soft sand-lime brick	◐	◐	◐	◐	
Clinkers					
Marble					
Poroton	◐	◐	◐	◐	
Porphyry				◐	
Sandstone	◐		◐		
Slate					
Slag concrete					
Clay bricks + slabs	●		●	◐	
Washed-out concrete		●		●	
Ceramic tiles					
Porcelain stoneware					




●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability.



## APPLICATION TABLES

UP TO Ø 400 MM

### BASIC ★

Material				
		FAST CUT		
Asphalt				●
Abrasive concrete	◐		◐	
Concrete	●	◐	●	
Concrete roofing tiles	◐	◐	◐	
Hard concrete	◐	◐	◐	
Lightly reinforced concrete	◐	◐	◐	
Concrete blocks	●	◐	●	
Pumice stone				●
Floor pavement/plaster				●
Soft fire-resistant bricks				◐
Gas concrete	◐	◐	◐	◐
Fibreglass reinforced plastic	◐	◐	◐	
Gneiss				
Granite				
Hard sand-lime brick		◐		
Soft sand-lime brick	◐	◐	◐	
Clinkers				
Marble				
Poroton	●	◐	●	◐
Porphyry				
Sandstone				◐
Slate		◐		
Slag concrete				◐
Clay bricks + slabs	◐	◐	◐	
Washed-out concrete	◐	◐	◐	
Ceramic tiles				
Porcelain stoneware				

●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability





## **STRAIGHT GRINDER CUTTING**

Resin	46
Accessories	47



## CUTTING | RESIN



The innovative and economic advantages of our ultra-thin cut-off wheels can be seen especially when cutting thin metal sheets and thin-walled profiles. These are shown particularly by maximum performance, lifetime, clean cutting areas, the lowest burr formation and the low thermal load on the workpiece. Cut-off wheels in standard widths offer not only the most economical solution but also ultimate safety due to the maximum lifetime and stability. For cutting solid materials, pipes, and profiles made from steel and stainless steel, including cast iron. A thorough colour coding system enables you to always find the right product for your material or application.



**PREMIUM**★★★

**Construction/materials able to be machined:** long life design.  
High-performance cut-off wheel for cutting metal sheets, profiles, pipes and rods.

**Details:** Grit size 100 for particularly low-burr cutting.  
Use guards from Ø 80 mm.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	699330	41	63x1x10	A100-BFM	100	
	704198	41	63x2x10	A100-BFM	100	
	325212	41	75x1x10	A100-BFM	100	



**PREMIUM**★★★



**Construction/materials able to be machined:** aggressive design in R grade.  
High performance cut-off wheel for cutting.

**Details:** for fast, convenient and low-burr cutting with maximum wheel life.  
Use guards from Ø 80 mm.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41	323978	41	50x1x10	A60R-BFXA	100	
	323970	41	50x2x6	A46R-BFXA	100	
	299269	41	63x1x10	A60R-BFXA	100	
	324404	41	63x1.6x10	A46R-BFXA	100	
	711834	41	63x1.6x10	A60R-BFXA	100	
	324402	41	63x2x6	A46R-BFXA	100	
	324303	41	63x2x10	A46R-BFXA	100	
	325228	41	75x1x8	A60R-BFXA	100	
	299270	41	75x1x10	A60R-BFXA	100	
	325222	41	75x1.6x10	A46R-BFXA	100	
	327350	41	75x1.6x10	A60R-BFXA	100	
	325224	41	75x2x8	A46R-BFXA	100	
	325219	41	75x2x10	A46R-BFXA	100	

**For mounting small cut-off wheels on straight grinders. Take note of max. permissible speed**

**Details:**  
S = diameter of mandrel  
H = bore attachment  
M = thread

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  100      SS	803404	100SS	S6/H10/M10	SS171	1	
	846441	100SS	S10/H10/M10	SS173	1	
	846442	100SS	S6/H6/M6	SS174	1	







## ANGLE GRINDER CUTTING

PREMIUM resin	50
STANDARD resin	55
BASIC resin	57

**TYROLIT**



## CUTTING | RESIN




The innovative and economic advantages of our ultra-thin cut-off wheels can be seen especially when cutting thin metal sheets and thin-walled profiles. These are shown particularly by maximum performance, lifetime, clean cutting areas, the lowest burr formation and the low thermal load on the workpiece. Cut-off wheels in standard widths offer not only the most economical solution but also ultimate safety due to the maximum lifetime and stability. For cutting solid materials, pipes, and profiles made from steel and stainless steel, including cast iron. A thorough colour coding system enables you to always find the right product for your material or application.



**PREMIUM**★★★

**Construction/materials able to be machined:** Long life design in S grade. High-performance cut-off wheel for cutting metal sheets, profiles, pipes, rods and solid materials.

**Details:** 1.0 – 1.9mm cut-off wheels for fast, convenient and low-burr cutting with maximum wheel life. 2.5 and 3.0mm cut-off wheels for maximum service life and stability.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
   41                      42	913181	41	115x1x22.23	A60S-BFXA	25	Long life
	867822	41	115x1.6x22.23	A46S-BFXA	25	Long life
	637066	41	115x2x22.23	A30S-BFXA	25	Long life
	913182	41	125x1x22.23	A60S-BFXA	25	Long life
	836979	41	125x1.6x22.23	A46S-BFXA	25	Long life
	637067	41	125x2x22.23	A30S-BFXA	25	Long life
	637068	41	150x2x22.23	A30S-BFXA	25	Long life
	183114	41	178x1.6x22.23	A46S-BFXA	25	Long life
	785339	41	178x2x22.23	A30S-BFXA	25	Long life
	637069	41	178x2.5x22.23	A30S-BFXA	25	Long life
	183113	41	230x1.9x22.23	A46S-BFXA	25	Long life
	785333	41	230x2x22.23	A30S-BFXA	25	Long life
	637070	41	230x2.5x22.23	A30S-BFXA	25	Long life
	637071	42	115x2.5x22.23	A30S-BFXA	25	Long life
	637072	42	125x2.5x22.23	A30S-BFXA	25	Long life
	637073	42	178x3x22.23	A30S-BFXA	25	Long life
	637074	42	230x3x22.23	A30S-BFXA	25	Long life



**PREMIUM★★★**

**Construction/materials able to be machined:** soft, aggressive design in Q grade. High-performance cut-off wheel for cutting metal sheets, profiles, pipes, rods and solid material.

**Details:** 1.0 and 1.6mm cut-off wheels for fast, convenient and low-burr cutting with maximum wheel life. 2.0 – 3.5mm cut-off wheels for maximum service life and stability.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	77965	41	115x1x22.23	A60Q-BFXA	25	2in1
	77963	41	115x1.6x22.23	A46Q-BFXA	25	2in1
	872338	41	115x2.5x22.23	A30Q-BFXA	25	2in1
	77966	41	125x1x22.23	A60Q-BFXA	25	2in1
	77964	41	125x1.6x22.23	A46Q-BFXA	25	2in1
	872339	41	125x2.5x22.23	A30Q-BFXA	25	2in1
	920351	41	150x1.6x22.23	A46Q-BFXA	25	2in1
	872340	41	150x2.5x22.23	A30Q-BFXA	25	2in1
	920352	41	178x1.6x22.23	A46Q-BFXA	25	2in1
	872341	41	178x2.5x22.23	A30Q-BFXA	25	2in1
	872342	41	178x3x22.23	A30Q-BFXA	25	2in1
	920353	41	230x1.9x22.23	A46Q-BFXA	25	2in1
	872343	41	230x2.5x22.23	A30Q-BFXA	25	2in1
	872344	41	230x3x22.23	A30Q-BFXA	25	2in1
		87215	42	115x1x22.23	A60Q-BFXA	25
872346		42	115x2.5x22.23	A30Q-BFXA	25	2in1
912603		42	115x3x22.23	A30Q-BFXA	25	2in1
87216		42	125x1x22.23	A60Q-BFXA	25	2in1
872347		42	125x2.5x22.23	A30Q-BFXA	25	2in1
872348		42	125x3x22.23	A30Q-BFXA	25	2in1
907800		42	125x3.5x22.23	A30Q-BFXA	25	2in1
872349		42	150x3x22.23	A30Q-BFXA	25	2in1
872350		42	178x3x22.23	A30Q-BFXA	25	2in1
121878		42	230x2.5x22.23	A30Q-BFXA	25	2in1
872351		42	230x3x22.23	A30Q-BFXA	25	2in1
872352		42	230x3.5x22.23	A30Q-BFXA	25	2in1
170795		42BN	100x1.2x22.23	A46Q-BFXA	25	2in1



41



42



42BN



**PREMIUM**★★★

**Construction/materials able to be machined:** Long life design in R and P grades. High-performance cut-off wheel for cutting thin-walled metal sheets, profiles, pipes, rods and solid material.

**Details:** 1.0 and 1.6mm cut-off wheels for fast, convenient and low-burr cutting with maximum wheel life. 2.0 – 3.5mm cut-off wheels for maximum service life and stability.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	610935	41	115x0.75x22.23	A60R-BFXA	25	
	41502	41	115x1x22.23	A60R-BFXA	25	
	384142*	41	115x1.2x22.23	TA60P-BFXA	25	
	35952	41	115x1.6x22.23	A46R-BFXA	25	
	41489	41	115x2x22.23	A30R-BFXA	25	
	41491	41	115x2.5x22.23	A30R-BFXA	25	
	610937	41	125x0.75x22.23	A60R-BFXA	25	
	41503	41	125x1x22.23	A60R-BFXA	25	
	384143*	41	125x1.2x22.23	TA60P-BFXA	25	
	35954	41	125x1.6x22.23	A46R-BFXA	25	
	41492	41	125x2x22.23	A30R-BFXA	25	
	41493	41	125x2.5x22.23	A30R-BFXA	25	
	41494	41	125x3x22.23	A30R-BFXA	25	
	401205*	41	150x1.2x22.23	TA60P-BFXA	25	
	41495	41	150x2x22.23	A30R-BFXA	25	
	291584	41	178x1.6x22.23	A46R-BFXA	25	
	41499	41	178x2x22.23	A30R-BFXA	25	
	35946	41	178x2.5x22.23	A30R-BFXA	25	
	41500	41	230x2x22.23	A30R-BFXA	25	
	35950	41	230x2.5x22.23	A30R-BFXA	25	
41501	41	230x3x22.23	A30R-BFXA	25		
	282149	42	115x0.75x22.23	A60R-BFXA	25	
	472863*	42	115x1.2x22.23	TA60P-BFXA	25	
	35937	42	115x2x22.23	A30R-BFXA	25	
	41504	42	115x2.5x22.23	A30R-BFXA	25	
	282150	42	125x0.75x22.23	A60R-BFXA	25	
	458870*	42	125x1.2x22.23	TA60P-BFXA	25	
	35944	42	125x2x22.23	A30R-BFXA	25	
	41505	42	125x2.5x22.23	A30R-BFXA	25	
	41506	42	125x3x22.23	A30R-BFXA	25	
	458874*	42	125x3.5x22.23	TA30P-BFXA	25	
	458871	42	150x1.2x22.23	TA60P-BFXA	25	
	41507	42	150x2x22.23	A30R-BFXA	25	
	41508	42	150x3x22.23	A30R-BFXA	25	
	458876*	42	150x3.5x22.23	TA30P-BFXA	25	
	291588	42	178x1.6x22.23	A46R-BFXA	25	
	41509	42	178x2.5x22.23	A30R-BFXA	25	
	41510	42	178x3x22.23	A30R-BFXA	25	
	458878*	42	178x3.5x22.23	TA30P-BFXA	25	
	41511	42	230x2.5x22.23	A30R-BFXA	25	
	41513	42	230x3.5x22.23	A30R-BFXA	25	
170797	42BN	100x1.2x22.23	A46R-BFXA	25		



\* on request – no stock type



**PREMIUM**★★★

**Construction/materials able to be machined:** High-performance cut-off wheel in S grade for cutting metal sheets, profiles, pipes and rods (small cross-section).

**Details:** 1.0 and 1.6mm cut-off wheels for fast, convenient and low-burr cutting.




	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41	337383	41	115x1x22.23	C46S-BFXA	25	2in1
	342978	41	125x1x22.23	C46S-BFXA	25	2in1
	320335	41	178x1.6x22.23	C46S-BFXA	25	2in1



**PREMIUM**★★★

**Construction/materials able to be machined:** High-performance cut-off wheel in N grade for cutting metal sheets, profiles, pipes and solid material.

**Details:** 2.5 – 3.0mm cut-off wheels for maximum service life and stability.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
  41	840247	41	115x1.0x22.23	A60N-BFXA	25		
	623553	41	115x1.6x22.23	A46N-BFXA	25		
	257533	41	125x1.0x22.23	A60N-BFXA	25		
	739982	41	125x1.6x22.23	A46N-BFXA	25		
	39624	41	115x2.5x22.23	A30N-BFXA	25		
	39321	41	125x2.5x22.23	A30N-BFXA	25		
	62726	41	150x2.5x22.23	A30N-BFXA	25		
	525355	41	178x2.0x22.23	A30N-BFXA	25		
	32141	41	178x2.5x22.23	A30N-BFXA	25		
	32142	41	230x2.5x22.23	A30N-BFXA	25		
	 42	82646	42	115x2.5x22.23	A30N-BFXA	25	
		366888	42	125x2.5x22.23	A30N-BFXA	25	
		468182	42	150x2.5x22.23	A30N-BFXA	25	
		5485	42	178x3.0x22.23	A30N-BFXA	25	
651544		42	178x3.5x22.23	A30N-BFXA	25		
30741	42	230x3.0x22.23	A30N-BFXA	25			



**PREMIUM**★★★

**Construction/materials able to be machined:** High-performance cut-off wheel in R grade for cutting all cast materials, in P grade free from iron, sulphur or chlorine ( $\leq 0.1\%$ ) aggressive and good cutting ability.

**Details:** 2.5 and 3.5mm for maximum service life and stability.


	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  42	929885	42	115x2.5x22.23	ZA30R-BFXA	25	Focur Extra
	929886	42	125x2.5x22.23	ZA30R-BFXA	25	Focur Extra
	904019	42	178x3.5x22.23	ZA30P-BFXA	25	Focur Extra
	929887	42	178x3.5x22.23	ZA30R-BFXA	25	Focur Extra
	855818	42	230x3.5x22.23	ZA30P-BFXA	25	Focur Extra
	929889	42	230x3.5x22.23	ZA30R-BFXA	25	Focur Extra



**STANDARD** ★ ★

**Construction/materials able to be machined:** Powerful cut-off wheel for cutting solid material.

**Details:** 2.5 and 3.0mm cut-off wheels for long service life, suitable for universal use.


	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	367565	41	115x2.5x22.23	A30-BF	25		
	367569	41	125x2.5x22.23	A30-BF	25		
	367574	41	150x2.5x22.23	A30-BF	25		
	367578	41	178x3x22.23	A30-BF	25		
	367583	41	230x3x22.23	A30-BF	25		
	368010	42	100x2.5x16	A30-BF	25		
	367781	42	115x2.5x22.23	A30-BF	25		
	367785	42	115x3x22.23	A30-BF	25		
	367786	42	125x2.5x22.23	A30-BF	25		
	367789	42	125x3x22.23	A30-BF	25		
	367800	42	178x3x22.23	A30-BF	25		
	367803	42	230x3x22.23	A30-BF	25		
	41						
	42						



**STANDARD** ★ ★

**Construction/materials able to be machined:** Powerful cut-off wheel for cutting thin-walled metal sheets, profiles, pipes and solid material.

**Details:** 1.0 – 1.9mm cut-off wheels for fast, convenient and low-burr cutting. 2.0 and 2.5mm cut-off wheels for long service life, suitable for universal use.


	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	367562	41	115x1x22.23	A60-BFINOX	25	
	367561	41	115x1.6x22.23	A46-BFINOX	25	
	367568	41	125x1x22.23	A60-BFINOX	25	
	367567	41	125x1.6x22.23	A46-BFINOX	25	
	367776	41	150x2x22.23	A30-BFINOX	25	
	367575	41	150x2.5x22.23	A30-BFINOX	25	
	367576	41	178x1.6x22.23	A46-BFINOX	25	
	367777	41	178x2x22.23	A30-BFINOX	25	
	367577	41	178x2.5x22.23	A30-BFINOX	25	
	367581	41	230x1.9x22.23	A46-BFINOX	25	
	367780	41	230x2x22.23	A30-BFINOX	25	
	367582	41	230x2.5x22.23	A30-BFINOX	25	
	368017	42	100x2x16	A30-BFINOX	25	
	367783	42	115x2x22.23	A30-BFINOX	25	
	367788	42	125x2x22.23	A30-BFINOX	25	
367791	42	178x2.5x22.23	A30-BFINOX	25		
367802	42	230x2.5x22.23	A30-BFINOX	25		
41						
42						



**STANDARD** ★ ★

**Construction/materials able to be machined:** Powerful cut-off wheel for cutting solid material.

**Details:** 2.5 and 3.0mm cut-off wheels for long service life, suitable for universal use.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	367566	41	115x2.5x22.23	C30-BF	25		
	367572	41	125x2.5x22.23	C30-BF	25		
	367580	41	178x3x22.23	C30-BF	25		
	367585	41	230x3x22.23	C30-BF	25		
	367782	42	115x2.5x22.23	C30-BF	25		
	367787	42	125x2.5x22.23	C30-BF	25		
	367801	42	178x3x22.23	C30-BF	25		
	367804	42	230x3x22.23	C30-BF	25		



41






42





**Construction/materials able to be machined:** Universal cut-off wheel for cutting metal sheets, profiles, pipes, rods and solid material.



**Details:** 1.6mm cut-off wheels for fast, convenient and low-burr cutting. 2.5 – 3.0mm cut-off wheels for long service life, suitable for universal use.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41  42	222996	41	100x2.5x16	A30-BF	25	2in1
	222899	41	115x1.6x22.23	A46-BF	25	2in1
	222997	41	115x2.5x22.23	A30-BF	25	2in1
	222900	41	125x1.6x22.23	A46-BF	25	2in1
	222998	41	125x2.5x22.23	A30-BF	25	2in1
	222999	41	150x2.5x22.23	A30-BF	25	2in1
	633506	41	178x1.6x22.23	A46-BF	25	2in1
	223000	41	178x3x22.23	A30-BF	25	2in1
	633509	41	230x1.9x22.23	A46-BF	25	2in1
	291949	41	230x2x22.23	A30-BF	25	2in1
	223002	41	230x3x22.23	A30-BF	25	2in1
	223020	42	100x2.5x16	A30-BF	25	2in1
	223021	42	115x2.5x22.23	A30-BF	25	2in1
	223022	42	125x2.5x22.23	A30-BF	25	2in1
	291948	42	125x3x22.23	A30-BF	25	2in1
	223023	42	178x3x22.23	A30-BF	25	2in1
	222044	42	230x3x22.23	A30-BF	25	2in1
	291947	42	230x3.5x22.23	A30-BF	25	2in1



**Construction/materials able to be machined:** Universal cut-off wheel for cutting thin-walled metal sheets, profiles, pipes and rods (small cross-section).


**Details:** 1.0mm cut-off wheels for fast, convenient and low-burr cutting.


	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41	222893	41	100x1x16	A60-BFINOX	25	
	222894	41	115x1x22.23	A60-BFINOX	25	
	222896	41	125x1x22.23	A60-BFINOX	25	




**Construction/materials able to be machined:** Universal cut-off wheel for cutting solid material.

**Details:** 2.5 and 3.0mm cut-off wheels for long service life, suitable for universal use.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	223010	41	100x2.5x16	C30-BF	25		
	223012	41	115x2.5x22.23	C30-BF	25		
	223015	41	125x2.5x22.23	C30-BF	25		
	223016	41	150x2.5x22.23	C30-BF	25		
	222042	41	178x3x22.23	C30-BF	25		
	223019	41	230x3x22.23	C30-BF	25		
	223024	42	100x2.5x16	C30-BF	25		
	223025	42	115x2.5x22.23	C30-BF	25		
	223027	42	125x2.5x22.23	C30-BF	25		
	223029	42	178x3x22.23	C30-BF	25		
	223031	42	230x3x22.23	C30-BF	25		




41



42

**Construction/materials able to be machined:** Special accessory made from tempered tool steel for angle grinders with M14 drive screw; accessory for ultra-thin cut-off wheels in straight design (shape 41) Ø 178 and Ø 230 mm;

Increases lateral stability, enables even more precise wheel guidance, improves section performance.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	614644	100SFL	76 mm		1	



## **PETROL SAW CUTTING**

— PREMIUM resin	60
— STANDARD resin	62
— BASIC resin	64

**TYROLIT**



## CUTTING | RESIN

For the various cutting jobs encountered in industry and handicrafts, TYROLIT always provides the right tools for both portable and stationary machines.


Whether for use on steel, stainless steel (INOX), stone or slate, the clear colour coding system and the application tips always enable you to find the right product for your application and the material to be cut. TYROLIT guarantees optimum cutting results and the ultimate safety in all situations.



### PREMIUM ★★★

**Construction/materials able to be machined:** Special tool for cutting large cross-sections.

**Details:** For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. (≥ 5KW)

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	255451	41H	300x3.5x20	A30O-BF02A2	10	Easy cut
	75020	41H	300x3.5x20	A30P5BF71A2	10	
	307876	41H	300x3.5x20	A30Q-BF02A2	10	Easy cut
	181071	41H	300x3.5x22.2	A30O-BF02A2	10	Easy cut
	141512	41H	300x3.5x22.2	A30Q-BF02A2	10	Easy cut
	83618	41H	300x3.5x22.2	A30Q4BF71A2	10	
	514745	41H	300x3.5x22.2	M85A30P4BF91A2	10	
	363478	41H	300x3.5x25.4	A30O-BF02A2	10	Easy cut
	351693	41H	300x3.5x30	A30N-BF02A2	10	Easy cut
	366794	41H	300x3.5x30	A30Q-BF02A2	10	Easy cut
	419688	41H	350x4x30	A30N-BF02A2	10	Easy cut
	623097	41H	400x4.5x40	MA30Q4BF97M2	10	



41H



**PREMIUM★★★**

**Construction/materials able to be machined:** long life design in Q grade. High-performance cut-off wheels for cutting profiles, solid material and large cross-sections.

**Details:** Special specification for cutting rails, easy cutting ability and optimised lifetime. For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. ( $\geq 5KW$ )



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41H	665900	41H	300x3.2x22.2	A24Q-BF	10	
	676423	41H	300x3.5x22.2	A24Q-BF100	10	
	671093	41H	350x3.8x22.2	A24Q-BF100	10	
	671108	41H	350x3.8x25.4	A24Q-BF100	10	
	671090	41H	400x4.3x22.2	A24Q-BF100	10	
	676428	41H	400x4.3x25.4	A24Q-BF100	10	



**PREMIUM★★★**

**Construction/materials able to be machined:** Powerful cut-off wheel with 2 external reinforcements for cutting solid material and large cross-sections.

**Details:** For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. ( $\geq 5KW$ )



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41H	255450	41H	300x3.5x20	C24O-BF02A2	10	
	183592	41H	300x3.5x22.2	C24O-BF02A2	10	
	9292	41H	300x4x20	C30P4BF71A2	10	
	410277	41H	300x4x22.2	1C24R6BF38A2	10	
	732088	41H	300x4x25.4	C247O4BF33A2	10	
	668570	41H	350x4x20	C24O-BF02A2	10	
	548170	41H	350x4x25.4	C24O-BF02A2	10	



**STANDARD ★ ★**

**Construction/materials able to be machined:** Powerful cut-off wheel with 2 external reinforcements for cutting profiles, solid material and large cross-sections.

**Details:** For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. (≥ 5KW)



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41H	384753	41H	300x3.5x20	A30-BF	10	
	384754	41H	300x3.5x22.2	A30-BF	10	
	384755	41H	300x3.5x25.4	A30-BF	10	
	384756	41H	350x4x20	A30-BF100	10	
	384757	41H	350x4x22.2	A30-BF100	10	
	384758	41H	350x4x25.4	A30-BF100	10	
	386002	41H	400x4.5x20	A30-BF100	10	



**STANDARD ★ ★**

**Construction/materials able to be machined:** Powerful cut-off wheel with 2 external reinforcements for cutting profiles, solid material and large cross-sections.



**Details:** Special specification for cutting rails with easy cutting ability. For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. (≥ 5KW)

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41H	75937	41H	300x3.5x20	A30-BFRAIL	10	
	75938	41H	300x3.5x22.2	A30-BFRAIL	10	
	75939	41H	300x3.5x25.4	A30-BFRAIL	10	
	75934	41H	350x4x20	A30-BFRAIL100	10	
	75935	41H	350x4x22.2	A30-BFRAIL100	10	
	75936	41H	350x4x25.4	A30-BFRAIL100	10	


**STANDARD ★ ★**

**Construction/materials able to be machined:** Powerful cut-off wheel with 2 external reinforcements for cutting solid material and large cross-sections.

**Details:** For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. (≥ 5KW)



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	384759	41H	300x3.5x20	C30-BF	10	
	384760	41H	300x3.5x22.2	C30-BF	10	
	384761	41H	300x3.5x25.4	C30-BF	10	
	384762	41H	350x4x20	C30-BF100	10	
	384763	41H	350x4x22.2	C30-BF100	10	
	384764	41H	350x4x25.4	C30-BF100	10	
	386001	41H	400x4.5x20	C30-BF100	10	



**BASIC★**

**Construction/materials able to be machined:** Universally used cut-off wheel with 2 external reinforcements for cutting profiles, solid material and large cross-sections.

**Details:** For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. (≥ 5KW)



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41H	223035	41H	300x3.5x20	A30-BF	10	
	223037	41H	300x3.5x22.23	A30-BF	10	
	223039	41H	300x3.5x25.4	A30-BF	10	
	223040	41H	300x3.5x32	A30-BF	10	
	223042	41H	350x4x20	A30-BF100	10	
	223043	41H	350x4x22.23	A30-BF100	10	
	222045	41H	350x4x25.4	A30-BF100	10	



**BASIC★**

**Construction/materials able to be machined:** Universally used cut-off wheel with 2 external reinforcements for cutting solid material and large cross-sections.

**Details:** For use on portable cut-off machines with electric motors or petrol engines (off-hand and guided off-hand applications) or on powerful stationary machines. (≥ 5KW)

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41H	223129	41H	300x3.5x20	C30-BF	10	
	223131	41H	300x3.5x22.23	C30-BF	10	
	223132	41H	300x3.5x25.4	C30-BF	10	
	223134	41H	350x4x20	C30-BF100	10	
	223135	41H	350x4x22.23	C30-BF100	10	
	223136	41H	350x4x25.4	C30-BF100	10	





## STATIONARY CUT-OFF GRINDING

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**CUTTING | RESIN**

For the various cutting jobs encountered in industry and handicrafts, TYROLIT always provides the right tools for both portable and stationary machines.

Whether for use on steel, stainless steel (INOX), stone or slate, the clear colour coding system and the application tips always enable you to find the right product for your application and the material to be cut. TYROLIT guarantees optimum cutting results and the ultimate safety in all situations.



**PREMIUM ★★★**

**Construction/materials able to be machined:** High-performance cut-off wheels for cutting profiles, solid material and large cross-sections.


**Details:** For use on stationary machines in chop cut.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	779426	41	300x2.5x25.4	A36N4BF71A2	10	
	779428	41	350x2.5x25.4	A36N4BF71A2	10	
	641977	41	300x3x22.2	A30P4BF71M100	10	
	630117	41	300x3.5x22.2	A30P4BF71M100	10	
	636399	41	300x3.5x25.4	A30P4BF71M100	10	
	630116	41	300x3.5x32	A30P4BF71M100	10	
	598487	41	300x3.2x22.2	A36N5BF71M	10	
	780935	41	350x3.5x25.4	A36N5BF71M	10	
	780938	41	400x3.5x25.4	A36N5BF71M	10	
	643371	41	300x3.5x25.4	A30N-BF02M	10	
	408229	41	350x3.5x25.4	A30N-BF02M	10	
	633286	41	350x4x25.4	A30N-BF02M	10	
	639076	41	400x4x25.4	A30N-BF02M	10	
	396678	41	400x4x40	A30N-BF02M	10	
	140022	41	300x3.5x30	A30Q-BF02M	10	
	151301	41	300x3.5x32	A30Q-BF02M	10	
	196324	41	400x4x32	A30Q-BF02M	10	
	136777	41	400x4x40	A30Q-BF02M	10	
	615549	41	350x2.5x25.4	A46N4BF71M	10	
	309469	41	350x3.5x25.4	A24P-BF02M	10	
	272894	41	400x4x40	A24P-BF02M	10	
	84363	41	350x3.5x25.4	A30O4BF71M	10	
	37348	41	400x4x25.4	A24Q4BF71M	10	
	722981	41	500x5x25.4	A24Q4BF71M	10	
	829562	41	400x4x51	A30N4BF71A2100	10	
	630537	41	400x4x51	A30P5BF71M100	10	
	514338	41	500x5.5x40	A24O4BF71M100	10	



**Construction/materials able to be machined:** Special tool for cutting profiles, solid material and large cross-sections with high cutting ability and long service life.


**Details:** For use on stationary machines in chop cut.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	647224	41	250x2.5x25.4	A24Q4-BF97A2	10	also suitable for steel	
	559743	41	300x2.5x25.4	A46N4BF68M	10		
	66490	41	300x3x25.4	A24O-BFXM	10		
	105743	41	300x3x40	A24O-BFXM	10		
	647229	41	300x3.5x32	A24Q4-BF97M	10	also suitable for steel	
	519232	41	350x2.5x25.4	A46N4BF68M	10		
	66491	41	350x3.5x25.4	A24O-BFXM	10		
	94110	41	350x3.5x32	A24O-BFXM	10		
	647216	41	350x3.5x40	A24Q4-BF97M	10	also suitable for steel	
	538503	41	400x2.5x25.4	A46N4BF68M	10		
	551616	41	400x3x25.4	A46N4BF68M	10		
	139550	41	400x4x40	A24O-BFXM	10		
	66493	41	400x4x40	A24O-BFXM	10		
	647218	41	400x4x40	A24Q4-BF97M	10	also suitable for steel	
	460744	41	500x5x40	A24P4-BF97M	10	also suitable for steel	
	793077	41	500x5.5x25.4	A241P4-BF98M	10	also suitable for steel	
	647232	41	600x6x60	A24O4-BF97M2	10	also suitable for steel	
		647684	42	400x5x60	A24Q4-BF97M	10	also suitable for steel
		647389	42	500x6x60	A24P4-BF97M	10	also suitable for steel
	647377	42	600x7x60	A24O4-BF97M2	10	also suitable for steel	



**Construction/materials able to be machined:** High-performance cut-off wheels for cutting profiles and solid material.

**Details:** For use on stationary machines in chop cut.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	58157	41	300x3.5x25.4	A30P4BF59M	10	
	309471	41	350x3.5x25.4	A30O4BF59M	10	
	800035	41	400x4x40	A30O4BF59M	10	
	56918	41	500x5x25.4	A30P4BF59M100	10	
	422374	41	500x5.5x40	A24N5BF59M2	10	







# CUTTING | STATIONARY



**PREMIUM**★★★

**Construction/materials able to be machined:** Special tool for cutting large cross-sections.

**Details:** For use on stationary machines in chop cut.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	1649	41	350x4x25.4	C20O4BF33M	10	
	28692	41	400x4x30	C20O4BF33M	10	
	639799	41	500x5x25.4	C20P4BF71M	10	



**STANDARD**★★

**Construction/materials able to be machined:** Powerful cut-off wheel with central reinforcement and rough side surfaces for low-burr cutting profiles, solid material and large cross-sections.


**Details:** For use on stationary machines in chop cut.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	390531	41	300x2.5x25.4	A46-BF	10	
	390532	41	350x2.8x25.4	A46-BF	10	



**Construction/materials able to be machined:** Cut-off wheel can be used universally with central reinforcement and rough side surfaces for low-burr cutting profiles, solid material and large cross-sections.

**Details:** For use on stationary machines in chop cut.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	223032	41	300x2.5x25.4	A46-BF	10	
	223033	41	350x2.8x25.4	A46-BF	10	







# CUTTING AND SAW SHARPENING



**PREMIUM ★★★**

**Construction/materials able to be machined:** High-performance cut-off wheels without reinforcement for stationary machines and automated saw sharpening machines.

**Details:** For use on stationary machines without reinforcement, so not suitable for hand held applications; workpiece must be fixed, do not expose to lateral load.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	591080*	1	150x3x20	A60O5B68	10	
	655529*	1	200x2x25	89A60M5B0	10	
	529392	41N	100x1x20	A80N4B2	10	
	202159	41N	100x1x20	A80N4B68	10	
	46633	41N	100x1x20	A80O4B43	10	
	722408	41N	100x1.5x20	A80N4B2	10	
	6673	41N	100x2x20	A80N4B2	10	
	88461*	41N	120x2x51	A60N4B2	10	
	282077	41N	120x2x51	A60N5B68	10	
	608409	41N	120x2x51	A60P4B68	10	
	1197	41N	120x2x51	A60O5B43	10	
	596269	41N	125x1x16	A60O5B68	10	
	25590	41N	125x1x20	A60O5B43	10	
	282079	41N	125x1x20	A60N5B68	10	
	35917	41N	125x1x20	A80O5B43	10	
	282080	41N	125x1x20	A80N5B68	10	
	282078	41N	125x1.5x20	A60N5B68	10	
	614686	41N	150x1x16	A60P5B68	10	
	282110	41N	150x1x20	A60N5B68	10	
	1211	41N	150x1x20	A60O5B43	10	
	591103	41N	150x1x20	A60O5B68	10	
	282111	41N	150x1x20	A80N5B68	10	
	13695	41N	150x1x20	A80O5B43	10	
	594360	41N	150x1x20	A80O5B68	10	
	39110	41N	150x1x32	A80O5B43	10	
	8833	41N	150x1.5x20	A60O5B43	10	
	282085	41N	150x1.5x20	A60N5B68	10	
	591104	41N	150x1.5x20	A60O5B68	10	
	282105	41N	150x1.5x20	A80N5B68	10	
	79957	41N	150x1.5x20	A80O5B43	10	
	662430	41N	150x1.5x32	A80N5B68	10	
	42808	41N	150x1.6x20	A60P4B43	10	
	227165	41N	150x1.6x32	A60O5B43	10	
	58158	41N	150x1.6x32	A60P4B43	10	
	15685	41N	150x2x20	A60O5B43	10	
	32023	41N	150x2x20	A60N4B2	10	
	282112	41N	150x2x20	A60N5B68	10	
	594362	41N	150x2x20	A60O5B68	10	
	594356	41N	150x2x30	A60O5B68	10	
	33436	41N	150x2x30	A60N4B2	10	
594357	41N	150x2x30	A60Q5B68	10		
648577	41N	150x2x32	A60O4B68	10		
80143	41N	150x2x32	A80N4B2	10		
223516*	41N	150x2.5x20	A60N4B2	10		
598971	41N	150x2.5x20	A60O5B68	10		
591680	41N	150x2.5x30	A60Q5B68	10		

\* also suitable for saw sharpening



**PREMIUM** ★★★

**Construction/materials able to be machined:** High-performance cut-off wheels without reinforcement for stationary machines and automated saw sharpening machines.

**Details:** For use on stationary machines without reinforcement, so not suitable for hand held applications; workpiece must be fixed, do not expose to lateral load.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
 	596520	41N	175x2x51	A60P4B68	10	
	607744	41N	175x3x51	A60P4B68	10	
	675283	41N	180x1x32	A60O5B43	10	
	493199	41N	180x1.6x32	A60O5B68	10	
	282113	41N	200x1.5x20	A60N5B68	10	
	1254	41N	200x1.5x20	A60O5B43	10	
	282114	41N	200x1.5x32	A60N5B68	10	
	6718	41N	200x1.5x32	A60O4B43	10	
	42809	41N	200x1.6x25.4	A60P4B43	10	
	230691	41N	200x1.6x32	A60M4B43	10	
	205822	41N	200x1.6x32	A60P4B43	10	
	6710*	41N	200x2x20	A60N4B2	10	
	96205*	41N	200x2x32	A60N4B2	10	
	62874	41N	200x2x32	A60N4B43	10	
	97442	41N	200x2.5x32	A60N4B2	10	
	12970*	41N	200x3x32	A60N4B2	10	
	863284	41N	200x3x32	A60P4B68	10	
	599666	41N	230x1.5x22.2	89A60N4B68	10	
	373520	41N	250x1.5x25.4	A60O5B71	10	
	834839	41N	250x1.6x32	89A80L4B43	10	
	549002	41N	300x2x31.75	89A80L4B43	10	
	60572	41N	300x2x32	A80O5B71	10	
	220394	41N	400x2.8x25.4	89A60L4B59	10	

\* also suitable for saw sharpening



# LABORATORY CUTTING-OFF



## PREMIUM★★★ LAB

**Construction/materials able to be machined:** High performance cut-off wheels without reinforcement for ferrous metals; \*\*\* laboratory cut-off wheel range offers the optimum cut-off wheel for a variety of materials, workpiece dimensions and hardnesses.

**Details:** For use on stationary machines without reinforcement, so not suitable for hand held applications; workpiece must be fixed, do not expose to lateral load.

**Specification soft for 60.5 – 72.3 HRC**

**Specification medium for 22.0 – 60.5 HRC**

**Specification hard up to 22.0 HRC**

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  41N	167219	41N	230x1.5x32	A80-BH50	10	Hard
	167215	41N	230x1.5x32	A80-BM50	10	Medium
	167214	41N	230x1.5x32	A80-BS50	10	Soft
	167207	41N	250x1.5x32	A80-BH50	10	Hard
	167205	41N	250x1.5x32	A80-BM50	10	Medium
	165940	41N	250x1.5x32	A80-BS50	10	Soft
	596848	41N	250x1.8x32	89A60L5B17/50	10	Very easy cutting
	169479	41N	300x2x32	A80-BH50	10	Hard
	167226	41N	300x2x32	A80-BM50	10	Medium
	167225	41N	300x2x32	A80-BS50	10	Soft
	597041	41N	300x2x32	89A60L5B17/50	10	Very easy cutting
	169477	41N	350x2.5x32	A80-BH50	10	Hard
	167334	41N	350x2.5x32	A80-BM50	10	Medium
	167333	41N	350x2.5x32	A80-BS50	10	Soft
	597383	41N	350x2.5x32	89A60J5B17/50	10	Very easy cutting
	167340	41N	400x3x32	A80-BH50	10	Hard
	167339	41N	400x3x32	A80-BM50	10	Medium
	167338	41N	400x3x32	A80-BS50	10	Soft
	167352	41N	432x3x32	A80-BH50	10	Hard
	167351	41N	432x3x32	A80-BM50	10	Medium
	167344	41N	432x3x32	A80-BS50	10	Soft





**PREMIUM★★★ LAB**

**Construction/materials able to be machined:** High performance cut-off wheels without reinforcement for nonferrous metals, plastics and titanium

- Sufficient lubricant with 2 - 3% anti-corrosion additive;
- Avoid applying too much pressure to prevent any cut deviation.

**Details:** For use on stationary machines, so not suitable for hand held applications; workpiece must be fixed, do not expose to lateral load

- For larger workpiece dimensions, we recommend using the next softest specification.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	167220	41N	230x1.5x32	C80-BN50	10	Nonferrous/plastics
	167221	41N	230x1.5x32	C80-BT50	10	Titanium
	167210	41N	250x1.5x32	C80-BN50	10	Nonferrous/plastics
	167211	41N	250x1.5x32	C80-BT50	10	Titanium
	167229	41N	300x2x32	C80-BN50	10	Nonferrous/plastics
	167335	41N	350x2.5x32	C80-BN50	10	Nonferrous/plastics
	167336	41N	350x2.5x32	C80-BT50	10	Titanium
	167342	41N	400x3x32	C80-BN50	10	Nonferrous/plastics
	167354	41N	432x3x32	C80-BN50	10	Nonferrous/plastics





## CUTTING HSS



**PREMIUM**★★★

**Construction/materials able to be machined:** High performance cut-off wheels for cutting high speed steel; cost-effective with diamond tools.

**Details:** automatic feed and sealed application.

	TYPE NO.	SHAPE	DIMENSIONS	V-X	SPECIFICATION	PU	CLASSIFICATION
  1A1R	788700	1A1R	125x1x20	1-5	B126 C75 B	1	
	164485	1A1R	125x1x20	1-5	B151 C100 B	1	
	494701	1A1R	150x1x20	1-5	B151 C100 B	1	



## CUTTING CEMENTED CARBIDE



**PREMIUM**★★★

**Construction/materials able to be machined:** High performance cut-off wheels for cutting cemented carbide; cost-effective with diamond tools.

**Details:** automatic feed and sealed application.

	TYPE NO.	SHAPE	DIMENSIONS	V-X	SPECIFICATION	PU	CLASSIFICATION
  1A1R	157800	1A1R	75x0.8x20	0,8-5	D126 C75 B	1	
	119395	1A1R	100x0.8x20	0,8-5	D126 C100 B	1	
	100660	1A1R	100x1x20	1-5	D126 C100 B	1	
	108728	1A1R	100x1.5x20	1,5-5	D126 C75 B	1	
	101000	1A1R	125x1x20	1-5	D126 C100 B	1	
	148132	1A1R	150x1x20	1-5	D126 C100 B	1	
	317532	1A1R	150x1x20	1-5	D126 C75 B	1	
	278979	1A1R	150x1x20	1-5	D151 C100 B	1	
	667995	1A1R	200x1x22	1-5	D126 C100 B	1	
	858531	1A1R	200x1.2x20	1,2-7	D126 C100 B	1	
	603284	1A1R	200x1.2x30	1,2-7	D151 C100 B	1	



## ANGLE GRINDER CUTTING

— PREMIUM Diamond	76
— STANDARD Diamond	80
— BASIC Diamond	81






## CUTTING | DIAMOND

TYROLIT provides laser welded and directly sintered dry-cutting saws that meet the highest standards of quality and safety. With TYROLIT dry-cutting saws, even 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 cut-off saws, underline the continuous further development and optimisation of diamond products.



**PREMIUM**★★★


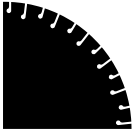
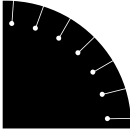
**Construction/materials able to be machined:** Universal building materials such as concrete, clay brick, natural stone, steel etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	464537	C6W	115x2.2x22.23	DCU★★★	1	
	464539	C6W	125x2.2x22.23	DCU★★★	1	
	464540	C6W	150x2.4x22.23	DCU★★★	1	
	464543	C6W	180x2.4x22.23	DCU★★★	1	
	464544	C6W	230x2.4x22.23	DCU★★★	1	
	474743	C6R	115x2x22.23	DCU★★★-FC	1	4in1
	474746	C6R	125x2x22.23	DCU★★★-FC	1	4in1
	474751	C6R	150x2.4x22.23	DCU★★★-FC	1	4in1
	474752	C6R	180x2.4x22.23	DCU★★★-FC	1	4in1
	474753	C6R	230x2.4x22.23	DCU★★★-FC	1	4in1
 	474771	C3G	230x2.6x22.23	DCU★★★-S	1	Silent



**PREMIUM**★★★


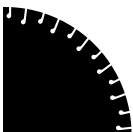

**Construction/materials able to be machined:** Concrete, reinforced concrete, reinforced steel, hard materials etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
   <p>C6W                  C3R</p>	465488	C6W	115x2.2x22.23	DCC★★★	1		
	465489	C6W	125x2.2x22.23	DCC★★★	1		
	465490	C6W	150x2.4/1.8x22.23	DCC★★★	1		
	465491	C6W	180x2.4/1.8x22.23	DCC★★★	1		
	465492	C6W	230x2.4x22.23	DCC★★★	1		
	598008	C3R	125x2x22.23	DCC★★★-FC	1	Wall slotter	
	598010	C3R	140x2.4x22.23	DCC★★★-FC	1	Wall slotter	
	598011	C3R	150x2.4x22.23	DCC★★★-FC	1	Wall slotter	



**PREMIUM**★★★

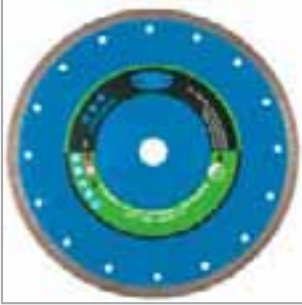

**Construction/materials able to be machined:** Hard concrete, granite, gneiss, porphyry, paving slabs, hard limestone etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
   <p>C6W                  C3 / C3W</p>	464697	C6W	115x2.2x22.23	DCH★★★	1		
	464698	C6W	125x2.2x22.23	DCH★★★	1		
	464699	C6W	150x2.4/1.8x22.23	DCH★★★	1		
	464700	C6W	180x2.4/1.8x22.23	DCH★★★	1		
	464701	C6W	230x2.4x22.23	DCH★★★	1		
	475790	C3	115x1.2x22.23	DCH★★★-FC	1	Ultra-thin	
	475793	C3	125x1.2x22.23	DCH★★★-FC	1	Ultra-thin	
	475797	C3W	180x1.9/1.4x22.23	DCH★★★-FC	1		
	475800	C3	230x1.9/1.4x22.23	DCH★★★-FC	1	Ultra-thin	



**PREMIUM**★★★

Construction/materials able to be machined: ceramic tiles.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1A1R	177670	1A1R	100x1,4x22,2	DCT★★★	1	
	639558	1A1R	105x1,2x20/16	DCT★★★	1	
	639559	1A1R	115x1,2x22,23	DCT★★★	1	
	639560	1A1R	125x1,2x22,23	DCT★★★	1	
	639634	1A1R	180x1,4x22,23	DCT★★★	1	
	676791	1A1R	200x1,6x22,23	DCT★★★	1	
	639635	1A1R	230x1,6x22,23	DCT★★★	1	



**PREMIUM**★★★

Construction/materials able to be machined: Marble, fibreglass reinforced plastic, PVC, carbon fibre, composites, fibreglass, bulletproof glass etc.




Details: DCM\*\*\* - with electroplated coating, also suitable for rescue operations.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  UC3	315968	UC3	115x2,5x22,2	DCM★★★	1	
	315967	UC3	125x2,5x22,2	DCM★★★	1	
	547611	UC3	150x3x22,2	DCM★★★	1	
	315966	UC3	180x3x22,2	DCM★★★	1	
	315965	UC3	230x3x22,2	DCM★★★	1	



**PREMIUM**★★★


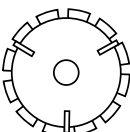
Construction/materials able to be machined: abrasive concrete, gas concrete, floor pavement, plaster, pumice stone etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C3SW  C3W	465976	C3W	115x2.2x22.23	DCAB★★★	1	
	465977	C3W	125x2.2x22.23	DCAB★★★	1	
	465979	C3W	150x2.2x22.23	DCAB★★★	1	
	465980	C3SW	230x2.4x22.23	DCAB★★★	1	



**PREMIUM**★★★



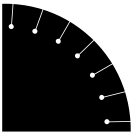
Construction/materials able to be machined: abrasive concrete, gas concrete, floor pavement, plaster, pumice stone etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  FRSU	563873	FRSU	115x7.2x22.2	DCAB★★★	1	
	535829	FRSU	125x7.2x22.2	DCAB★★★	1	



**STANDARD** ★ ★



**Construction/materials able to be machined:** Universal building materials such as concrete, clay brick, natural stone, steel etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	467443	C3	115x2x22.23	DCU ★ ★	1	
	467444	C3	125x2x22.23	DCU ★ ★	1	
	467445	C3	150x2.6x22.23	DCU ★ ★	1	
	467446	C3	180x2.6x22.23	DCU ★ ★	1	
	467448	C3	230x2.6x22.23	DCU ★ ★	1	
	467414	C3R	115x2x22.23	DCU ★ ★ -FC	1	Turbo
	467416	C3R	125x2x22.23	DCU ★ ★ -FC	1	Turbo
	467428	C3R	150x2.4x22.23	DCU ★ ★ -FC	1	Turbo
	467430	C3R	180x2.4x22.23	DCU ★ ★ -FC	1	Turbo
	467431	C3R	230x2.4x22.23	DCU ★ ★ -FC	1	Turbo
 C3	 C3R					



**STANDARD** ★ ★


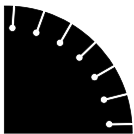
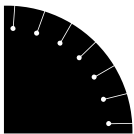
**Construction/materials able to be machined:** Concrete, reinforced concrete, reinforced steel, hard materials etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	474774	C3	115x2x22.23	DCC ★ ★	1	
	474775	C3	125x2x22.23	DCC ★ ★	1	
	536789	C3W	130x2.2x22.23	DCC ★ ★	1	
	474777	C3	150x2.6x22.23	DCC ★ ★	1	
	474778	C3	180x2.6x22.23	DCC ★ ★	1	
	474780	C3	230x2.6x22.23	DCC ★ ★	1	
 C3 / C3W						




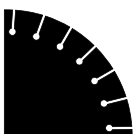


**Construction/materials able to be machined:** Universal building materials such as concrete, clay brick, natural stone, steel etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	466082	C3	105x2x20	DCU ★	1	
	466083	C3	115x2x22.23	DCU ★	1	
	466084	C3	125x2x22.23	DCU ★	1	
	466086	C3	150x2.6x22.23	DCU ★	1	
	466087	C3	180x2.6x22.23	DCU ★	1	
	466090	C3	230x2.6x22.23	DCU ★	1	
	467266	C3R	105x2x20	DCU ★-FC	1	Turbo
	467267	C3R	115x2x22.23	DCU ★-FC	1	Turbo
	467268	C3R	125x2x22.23	DCU ★-FC	1	Turbo
	467271	C3R	150x2.4x22.23	DCU ★-FC	1	Turbo
467273	C3R	180x2.4x22.23	DCU ★-FC	1	Turbo	
467276	C3R	230x2.4x22.23	DCU ★-FC	1	Turbo	
 C3						
 C3R						



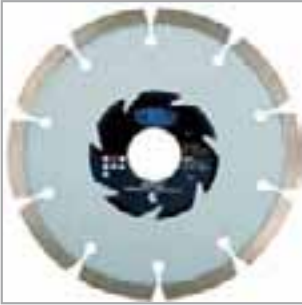

**Construction/materials able to be machined:** Hard concrete, granite, gneiss, porphyry, paving slabs, hard limestone etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	467386	C3	115x2x22.23	DCH ★	1	
	467387	C3	125x2x22.23	DCH ★	1	
	467388	C3	180x2.6x22.23	DCH ★	1	
	467389	C3	230x2.6x22.23	DCH ★	1	
 C3						



**BASIC★**



Construction/materials able to be machined: abrasive concrete, gas concrete, floor pavement, plaster, pumice stone etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C3W	465672	C3W	115x2.2x22.23	DCAB★	1	
	465674	C3W	125x2.2x22.23	DCAB★	1	
	465677	C3W	150x2.2x22.23	DCAB★	1	
	465686	C3W	230x2.4x22.23	DCAB★	1	



**BASIC★**

Construction/materials able to be machined: ceramic tiles.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1A1R	535439	1A1R	100x.1.6x20	DCT★	1	
	475975	1A1R	100x1.6x22.23	DCT★	1	
	475978	1A1R	115x1.6x22.23	DCT★	1	
	475980	1A1R	125x1.6x22.23	DCT★	1	
	475983	1A1R	180x2x22.23	DCT★	1	
	475986	1A1R	230x2x22.23	DCT★	1	



## **PETROL CUTTING SAW**

— PREMIUM Diamond	84
— STANDARD Diamond	87
— BASIC Diamond	89





## CUTTING | DIAMOND

TYROLIT provides laser welded and directly sintered dry-cutting saws that meet the highest standards of quality and safety. With TYROLIT dry-cutting saws, even 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 cut-off saw blades, underline the continuous further development and optimisation of diamond products.



### PREMIUM★★★


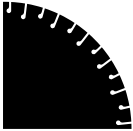
**Construction/materials able to be machined:** Universal building materials such as concrete, clay brick, natural stone, steel etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C6W	464545	C6W	300x2.6x20	DCU★★★	1	
	464546	C6W	300x2.6x22.23	DCU★★★	1	
	464549	C6W	300x2.6x25.4	DCU★★★	1	
	464550	C6W	300x2.6x30	DCU★★★	1	
	464551	C6W	350x3x20	DCU★★★	1	
	464552	C6W	350x3x22.23	DCU★★★	1	
	464553	C6W	350x3x25.4	DCU★★★	1	
	464554	C6W	350x3x30	DCU★★★	1	
	464555	C6W	400x3x20	DCU★★★	1	
	464556	C6W	400x3x25.4	DCU★★★	1	



**PREMIUM★★★**

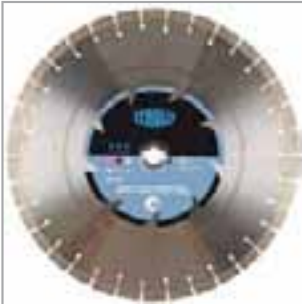
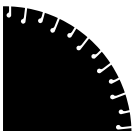
**Construction/materials able to be machined:** Concrete, reinforced concrete, reinforced steel, hard materials etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C6W	465493	C6W	300x2.6x20	DCC★★★	1	
	465494	C6W	300x2.6x22.23	DCC★★★	1	
	465495	C6W	300x2.6x25.4	DCC★★★	1	
	465496	C6W	350x3x20	DCC★★★	1	
	465498	C6W	350x3x22.23	DCC★★★	1	
	465499	C6W	350x3x25.4	DCC★★★	1	
	465501	C6W	400x3x20	DCC★★★	1	



**PREMIUM★★★**

**Construction/materials able to be machined:** Hard concrete, granite, gneiss, porphyry, paving slabs, hard limestone etc.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C6W	464702	C6W	300x2.6x20	DCH★★★	1	
	464703	C6W	300x2.6x22.23	DCH★★★	1	
	464706	C6W	300x2.6x25.4	DCH★★★	1	
	464707	C6W	350x3x20	DCH★★★	1	
	464710	C6W	350x3x22.23	DCH★★★	1	
	464711	C6W	350x3x25.4	DCH★★★	1	
	464712	C6W	400x3x20	DCH★★★	1	



**PREMIUM★★★**

**Construction/materials able to be machined:** Marble, fibreglass reinforced plastic, PVC, carbon fibre, composites, fibreglass, bulletproof glass etc.

**Details:** DCM\*\*\* – with electroplated coating, also suitable for rescue operations.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  UC3	439591	UC3	300x3x20	DCM★★★	1	
	440056	UC3	300x3x22.2	DCM★★★	1	
	449224	UC3	300x3x25.4	DCM★★★	1	
	490961	UC3	350x3x20	DCM★★★	1	
	16009	UC3	350x3x22.2	DCM★★★	1	
	490962	UC3	350x3x25.4	DCM★★★	1	



**PREMIUM★★★**

**Construction/materials able to be machined:** Asphalt, sandstone, extremely abrasive materials.

**Details:** DCA\*\*\* - laser-welded, protective segments to guard against the undercutting effect.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
  C7SW	465982	C7SW	300x2.8x20	DCA★★★	1		
	465983	C7SW	300x2.8x22.23	DCA★★★	1		
	465984	C7SW	300x2.8x25.4	DCA★★★	1		
	465985	C7SW	350x3x20	DCA★★★	1		
	465987	C7SW	350x3x25.4	DCA★★★	1		
	465640	C73SW	300x2.6x20	DCA+C★★★	1		
	465642	C73SW	350x3x25.4	DCA+C★★★	1		



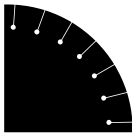
**STANDARD ★ ★**

**Construction/materials able to be machined:** Universal building materials such as concrete, clay brick, natural stone etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	464853	C3W	300x2.6x20	DCU ★ ★	1		
	464854	C3W	300x2.6x22.2	DCU ★ ★	1		
	464855	C3W	300x2.6x25.4	DCU ★ ★	1		
	464858	C3W	350x3x20	DCU ★ ★	1		
	465661	C3W	350x3x22.23	DCU ★ ★	1		
	464859	C3W	350x3x25.4	DCU ★ ★	1		
	465667	C3W	400x3.2x20	DCU ★ ★	1		
	467433	C3R	300x3x20	DCU ★ ★ -FC	1	Turbo	
	467434	C3R	300x3x22.23	DCU ★ ★ -FC	1	Turbo	
467435	C3R	300x3x25.4	DCU ★ ★ -FC	1	Turbo		
467436	C3R	350x3x20	DCU ★ ★ -FC	1	Turbo		
467438	C3R	350x3x22.23	DCU ★ ★ -FC	1	Turbo		
467439	C3R	350x3x25.4	DCU ★ ★ -FC	1	Turbo		



C3W



C3R



**STANDARD ★ ★**

**Construction/materials able to be machined:** Concrete, reinforced concrete, reinforced steel, hard materials etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	465503	C3W	300x2.6x20	DCC ★ ★	1		
	465505	C3W	300x2.6x22.23	DCC ★ ★	1		
	465507	C3W	300x2.6x25.4	DCC ★ ★	1		
	465509	C3W	350x3x20	DCC ★ ★	1		
	465662	C3W	350x3x22.23	DCC ★ ★	1		
	465512	C3W	350x3x25.4	DCC ★ ★	1		
	485041	C3W	400x3.2x20	DCC ★ ★	1		
	484994	C3W	300x2.6x20	DCC ★ ★ -LL	1		
	484996	C3W	300x2.6x22.23	DCC ★ ★ -LL	1		
484999	C3W	300x2.6x25.4	DCC ★ ★ -LL	1			
485001	C3W	350x3x20	DCC ★ ★ -LL	1			
485003	C3W	350x3x25.4	DCC ★ ★ -LL	1			
485004	C3W	400x3.2x20	DCC ★ ★ -LL	1			





C3W



**STANDARD** ★ ★

**Construction/materials able to be machined:** Asphalt, sandstone, extremely abrasive materials.



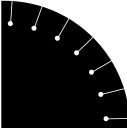
**Details:** DCA\*\* protective segments to guard against the undercutting effect.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C1SW	465519	C1SW	300x2.8x20	DCA ★ ★	1	
	465520	C1SW	350x3x20	DCA ★ ★	1	
	465522	C1SW	350x3x25.4	DCA ★ ★	1	
	465525	C1SW	400x3.2x25.4	DCA ★ ★	1	
	465526	C1SW	450x3.6x25.4	DCA ★ ★	1	







**Construction/materials able to be machined:** Universal building materials such as concrete, clay brick, natural stone, steel etc.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	466093	C3W	300x2.6x20	DCU ★	1		
	466094	C3W	300x2.6x22.2	DCU ★	1		
	466095	C3W	300x2.6x25.4	DCU ★	1		
	466096	C3W	350x3x20	DCU ★	1		
	466098	C3W	350x3x22.23	DCU ★	1		
	466099	C3W	350x3x25.4	DCU ★	1		
	529399	C3W	400x3.2x25.4	DCU ★	1		
	529401	C3W	450x3.6x25.4	DCU ★	1		
 	467280	C3R	300x3x20	DCU ★-FC	1	Turbo	
	467281	C3R	300x3x22.23	DCU ★-FC	1	Turbo	
	467282	C3R	300x3x25.4	DCU ★-FC	1	Turbo	
	467285	C3R	350x3x20	DCU ★-FC	1	Turbo	
	467288	C3R	350x3x22.23	DCU ★-FC	1	Turbo	
	467289	C3R	350x3x25.4	DCU ★-FC	1	Turbo	



**Construction/materials able to be machined:** Hard concrete, granite, gneiss, porphyry, paving slabs, hard limestone etc.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	467391	C3W	300x2.6x20	DCH ★	1	
	467392	C3W	300x2.6x22.23	DCH ★	1	
	467394	C3W	300x2.6x25.4	DCH ★	1	
	467395	C3W	350x3x20	DCH ★	1	
	467396	C3W	350x3x22.23	DCH ★	1	
	467400	C3W	350x3x25.4	DCH ★	1	
						



**BASIC★**

**Construction/materials able to be machined:** Asphalt, sandstone, extremely abrasive materials.

**Details:** DCA\*\* - protective segments to guard against the undercutting effect.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  C1SW	465649	C1SW	300x2.8x20	DCA★	1	
	465656	C1SW	300x2.8x22.23	DCA★	1	
	465650	C1SW	300x2.8x25.4	DCA★	1	
	465651	C1SW	350x3x20	DCA★	1	
	465652	C1SW	350x3x25.4	DCA★	1	
	529402	C1SW	400x3.2x25.4	DCA★	1	
	529403	C1SW	450x3.6x25.4	DCA★	1	



## **GRINDING**

- STRAIGHT GRINDERS
- ANGLE GRINDERS



## STRAIGHT GRINDER

PRODUCTS	QUALITY LINES	AREAS OF APPLICATION	TARGET GROUPS
Resin-bonded grinding wheels	Premium ★★★	INOX, steel	Foundries, apparatus engineering and boiler construction, plastics processing, building block and natural stone machining
Resin-bonded mounted points		INOX, steel, cast steel	Foundries, mould making
Vitrified-bonded mounted points		INOX, high-speed steel	Foundries, mould making
Elastic-bonded mounted points		INOX, steel, PVC, aluminium	Locksmith's shops, wood machining operations, mould making, container construction, boiler construction, apparatus engineering and machine construction
Flap Wheels		INOX, steel, aluminium	Tool making, mould making, container construction and apparatus engineering
Cemented carbide cutters		INOX, steel, cast steel, aluminium	Foundries, shipbuilding/offshore, mould making, aircraft construction and terotechnology.










## ANGLE GRINDER

PRODUCTS	QUALITY LINES	AREAS OF APPLICATION	TARGET GROUPS
Diamond dry grinding discs	Premium ★★★	Concrete, stone, marble, extremely abrasive materials	Natural stone machining, fitters, tilers, concrete and stone machining operations, roofers
	Standard ★★		
Resin-bonded rough grinding wheels	Premium ★★★	Steel materials, stainless steels, aluminium, brass, bronze, cast materials	Sanitary specialist trade, electrical installation trade, construction materials trade, building trade, rental, tool trade, associations, wholesale trade, welding specialist trade Parts trade, car & accessories trade Locksmiths, repair companies, components industry, container manufacturing, maintenance companies, fitters, car and truck workshops
	Standard ★★	Steel materials, stainless steels, stone	
	Basic ★	Steel materials, stainless steel, aluminium, brass, bronze, stone	
Cup wheels	Premium ★★★	Steel, cast steel, stone	
	Standard ★★	Steel, cast steel, stone	
Rondeller	Premium ★★★	INOX, aluminium, stone, PVC	
Touch	Basic ★	INOX, aluminium	
Flap Discs	★★★ ★★ ★	Steel, steel/INOX	

# APPLICATION TABLES

## GRINDING WHEELS








### PREMIUM ★★★

							
Material	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	Stone
A30R-BFX	◐	●					
A30S-BFX	●						
A30Q-BFX	●	●					
A36N-BFX			●	◐			
A36L-BFX			●	◐			
ZA24N-BFX	◐				●		
ZA24P-BFX	◐				●		
ZZA24R-BFX	◐				●		

### STANDARD ★★

							
Material	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	Stone
A30-BF INOX	◐	●					
A24-BF	●						
C30-BF							●
ZA30-BF	◐				●		

### BASIC ★








							
Material	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	Stone
A30-BF	●	●					
WA46-BF	●	●	●	◐			
C30-BF							●
AC30-BF	◐					●	

●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability.








# APPLICATION TABLES

## GRINDING WHEELS








### POINTS AND ROUGH CLEANING

							
Material	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	HSS
<b>Ceramic points</b>							
88A...	●	◐			◐		◐
89A...		◐	◐	◐			●
<b>Bakelite points</b>							
...B0	◐	●					◐
...B84	◐				●		◐
<b>Elastic points</b>	◐				●		
...BE13	●	●	●	●		●	
...BE15	●	●	●	●		●	
...BE24	●	●	●	●		●	
<b>Flap Wheels</b>							
A...-B	●	◐	◐	◐			
ZA...-B	●	●	◐	◐			
<b>Rough cleaning discs</b>							
C...-B	●	●				●	
<b>Cemented carbide cutters</b>							
MY	●	●			●		●
MX	●	●			●		●
MXX	●	●			●		●
MXC	●	●			●		●
ALU			●	●			

### FLAP DISCS

							
Material	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	HSS
A...-B	●	◐					
ZA...-B	●	●	◐	◐			
CA...-B	●	●	◐	◐			

### ELASTIC - RONDELLER

							
Material	Steel materials	Stainless steels	Aluminium	Brass/bronze	Cast materials	Plastics	HSS
A...	●	●	◐	◐			
C...	◐	◐	◐	◐		●	

●	Long service life combined with maximum cutting ability.
◐	Long service life and good cutting ability.



## STRAIGHT GRINDER GRINDING

Resin	96	Elastic points	114
Rough cleaning discs	99	Cemented carbide cutters	116
Ceramic	103	Flap Wheels	123



## GRINDING | RESIN 1F80



In order to carry out work without any vibrations and health risks, TYROLIT manufactures and tests all rough grinding wheels according to the requirements set out in EN12413. A thorough colour guidance system ensures that when it comes to rough grinding wheels too, users can always find the right product for the material to be machined. The range meets the present demands of cost-effective working, high stock removal performance, simple system handling and above-average wheel life.

**PREMIUM★★★**

**Construction/materials able to be machined:** long life design in R grade. These high-performance rough grinding wheels are particularly suitable for adding flutes and notches, deburring gears, maintaining turbine blades and roughing curved surfaces in cavities and ridges.

Universal grinding tasks for hard-to-reach parts.

**Details:** Use guard from Ø 80mm.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1F80	439059	1F80	50x6x6	A30R-BFX80	100	
	441206	1F80	50x10x10	A30R-BFX80	100	
	441245	1F80	50x19x10	A30R-BFX80	100	
	441243	1F80	75x4x10	A30R-BFX80	100	
	441224	1F80	75x15x10	A30R-BFX80	100	
	441203	1F80	100x25x25	A30R-BFX80	25	
	441204	1F80	125x25x25	A30R-BFX80	20	
	441241	1F80	150x25x25	A30R-BFX80	20	







## PREMIUM★★★

**Construction/materials able to be machined:** long life design in P grade. These high-performance rough grinding wheels are particularly suitable for adding flutes and notches, deburring gears, maintaining turbine blades and roughing curved surfaces in cavities and ridges.

Universal grinding tasks for hard-to-reach parts.

**Details:** Use guard from Ø 80mm.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1F80	441353	1F80	150x25x25	ZA24P-BFX80	20	





## PREMIUM★★★

**Construction/materials able to be machined:** long life design in S grade. These high-performance rough grinding wheels are particularly suitable for adding flutes and notches, deburring gears, maintaining turbine blades and roughing curved surfaces in cavities and ridges.

Universal grinding tasks for hard-to-reach parts.

**Details:** Use guard from Ø 80mm.


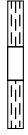
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1F80	439061	1F80	50x6x6	A30S-BFX80	100	Long life
	441231	1F80	50x10x6	A30S-BFX80	100	Long life
	441207	1F80	50x10x10	A30S-BFX80	100	Long life
	441226	1F80	60x6x10	A30S-BFX80	100	Long life
	441219	1F80	60x10x10	A30S-BFX80	100	Long life
	441233	1F80	70x10x10	A30S-BFX80	100	Long life
	441223	1F80	75x6x10	A30S-BFX80	100	Long life
	441227	1F80	75x25x13	A30S-BFX80	100	Long life
	441238	1F80	100x6x8	A30S-BFX80	25	Long life
	441239	1F80	175x25x16	A30S-BFX80	20	Long life

**PREMIUM**★★★

**Construction/materials able to be machined:** long life design in N grade. These high-performance rough grinding wheels are particularly suitable for adding flutes and notches, deburring gears, maintaining turbine blades and roughing curved surfaces in cavities and ridges.

Universal grinding tasks for hard-to-reach parts.

**Details:** Use guard from Ø 80mm.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1F80	441247	1F80	50x10x10	A36N-BFX80	100	
	441248	1F80	75x6x10	A36N-BFX80	100	
	441246	1F80	75x25x20	A36N-BFX80	100	
	441230	1F80	100x12x22.2	A36N-BFX80	25	
	441250	1F80	100x20x20	A36N-BFX80	25	

## ACCESSORIES



For mounting small roughing grinding wheels on straight grinders. Take note of max. permissible speed

**Details:**

S = diameter of mandrel

H = bore attachment

M = thread

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  100 SS	803404	100SS	S6/H10/M10	SS171	1	
	846441	100SS	S10/H10/M10	SS173	1	
	846442	100SS	S6/H6/M6	SS174	1	



## GRINDING | ROUGH CLEANING DISCS

Easily remove rust, paint, varnish and underbody sealant. Prepare surfaces for welding, soldering and anodizing.

The highly porous nylon fibers, evenly treated with aggressive abrasives, meet any challenge. The universality of rough cleaning discs are characterized by a lack of disc clogging and smearing, long life combined with an even grinding pattern, but also low heat build-up and quiet, effortless grinding.



Available for use on angle grinders (27GR) and straight grinders (1 GR).



**STANDARD**★★

**Construction/materials able to be machined:** powerful rough cleaning wheel.

**Details:** Rust, paint, lacquer and underbody sealant easily removed. Surfaces prepared for welding, soldering or anodising. No clogging and smearing for an open structure. Available for use on the angle grinder (shape 27GR) and straight grinder (shape 1GR).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  1GR	898048	1GR	75x13x8	C36-B	5	
	898044	1GR	100x13x13	C36-B	5	
	898051	1GR	150x13x13	C36-B	5	
	943167	1GR	180x13x13	C36-B	5	
	943168	1GR	200x13x13	C36-B	5	



## ACCESSORIES

Clamping spikes for 1GR



Packet assembling: single = 1 x 1GR on clamping spike or double = 2 x 1GR on clamping spike (for shaft lengths of L 67 mm only)

**Details:**

S = diameter of mandrel

H = bore attachment

L = length of shaft

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	905335	100SS	S6/ H8/ L67	SS596	1	
	905336	100SS	S6/ H13/ L52	SS597	1	
	905337	100SS	S8/ H13/ L67	SS598	1	
 100 SS						





## GRINDING | RESIN MOUNTED POINTS

Resin bonded mounted points have a vibration reducing effect due to their composition and are therefore not very sensitive to impact. Due to their special quality, they are best suited to deburring, bevelling and edge breaking on INOX and cast materials.



**Construction/materials able to be machined:** Resin bonded mounted points have a vibration reducing effect due their composition and are therefore not very sensitive to impact. Due to their special quality, they are particularly suited to deburring, bevelling and edge breaking.



**Details:** With bond B0 for INOX; Vs=50m/s maximum operating speed

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	682101	52ZY	8x16-6x40	A36Q4B0	25		
	682103	52ZY	10x20-6x40	A36Q4B0	25		
	682104	52ZY	13x25-6x40	A36Q4B0	25		
	682105	52ZY	16x32-6x40	A36Q4B0	25		
	682106	52ZY	20x32-6x40	A36Q4B0	25		
	682107	52ZY	20x40-6x40	A36Q4B0	25		
	832274	52ZY	25x32-6x40	A36-B0	25		
	682110	52ZY	25x32-6x40	A36Q4B0	25		
	682111	52ZY	40x20-6x40	A36Q4B0	25		
	682112	52ZY	50x25-6x40	A36Q4B0	25		
							
	52ZY						



**Construction/materials able to be machined:** Resin bonded mounted points have a vibration reducing effect due their composition and are therefore not very sensitive to impact. Due to their special quality, they are particularly suited to deburring, bevelling and edge breaking.

**Details:** With bond B84 for cast iron; Vs=50m/s maximum operating speed

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	108261	52ZY	10x25-6x40	A36Q4B84	25		
	2111	52ZY	13x25-6x40	A36Q4B84	25		
	108262	52ZY	15x25-6x40	A36Q4B84	25		
	104604	52ZY	16x32-6x40	A36Q4B84	25		
	105367	52ZY	20x25-6x40	A36Q4B84	25		
	2211	52ZY	25x32-6x40	A36Q4B84	25		
	379653	52ZY	32x25-6x40	A46S4B84	25		
	2249	52ZY	32x40-6x40	A36Q4B84	25		
	415841	52ZY	40x4-6x40	A60S3B84	25		
	45362	52ZY	40x16-8x50	A24Q4B84	25		
	2258	52ZY	40x20-6x40	A36Q4B84	25		
	123696	52ZY	40x25-6x40	A36Q4B84	25		
	2284	52ZY	50x25-6x40	A36Q4B84	25		
							

52ZY



## GRINDING | CERAMIC MOUNTED POINTS

The wide range of grinding applications requires mounted points that show a perfect balance in terms of chip performance, intended surface finish and service life. In foundries and mould forming, the use of mounted points on straight grinders and flexible shafts is often the only method of getting to hard-to-reach parts on workpieces and simultaneously improving the surface. Ceramic bonded mounted points are characterised by their long service life and, as a result, high performance factors. Special types for hardened steel, HSS and tool steel.



**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90

88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |

A = regular aluminium oxide

### STANDARD SEGMENTATION

TYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone | SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder | S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm

**Safety notice:** Observe  $V_s = 50$  m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
    52ZY	2010	52ZY	3x6-3x30	88A90O5V38	25	
	100757	52ZY	3x6-6x40	88A90O5V38	25	
	169096	52ZY	3x9-3x30	88A90O5V38	25	
	2017	52ZY	4x8-3x30	88A90O5V38	25	
	100758	52ZY	4x8-6x40	88A60P5V38	25	
	2021	52ZY	4x8-6x40	88A90O5V38	25	
	2026	52ZY	5x10-3x30	88A60P5V38	25	
	2027	52ZY	5x10-3x30	88A90O5V38	25	
	2031	52ZY	5x10-6x40	88A60P5V38	25	
	11362	52ZY	6x10-3x30	88A60P5V38	25	
	2039	52ZY	6x10-6x40	88A60P5V38	25	
	2046	52ZY	6x13-3x30	88A60P5V38	25	
	485338	52ZY	6x13-3x30	88A90O5V38	25	
	2048	52ZY	6x13-6x40	88A60P5V38	25	
	227450	52ZY	6x20-3x30	88A60P5V38	25	
	116725	52ZY	6x20-6x40	88A60P5V38	25	
	2055	52ZY	8x10-3x30	88A60P5V38	25	
	2058	52ZY	8x10-6x40	88A60P5V38	25	
	2060	52ZY	8x16-3x30	88A60P5V38	25	
	2062	52ZY	8x16-6x40	88A60P5V38	25	
	16044	52ZY	10x2-3x30	88A90O5V38	25	
	120033	52ZY	10x10-3x30	88A60P5V38	25	
	6879	52ZY	10x10-6x40	88A60P5V38	25	
	88905	52ZY	10x13-3x30	88A60P5V38	25	
	2072	52ZY	10x13-6x40	88A60P5V38	25	
	2078	52ZY	10x20-3x30	88A60P5V38	25	
	2081	52ZY	10x20-6x40	88A60P5V38	25	
	14364	52ZY	10x25-6x40	88A60P5V38	25	
	2090	52ZY	10x32-6x40	88A60P5V38	25	
	26567	52ZY	13x3-3x30	88A90O5V38	25	
	128618	52ZY	13x10-6x40	88A60P5V38	25	
	6896	52ZY	13x16-6x40	88A60P5V38	25	
6898	52ZY	13x20-6x40	88A60P5V38	25		
6899	52ZY	13x25-6x40	88A60P5V38	25		
112542	52ZY	13x40-6x40	88A60P5V38	25		



# GRINDING | STRAIGHT GRINDER



**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90

88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |

A = regular aluminium oxide

### STANDARD SEGMENTATION

TYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |

SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |

S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm

**Safety notice:** Observe  $V_s = 50$  m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170



52ZY

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	2117	52ZY	16x4-6x40	88A60P5V38	25	
	6920	52ZY	16x20-6x40	88A60P5V38	25	
	2125	52ZY	16x25-6x40	88A60P5V38	25	
	2133	52ZY	16x32-6x40	88A36P5V38	25	
	2134	52ZY	16x32-6x40	88A60P5V38	25	
	6928	52ZY	16x50-6x40	88A60P5V38	25	
	127347	52ZY	20x6-6x40	88A60P5V38	25	
	2145	52ZY	20x10-6x40	88A60P5V38	25	
	2148	52ZY	20x20-6x40	88A60P5V38	25	
	140351	52ZY	20x25-6x40	88A24P5V38	25	
	2163	52ZY	20x25-6x40	88A36P5V38	25	
	6932	52ZY	20x25-6x40	88A46P5V38	25	
	2165	52ZY	20x25-6x40	88A60P5V38	25	
	105009	52ZY	20x32-6x40	88A60P5V38	25	
	667629	52ZY	20x40-6x40	88A24P5V38	25	
	12836	52ZY	20x40-6x40	88A36P5V38	25	
	2189	52ZY	20x40-6x40	88A60P5V38	25	
	6941	52ZY	25x6-6x40	88A60P5V38	25	
	122868	52ZY	25x10-6x40	88A60P5V38	25	
	6943	52ZY	25x13-6x40	88A60P5V38	25	
	130009	52ZY	25x25-6x40	88A36P5V38	25	
	2201	52ZY	25x25-6x40	88A46P5V38	25	
	2202	52ZY	25x25-6x40	88A60P5V38	25	
	142682	52ZY	25x32-6x40	88A24P5V38	25	
	2209	52ZY	25x32-6x40	88A46P5V38	25	
	2204	52ZY	25x32-6x40	88A60P5V38	25	
	548169	52ZY	25x40-6x40	88A36P5V38	25	
	2238	52ZY	32x8-6x40	88A60P5V38	25	
	131231	52ZY	32x10-6x40	88A60P5V38	25	
	6959	52ZY	32x16-6x40	88A46P5V38	25	
	6961	52ZY	32x20-6x40	88A46P5V38	25	
	242270	52ZY	32x20-6x40	88A60P5V38	25	
	116973	52ZY	32x32-6x40	88A36P5V38	25	
	103394	52ZY	32x32-6x40	88A46P5V38	25	
	2248	52ZY	32x40-6x40	88A46P5V38	25	
	101508	52ZY	40x6-6x40	88A60P5V38	25	
	667632	52ZY	40x10-6x40	88A24P5V38	25	
	2256	52ZY	40x10-6x40	88A60P5V38	25	
	941497	52ZY	40x13-6x40	88A30P5V38	25	
	734828	52ZY	40x13-6x40	88A36P5V38	25	
	273756	52ZY	40x20-6x40	88A24P5V38	25	
	6967	52ZY	40x20-6x40	88A46P5V38	25	
	15383	52ZY	40x20-6x40	88A60P5V38	25	
	150085	52ZY	40x25-6x40	88A46P5V38	25	
	828192	52ZY	40x40-6x40	88A36P5V38	25	
	2276	52ZY	50x13-6x40	88A60P5V38	25	
	6974	52ZY	50x25-6x40	88A46P5V38	25	





**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90

88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |

A = regular aluminium oxide

**STANDARD SEGMENTATION**

TYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |

SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |

S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm

**Safety notice:** Observe  $V_s = 50$  m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170



52ZY

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	2011	52ZY	3x6-3x30	89A120M5V38	25	
	2020	52ZY	4x8-3x30	89A120M5V38	25	
	2030	52ZY	5x10-3x30	89A80M5V38	25	
	29238	52ZY	6x13-3x30	89A80M5V38	25	
	13529	52ZY	6x13-6x40	89A80M5V38	25	
	2057	52ZY	8x10-3x30	89A80M5V38	25	
	6874	52ZY	8x10-6x40	89A80M5V38	25	
	113299	52ZY	8x16-3x30	89A80M5V38	25	
	120093	52ZY	8x16-6x40	89A60M5V38	25	
	6881	52ZY	10x13-6x40	89A80M5V38	25	
	15892	52ZY	10x20-6x40	89A60M5V38	25	
	6886	52ZY	10x20-6x40	89A80M5V38	25	
	6890	52ZY	10x40-6x40	89A46L5V50	25	
	6910	52ZY	15x40-6x40	89A46L5V38	25	
	36663	52ZY	16x20-6x40	89A60M5V38	25	
	121385	52ZY	20x25-6x40	89A60M5V38	25	
	2180	52ZY	20x40-6x40	89A46L5V38	25	
	124549	52ZY	40x10-6x40	89A60M5V38	25	



# GRINDING | STRAIGHT GRINDER





**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide

### STANDARD SEGMENTATION

TYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm

**Safety notice:** Observe  $V_s = 50$  m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	75496	52B	5-3x30	88A90O5V38	25	
	169	52B	6x10-3x30	88A60P5V38	25	
	132438	52B	6x13-3x30	88A60P5V38	25	
	151928	52B	6x13-3x30	88A60P5V38	25	
	39128	52B	8x16-3x30	88A90O5V38	25	
	191	52B	10-3x30	88A60P5V38	25	
	174	52B	10x20-3x30	88A60P5V38	25	
	75647	52B	10x20-6x40	88A60P5V38	25	
	190	52B	13-3x30	88A60P5V38	25	
						

52B



## SHAPES 52B

B41		B42		B43	
B44		B51		B52	
B53		B54		B55	
B61		B62		B63	
B64		B65		B71	
B72		B73		B81	
B82		B83		B84	
B91		B92		B93	
B94		B96		B97	
B98		B101		B102	
B103		B104		B105	
B111		B112		B113	
B114		B115		B121	
B122		B123		B124	
B131		B132		B133	
B134		B135		B136	



# GRINDING | STRAIGHT GRINDER



**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide

### STANDARD SEGMENTATION

TYROLIT mounted points available from Ø 3 - 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm

**Safety notice:** Observe  $V_s = 50$  m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170



52KE

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	6400	52KE	13x13-6x40, R=2	88A60P5V38	25	
	6401	52KE	16x16-6x40, R=2.5	88A60P5V38	25	
	6402	52KE	20x20-6x40, R=3	88A60P5V38	25	
	330772	52KE	20x32-6x40, R=3	88A60P5V38	25	
	892	52KE	25x25-6x40, R=4	88A60P5V38	25	
	441033	52KE	30x40-6x40, R=5	88A60M5V38	25	





**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide

**STANDARD SEGMENTATION**

TYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm

**Safety notice:** Observe Vs = 50 m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
    52TO	1175	52TO	32x25-6x40	88A60P5V38	25	



# GRINDING | STRAIGHT GRINDER



**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide  
**STANDARD SEGMENTATION**  
 TYROLIT mounted points available from Ø 3 - 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm  
**Safety notice:** Observe  $V_s = 50$  m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170



52A

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	128	52A-24	6x20-6x40	88A60P5V38	25	
	97785	52A-15	6x27-6x40	88A60P5V38	25	
	89504	52A-15	6x27-6x40	88A90O5V38	25	
	130	52A-26	16-6x40	88A60P5V38	25	
	45422	52A-14	18x22-6x40	88A60P5V38	25	
	121	52A-12	18x32-6x40	88A46P5V38	25	
	20037	52A-12	18x32-6x40	88A60P5V38	25	
	11481	52A-5	20x29-6x40	88A36P5V38	25	
	116	52A-5	20x29-6x40	88A46P5V38	25	
	20023	52A-5	20x29-6x40	88A60P5V38	25	
	146601	52A-8	20x51-6x40	88A36P5V38	25	
	106372	52A-1	20x63-6x40	88A36P5V38	25	
	109	52A-1	20x63-6x40	88A60P5V38	25	
	148517	52A-11	22x50-6x40	88A36P5V38	25	
	118	52A-11	22x50-6x40	88A46P5V38	25	
	20031	52A-11	22x50-6x40	88A60P5V38	25	
	20047	52A-25	25-6x40	88A60P5V38	25	
	131	52A-32	25x16-6x40	88A60P5V38	25	
	88504	52A-2	25x32-6x40	88A46P5V38	25	
	11480	52A-3	25x70-6x40	88A36P5V38	25	
	6207	52A-3	25x70-6x40	88A46P5V38	25	
	104894	52A-3	25x70-6x40	88A60P5V38	25	
	139	52A-37	32x6-6x40	88A60P5V38	25	
	113	52A-4	32x32-6x40	88A46P5V38	25	
	20020	52A-4	32x32-6x40	88A60P5V38	25	
	45421	52A-13	32x32-6x40	88A60P5V38	25	
	127775	52A-9	32x51-6x40	88A36P5V38	25	
	135853	52A-19	32x51-6x40	88A36P5V38	25	
	138	52A-36	40x10-6x40	88A60P5V38	25	



## SHAPES 52A

A1		A2		A3 S	
A3		A4		A5	
A6		A7		A8	
A9		A10		A11	
A12		A13		A14	
A15		A16		A18	
A19		A20		A21	
A22		A23		A24	
A25		A26		A27	
A28		A31		A32	
A33		A34		A35	
A36		A37		A38	
A39					


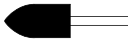


# GRINDING | STRAIGHT GRINDER



**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide  
**STANDARD SEGMENTATION**  
 TYROLIT mounted points available from Ø 3 – 50 mm



Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm  
**Safety notice:** Observe Vs = 50 m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
    52SP	1119	52SP	5x10-6x40	88A60P5V38	25	
	6660	52SP	13x20-6x40, R=22	88A60P5V38	25	
	6661	52SP	20x32-6x40, R=36	88A60P5V38	25	



**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide  
**STANDARD SEGMENTATION**  
 aTYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm  
**Safety notice:** Observe Vs = 50 m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
    52KU	907	52KU	3-3x30	88A90O5V38	25	
	6404	52KU	5-3x30	88A90O5V38	25	
	910	52KU	8-3x30	88A60P5V38	25	
	6405	52KU	8-6x30	88A60P5V38	25	
	917	52KU	20-6x40	88A60P5V38	25	
	6408	52KU	25-6x40	88A60P5V38	25	
	921	52KU	32-6x40	88A46P5V38	25	






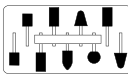
**Structure:** Grinding wheel made of aluminium oxide with a vitrified (V) or resinoid bond (B) pressed on to a steel shaft. Grit sizes 24-90  
 88A = pink fused aluminium oxide | 89A = white fused aluminium oxide |  
 A = regular aluminium oxide  
**STANDARD SEGMENTATION**  
 TYROLIT mounted points available from Ø 3 – 50 mm

Various shapes, diameters of mandrels and lengths KE = cone |  
 SP = ogival | KU = ball | TO = cup | WR = roll edges | ZY = cylinder |  
 S3 = diameter of mandrel 3 mm | S6 = diameter of mandrel 6 mm  
**Safety notice:** Observe Vs = 50 m/s maximum operating speed, minimum clamping depth (or max. open shaft length) in accordance with accompanying ticket, in line with DIN 69170

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
    52WR	1999	52WR	6x16-6x40	88A60P5V38	25	



This ceramic mounted point set contains all the usual shaped mounted points including a roughing stone suitable for all types of steel, for deburring, bevelling and edge breaking.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
    SETK	74499	SETK	40x32x6	CONTENTS: Shape                      Dimens.                      Type no. 52A-4                          32x32                          113 52A-5                          20x29                          20023 52A-14                         18x22                          45422 52A-25                         25                                 20047 52A-32                         25x16                          131 52A-37                         32x6                             139 52A-13                         13                                 62694 52ZY-W176                     10x13                          2072 52ZY-W186                     13x20                          6898 52ZY-W205                     20x25                          2165 52ZY-W217                     25x10                          122868 52ZY-W220                     25x25                          2201 52ZY-W228                     32x20                          6961 52ZY-W235                     40x6                             101508 9040                             16x150                         54222	1	



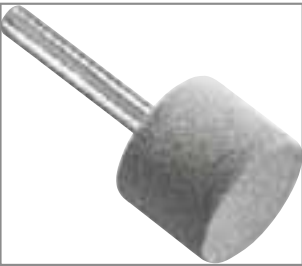
## GRINDING | ELASTIC MOUNTED POINTS

TYROLIT offers an extensive range of elastic and polishing points. Coordinated bond systems enable both universal use and use tailored to the application. The assortment includes soft elastic points (in specification BE13) for curved surfaces, medium elastic points (in specification BE15) for straight surfaces, as well as less elastic points (in specification BE24) for working at higher speeds.



**BE15 - medium elastic:** For polishing injection moulds and moulds, containers, apparatus and machine parts made of steel, nonferrous heavy metal, light metal and plastics, precious metal and jewellery goods. For matting metal surfaces, e.g. ordered parts made from acid and rust-resistant components.

**BE24 - hard elastic:** For polishing pressure dies and forging dies, scratched metal surfaces. For deburring of injection moulded parts made of aluminium and zinc; precision mechanical workpieces. For fine and ultrafine grinding for removing rust film and oxidation layers.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	6884	52ZY	10x20-6x40	C240-BE15	10	
	267341	52ZY	10x20-6x40	C240-BE24	10	
	6915	52ZY	16x20-6x40	C150-BE15	10	
	21273	52ZY	16x30-6x40	C80-BE15	10	
	274654	52ZY	16x30-6x40	C80-BE24	10	
	2155	52ZY	20x20-6x40	C150-BE15	10	
	2152	52ZY	20x20-6x40	C46-BE15	10	
	6949	52ZY	25x20-6x40	C80-BE15	10	
	2224	52ZY	30x30-6x40	C150-BE15	10	
	2226	52ZY	30x30-6x40	C240-BE15	10	
	2221	52ZY	30x30-6x40	C46-BE15	10	
	162390	52ZY	30x30-6x40	C46-BE24	10	
	2222	52ZY	30x30-6x40	C80-BE15	10	
	13068	52ZY	30x30-6x40	C80-BE24	10	
	123432	52ZY	20x30-6x40	A150-BE24	10	



52ZY

**Colour coding (for the grain) on front side of shaft:**

Orange - 24 | black - 46 | white - 80 | red - 150 | blue - 250




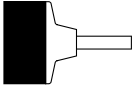
With attached synthetic discs for mottling and decorative grinding of surfaces made of steel, aluminium or copper.

**Bond:**

BE12 - very soft elastic | BE13 - soft elastic | BE15 - medium elastic

**Colour coding (for the grain) on front side of shaft:**

Orange - 24 | black - 46 | white - 80 | red - 150 | blue - 250

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	6411	52MS	30x30-6x40	C46-BE13	1	
	923	52MS	30x30-6x40	C46-BE15	1	
	6413	52MS	40x30-6x40	C46-BE13	1	
	925	52MS	40x30-6x40	C46-BE15	1	
	929	52MS	50x30-6x40	C46-BE15	1	
						
52MS						



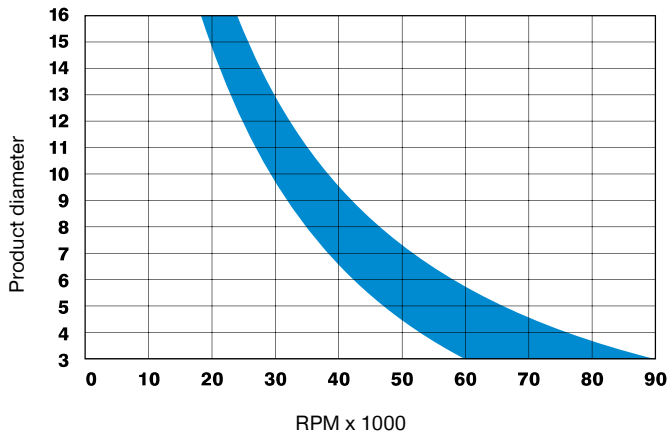
## GRINDING | CEMENTED CARBIDE CUTTERS

TYROLIT cemented carbide burrs are made from tried and tested types of cemented carbide corresponding to the latest technology. Production is performed on ultra-modern CNC automated grinding machines. The result is a highly efficient precision tool for every machining situation. In order to achieve the best grinding results and longest service life, it is important to choose the right machine and the right speed, cutter and tooth profile for the workpiece material being machined.

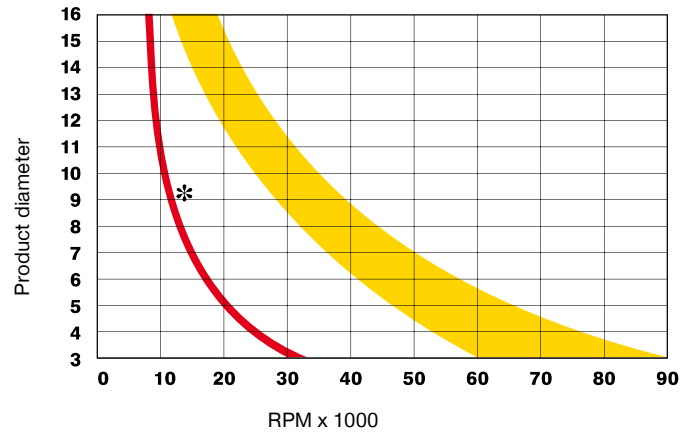


## SPEED RECOMMENDATIONS | APPLICATION RECOMMENDATIONS

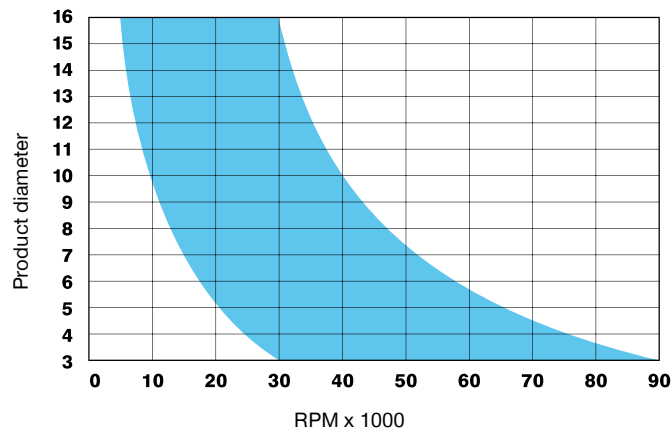
Unhardened steels



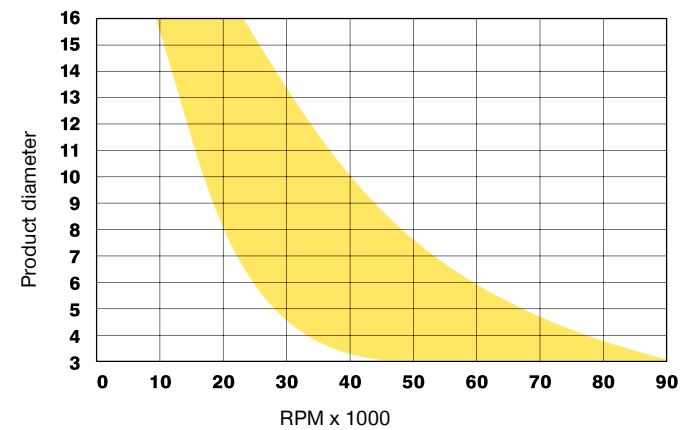
Ceramics, hardened steels, stainless steels, nickel-based alloys, titanium



Soft long-chipping materials, aluminium, fibreglass reinforced plastic, plastics, zinc-based alloys



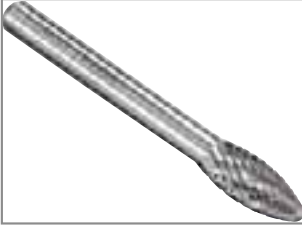


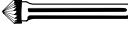
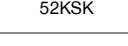
Brass, cast iron, copper, bronze





**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).

**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and the right speed, cutter and tooth profile for the workpiece material being machined (see speed recommendations).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	765657	52FLH	3x8-3x38	MX	1	
	801351	52FLH	6x14-6x50	MX	1	
	765996	52FLH	8x19-6x65	MX	1	
	768898	52FLH	12x32-6x77	MX	1	
	766046	52FLH	12x32-8x77	MX	1	
	766932	52KEL	3x8-3x38	MX	1	
	801354	52KEL	6x13-3x45	MX	1	
	766934	52KEL	6x16-6x50	MX	1	
	902732	52KEL	8x22-6x69	MX	1	
	766068	52KEL	10x19-6x65	MX	1	
	766936	52KEL	10x27-6x75	MX	1	
	768894	52KEL	12x30-6x75	MX	1	
	766072	52KEL	12x30-8x75	MX	1	
	837619	52KEL	12x30-8x75	MXX	1	
	801355	52KEL	16x33-8x78	MX	1	
	769680	52KSK	10x5-6x55	MY	1	
	769683	52KSK	16x8-6x60	MY	1	
						







# GRINDING | STRAIGHT GRINDER



**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).




**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and the right speed, cutter and tooth profile for the workpiece material being machined (see speed recommendations).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	766050	52KUD	3x2.7-3x38	MX	1	
	766927	52KUD	4x.6-3x45	MX	1	
	766051	52KUD	6x5.4-3x38	MX	1	
	768821	52KUD	6x5.4-6x50	MX	1	
	768824	52KUD	8x7.2-6x52	MX	1	
	768828	52KUD	10x9-6x53	MX	1	
	768832	52KUD	12x10.8-6x55	MX	1	
	768833	52KUD	13x11.7-6x55	MXX	1	
	768835	52KUD	16x14.4-6x60	MX	1	
	768834	52KUD	16x14.4-6x60	MY	1	
	768838	52KUD	16x14.4-8x60	MX	1	
	766062	52KUD	19x17.1-8x63	MX	1	
	  52KUD                      52RBF	766155	52RBF	3x13-3x38	MX	1
766156		52RBF	6x13-3x45	MX	1	
768841		52RBF	6x16-6x50	MX	1	
902700		52RBF	8x22-6x67	MX	1	
768843		52RBF	10x19-6x65	MX	1	
768846		52RBF	12x25-6x70	MX	1	
768847		52RBF	12x25-6x70	MXX	1	
766160		52RBF	12x25-8x70	MX	1	
766929		52RBF	16x25-8x70	MX	1	
 52SKM	801365	52SKM	3x11-3x38	MX	1	
	902747	52SKM	3x11-6x38	MXC	1	
	766091	52SKM	3x13-3x38	MX	1	
	766092	52SKM	6x13-3x45	MX	1	
	902737	52SKM	6x13-3x45	MY	1	
	768913	52SKM	6x19-6x50	MX	1	
	768912	52SKM	6x19-6x50	MY	1	
	768916	52SKM	10x16-6x65	MX	1	
	910834	52SKM	10x16-6x65	MXC	1	
	766937	52SKM	12x19-6x65	MX	1	
	768919	52SKM	12x22-6x70	MX	1	
	768918	52SKM	12x22-6x70	MY	1	



**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).

**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and the right speed, cutter and tooth profile for the workpiece material being machined (see speed recommendations).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	766139	52SPG	3x13-3x38	MX	1	
	766140	52SPG	6x13-3x45	MX	1	
	768941	52SPG	6x16-6x50	MX	1	
	768942	52SPG	6x16-6x50	MXX	1	
	768944	52SPG	10x19-6x65	MX	1	
	766942	52SPG	12x19-6x65	MX	1	
	768948	52SPG	12x25-6x70	MX	1	
	902724	52SPG	12x25-6x70	MXC	1	
	768949	52SPG	12x25-6x70	MXX	1	
	766145	52SPG	13x25-8x70	MX	1	
	768951	52SPG	16x25-6x70	MX	1	
	766147	52SPG	16x25-8x70	MX	1	
 <p>52SPG      52TRE</p>	766939	52TRE	3x6-3x38	MX	1	
	766150	52TRE	6x10-3x42	MX	1	
	768924	52TRE	8x13-6x58	MX	1	
	768926	52TRE	10x16-6x60	MX	1	
	768929	52TRE	12x22-6x67	MX	1	
	766154	52TRE	16x25-6x70	MX	1	
 <p>52WRC</p>	766126	52WRC	3x13-3x38	MX	1	
	766127	52WRC	6x13-3x45	MX	1	
	768874	52WRC	6x19-6x50	MX	1	
	910766	52WRC	6x19-6x50	MXC	1	
	768873	52WRC	6x19-6x50	MY	1	
	768878	52WRC	8x19-6x65	MX	1	
	768880	52WRC	8x19-6x65	MXX	1	
	768877	52WRC	8x19-6x65	MY	1	
	768881	52WRC	10x19-6x65	MX	1	
	766130	52WRC	10x19-6x65	MY	1	
	766930	52WRC	12x25-6x70	MX	1	
	766133	52WRC	12x25-6x70	MXX	1	
	766131	52WRC	12x25-6x70	MY	1	
	768887	52WRC	12x25-8x70	MX	1	
768888	52WRC	12x25-8x70	MXX	1		
801349	52WRC	13x19-6x65	MX	1		
768891	52WRC	16x25-6x70	MX	1		
766134	52WRC	16x25-8x70	MX	1		

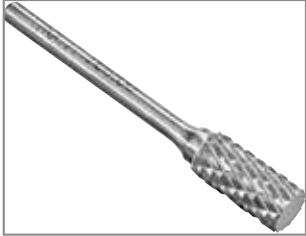
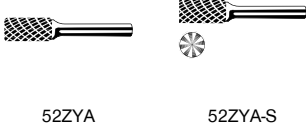


# GRINDING | STRAIGHT GRINDER



**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).

**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and the right speed, cutter and tooth profile for the workpiece material being machined (see speed recommendations).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	766099	52ZYA	3x13-3x38	MX	1	
	766944	52ZYA	4x13-4x50	MX	1	
	766100	52ZYA	6x13-3x45	MX	1	
	768747	52ZYA	6x19-6x50	MX	1	
	768750	52ZYA	8x19-6x65	MX	1	
	766108	52ZYA	10x19-6x65	MX	1	
	768752	52ZYA	10x19-6x65	MXX	1	
	766945	52ZYA	12x25-6x70	MX	1	
	801348	52ZYA	13x19-6x65	MX	1	
	768754	52ZYA	16x25-6x70	MX	1	
	766111	52ZYA	16x25-8x70	MX	1	
	766112	52ZYAS	3x13-3x38	MX	1	
	902665	52ZYAS	3x13-3x38	MY	1	
	766113	52ZYAS	6x13-3x45	MX	1	
	768710	52ZYAS	6x19-6x50	MX	1	
	902668	52ZYAS	6x19-6x50	MXC	1	
	768712	52ZYAS	8x19-6x65	MX	1	
	766115	52ZYAS	8x19-6x65	MY	1	
	766116	52ZYAS	10x19-6x65	MX	1	
	766120	52ZYAS	10x19-6x65	MY	1	
	766949	52ZYAS	12x19-6x65	MX	1	
	766121	52ZYAS	12x25-6x70	MX	1	
	766117	52ZYAS	12x25-6x70	MXX	1	
	768718	52ZYAS	12x25-8x70	MX	1	
	768721	52ZYAS	16x25-6x70	MX	1	
	766119	52ZYAS	16x25-8x70	MX	1	





**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).

**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and thus the right speed, cutting and tooth profile for the workpiece material being machined (see speed recommendations). ALU for aluminium machining (standard with 8 cutting edges). ALU6 for aluminium machining (especially coarse with 6 cutting edges).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	766935	52KEL	10x27-6x75	ALU	1		
	768896	52KEL	12x30-6x75	ALU	1		
	801527	52KEL	16x33-8x78	ALU	1		
	768845	52RBF	10x19-6x65	ALU	1		
	768848	52RBF	12x25-6x70	ALU	1		
	801524	52RBF	16x25-8x70	ALU	1		
	768884	52WRC	10x19-6x65	ALU	1		
	768885	52WRC	12x25-6x70	ALU	1		
	801528	52WRC	16x25-8x70	ALU	1		
	806824	52ZYA	10x19-6x65	ALU	1		
	806826	52ZYA	12x25-6x70	ALU	1		
	768715	52ZYAS	10x19-6x65	ALU	1		
	768717	52ZYAS	12x25-6x70	ALU	1		



52KEL



52RBF



52WRC



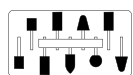
52ZYA



**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).

**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and thus the right speed, cutting and tooth profile for the workpiece material being machined (see speed recommendations). ALU for aluminium machining (standard with 8 cutting edges). ALU6 for aluminium machining (especially coarse with 6 cutting edges).

	TYPE NO.	DIMENSIONS	PU	COMMENTS
	822725	13X117	1	Cemented carbide milling point set: 5 parts with shaft S6 x 40 CONTENTS: Shape 52WRC 52KEL 52RBF 52SPG 52KUD
		12x25 12x30 12x25 12x25 12x11,7		



SETK


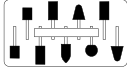


# GRINDING | STRAIGHT GRINDER



**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).


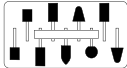
**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and thus the right speed, cutting and tooth profile for the workpiece material being machined (see speed recommendations). ALU for aluminium machining (standard with 8 cutting edges). ALU6 for aluminium machining (especially coarse with 6 cutting edges).

	TYPE NO.	DIMENSIONS	PU	COMMENTS
   SETK	845416	10x181  8x19 10x19 6x16 10x19 8x13 6x19 8x19 10x19 8x19 10x19	1	Cemented carbide milling point set: 10 parts with shaft S6 x 40 CONTENTS: Shape 52FLH 52KEL 52SPG 52SPG 52TRE 52WRC 52WRC 52WRC 52ZYA 52ZYA-S
	822718	13x193  12x30 12x25 12x25 12x22 12x11,7 10x19 8x19 10x19 6x19 8x7,2	1	Cemented carbide milling point set: 10 parts with shaft S6 x 40 CONTENTS: Shape 52KEL 52WRC 52SPG 52SKM 52KUD 52ZYA-S 52WRC 52RBF 52SPG 52KUD



**Construction/materials able to be machined:** Cemented carbide cutters are used on a wide range of hand held pneumatic or electric machines and industrial robots for virtually all materials. Maximum tool life and service life (20:1 compared to conventional mounted point).

**Details:** In order to achieve the best grinding results and longest service life, it is important to choose the right machine and thus the right speed, cutting and tooth profile for the workpiece material being machined (see speed recommendations). ALU for aluminium machining (standard with 8 cutting edges). ALU6 for aluminium machining (especially coarse with 6 cutting edges).

	TYPE NO.	DIMENSIONS	PU	COMMENTS
   SETK	822728	12X118	1	Cemented carbide milling point set: 5 parts with shaft S6 x 40 CONTENTS: Shape                      Dimens. 52WRC                      10x19 52WRC                      12x25 52RBF                        10x19 52RBF                        12x25 52KEL                        12x30




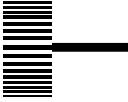
## GRINDING | SPINDLE MOUNTED FLAP WHEELS

The flexibility of these tools allows them to adapt to any workpiece contour. With Flap Wheels the abrasive grain flaps are arranged radially around the tool's axis in the shape of a fan.

Flap Wheels by TYROLIT are manufactured and tested in accordance with EN.





**Construction/materials able to be machined:** Flap points are used on pneumatic or electric machines for various materials. For matting, pre-polishing and cleaning of the surface.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  52LA	909383	52LA	10x10-3x40	A80-B	10	
	909385	52LA	10x10-3x40	A120-B	10	
	816831	52LA	20x10-6x40	A80-B	10	
	816833	52LA	20x10-6x40	A120-B	10	
	909387	52LA	30x5-3x40	A60-B	10	
	909389	52LA	30x5-3x40	A80-B	10	
	909390	52LA	30x5-6x40	A80-B	10	
	909393	52LA	30x5-6x40	A120-B	10	
	909397	52LA	30x10-3x40	A80-B	10	
	909398	52LA	30x10-3x40	A120-B	10	
	816855	52LA	30x10-6x40	A60-B	10	
	816871	52LA	30x10-6x40	A80-B	10	
	816872	52LA	30x10-6x40	A120-B	10	
	816873	52LA	30x10-6x40	A150-B	10	
	909405	52LA	30x10-6x40	A180-B	10	
	910895	52LA	30x10-6x40	A240-B	10	
	816875	52LA	30x10-6x40	A320-B	10	
	816880	52LA	30x15-6x40	A60-B	10	
	816893	52LA	30x15-6x40	A80-B	10	
	816905	52LA	30x15-6x40	A120-B	10	
	816907	52LA	40x15-6x40	A60-B	10	
	816909	52LA	40x15-6x40	A120-B	10	
	816911	52LA	40x15-6x40	A150-B	10	
	816914	52LA	40x20-6x40	A40-B	10	
	816915	52LA	40x20-6x40	A60-B	10	
	816908	52LA	40x20-6x40	A80-B	10	
	816916	52LA	40x20-6x40	A80-B	10	
	816918	52LA	40x20-6x40	A120-B	10	
	816919	52LA	40x20-6x40	A150-B	10	
	816922	52LA	50x15-6x40	A60-B	10	
	816923	52LA	50x15-6x40	A80-B	10	
	816924	52LA	50x15-6x40	A120-B	10	
	816928	52LA	50x20-6x40	A40-B	10	
816931	52LA	50x20-6x40	A60-B	10		
816933	52LA	50x20-6x40	A80-B	10		
816934	52LA	50x20-6x40	A120-B	10		
848563	52LA	50x20-6x40	A180-B	10		
816939	52LA	50x20-6x40	A320-B	10		



**Construction/materials able to be machined:** Flap points are used on pneumatic or electric machines for various materials. For matting, pre-polishing and cleaning of the surface.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
   52LA	959017	52LA	50x30-6x40	A40-B	10	
	816940	52LA	50x30-6x40	A60-B	10	
	816941	52LA	50x30-6x40	A80-B	10	
	816942	52LA	50x30-6x40	A120-B	10	
	816949	52LA	60x15-6x40	A60-B	10	
	816950	52LA	60x15-6x40	A80-B	10	
	816953	52LA	60x20-6x40	A60-B	10	
	816954	52LA	60x20-6x40	A80-B	10	
	816955	52LA	60x20-6x40	A120-B	10	
	816956	52LA	60x20-6x40	A150-B	10	
	816958	52LA	60x20-6x40	A320-B	10	
	817011	52LA	60x30-6x40	A40-B	10	
	816959	52LA	60x30-6x40	A60-B	10	
	816960	52LA	60x30-6x40	A80-B	10	
	816961	52LA	60x30-6x40	A120-B	10	
	816962	52LA	60x30-6x40	A150-B	10	
	817012	52LA	60x40-6x40	A40-B	10	
	816965	52LA	60x40-6x40	A60-B	10	
	816966	52LA	60x40-6x40	A80-B	10	
	816967	52LA	60x40-6x40	A120-B	10	
	816972	52LA	60x50-6x40	A60-B	10	
	910722	52LA	80x30-6x40	A40-B	10	
	816981	52LA	80x30-6x40	A60-B	10	
	816982	52LA	80x30-6x40	A80-B	10	
	816983	52LA	80x30-6x40	A120-B	10	
	816984	52LA	80x30-6x40	A150-B	10	
	816985	52LA	80x40-6x40	A60-B	10	
	816986	52LA	80x40-6x40	A80-B	10	
816990	52LA	80x50-6x40	A60-B	10		
816991	52LA	80x50-6x40	A80-B	10		



## GRINDING | NON-WOVEN MOUNTED POINTS





**Construction/materials able to be machined:** non-woven mounted points are used on pneumatic or electric machines for various materials. For pre-polishing for an excellent surface quality.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  52VL	908784	52VL	60x30-6x40	MEDIUM	10	
	908794	52VL	60x30-6x40	FINE	10	
	908795	52VL	60x30-6x40	EXTRA FINE	10	
	908711	52VL	80x50-6x40	MEDIUM	10	
	908717	52VL	80x50-6x40	FINE	10	
	908796	52VL	80x50-6x40	EXTRA FINE	10	

## GRINDING | CONDITIONING MOUNTED POINTS





**Construction/materials able to be machined:** non-woven mounted points are used on pneumatic or electric machines for various materials. For matting and pre-polishing for a good surface quality.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  52LAVL	910902	52LAVL	60x30-6x40	MEDIUM	10	
	908823	52LAVL	80x50-6x40	EXTRA FINE	10	
	910853	52LAVL	80x50-6x40	FINE	10	
	910864	52LAVL	80x50-6x40	MEDIUM	10	
	908825	52LAVL	100x50-6x40	EXTRA FINE	10	

**SCHLEIFEN | SOFT JOB FLAP DISCS****STANDARD★★**

**Ausführung/Bearbeitbare Materialien:** The perfect addition to flap discs, the ★★ SOFT JOBS distinguish themselves through their flexibility, based not only on their wide range of uses but also by virtue of being ideally adapted to suit different workpiece contours.


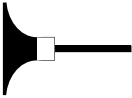
**Details:** All metals including non-ferrous metals, plastics, paints and fillers can be machined at reduced speed.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  28S	246982	28S	50	ZA40-B	10	
	246984	28S	50	ZA60-B	10	
	246985	28S	50	ZA80-B	10	
	246986	28S	50	ZA120-B	10	

**ACCESSORIES**

**Construction/materials able to be machined:** Supporting discs for STANDARD

★★ SOFT JOB flap discs up to 50 mm diameter.

	TYPE NO.	SHAPE	COMMENTS	PU	CLASSIFICATION
  100AXLS	257266	100AXLS	Supporting discs for STANDARD ★★ SOFT JOB flap discs up to 50 mm diameter.	1	



## ANGLE GRINDER GRINDING

PREMIUM Rough grinding wheels	128	STANDARD Rough grinding wheels	141	STANDARD Soft Job	148
PREMIUM Cup wheels	132	STANDARD Cup wheels	144	STANDARD Flap discs	149
PREMIUM Rondeller	134	STANDARD Rough cleaning discs	146	BASIC Rough grinding wheels	151
PREMIUM Flap discs	136	STANDARD Rondeller	147	BASIC Flap discs	154



## GRINDING | RESIN ROUGH GRINDING WHEELS


In order to carry out work without any vibrations and health risks, TYROLIT manufactures and tests all rough grinding wheels according to the requirements set out in EN12413. A thorough colour guidance system ensures that when it comes to rough grinding wheels too, users can always find the right product for the material to be machined. The range meets the present demands of cost-effective working, high stock removal performance, simple system handling and above-average wheel life.



**PREMIUM★★★**

**Construction/materials able to be machined:** long life design in S grade. High-performance rough grinding wheels for surface and edge grinding.

**Details:** 4.0mm maximum stock removal performance for use in pipeline construction. 7.0, 8.0 and 10.0mm for welding and root welding, particularly rigid.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	5279	27	100x6x16	A30S-BFX	10	Long life
	5288	27	115x4x22.23	A30S-BFX	10	Long life
	5294	27	115x7x22.23	A30S-BFX	10	Long life
	5306	27	125x4x22.23	A30S-BFX	10	Long life
	5314	27	125x7x22.23	A30S-BFX	10	Long life
	5331	27	150x7x22.23	A30S-BFX	10	Long life
	5350	27	178x4x22.23	A30S-BFX	10	Long life
	5363	27	178x7x22.23	A30S-BFX	10	Long life
	5384	27	178x8x22.23	A30S-BFX	10	Long life
	5396	27	178x10x22.23	A30S-BFX	10	Long life
	5407	27	230x4x22.23	A30S-BFX	10	Long life
	5413	27	230x7x22.23	A30S-BFX	10	Long life
	5428	27	230x8x22.23	A30S-BFX	10	Long life



27







**PREMIUM★★★**

**Construction/materials able to be machined:** aggressive design in S grade. High-performance wheel for surface and edge grinding.

**Details:** fast, convenient work, great effort not required. For soft to hard stone, natural and artificial stone and concrete.





	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	5368	27	178x7x22.23	C30S-BFX	10	
	5425	27	230x7x22.23	C30S-BFX	10	
 <p>27</p>						



**PREMIUM★★★**

**Construction/materials able to be machined:** softer, aggressive design in Q grade. High-performance rough grinding wheel for surface and edge grinding.

**Details:** Fast, convenient work without any exertion. 4.0mm high stock removal performance for use in pipeline construction. 7.0 and 8.0mm for welding and root welding, particularly rigid.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	5270	27	75x6x9.5	A30Q-BFX	10	2in1
	23875	27	100x4x16	A30Q-BFX	10	2in1
	5278	27	100x6x16	A30Q-BFX	10	2in1
	5287	27	115x4x22.23	A30Q-BFX	10	2in1
	5293	27	115x7x22.23	A30Q-BFX	10	2in1
	5308	27	125x4x22.23	A30Q-BFX	10	2in1
	5313	27	125x7x22.23	A30Q-BFX	10	2in1
	734378	27	150x4x22.23	A30Q-BFX	10	2in1
	5330	27	150x7x22.23	A30Q-BFX	10	2in1
	5349	27	178x4x22.23	A30Q-BFX	10	2in1
	1421	27	178x7x22.23	A30Q-BFX	10	2in1
	5382	27	178x8x22.23	A30Q-BFX	10	2in1
	5406	27	230x4x22.23	A30Q-BFX	10	2in1
	5412	27	230x7x22.23	A30Q-BFX	10	2in1
	5428	27	230x8x22.23	A30Q-BFX	10	2in1
	60474	27	230x10x22.23	A30Q-BFX	10	2in1
	 <p>27</p>					
 <p>27BN</p>						
 <p>28CON</p>						
	170801	27BN	100x4x22.23	A30Q-BFX	10	2in1
	5267	28CON	178x7x22.23	A30Q-BFX	10	2in1



Conflex



**PREMIUM★★★**

**Construction/materials able to be machined:** High-performance rough grinding wheel in N grade for surface and edge grinding. Softer design in L grade: less pressure required, especially for surface grinding.

**Details:** For grinding non-ferrous metals, no smearing, clogging or blunting of the wheel. Very easy cutting tool with low contact force.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	45919	27	100x6x16	A36N-BFX	10		
	5289	27	115x4x22.23	A36N-BFX	10		
	5295	27	115x7x22.23	A36N-BFX	10		
	636789	27	125x4x22.23	A36N-BFX	10		
	5316	27	125x7x22.23	A36N-BFX	10		
	913338	27	150x4x22.23	A36N-BFX	10		
	47763	27	150x7x22.23	A36N-BFX	10		
	5351	27	178x4x22.23	A36N-BFX	10		
	5365	27	178x7x22.23	A36N-BFX	10		
	46586	27	230x4x22.23	A36N-BFX	10		
	5416	27	230x7x22.23	A36N-BFX	10		
		576049	27	115x7x22.23	A36L-BFX	10	
		647549	27	125x7x22.23	A36L-BFX	10	
		576050	27	178x7x22.23	A36L-BFX	10	
647550		27	230x7x22.23	A36L-BFX	10		




27



**PREMIUM★★★**

**Construction/materials able to be machined:** High-performance tools for machining all cast materials.

**Details:** ZA24N-BFX: particularly for surface grinding, ZA24P-BFX: the universal type and ZZA24R-BFX: the deburring specialist. 27FV latest technology for vibration damping and extremely smooth running.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	233756	27	125x7x22.23	ZA24N-BFX	10	Focur Extra
	233765	27	125x7x22.23	ZA24P-BFX	10	Focur Extra
	233773	27	125x7x22.23	ZZA24R-BFX	10	Focur Extra
	233757	27	178x4x22.23	ZA24N-BFX	10	Focur Extra
	233774	27	178x4x22.23	ZZA24R-BFX	10	Focur Extra
	233759	27	178x7x22.23	ZA24N-BFX	10	Focur Extra
	233768	27	178x7x22.23	ZA24P-BFX	10	Focur Extra
	233776	27	178x7x22.23	ZZA24R-BFX	10	Focur Extra
	474531	27	178x7x22.23	ZZA24S-BFX	10	Focur Extra
	929018	27	178x7x22.23	ZZA24S-BFX	10	Focur Extra
	929019	27	230x4x22.23	ZZA24S-BFX	10	Focur Extra
	233760	27	230x4x22.23	ZA24N-BFX	10	Focur Extra
	233777	27	230x4x22.23	ZZA24R-BFX	10	Focur Extra
	233762	27	230x7x22.23	ZA24N-BFX	10	Focur Extra
	233771	27	230x7x22.23	ZA24P-BFX	10	Focur Extra
	233778	27	230x7x22.23	ZZA24R-BFX	10	Focur Extra
	474535	27	230x7x22.23	ZZA24S-BFX	10	Focur Extra
	929020	27	230x7x22.23	ZZA24S-BFX	10	Focur Extra
 	474527	27V	178x7x22.23	ZA24N-BFX	10	Focur Extra Vibstar
	474528	27V	178x7x22.23	ZA24P-BFX	10	Focur Extra Vibstar
	474529	27V	178x7x22.23	ZZA24R-BFX	10	Focur Extra Vibstar
	474532	27V	230x7x22.23	ZA24N-BFX	10	Focur Extra Vibstar
	474533	27V	230x7x22.23	ZA24P-BFX	10	Focur Extra Vibstar
	474534	27V	230x7x22.23	ZZA24R-BFX	10	Focur Extra Vibstar

27


27V



**PREMIUM★★★**

**Construction/materials able to be machined:** long life design in R grade. High-performance rough grinding wheels for surface and edge grinding.

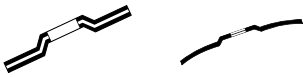
**Details:** 27SI generation of grinding wheels with integrated sound insulation. 27EV latest technology for vibration damping and extremely smooth running.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	117058	27	100x6x16	A30R-BFX	10	
	117064	27	115x4x22.23	A30R-BFX	10	
	117065	27	115x7x22.23	A30R-BFX	10	
	117068	27	125x4x22.23	A30R-BFX	10	
	117070	27	125x7x22.23	A30R-BFX	10	
	117071	27	178x4x22.23	A30R-BFX	10	
	117072	27	178x7x22.23	A30R-BFX	10	
	117073	27	230x4x22.23	A30R-BFX	10	
	117074	27	230x7x22.23	A30R-BFX	10	
	474524	27V	178x7x22.23	A30R-BFX	10	Vibstar
	474526	27V	230x7x22.23	A30R-BFX	10	Vibstar
	515988	27SI	178x7x22.23	A30R-BFX	10	Silentio
	515989	27SI	230x8x22.23	A30R-BFX	10	Silentio
	13616	28CON	230x7x22.23	A30R-BFX	10	Conflex



27

27V



27Si


28CON



**PREMIUM★★★**

**Construction/materials able to be machined:** High-performance rough grinding wheel with zirconium aluminium oxide in grade Q; particularly suitable for steel, INOX and cast applications. Easy cutting, aggressive tool for edge and surface grinding.

**Details: Chemical purity guaranteed: Free from iron, sulphur, chlorine and fluorine! Workpiece neutrality after machining.**

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	466744	27	115x7x22.23	ZA30Q-BFR	10	3in1
	466749	27	125x7x22.23	ZA30Q-BFR	10	3in1
	466754	27	178x7x22.23	ZA30Q-BFR	10	3in1
	466762	27	230x7x22.23	ZA30Q-BFR	10	3in1



27



## GRINDING | RESIN CUP WHEELS





These cup wheels achieve the highest stock removal performance and wheel life for angle grinders. Due to their condition and assortment, they are not only suited for working on steel and castings (above all for grinding jobs on large areas, for heavy workpieces and grinding welding seams), but also for working on stone and concrete (grinding grains on visible concrete surfaces, bevelling and pre-grinding artificial stone and patio flags, surface grinding on marble, slate and granite). There is a choice of the bore design H=22.23 and the thread design M14 for fitting to the tool.



**PREMIUM**★★★

**Construction/materials able to be machined:** Maximum stock removal performance and tool life for grinding jobs on large areas, heavy workpieces, edge grinding, bevelling and grinding welding seams.



**Details:** There is the choice of the bore design H=22.23mm and the thread design M14 and 5/8" for fitting to the tool. Use very large angle grinders (178/230 mm) with an axial height adjustable protection cover. Coarse (grit size 16, 20), medium (grit size 36, 46, 60) and fine grinding (grit 120, 220).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
   <p>11BT                      11ZB</p>  <p>11ZT</p>	310183	11BT	110/90x55x22.23	A16P4B84	2		
	311096	11BT	110/90x55x22.23	A36O4B84	2		
	351386	11BT	130/90x55x22.23	A16P4B84	2		
	310997	11BT	130/90x55x22.23	A36O4B84	2		
	321395	11ZB	110/90x55xM14	A16P4B84	2		
	310184	11ZB	110/90x55xM14	A36O4B84	2		
	377664	11ZB	130/90x55xM14	A36O4B84	2		
	241413	11ZT	102/76x51x5/8"	A16P4B84	2		
	23525	11ZT	152/120x51x5/8"	A16P4B84	2		


**PREMIUM★★★**

**Construction/materials able to be machined:** Maximum stock removal performance and tool life for grinding jobs on large areas, heavy workpieces, edge grinding, bevelling and grinding welding seams.






**Details:** There is the choice of the bore design H=22.23mm and the thread design M14 and 5/8" for fitting to the tool. Use very large angle grinders (178/230 mm) with an axial height adjustable protection cover. Coarse (grit size 16, 20), medium (grit size 36, 46, 60) and fine grinding (grit 120, 220).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	23509	11ZT	127/94x51x5/8"	A20M4B2	2	
	275634	11ZT	152/120x51x5/8"	A20M4B2	2	
 11ZT						


**PREMIUM★★★**

**Construction/materials able to be machined:** Maximum stock removal rates and lifetime for grinding tasks on large areas. Grinding imperfections on concrete surfaces, bevelling and pre-grinding artificial stone and patio flags, surface grinding on marble, slate and granite.

**Details:** Choice of bore design H=22.23mm and M14 thread for the tool holder. Use very large angle grinders (178/230 mm) with an axial height adjustable guard. Coarse (grit size 16, 20), medium (grit size 36, 46, 60) and fine grinding (grit 120, 220).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	310980	11BT	110/90x55x22.23	1C16L4B2	2	
	318070	11BT	110/90x55x22.23	1C24L4B2	2	
	342583	11BT	110/90x55x22.23	1C46K4B2	2	
	314463	11BT	110/90x55x22.23	1C60J4B2	2	
	317307	11BT	110/90x55x22.23	1C120J4B0	2	
	89383	6ZB	100x45xM14	1C24L4B2	2	
	83585	6ZB	100x45xM14	1C60J4B2	2	
	56895	6ZB	100x45xM14	1C120J4B2	2	
	553403	6ZB	100x45xM14	1C220J4B0	2	
	 11BT					
 6ZB						
 11ZB	310992	11ZB	110/90x55xM14	1C16L4B2	2	
	310993	11ZB	110/90x55xM14	1C24L4B2	2	
	321211	11ZB	110/90x55xM14	1C60J4B2	2	
	320074	11ZB	110/90x55xM14	1C120J4B0	2	
	326214	11ZB	110/90x55xM14	1C220J4B0	2	
	310994	11ZB	130/90x55xM14	1C16L4B2	2	
	310995	11ZB	130/90x55xM14	1C24L4B2	2	
	320075	11ZB	130/90x55xM14	1C60J4B2	2	
 11ZB	424846	11ZB	130/90x55xM14	1C120J4B0	2	
	336499	11ZB	130/90x55xM14	1C220J4B0	2	



# GRINDING | RESIN RONDELLER



No need to use special accessories (supporting discs and conical clamping nuts)! The PREMIUM rondellers combine product benefits of different grinding tools with easy handling. The unique geometry and completely new stud pattern enable excellent chip transport, cool grinding that is kind to materials and ergonomic use. Absolutely vibration-free use and ideally adapted to workpieces for grinding, deburring and shaping work means that spherical surfaces can be perfectly machined.



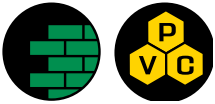
**PREMIUM**★★★

**Construction/materials able to be machined:** Semi-flexible high-performance grinding wheel for grinding, deburring and shaping operations. Perfect machining of spherical curved surfaces.

**Details:** Cutting tool combines the product advantages of different grinding tools with easy handling. The unique geometry of the rondeller enables ergonomic use and cool grinding that is kind to materials. Vibration-free use and ideally adapted to the workpiece.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	57004	29RON	115x22.23	A24-BF	25	2in1
	908225	29RON	115x22.23	A36-BF	25	2in1
	908226	29RON	115x22.23	A60-BF	25	2in1
	57005	29RON	125x22.23	A24-BF	25	2in1
	908227	29RON	125x22.23	A36-BF	25	2in1
	908229	29RON	125x22.23	A60-BF	25	2in1
	57006	29RON	178x22.23	A24-BF	25	2in1
	908230	29RON	178x22.23	A36-BF	25	2in1
	908231	29RON	178x22.23	A60-BF	25	2in1
						



29RON



**PREMIUM**★★★

**Construction/materials able to be machined:** Semi-flexible high-performance grinding wheel for grinding, deburring and shaping operations. Perfect machining of spherical curved surfaces.

**Details:** Cutting tool combines the product advantages of different grinding tools with easy handling. The unique geometry of the rondeller enables ergonomic use and cool grinding that is kind to materials. Vibration-free use and ideally adapted to the workpiece.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  29RON	908233	29RON	115x22,23	C36-BF	25	
	908220	29RON	178x22,23	C36-BF	25	
	908221	29RON	178x22,23	C60-BF	25	
	908223	29RON	178x22,23	C100-BF	25	
	908224	29RON	178x22,23	C180-BF	25	



## GRINDING | FLAP DISCS

Perfect surface on steel, stainless steel (INOX) and NF metals combined with above-average performance!


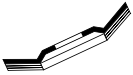
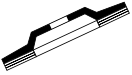
All specifications are without iron, sulphur and chlorine content and are thus ideally suited for working on stainless steels.



**PREMIUM**★★★

**Construction/materials able to be machined:** Versatile professional tool for universal grinding jobs. Perfect for surfaces made of steel, surface and edge grinding as well as deburring jobs.

**Details:** 27A/28A supporting discs made of rigid fibre glass. Powerful angle grinders enhance the performance of all premium flap discs.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	668630	27A	115x22.23	A40-B	10		
	668631	27A	115x22.23	A60-B	10		
	668632	27A	115x22.23	A80-B	10		
	668633	27A	115x22.23	A120-B	10		
	668634	27A	125x22.23	A40-B	10		
	668635	27A	125x22.23	A60-B	10		
	668637	27A	125x22.23	A80-B	10		
	896379	27A	125x22.23	A120-B	10		
	668638	27A	178x22.23	A40-B	10		
	668640	27A	178x22.23	A60-B	10		
	668641	27A	178x22.23	A80-B	10		
	75193	27A	178x22.23	A120-B	10		
	  <p>27A                      28A</p>	668679	28A	115x22.23	A40-B	10	
		795077	28A	115x22.23	A60-B	10	
		699984	28A	115x22.23	A80-B	10	
		642626	28A	115x22.23	A120-B	10	
		668681	28A	125x22.23	A40-B	10	
728528		28A	125x22.23	A60-B	10		
817672		28A	125x22.23	A80-B	10		
817935		28A	125x22.23	A120-B	10		
668683		28A	178x22.23	A40-B	10		
886353		28A	178x22.23	A60-B	10		
642627	28A	178x22.23	A80-B	10			
642628	28A	178x22.23	A120-B	10			


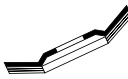




**PREMIUM★★★**

**Construction/materials able to be machined:** By virtue of the self-sharpening, ceramic abrasive grit, the PREMIUM \*\*\* CERAMIC flap disc is particularly suitable for high-alloyed steels and demanding grinding applications. The cool grinding ensures a longer tool life and reduces discolouration on the workpiece surface. By continually generating new cuts over the wheel life, a more consistent surface finish is produced.

**Details:** In ceramic grain, fine aluminium oxide crystals are combined together through a sintering process. As a result of the grinding forces, these microcrystals break out during the grinding process, meaning that the abrasive grain always obtains new, sharp cutting edges.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27A	645130	27A	115x22.23	CA40-B	10	Ceramic
	645132	27A	115x22.23	CA60-B	10	Ceramic
	645135	27A	125x22.23	CA40-B	10	Ceramic
	645137	27A	125x22.23	CA60-B	10	Ceramic

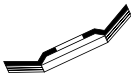


**PREMIUM★★★**

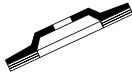
**Construction/materials able to be machined:** Versatile professional tool for universal grinding jobs. Surface grinding, edge grinding and deburring on steel and stainless steel. The 2in1 flap disc combines a high stock removal rate with specific abrasion and an excellent service life.

Long life represents extreme lifetime  
FASTCUT represents excellent, specific abrasion.

**Details:** 27A/28A supporting discs made of rigid fibre glass; powerful angle grinders enhance the performance of all premium flap discs.



27A



28A


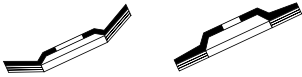
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	668642	27A	115x22.23	ZA40-B	10	2in1
	668644	27A	115x22.23	ZA60-B	10	2in1
	668649	27A	115x22.23	ZA80-B	10	2in1
	643803	27A	115x22.23	ZA120-B	10	2in1
	668663	27A	125x22.23	ZA40-B	10	2in1
	668664	27A	125x22.23	ZA60-B	10	2in1
	668665	27A	125x22.23	ZA80-B	10	2in1
	643805	27A	125x22.23	ZA120-B	10	2in1
	519212	27A	150x22.23	ZA40-B	10	2in1
	519213	27A	150x22.23	ZA60-B	10	2in1
	519214	27A	150x22.23	ZA80-B	10	2in1
	519215	27A	150x22.23	ZA120-B	10	2in1
	668670	27A	178x22.23	ZA40-B	10	2in1
	668672	27A	178x22.23	ZA60-B	10	2in1
	668673	27A	178x22.23	ZA80-B	10	2in1
	643807	27A	178x22.23	ZA120-B	10	2in1
	668686	28A	115x22.23	ZA40-B	10	2in1
	668687	28A	115x22.23	ZA60-B	10	2in1
	668691	28A	115x22.23	ZA80-B	10	2in1
	846344	28A	115x22.23	ZA120-B	10	2in1
	668692	28A	125x22.23	ZA40-B	10	2in1
	668693	28A	125x22.23	ZA60-B	10	2in1
	668694	28A	125x22.23	ZA80-B	10	2in1
	645145	28A	125x22.23	ZA120-B	10	2in1
	668696	28A	178x22.23	ZA40-B	10	2in1
	668697	28A	178x22.23	ZA60-B	10	2in1
	668698	28A	178x22.23	ZA80-B	10	2in1
	643823	28A	178x22.23	ZA120-B	10	2in1



**PREMIUM★★★**

**Construction/materials able to be machined:** Versatile professional tool for universal grinding jobs. Surface grinding, edge grinding and deburring on steel and stainless steel. The 2in1 flap disc combines a high stock removal rate with specific abrasion and an excellent service life. FASTCUT represents excellent, specific abrasion. Long life represents extreme lifetime.

**Details:** 28A supporting discs made of rigid fibre glass. 28N support discs made of plastic, excellent mechanical properties, oil and grease resistant. Powerful angle grinders enhance the performance of all premium flap discs.


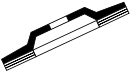
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	528580	27A	100x16	ZA40-B	10	FASTCUT	
	643845	27A	100x16	ZA60-B	10	FASTCUT	
	643846	27A	100x16	ZA80-B	10	FASTCUT	
	160229	27A	115x22.23	ZA40-B	10	FASTCUT	
	160230	27A	115x22.23	ZA60-B	10	FASTCUT	
	160235	27A	115x22.23	ZA80-B	10	FASTCUT	
	160240	27A	125x22.23	ZA40-B	10	FASTCUT	
	160242	27A	125x22.23	ZA60-B	10	FASTCUT	
	160244	27A	125x22.23	ZA80-B	10	FASTCUT	
	160245	27A	178x22.23	ZA40-B	10	FASTCUT	
	160246	27A	178x22.23	ZA60-B	10	FASTCUT	
	160247	27A	178x22.23	ZA80-B	10	FASTCUT	
		160249	28A	115x22.23	ZA40-B	10	FASTCUT
		160251	28A	115x22.23	ZA60-B	10	FASTCUT
		160252	28A	115x22.23	ZA80-B	10	FASTCUT
		160254	28A	125x22.23	ZA40-B	10	FASTCUT
		160255	28A	125x22.23	ZA60-B	10	FASTCUT
160256		28A	125x22.23	ZA80-B	10	FASTCUT	
160257		28A	178x22.23	ZA40-B	10	FASTCUT	
160258		28A	178x22.23	ZA60-B	10	FASTCUT	
160260		28A	178x22.23	ZA80-B	10	FASTCUT	
		458028	28N	115x22.23	ZA40-B	10	FASTCUT
	458029	28N	115x22.23	ZA60-B	10	FASTCUT	
	458030	28N	115x22.23	ZA80-B	10	FASTCUT	
	458034	28N	125x22.23	ZA40-B	10	FASTCUT	
	458033	28N	125x22.23	ZA60-B	10	FASTCUT	
	458031	28N	125x22.23	ZA80-B	10	FASTCUT	
	458035	28N	178x22.23	ZA40-B	10	FASTCUT	
	458038	28N	178x22.23	ZA60-B	10	FASTCUT	
	458040	28N	178x22.23	ZA80-B	10	FASTCUT	



**PREMIUM\*\*\***

**Construction/materials able to be machined:** Versatile professional tool for universal grinding jobs. Surface grinding, edge grinding and deburring on steel and stainless steel. The 2in1 flap disc combines a high stock removal rate and an excellent service life. FASTCUT represents excellent, specific abrasion. Long life represents extreme lifetime.

**Details:** 28A supporting discs made of rigid fibre glass. Self-wearing. 28N support discs made of plastic, excellent mechanical properties, oil and grease resistant, resettable. Powerful angle grinders enhance the performance of all premium flap discs.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  28N	680369	28N	115x22.23	ZA40-B	10	Long life
	680373	28N	115x22.23	ZA60-B	10	Long life
	680376	28N	115x22.23	ZA80-B	10	Long life
	680377	28N	115x22.23	ZA120-B	10	Long life
	680379	28N	125x22.23	ZA40-B	10	Long life
	680380	28N	125x22.23	ZA60-B	10	Long life
	680383	28N	125x22.23	ZA80-B	10	Long life
	680386	28N	125x22.23	ZA120-B	10	Long life
	680387	28N	178x22.23	ZA40-B	10	Long life
	680388	28N	178x22.23	ZA60-B	10	Long life
	680389	28N	178x22.23	ZA80-B	10	Long life
	680390	28N	178x22.23	ZA120-B	10	Long life



**PREMIUM\*\*\***

**Construction/materials able to be machined:** PREMIUM\*\*\* OVERLAP is just the right tool for those 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 also impresses in terms of stock removal rate and service life when used on steel and stainless steel.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27A	540688	27A	125x22.23	ZA40-B	10	Overlap
	540689	27A	125x22.23	ZA60-B	10	Overlap



## GRINDING | RESIN ROUGH GRINDING WHEELS



A clearly set out assortment in the STANDARD line and a thorough colour guidance system enable you to find the best suited product. The new specifications on the STANDARD line meet all the requirements of ergonomic, convenient and vibration-free rough grinding combined with excellent machining performance and high lifetime.



### STANDARD★★

**Construction/materials able to be machined:** powerful rough grinding wheels for surface and edge grinding.

**Details:** Optimised rough grinding wheels with a long service life and easy cutting ability, excellent cutting and convenient tool even with low pressure.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	368002	27	100x6x16	A24-BF	10	
	367377	27	115x6x22.23	A24-BF	10	
	367771	27	125x6x22.23	A24-BF	10	
	367772	27	150x6x22.23	A24-BF	10	
	367773	27	178x6x22.23	A24-BF	10	
	367775	27	230x6x22.23	A24-BF	10	
						



27



**STANDARD**★★

**Construction/materials able to be machined:** powerful rough grinding wheel for surface and edge grinding.

**Details:** Optimised rough grinding wheels with a long service life and easy cutting ability, excellent cutting and convenient tool even with low pressure.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27	368008	27	100x6x16	C30-BF	10	
	367546	27	115x6x22.23	C30-BF	10	
	367549	27	125x6x22.23	C30-BF	10	
	367552	27	178x6x22.23	C30-BF	10	
	367557	27	230x6x22.23	C30-BF	10	



**STANDARD**★★

**Construction/materials able to be machined:** powerful rough grinding wheel for machining all cast materials.



**Details:** For surface and edge grinding; optimised tool with easy cutting ability and long service life, excellent cutting and rigid tool even with low pressure.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27	154544	27	178x7x22.23	ZA30-BF	10	Focur
	154545	27	230x7x22.23	ZA30-BF	10	Focur



**Construction/materials able to be machined:** powerful rough grinding wheel for surface and edge grinding.

**Details:** Optimised rough grinding wheels with a long service life and easy cutting ability, excellent cutting and convenient tool even with low pressure.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27	368014	27	100x6x16	A30-BFINOX	10	
	367545	27	115x6x22.23	A30-BFINOX	10	
	367548	27	125x6x22.23	A30-BFINOX	10	
	367550	27	150x6x22.23	A30-BFINOX	10	
	367551	27	178x6x22.23	A30-BFINOX	10	
	367553	27	178x8x22.23	A30-BFINOX	10	
	367554	27	230x6x22.23	A30-BFINOX	10	
	367556	27	230x8x22.23	A30-BFINOX	10	



## GRINDING | RESIN CUP WHEELS



Professional tool for surface and edge grinding with excellent results. They are especially suited for quick stock removal in casting houses and steelworks as well as the stone sector. There is a choice of the bore design H=22.23 and the thread design M14 for fitting to the tool.



**STANDARD**★★

**Construction/materials able to be machined:** Professional tool with excellent results. For grinding jobs on large areas, heavy workpieces, edge grinding, bevelling and grinding welding seams.

**Details:** The bore design H=22.23mm is available for the tool holder. If using large angle grinders (178/230mm), always use an axially height adjustable guard.




	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	895678	11BT	110/90x55x22.23	A36-B	2	
	895669	11BT	110/90x55x22.23	A36-B	2	
 11BT						




**STANDARD★★**

**Construction/materials able to be machined:** Professional tool with excellent results. For grinding jobs on large areas for heavy workpieces. Edge grinding, bevelling and grinding in the stone and natural stone sector.

**Details:** Choice of bore design H=22.23mm and M14 thread for the tool holder. If using large angle grinders (178/230mm), always use an axially height adjustable guard.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
   11BT                  11ZB	895679	11BT	110/90x55x22.23	C16-B	2		
	895670	11BT	110/90x55x22.23	C36-B	2		
	895671	11BT	110/90x55x22.23	C60-B	2		
	895676	11ZB	110/90x55xM14	C16-B	2		
	895677	11ZB	110/90x55xM14	C60-B	2		



## GRINDING | ROUGH CLEANING DISCS



Easily remove rust, paint, varnish and underbody sealant. Prepare surfaces for welding, soldering and anodizing. The highly porous nylon fibers, evenly treated with aggressive abrasives, meet any challenge. The universality of rough cleaning discs are characterized by a lack of disc clogging and smearing, long life combined with an even grinding pattern, but also low heat build-up and quiet, effortless grinding. Available for use on angle grinders (27GR) and straight grinders (1 GR).



**STANDARD★★**

**Construction/materials able to be machined:** powerful rough cleaning wheel.  
Vs = 63m/s / adjustable angle grinder required

**Details:** Rust, paint, lacquer and underbody sealant easily removed. Surfaces prepared for welding, soldering or anodising. No clogging and smearing for an open structure. Available for use on the angle grinder (shape 27GR) and straight grinder (shape 1GR).

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	898014	27GR	115x22.23	C36-B	5	
	898017	27GR	125x22.23	C36-B	5	
	898018	27GR	178x22.23	C36-B	5	
						

27


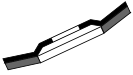


## GRINDING | ELASTIC RONDELLER

An extremely kind surface improvement: „from fine grinding to polishing“ is now possible with an angle grinder thanks to a highly elastic grinding layer and the use of a stable fiber glass body. The only requirement is an adjustable speed on the angle grinder ( $v_{max} = 30 \text{ m/s}$  equates to a speed of 5500/ min). Ideally suited for work on vehicles, containers and aeroplanes. A choice of two types of abrasive (A = for steel, stainless steel and NF metals and C = for lacquers, paints and plastics) and three grades of fineness (coarse, medium, fine) cover all requirements.


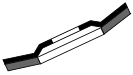


### STANDARD★★

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	10055	29EL	115x9x22.23	A80-COARSE	5	
	10056	29EL	115x9x22.23	A150-MEDIUM	5	
	10058	29EL	115x9x22.23	A240-FINE	5	
 29EL						



### STANDARD★★

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	8434	29EL	115x9x22.23	C80-COARSE	5	
	10051	29EL	115x9x22.23	C150-MEDIUM	5	
	10054	29EL	115x9x22.23	C240-FINE	5	
 29EL						





## GRINDING | SOFT JOB FLAP DISCS

The perfect addition to flap discs, the STANDARD SOFT JOB flap discs distinguish themselves by their flexibility, based not only on their wide range of uses but also due to being ideally adapted to different workpiece shapes. Quiet, convenient tool that is mainly suited to fitting and finishing work.



**STANDARD★★**

**Construction/materials able to be machined:** Optimum tool for difficult and demanding grinding tasks on steel and stainless steel. For angle grinders of any power. Surface grinding, edge grinding, welding-seam machining and deburring.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  28S	246987	28S	115x22.23	ZA40-B	10	2in1
	246988	28S	115x22.23	ZA60-B	10	2in1
	246990	28S	115x22.23	ZA80-B	10	2in1
	246994	28S	115x22.23	ZA120-B	10	2in1
	246995	28S	125x22.23	ZA40-B	10	2in1
	246996	28S	125x22.23	ZA60-B	10	2in1
	246998	28S	125x22.23	ZA80-B	10	2in1
	247001	28S	125x22.23	ZA120-B	10	2in1



## GRINDING | FLAP DISCS


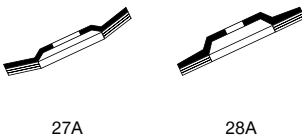
We especially recommend this line for the specialized trade. STANDARD flap discs are professional tools and can be universally used on steel, stainless steel (INOX) and NF metals. They fulfill the needs of difficult, demanding grinding jobs on all types of materials.



### STANDARD★★

**Construction/materials able to be machined:** Optimum tool for difficult and demanding grinding tasks on steel and stainless steel. For angle grinders of any power. Surface grinding, edge grinding, welding-seam machining and deburring.

**Details:** 27A/28A supporting discs made of rigid fibre glass, 28N supporting discs made of plastic, excellent mechanical properties, oil and grease resistant.


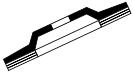
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	843806	27A	100x16	ZA40-B	10	2in1
	455324	27A	100x16	ZA60-B	10	2in1
	455318	27A	100x16	ZA80-B	10	2in1
	257768	27A	100x16	ZA120-B	10	2in1
	572473	27A	115x22,23	ZA40-B	10	2in1
	454393	27A	115x22,23	ZA60-B	10	2in1
	455312	27A	115x22,23	ZA80-B	10	2in1
	50801	27A	115x22,23	ZA120-B	10	2in1
	824385	27A	125x22,23	ZA40-B	10	2in1
	455303	27A	125x22,23	ZA60-B	10	2in1
	458587	27A	125x22,23	ZA80-B	10	2in1
	243069	27A	125x22,23	ZA120-B	10	2in1
	139648	27A	150x22,23	ZA40-B	10	2in1
	139651	27A	150x22,23	ZA60-B	10	2in1
	139653	27A	150x22,23	ZA80-B	10	2in1
	575635	27A	150x22,23	ZA120-B	10	2in1
	580650	27A	178x22,23	ZA40-B	10	2in1
	454396	27A	178x22,23	ZA60-B	10	2in1
	455314	27A	178x22,23	ZA80-B	10	2in1
	243071	27A	178x22,23	ZA120-B	10	2in1
	537021	28A	115x22,23	ZA40-B	10	2in1
	537084	28A	115x22,23	ZA60-B	10	2in1
	537089	28A	115x22,23	ZA80-B	10	2in1
	537093	28A	115x22,23	ZA120-B	10	2in1
	537095	28A	125x22,23	ZA40-B	10	2in1
	537097	28A	125x22,23	ZA60-B	10	2in1
	537110	28A	125x22,23	ZA80-B	10	2in1
	537111	28A	125x22,23	ZA120-B	10	2in1
	537112	28A	178x22,23	ZA40-B	10	2in1
	537113	28A	178x22,23	ZA60-B	10	2in1
	537114	28A	178x22,23	ZA80-B	10	2in1
	537115	28A	178x22,23	ZA120-B	10	2in1



**STANDARD**★★

**Construction/materials able to be machined:** Optimum tool for difficult and demanding grinding tasks on steel and stainless steel. For angle grinders of any power. Surface grinding, edge grinding, welding-seam machining and deburring.

**Details:** 27A/28A supporting discs made of rigid fibre glass, 28N supporting discs made of plastic, excellent mechanical properties, oil and grease resistant.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	847917	28N	115x22,23	ZA40-B	10	2in1
	847924	28N	115x22,23	ZA60-B	10	2in1
	847927	28N	115x22,23	ZA80-B	10	2in1
	247165	28N	115x22,23	ZA120-B	10	2in1
	847921	28N	125x22,23	ZA40-B	10	2in1
	847925	28N	125x22,23	ZA60-B	10	2in1
	847928	28N	125x22,23	ZA80-B	10	2in1
	247366	28N	125x22,23	ZA120-B	10	2in1
	847923	28N	178x22,23	ZA40-B	10	2in1
	847926	28N	178x22,23	ZA60-B	10	2in1
	847929	28N	178x22,23	ZA80-B	10	2in1
	247175	28N	178x22,23	ZA120-B	10	2in1
	 <p>28N</p>					



## GRINDING | RESIN ROUGH GRINDING WHEELS



For all applications and materials including castings and stone. Cut-off wheels of the BASIC line are characterized by their high stock removal and good lifetime combined with easy handling and fast working.



### BASIC★

**Construction/materials able to be machined:** universal rough grinding wheels for surface and edge grinding.

**Details:** Less pressure for universal grinding tasks with a good service life. FASTCUT with easy cutting ability, optimised specification for more stock removal in a shorter period of time.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
	222854	27	100x6x16	A30-BF	10	2in1	
	222858	27	115x6x22.23	A30-BF	10	2in1	
	222860	27	125x6x22.23	A30-BF	10	2in1	
	222861	27	150x6x22.23	A30-BF	10	2in1	
	222863	27	178x6x22.23	A30-BF	10	2in1	
	222868	27	178x8x22.23	A30-BF	10	2in1	
	222865	27	230x6x22.23	A30-BF	10	2in1	
	222870	27	230x8x22.23	A30-BF	10	2in1	
	297324	27	100x6x16	A30-BF	10	FASTCUT	
	297325	27	115x6x22.23	A30-BF	10	FASTCUT	
	297327	27	125x6x22.23	A30-BF	10	FASTCUT	
	297329	27	150x6x22.23	A30-BF	10	FASTCUT	
	297331	27	178x6x22.23	A30-BF	10	FASTCUT	
	297333	27	230x6x22.23	A30-BF	10	FASTCUT	


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**BASIC★**

**Construction/materials able to be machined:** universal rough grinding wheel for surface and edge grinding.

**Details:** Less pressure for universal grinding tasks with a good service life.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27	222872	27	100x6x16	C30-BF	10	
	222873	27	115x6x22.23	C30-BF	10	
	222889	27	125x6x22.23	C30-BF	10	
	222892	27	150x6x22.23	C30-BF	10	
	222043	27	178x6x22.23	C30-BF	10	
	222898	27	230x6x22.23	C30-BF	10	



**BASIC★**

**Construction/materials able to be machined:** universal rough grinding wheel for surface and edge grinding.

**Details:** Particularly suitable for smoothing cast materials.



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  27	567352	27	178x8x22.23	AC30-BF	10	
	567353	27	230x8x22.23	AC30-BF	10	




**BASIC★**

**Construction/materials able to be machined:** Universal semi-flexible grinding wheels for surface and edge grinding.

**Details:** The Touch has an open faced structure which encourages aggressive and easy cutting with reduced pressure.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	236318	29T	115x22.23	WA46-BF	25	TOUCH
	236319	29T	125x22.23	WA46-BF	25	TOUCH
	236320	29T	178x22.23	WA46-BF	25	TOUCH
						
29T						



## GRINDING | FLAP DISCS


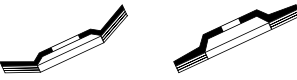
The all-round products for economic use. Universally applicable in industry and craftwork on all metals. Due to the use of high quality cloths with zirconium, there are no limits to the applications of these products.



**BASIC★**

**Construction/materials able to be machined:** Universal use on all metals in industry and the handicrafts sector. For angle grinders of any power. Surface grinding, edge grinding, welding-seam machining and deburring.

**Details:** 27A/28A supporting discs made of rigid fibre glass; powerful angle grinders enhance the performance of all basic flap discs.

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	474872	27A	100x16	ZA40-B	10	2in1
	474874	27A	100x16	ZA60-B	10	2in1
	474875	27A	100x16	ZA80-B	10	2in1
	273884	27A	115x22.23	ZA40-B	10	2in1
	273810	27A	115x22.23	ZA60-B	10	2in1
	273871	27A	115x22.23	ZA80-B	10	2in1
	273872	27A	125x22.23	ZA40-B	10	2in1
	273873	27A	125x22.23	ZA60-B	10	2in1
	273874	27A	125x22.23	ZA80-B	10	2in1
		320318	28A	115x22.23	ZA40-B	10
320320		28A	115x22.23	ZA60-B	10	2in1
320322		28A	115x22.23	ZA80-B	10	2in1
320319		28A	125x22.23	ZA40-B	10	2in1
320321		28A	125x22.23	ZA60-B	10	2in1
320323		28A	125x22.23	ZA80-B	10	2in1



## **ANGLE GRINDER GRINDING**

- PREMIUM Diamond 156
- STANDARD Diamond 157





## GRINDING | DIAMOND



Cost-effective work combined with high stock removal performance and long lifetime are at the forefront of TYROLIT dry grinding plates, as is its universal range of application. In addition to these two points, a thorough colour coding system helps you to find the right product for the material to be machined.





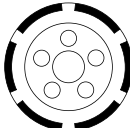

**PREMIUM★★★**

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
   STHD	356569	STHD	100x18x22.2	DGU★★★	1	
	350694	STHD	110x18x22.2	DGU★★★	1	
	367833	STHD	110x18	DGU★★★	1	
	348387	STHD	125x18x22.2	DGU★★★	1	
	828013	STHD	180x19x22.2	DGU★★★	1	



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  STHD	405219	STHD	125x18x22.2	DGAB***	1	



	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION	
  STS-D	494339	STS-D	100x18x22.23	DGU**	1		
	494361	STS-D	125x20x22.23	DGU**	1		
	494394	STS-D	180x32x22.23	DGU**	1		
	494349	STS-D	110x18x22.23	DGU**	1		
	494333	STS-S	100x18x22.23	DGU**	1		
	494342	STS-T	100x18x22.23	DGU**	1		
	494365	STS-T	125x20x22.23	DGU**	1		
	494391	STS-T	180x32x22.23	DGU**	1		
	 STS-S						
	 STS-T						





## **PRECISION**

- GRINDING
- SHARPENING
- DRESSING

**TYROLIT**

## Specification designation and overview of abrasives

Specification as short characterisation of grinding tool

Example

89A		60	M	5	V	217
Abrasive description		Grit sizes Description	Hardness	Structure	Bond	Bond designation
10A	Regular aluminium oxide	Grit size indication in mesh (sieve size per inch)  <b>14 - 36 course</b> <b>46 - 60 Medium</b> <b>80 - 220 Fine</b> <b>800 - 1200 Very fine</b>	Hardness ascends alphabetically  e.g. <b>G = soft</b> <b>R = hard</b>	The higher the number, the more open the wheel is.	<b>V =</b> Vitrified-bonded  <b>B =</b> Resin-bonded  <b>E =</b> Elastic-bonded  <b>G =</b> Galvanic-bonded	Internal code, which defines bond type.
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 fused aluminium oxide					
89A	White fused aluminium oxide					
91A	Red fused 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					

Example of a vitrified-bonded TYROLIT grinding wheel with conventional abrasive grain 89A 60 M5 V217.

B		126	C50	B	54
Abrasive description		Grit size description	Concentration	Bond	Bond designation
B	CBN	Grit size indication in $\mu\text{m}$ (average grit diameter according to FEPA)  <b>35 - 181 <math>\mu\text{m}</math></b>	The grain concentration shows the grain volume in carat, according to the unit of volume of the grinding layer.	<b>B =</b> Resin-bonded  <b>M =</b> Metal-bonded	Internal code, which defines bond type.
D	Diamond				

Example of a resin-bonded TYROLIT grinding wheel with CBN abrasive grain B 126 C50 B54.

Materials table – an example

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A		○	●	○	●	○						●
93A			●		●	●						●

● Extremely suitable

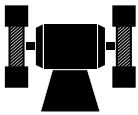
○ Limited suitability





## GRINDING PRECISION

— Floor Standing grinding wheels	162	— Profile surface grinding	184
— Sharpening and polishing wheels	167	— Surface grinding	185
— External cylindrical grinding	169	— Internal cylindrical grinding	187
— Reciprocating surface grinding	175	— Hand held grinding	194



## CONVENTIONAL CERAMICS

### Product advantages:

- └ Grinding wheel specification can be used universally
- └ Reducing ring set (universally suitable, for common machine shafts)
- └ Extremely smooth running
- └ Stackable individual packaging to suit racks

### Application tips:

- └ Sharpening a cemented carbide tipped tool
- └ Regrinding a HSS tool




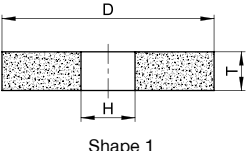
### Safety information:

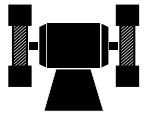
- └ Take note of the safety information, particularly in the case of maximum operating speed of 40 m/s
- └ See chapter "Safety when grinding" (page 29)



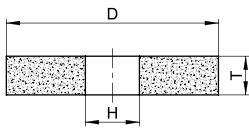
## NON AND LOW-ALLOYED STEELS

Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
	Unhardened	Hardened	Unhardened	Hardened							
A	●	○							○	●	

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  <p>Shape 1</p>	109613	1	300x40x51	A24V-TR	1	
	210102	1	300x40x76	A24V-TR	1	
	156761	1	125x15x32	A36V-TR	1	
	156779	1	125x20x32	A36V-TR	1	
	156786	1	150x15x32	A36V-TR	1	
	109555	1	150x20x32	A36V-TR	1	
	109571	1	150x25x32	A36V-TR	1	
	156802	1	150x32x32	A36V-TR	1	
	156808	1	175x20x32	A36V-TR	1	
	109575	1	175x25x32	A36V-TR	1	
	109590	1	175x25x51	A36V-TR	1	
	156820	1	175x32x32	A36V-TR	1	
	158555	1	200x20x40	A36V-TR	1	
	158565	1	200x25x40	A36V-TR	1	
	109591	1	200x25x51	A36V-TR	1	
	156842	1	200x32x40	A36V-TR	1	
	186042	1	200x32x51	A36V-TR	1	
	158572	1	250x25x40	A36V-TR	1	
	156854	1	250x32x40	A36V-TR	1	

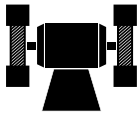


**NON AND LOW-ALLOYED STEELS**



Shape 1

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	109611	1	250x32x51	A36V-TR	1	
	158577	1	300x40x40	A36V-TR	1	
	109612	1	300x40x51	A36V-TR	1	
	210103	1	300x40x76	A36V-TR	1	
	156764	1	125x15x32	A60V-TR	1	
	109546	1	125x20x32	A60V-TR	1	
	156789	1	150x15x32	A60V-TR	1	
	109556	1	150x20x32	A60V-TR	1	
	109570	1	150x25x32	A60V-TR	1	
	156803	1	150x32x32	A60V-TR	1	
	156810	1	175x20x32	A60V-TR	1	
	109576	1	175x25x32	A60V-TR	1	
	109588	1	175x25x51	A60V-TR	1	
	156821	1	175x32x32	A60V-TR	1	
	158559	1	200x20x40	A60V-TR	1	
	158567	1	200x25x40	A60V-TR	1	
	109593	1	200x25x51	A60V-TR	1	
	156844	1	200x32x40	A60V-TR	1	
	210104	1	200x32x51	A60V-TR	1	
	158574	1	250x25x40	A60V-TR	1	
156858	1	250x32x40	A60V-TR	1		
109610	1	250x32x51	A60V-TR	1		
156860	1	300x40x40	A60V-TR	1		
210105	1	300x40x76	A60V-TR	1		




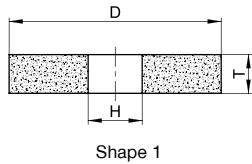
# FLOORSTAND GRINDING WHEELS CONVENTIONAL CERAMICS



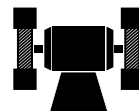
## HIGH-ALLOYED STEELS AND HSS

89A	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
			●	○	●	●				○	●	

	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	156768	1	125x15x32	89A60V-TR	1	
	156776	1	125x20x32	89A60V-TR	1	
	156791	1	150x15x32	89A60V-TR	1	
	109557	1	150x20x32	89A60V-TR	1	
	109568	1	150x25x32	89A60V-TR	1	
	156797	1	150x32x32	89A60V-TR	1	
	156811	1	175x20x32	89A60V-TR	1	
	109577	1	175x25x32	89A60V-TR	1	
	109586	1	175x25x51	89A60V-TR	1	
	156822	1	175x32x32	89A60V-TR	1	
	158560	1	200x20x40	89A60V-TR	1	
	158569	1	200x25x40	89A60V-TR	1	
	109594	1	200x25x51	89A60V-TR	1	
	156841	1	200x32x40	89A60V-TR	1	
	156164	1	200x32x51	89A60V-TR	1	
	210106	1	200x40x51	89A60V-TR	1	
	158575	1	250x25x40	89A60V-TR	1	
	156851	1	250x32x40	89A60V-TR	1	
	109609	1	250x32x51	89A60V-TR	1	
	158578	1	300x40x40	89A60V-TR	1	
	109616	1	300x40x51	89A60V-TR	1	
	210111	1	300x40x76	89A60V-TR	1	
	109548	1	125x20x32	89A80V-TR	1	
	109559	1	150x20x32	89A80V-TR	1	
	109567	1	150x25x32	89A80V-TR	1	
	109578	1	175x25x32	89A80V-TR	1	
	109581	1	175x25x51	89A80V-TR	1	
	109596	1	200x25x51	89A80V-TR	1	
	210113	1	200x32x51	89A80V-TR	1	
	109607	1	250x32x51	89A80V-TR	1	


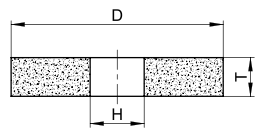


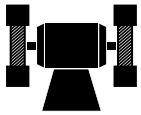
# FLOORSTAND GRINDING WHEELS CONVENTIONAL CERAMICS



## CEMENTED CARBIDE

c	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
					○	○	○	●		●	●	

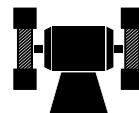
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
  Shape 1	156772	1	125x15x32	C80V-TR	1	
	109549	1	125x20x32	C80V-TR	1	
	156793	1	150x15x32	C80V-TR	1	
	109561	1	150x20x32	C80V-TR	1	
	109562	1	150x25x32	C80V-TR	1	
	156806	1	150x32x32	C80V-TR	1	
	156812	1	175x20x32	C80V-TR	1	
	109579	1	175x25x32	C80V-TR	1	
	109580	1	175x25x51	C80V-TR	1	
	156823	1	175x32x32	C80V-TR	1	
	156831	1	200x20x40	C80V-TR	1	
	158570	1	200x25x40	C80V-TR	1	
	109597	1	200x25x51	C80V-TR	1	
	156845	1	200x32x40	C80V-TR	1	
	210114	1	200x32x51	C80V-TR	1	
	210116	1	200x40x51	C80V-TR	1	
	158576	1	250x25x40	C80V-TR	1	
	156859	1	250x32x40	C80V-TR	1	
	109600	1	250x32x51	C80V-TR	1	
	158580	1	300x40x40	C80V-TR	1	
109618	1	300x40x51	C80V-TR	1		
210117	1	300x40x76	C80V-TR	1		



## ACCESSORIES

**Construction/materials able to be machined:** Reducing rings available free of charge as accessories for floorstand grinding discs. If required, please include them with your order.

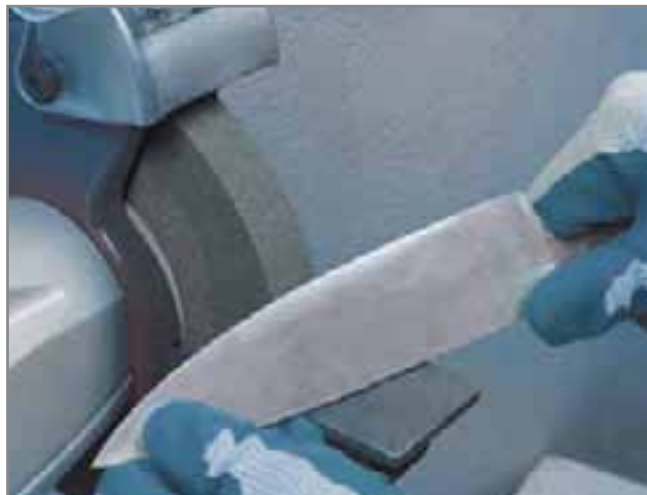
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	CLASSIFICATION
	149645	100RR	20x6x8	20/8	1	
	79292	100RR	20x6x10	20/10	1	
	76648	100RR	20x6x12	20/12	1	
	76618	100RR	20x6x13	20/13	1	
	84847	100RR	20x14x6	20/14	1	
	76627	100RR	20x15x6	20/15	1	
	76628	100RR	20x6x16	20/16	1	
	76629	100RR	20x6x17	20/17	1	
	84848	100RR	20x6x18	20/18	1	
	84850	100RR	25x16x6	25/16	1	
	934090	100RR	25x6x20	25/20	1	
	76631	100RR	25x6x22	25/22	1	
	76633	100RR	30x25x6	30/25	1	
	111434	100RR	32x16x19	Set 32/25/20/16	1	
	911408	100RR	51x9x32	Set 51/40/32	1	
	111436	100RR	76x40x9	Set 76/51/40	1	



## ELASTIC

### Product advantages:

- Particularly soft (in soft-elastic types)
- Easy profiling
- Ultra-fine surfaces achievable in the shortest possible time
- Long lifetime at recommended RPM
- Cooler grinding
- Also suitable for use on flexible shafts
- Improved cutting ability and lifetime of your cutting tools
- Easy handling, meaning sharp tool cutting right away (C400-BE15 and C800-BE11)

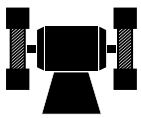


### Application tips:

- 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 und 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")
- $V_s = 16 \text{ m/s} - 32 \text{ m/s}$  maximum operating speed for floorstand grinding

### Safety information:

- $V_s = 16 \text{ m/s}$  for soft-elastic wheels
- $V_s = 32 \text{ m/s}$  for hard-elastic wheels
- Operating speed for elastic wheels is always linked to the wheel bond
- **Rotational direction for sharpening wheels away from tool bearing**
- Use of a 2/3 wheel flange
- Observe safety information
- See chapter "Safety when grinding" (page 29)



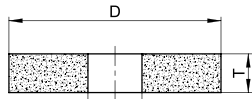
# SHARPENING AND POLISHING WHEELS ELASTIC



## SHARPENING WHEELS FOR CUTTING TOOLS

c	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
		●	●	●	●	●	●	●			●	

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS	
	7133	1	125	25	20	C800 - BE11	1	Sharpening of whittlers	
	10016	1	125	20	32	C800 - BE11	1		
	2540	1	125	25	32	C800 - BE11	1		
	669110	1	150	20	20	C800 - BE11	1		
	7204	1	150	20	32	C800 - BE11	1		
	669109	1	175	20	32	C800 - BE11	1		
	2512	1	125	20	20	C800 - BE11	1		
	2667	1	150	20	20	C800 - BE11	1		
	18380								
	3192	1	200	25	20	C800 - BE11	1		



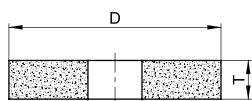
Shape 1



## FINE GRINDING AND POLISHING WHEELS

c	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
	○	●	●	●	●	●	●	●	○	●	●	

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
	12045	1	125	20	20	C150 - BE15	1	Sharpening of kitchen knives
	19435	1	125	20	20	C400 - BE15	1	
	802276	1	150	10	25	C150 - BE13	1	
	2652	1	150	20	20	C46 - BE15	1	Surface improvement on pre-ground workpieces (lower stock removal possible)
	7186	1	150	20	20	C80 - BE15	1	
	2661	1	150	20	20	C150 - BE15	1	
	22257	1	150	20	32	C150 - BE16	1	
	71212	1	150	20	20	C400 - BE16	1	
	7203	1	150	20	32	C400 - BE15	1	
	87633	1	150	25	32	C80 - BE16	1	
	60663	1	150	50	20	C16 - BE13	1	
	60661	1	150	50	20	C24 - BE13	1	
	60662	1	150	50	20	C46 - BE13	1	
	7362	1	200	25	20	C80 - BE15	1	
	320369	1	200	25	20	C240 - BE15	1	
	32765	1	200	25	32	C150 - BE15	1	
39409	1	200	25	32	C150 - BE16	1		
22411	1	200	25	32	C400 - BE15	1		



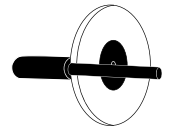
Shape 1

BE11 = medium, v<sub>max</sub>= 25m/s  
BE13 = soft, v<sub>max</sub>= 16m/s

BE15 = medium, v<sub>max</sub>= 20m/s  
BE16 = hard, v<sub>max</sub>= 32m/s

Use 2/3 wheel flange





## CONVENTIONAL CERAMICS

### Product advantages:

A comprehensive quality assurance system together with modern manufacturing technologies and production facilities form the basis for ultra-precise external cylindrical grinding tools tailored to customer requirements.

- Lifetime of tools (=service life) optimised
- Cutting ability (=stock removal rate) tailored to application
- Economic efficiency of grinding process is uppermost
- Quality of workpieces dressed to size according to customer requirements

### Application tips:

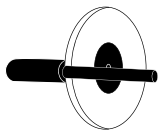
The key factor is the adjustment of the grinding wheel in the overall process (workpiece, tool, machine, parameters, coolant, dressing technology etc.) as well as the specific requirements of the particular grinding applications

- 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
- For optimised dressing, see page 22 or 213

### Safety information:

- Take note of the safety information, particularly in the case of maximum operating speed of 50 m/s
- Observe safety information




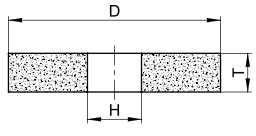


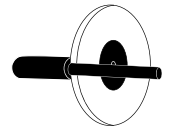
# EXTERNAL CYLINDRICAL GRINDING CONVENTIONAL CERAMICS



## NON AND LOW-ALLOYED STEELS


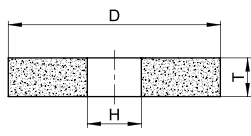
	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
50A		●	○							○		●
89A			●	○	●	○				○		●

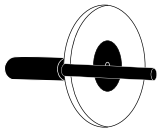
	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	664590	1	300	25	127	50A 60 K5 AV217	1	Maximum operating speed 50m/s  Grit size 60 Ra approx. 0.35 – 0.50 μm  Grit size 80 Ra approx. 0.20 – 0.35 μm
	664594	1	356	50	127	50A 60 K5 AV217	1	
	655882	1	400	20	127	50A 60 K5 AV217	1	
	889228	1	400	20	127	89A 80 J5 AV217	1	
	664598	1	400	25	127	50A 60 K5 AV217	1	
	881114	1	400	25	127	89A 80 J5 AV217	1	
	664600	1	400	30	127	50A 60 K5 AV217	1	
	39869	1	400	30	127	89A 80 J5 AV217	1	
	655883	1	400	40	127	50A 60 K5 AV217	1	
	620118	1	400	40	127	89A 80 J5 AV217	1	
	655886	1	400	50	127	50A 60 K5 AV217	1	
	71665	1	400	50	127	89A 80 J5 AV217	1	
	655888	1	400	60	127	50A 60 K5 AV217	1	
	70954	1	400	60	127	89A 80 J5 AV217	1	
	655891	1	400	80	127	50A 60 K5 AV217	1	
	655864	1	400	80	127	89A 80 J5 AV217	1	
	655898	1	500	40	203,2	50A 60 K5 AV217	1	
	713537	1	500	40	203,2	89A 80 J5 AV217	1	
	655902	1	500	50	203,2	50A 60 K5 AV217	1	
	655869	1	500	50	203,2	89A 80 J5 AV217	1	
655906	1	500	60	203,2	50A 60 K5 AV217	1		
39867	1	500	60	203,2	89A 80 J5 AV217	1		
655909	1	500	80	203,2	50A 60 K5 AV217	1		
655875	1	500	80	203,2	89A 80 J5 AV217	1		
655911	1	600	80	305	50A 60 K5 AV217	1		
655876	1	600	80	305	89A 80 J5 AV217	1		



## HIGH-ALLOYED STEELS AND HSS

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

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	664561	1	400	20	127	454A 80 J10 V3	1	
	664564	1	400	20	127	97A 80 J5 AV237	1	
	655916	1	400	25	127	454A 80 J10 V3	1	
	664571	1	400	25	127	97A 80 J5 AV237	1	
	655918	1	400	30	127	454A 80 J10 V3	1	
	664573	1	400	30	127	97A 80 J5 AV237	1	
	655919	1	400	40	127	454A 80 J10 V3	1	
	664575	1	400	40	127	97A 80 J5 AV237	1	
	216066	1	400	50	127	454A 80 J10 V3	1	
	664578	1	400	50	127	97A 80 J5 AV237	1	
	655921	1	400	60	127	454A 80 J10 V3	1	Maximum operating speed 50m/s
	664580	1	400	60	127	97A 80 J5 AV237	1	
	664562	1	400	80	127	454A 80 J10 V3	1	Grit size 80 Ra approx. 0.20 – 0.35 µm
	664582	1	400	80	127	97A 80 J5 AV237	1	
	655927	1	500	40	203,2	454A 80 J10 V3	1	
	664583	1	500	40	203,2	97A 80 J5 AV237	1	
	655929	1	500	50	203,2	454A 80 J10 V3	1	
	664585	1	500	50	203,2	97A 80 J5 AV237	1	
	216068	1	500	60	203,2	454A 80 J10 V3	1	
	664587	1	500	60	203,2	97A 80 J5 AV237	1	
655935	1	500	80	203,2	454A 80 J10 V3	1		
664588	1	500	80	203,2	97A 80 J5 AV237	1		
655938	1	600	80	305	454A 80 J10 V3	1		
664589	1	600	80	305	97A 80 J5 AV237	1		


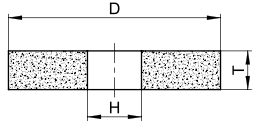


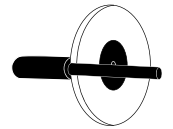
# EXTERNAL CYLINDRICAL GRINDING CONVENTIONAL CERAMICS



## CEMENTED CARBIDE

c	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
					○	○	○	●		●		●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	655957	1	400	40	127	C60 H5 AV18	1	Maximum operating speed 50m/s  If stock removal requirements are low, limited suitability for nonferrous heavy metals. For additional SiC specifications, see reciprocating surface grinding for cemented carbide.
	656023	1	400	40	127	C100 H5 AV18	1	
	655958	1	400	50	127	C60 H5 AV18	1	
	656025	1	400	50	127	C100 H5 AV18	1	



## CBN & DIAMOND RESIN

### Product advantages:

- VIB star is a system with vibration dampening cores that ensures a consistent and quiet grinding process
- Lower costs as a result of increased grinding ratio
- Consistent power consumption through constant self-sharpening effect

### Application tips:

- Longitudinal feed/overlap rate: 30 – 50% of thickness of diamond section
- Workpiece peripheral speed: depends on workpiece diameter
- Recommended cutting speed for CBN grinding wheels for HSS and high-alloyed tool steels is 22 – 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




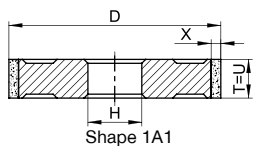
### Safety information:

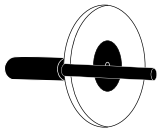
- Max. operating speed = 63 m/s
- Ensure good coolant supply
- Observe safety information



## HIGH-ALLOYED STEELS AND HSS

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
<b>B</b>			○		●	●	○					●

	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  <p>Shape 1A1</p>	914301	1A1	200	15	51	15	3	B126 C50 B VIB-STAR	1	Maximum operating speed = 63 m/s  Please observe information on dressing and sharpening of diamond and CBN tools; see chapter "Dressing and sharpening" (page 213).
	485142	1A1	250	15	51	15	3	B126 C50 B VIB-STAR	1	
	877158	1A1	300	20	76,2	20	3	B126 C50 B VIB-STAR	1	
	885972	1A1	300	20	127	20	3	B126 C50 B VIB-STAR	1	
	366816	1A1	350	20	127	20	3	B126 C50 B VIB-STAR	1	
	874510	1A1	350	20	127	20	3	B126 C75 B VIB-STAR	1	
	872688	1A1	400	20	127	20	3	B126 C50 B VIB-STAR	1	
	473086	1A1	400	30	127	30	3	B126 C50 B VIB-STAR	1	


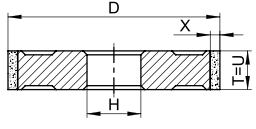


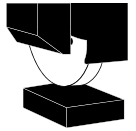
# EXTERNAL CYLINDRICAL GRINDING CBN & DIAMOND RESIN



## CEMENTED CARBIDE

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

	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  Shape 1A1	914284	1A1	200	10	51	10	3	D126 C75 B VIB-STAR	1	Maximum operating speed = 63 m/s  Please observe information on dressing and sharpening of diamond and CBN tools; see chapter "Dressing and sharpening" (page 213).
	872702	1A1	250	15	51	15	3	D126 C75 B VIB-STAR	1	
	897485	1A1	300	20	76,2	20	3	D126 C75 B VIB-STAR	1	
	907436	1A1	300	15	127	15	3	D126 C75 B VIB-STAR	1	
	914288	1A1	300	20	127	20	3	D126 C75 B VIB-STAR	1	
	924298	1A1	350	20	127	20	3	D126 C75 B VIB-STAR	1	
	914293	1A1	400	20	127	20	3	D126 C75 B VIB-STAR	1	



## CONVENTIONAL CERAMICS

### Product advantages:

- Less wear
- Cooler grinding
- High cutting ability

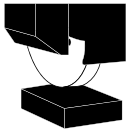
### Application tips:

- 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 smoothing: 0.002 – 0.004 mm/stroke
- Transverse stroke (contact width in%): 30 – 40% of wheel width
- Smoothing out: 1 – 3 strokes (without infeed)
- Ensure good coolant supply

### Safety information:

- Take note of the safety information, particularly in the case of maximum operating speed of 50 m/s
- See chapter "Safety when grinding" (page 29)




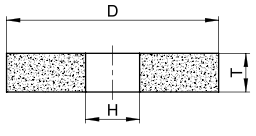


# RECIPROCATING SURFACE GRINDING CONVENTIONAL CERAMICS

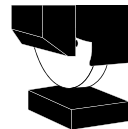


## NON AND LOW-ALLOYED STEELS


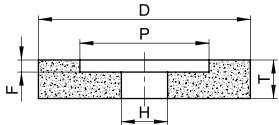
	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A		●	●	●	●	○						●
93A			●		●	●						●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	566308	1	205	13	31,75	89A 46 I8 AV217	1	Grit size 46 for rough operations Grit size 80 for finer surface finishes
	664544	1	205	13	31,75	89A 80 J8 AV217	1	
	8673	1	205	13	31,75	93A 46 H8 AV217	1	
	498701	1	225	25	51	89A 46 I8 AV217	1	
	664545	1	225	25	51	89A 80 J8 AV217	1	
	664563	1	225	25	51	93A 46 H8 AV217	1	
	664546	1	250	25	51	89A 80 J8 AV217	1	
	498402	1	250	25	51	93A 46 H8 AV217	1	
	331692	1	250	25	76,2	89A 46 I8 AV217	1	
	664548	1	250	25	76,2	89A 80 J8 AV217	1	
	664566	1	250	25	76,2	93A 46 H8 AV217	1	
	351901	1	300	30	76,2	89A 46 I8 AV217	1	
	664549	1	300	30	76,2	89A 80 J8 AV217	1	
	849597	1	300	30	76,2	93A 46 H8 AV217	1	
	523359	1	300	50	76,2	89A 46 I8 AV217	1	
	664552	1	300	50	76,2	89A 80 J8 AV217	1	
	628383	1	300	50	76,2	93A 46 H8 AV217	1	
	936929	1	300	50	127	89A 46 I8 AV217	1	
	664557	1	300	50	127	89A 80 J8 AV217	1	
	143581	1	300	50	127	93A 46 H8 AV217	1	
	215986	1	350	40	127	89A 46 I8 AV217	1	
	666533	1	350	40	127	89A 80 J8 AV217	1	
	524016	1	350	40	127	93A 46 H8 AV217	1	
	56484	1	350	50	127	89A 46 I8 AV217	1	
	664558	1	350	50	127	89A 80 J8 AV217	1	
	302416	1	355	50	127	89A 46 I8 AV217	1	
	357751	1	355	50	127	93A 46 H8 AV217	1	
	803992	1	400	40	127	89A 46 I8 AV217	1	
	666530	1	400	40	127	89A 80 J8 AV217	1	
	16667	1	400	40	127	93A 46 H8 AV217	1	
	64598	1	400	50	127	89A 46 I8 AV217	1	
	666532	1	400	50	127	89A 80 J8 AV217	1	
	117241	1	400	50	127	93A 46 H8 AV217	1	
	140088	1	400	60	127	89A 46 I8 AV217	1	
	666529	1	400	60	127	89A 80 J8 AV217	1	
	793338	1	400	60	127	93A 46 H8 AV217	1	
295600	1	400	80	127	89A 46 I8 AV217	1		
666534	1	400	80	127	89A 80 J8 AV217	1		
706357	1	400	80	127	93A 46 H8 AV217	1		




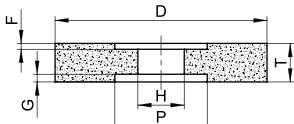


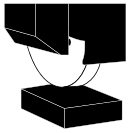
**NON AND LOW-ALLOYED STEELS**

	TYPE NO.	SHAPE	D	T	H	P X F / G	SPECIFICATION	PU	COMMENTS
  <p>Shape 5</p>	260141	5	300	50	76,2	155 x 10	89A 46 I8 AV217	1	Grit size 46 for rough operations Grit size 80 for finer surface finishes
	664584	5	300	50	76,2	155 x 10	89A 80 J8 AV217	1	
	893552	5	300	50	76,2	155 x 10	93A 46 H8 AV217	1	
	664574	5	300	50	127	190 x 10	89A 46 I8 AV217	1	
	664626	5	300	50	127	190 x 10	89A 80 J8 AV217	1	
	664642	5	300	50	127	190 x 10	93A 46 H8 AV217	1	
	467466	5	350	50	127	200 x 10	89A 46 I8 AV217	1	
	664629	5	350	50	127	200 x 10	89A 80 J8 AV217	1	
	231513	5	350	50	127	200 x 10	93A 46 H8 AV217	1	
	548613	5	400	50	127	200 x 10	89A 46 I8 AV217	1	
	664630	5	400	50	127	200 x 10	89A 80 J8 AV217	1	
	557153	5	400	50	127	200 x 10	93A 46 H8 AV217	1	
	664581	5	400	60	127	200 x 10	89A 46 I8 AV217	1	
	664632	5	400	60	127	200 x 10	89A 80 J8 AV217	1	
	664643	5	400	60	127	200 x 10	93A 46 H8 AV217	1	



**NON AND LOW-ALLOYED STEELS**

	TYPE NO.	SHAPE	D	T	H	P X F / G	SPECIFICATION	PU	COMMENTS
  <p>Shape 7</p>	665281	7	300	50	76,2	155 x 10 / 10	89A 46 I8 AV217	1	Grit size 46 for rough operations Grit size 80 for finer surface finishes
	664648	7	300	50	76,2	155 x 10 / 10	89A 80 J8 AV217	1	
	109336	7	300	50	76,2	155 x 10 / 10	93A 46 H8 AV217	1	
	665287	7	350	50	127	200 x 10 / 10	89A 46 I8 AV217	1	
	664645	7	400	60	127	200 x 10 / 10	89A 46 I8 AV217	1	
	664652	7	400	60	127	200 x 10 / 10	89A 80 J8 AV217	1	
	664657	7	400	60	127	200 x 10 / 10	93A 46 H8 AV217	1	
	664646	7	400	80	127	190 x 15 / 15	89A 46 I8 AV217	1	
	664656	7	400	80	127	190 x 15 / 15	89A 80 J8 AV217	1	
	664658	7	400	80	127	190 x 15 / 15	93A 46 H8 AV217	1	
	664647	7	400	100	127	200 x 20 / 35	89A 46 I8 AV217	1	


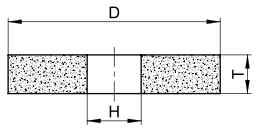


# RECIPROCATING SURFACE GRINDING CONVENTIONAL CERAMICS

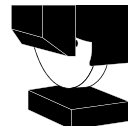


## HIGH-ALLOYED STEELS AND HSS


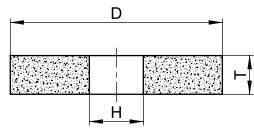
	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
454A, 97A			○		●	●	○					●
F13			●	●	●	○						●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	664623	1	205	13	31,75	454A 60 J10 V3	1	For achievable surface finishes (standard values), see table on page 25
	664401	1	205	13	31,75	97A 46 H8 AV237	1	
	664405	1	205	13	31,75	97A 80 H8 AV237	1	
	664435	1	205	13	31,75	F13A 46 HH11 V	1	
	664383	1	225	25	51	454A 60 J10 V3	1	
	228481	1	225	25	51	97A 46 H8 AV237	1	
	664406	1	225	25	51	97A 80 H8 AV237	1	
	441401	1	225	25	51	F13A 46 HH11 V	1	
	664384	1	250	25	51	454A 60 J10 V3	1	
	85536	1	250	25	51	97A 46 H8 AV237	1	
	664407	1	250	25	51	97A 80 H8 AV237	1	
	441399	1	250	25	51	F13A 46 HH11 V	1	
	664389	1	250	25	76,2	454A 60 J10 V3	1	
	248826	1	250	25	76,2	97A 46 H8 AV237	1	
	664409	1	250	25	76,2	97A 80 H8 AV237	1	
	469827	1	250	25	76,2	F13A 46 HH11 V	1	
	664390	1	300	30	76,2	454A 60 J10 V3	1	
	664402	1	300	30	76,2	97A 46 H8 AV237	1	
	664410	1	300	30	76,2	97A 80 H8 AV237	1	
	365997	1	300	30	76,2	F13A 46 HH11 V	1	
	664391	1	300	50	76,2	454A 60 J10 V3	1	
	635305	1	300	50	76,2	97A 46 H8 AV237	1	
	311791	1	300	50	76,2	97A 80 H8 AV237	1	
	665267	1	300	50	76,2	F13A 46 HH11 V	1	
	664393	1	300	50	127	454A 60 J10 V3	1	
	441348	1	300	50	127	97A 46 H8 AV237	1	
	664412	1	300	50	127	97A 80 H8 AV237	1	
	665269	1	300	50	127	F13A 46 HH11 V	1	
	494874	1	350	40	127	454A 60 J10 V3	1	
	441350	1	350	40	127	97A 46 H8 AV237	1	
	664419	1	350	40	127	97A 80 H8 AV237	1	
	665282	1	350	40	127	F13A 46 HH11 V	1	
	664394	1	350	50	127	454A 60 J10 V3	1	
	441351	1	350	50	127	97A 46 H8 AV237	1	
	664420	1	350	50	127	97A 80 H8 AV237	1	
	665294	1	350	50	127	F13A 46 HH11 V	1	
	664396	1	400	40	127	454A 60 J10 V3	1	
	524159	1	400	40	127	97A 46 H8 AV237	1	
	664423	1	400	40	127	97A 80 H8 AV237	1	

# RECIPROCATING SURFACE GRINDING CONVENTIONAL CERAMICS

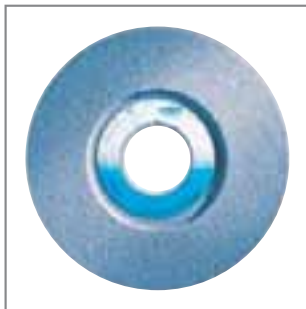
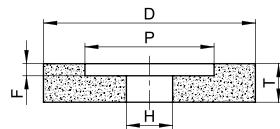


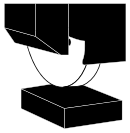
## HIGH-ALLOYED STEELS AND HSS

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	665295	1	400	40	127	F13A 46 HH11 V	1	For achievable surface finishes (standard values), see table on page 25
	664397	1	400	50	127	454A 60 J10 V3	1	
	630054	1	400	50	127	97A 46 H8 AV237	1	
	664426	1	400	50	127	97A 80 H8 AV237	1	
	665296	1	400	50	127	F13A 46 HH11 V	1	
	333396	1	400	60	127	454A 60 J10 V3	1	
	846590	1	400	60	127	97A 46 H8 AV237	1	
	664427	1	400	60	127	97A 80 H8 AV237	1	
	665270	1	400	60	127	F13A 46 HH11 V	1	
	664398	1	400	80	127	454A 60 J10 V3	1	
	476380	1	400	80	127	97A 46 H8 AV237	1	
	664428	1	400	80	127	97A 80 H8 AV237	1	
	665273	1	400	80	127	F13A 46 HH11 V	1	



## HIGH-ALLOYED STEELS AND HSS


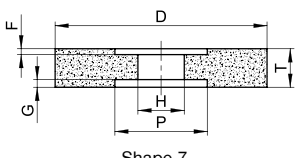
	TYPE NO.	SHAPE	D	T	H	P X F / G	SPECIFICATION	PU	COMMENTS
  Shape 5	664447	5	300	50	76,2	155 x 10	454A 60 J10 V3	1	For achievable surface finishes (standard values), see table on page 25
	664456	5	300	50	76,2	155 x 10	97A 46 H8 AV237	1	
	664465	5	300	50	76,2	155 x 10	97A 80 H8 AV237	1	
	664478	5	300	50	76,2	155 x 10	F13A 46 HH11 V	1	
	664451	5	300	50	127	190 x 13	454A 60 J10 V3	1	
	664459	5	300	50	127	190 x 13	97A 46 H8 AV237	1	
	664472	5	300	50	127	190 x 13	97A 80 H8 AV237	1	
	664480	5	300	50	127	190 x 13	F13A 46 HH11 V	1	
	664452	5	350	50	127	200 x 10	454A 60 J10 V3	1	
	441352	5	350	50	127	200 x 10	97A 46 H8 AV237	1	
	664474	5	350	50	127	200 x 10	97A 80 H8 AV237	1	
	665297	5	350	50	127	200 x 10	F13 A46 HH11 V	1	
	664453	5	400	50	127	200 x 10	454A 60 J10 V3	1	
	593711	5	400	50	127	200 x 10	97A 46 H8 AV237	1	
	664476	5	400	50	127	200 x 10	97A 80 H8 AV237	1	
	593712	5	400	50	127	200 x 10	F13A 46 HH11 V	1	
	664455	5	400	60	127	200 x 10	454A 60 J10 V3	1	
	664463	5	400	60	127	200 x 10	97A 46 H8 AV237	1	
	664477	5	400	60	127	200 x 10	97A 80 H8 AV237	1	
	664482	5	400	60	127	200 x 10	F13A 46 HH11 V	1	



# RECIPROCATING SURFACE GRINDING CONVENTIONAL CERAMICS




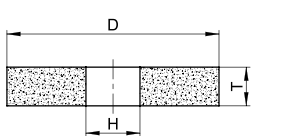
## HIGH-ALLOYED STEELS AND HSS

	TYPE NO.	SHAPE	D	T	H	P X F / G	SPECIFICATION	PU	COMMENTS
  Shape 7	664485	7	300	50	76,2	155 x 10 / 10	454A 60 J10 V3	1	For achievable surface finishes (standard values), see table on page 25
	359403	7	300	50	76,2	155 x 10 / 10	97A 46 H8 AV237	1	
	664498	7	300	50	76,2	155 x 10 / 10	97A 80 H8 AV237	1	
	664506	7	300	50	76,2	155 x 10 / 10	F13A 46 HH11 V	1	
	566387	7	350	50	127	200 x 10 / 10	97A 46 H8 AV237	1	
	665285	7	350	50	127	200 x 10 / 10	F13A 46 HH11 V	1	
	664490	7	400	60	127	200 x 10 / 10	454A 60 J10 V3	1	
	664497	7	400	60	127	200 x 10 / 10	97A 46 H8 AV237	1	
	664502	7	400	60	127	200 x 10 / 10	97A 80 H8 AV237	1	
	664510	7	400	60	127	200 x 10 / 10	F13A 46 HH11 V	1	
	664493	7	400	80	127	190 x 15 / 15	454A 60 J10 V3	1	
	512393	7	400	80	127	190 x 15 / 15	97A 46 H8 AV237	1	
	664504	7	400	80	127	190 x 15 / 15	97A 80 H8 AV237	1	
	665278	7	400	80	127	190 x 15 / 15	F13A 46 HH11 V	1	

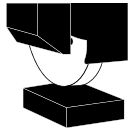


## CEMENTED CARBIDE

c	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
	○				●	●	○	●	○			●


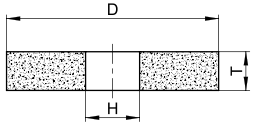
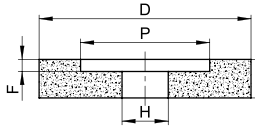
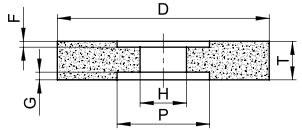
	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	664523	1	300	40	127	C60 H5 AV18	1	Maximum operating speed = 50m/s, also suitable for external cylindrical, structure 8 - limited suitability for nonferrous heavy metals
	664527	1	300	50	127	C60 H5 AV18	1	
	655957	1	400	40	127	C60 H5 AV18	1	
	655958	1	400	50	127	C60 H5 AV18	1	
	664530	1	300	40	127	C80 H8 AV18	1	
	664531	1	300	50	127	C80 H8 AV18	1	
	664535	1	400	40	127	C80 H8 AV18	1	
	664536	1	400	50	127	C80 H8 AV18	1	

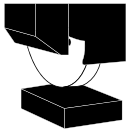
# RECIPROCATING SURFACE GRINDING CONVENTIONAL CERAMICS



## STAINLESS STEEL

80A	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
		○	●	○	●		●					●

	TYPE NO.	SHAPE	D	T	H	P X F / G	SPECIFICATION	PU	COMMENTS
	657501	1	250	25	51		80A 54 I9 AV217-P23	1	For achievable surface finishes (standard values), see table on page 25
	27420	1	400	50	127		80A 54 I9 AV217-P23	1	
	664514	5	300	50	76,2	155 x 10	80A 54 I9 AV217-P23	1	
	657665	5	400	50	127	190 x 10	80A 54 I9 AV217-P23	1	
	10845	7	300	50	76,2	155 x 10 / 10	80A 54 I9 AV217-P23	1	
	664515	7	400	50	76,2	155 x 10 / 10	80A 54 I9 AV217-P23	1	
 <p>Shape 1</p>									
 <p>Shape 5</p>									
 <p>Shape 7</p>									



## CBN & DIAMOND RESIN

### Product advantages:

- VIB star is a system with vibration dampening cores that ensures a consistent and quiet grinding process
- Lower costs as a result of increased grinding ratio
- Consistent power consumption through constant self-sharpening effect

### Application tips:

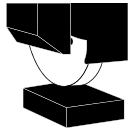
- Table traverse speed: 10 – 20 m/min
- Transverse stroke/overlap rate: 30 – 40% of thickness of diamond section
- Standard value for infeed: 1/10 of grinding grit size (e.g. D126 -> infeed 12 µm)
- Recommended cutting speed for CBN grinding wheels for HSS and high-alloyed tool steels is 22 – 30 m/s
- Recommended cutting speed for diamond grinding wheels for cemented carbide and industrial ceramics is 15 – 25 m/s
- Concentrically truing 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 213)
- Ensure good coolant supply

### Safety information:

- Max. peripheral speed = 63 m/s
- Observe safety information
- See chapter "Safety when grinding" (page 29)


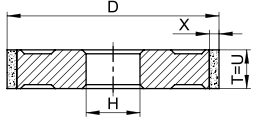


# RECIPROCATING SURFACE GRINDING CBN & DIAMOND RESIN



## HIGH-ALLOYED STEELS AND HSS


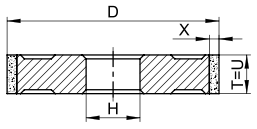
97A, B	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
			○		●	●	○					●

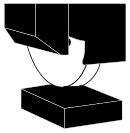
	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  Shape 1A1	914301	1A1	200	15	51	15	3	B126 C50 B VIB-STAR	1	Maximum operating speed = 63 m/s  Please observe information on dressing and sharpening of diamond and CBN tools; see chapter "Dressing and sharpening" (page 213).
	485142	1A1	250	15	51	15	3	B126 C50 B VIB-STAR	1	
	877158	1A1	300	20	76,2	20	3	B126 C50 B VIB-STAR	1	
	885972	1A1	300	20	127	20	3	B126 C50 B VIB-STAR	1	
	366816	1A1	350	20	127	20	3	B126 C50 B VIB-STAR	1	
	874510	1A1	350	20	127	20	3	B126 C75 B VIB-STAR	1	
	872688	1A1	400	20	127	20	3	B126 C50 B VIB-STAR	1	
	473086	1A1	400	30	127	30	4	B126 C50 B VIB-STAR	1	



## CEMENTED CARBIDE

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

	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  Shape 1A1	914284	1A1	200	10	51	10	3	D126 C75 B VIB-STAR	1	Maximum operating speed = 63 m/s  Please observe information on dressing and sharpening of diamond and CBN tools; see chapter "Dressing and sharpening" (page 213).
	872702	1A1	250	15	51	15	3	D126 C75 B VIB-STAR	1	
	897485	1A1	300	20	76,2	20	3	D126 C75 B VIB-STAR	1	
	907436	1A1	300	15	127	15	3	D126 C75 B VIB-STAR	1	
	914288	1A1	300	20	127	20	3	D126 C75 B VIB-STAR	1	
	924298	1A1	350	20	127	20	3	D126 C75 B VIB-STAR	1	
	914293	1A1	400	20	127	20	3	D126 C75 B VIB-STAR	1	



# PROFILE SURFACE GRINDING CONVENTIONAL CERAMICS

## CONVENTIONAL CERAMICS

### Product advantages:

- Special aluminium oxide profile grinding wheels with highly porous structure
- Optimum profile retention
- Minimum dressing diamond wear

### 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 22 or 213



### Safety information:

- Observe safety information
- See chapter "Safety when grinding" (page 29)

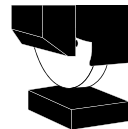


## STAINLESS STEEL

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
80A		○	●	○	●		●					●
C (nitriding steel)					●	●	○	●	○			●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
<p>Shape 1</p>	163110	1	225	25	51	80A 80 J9 AV17-P25	1	
	421779	1	250	15	51	80A 80 J9 AV17-P25	1	
	148656	1	250	20	51	80A 120 J9 AV17-P8	1	
	337183	1	250	20	51	C180 F8 AV18-P8	1	for nitriding steel





## CERAMIC / CONVENTIONAL RESIN

### Product advantages:

- High stock removal rate
- Self-sharpening
- Cooler grinding

### 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


### Safety information:

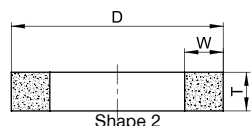
- Observe safety information
- See chapter "Safety when grinding" (page 29)

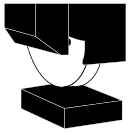


## HIGH-ALLOYED STEELS AND HSS

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
50A		●	○									●
89A cer.			●	○	●	○						●
89A bak.			○		●	●						●
97A, 454A			○		●	●	○					●
91A, 92A			●		●	●						●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
	664621	2	200	90	20	92A 46 H10 AV237	1	Göckel, Reform (planer and chopper knives)
	461733	2	200	90	20	91A 46 G9 AV217	1	
	468751	2	200	100	20	89A 46 G10 AV217	1	
	664622	2	200	100	20	92A 46 H10 AV237	1	
	469614	2	200	100	20	89A 60 G4 B22-W4E	1	
	469619	2	250	100	25	89A 60 G4 B22-W4E	1	
	709899						103K02	1


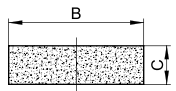
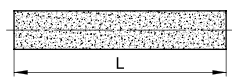




# SURFACE GRINDING WITH RINGS AND SEGMENTS CERAMIC / CONVENTIONAL RESIN


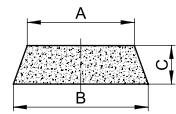
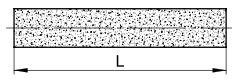


## HIGH-ALLOYED STEELS AND HSS

	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  Shape 3101 	664628	3101	120	40	200	454A 46 K13 V3	1	
	664633	3101	120	40	200	50A 36 I8 AV2	1	
	664634	3101	120	40	200	89A 36 I8 AV2	1	
	664640	3101	120	40	200	97A 46 G10 AV237	1	



## HIGH-ALLOYED STEELS AND HSS

	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  Shape 3109 	229899	3109	103 / 94	38	200	454A 46 K13 V3	1	
	664653	3109	103 / 94	38	200	50A 36 I8 AV2	1	
	664654	3109	103 / 94	38	200	89A 36 I8 AV2	1	
	664655	3109	103 / 94	38	200	97A 46 G10 AV237	1	



## CONVENTIONAL CERAMICS

### Product advantages:

- Optimum profile retention
- Low thermal load, cool grinding
- Universal use

### 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




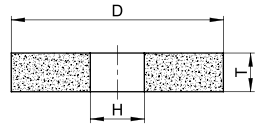
### Safety information:

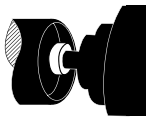
- Observe safety information
- See chapter "Safety when grinding" (page 29)



## NON AND LOW-ALLOYED STEELS

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A			●	○	●	○				○		●


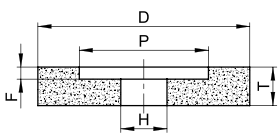
	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	234391	1	15	15	6	89A 60 J5 V111	25	Maximum operating speed 50m/s
	807005	1	15	15	6	89A 80 I5 V111	25	
	234390	1	20	20	6	89A 60 J5 V111	25	
	664711	1	20	20	6	89A 80 I5 V111	25	
	664699	1	25	25	6	89A 60 J5 V111	10	
	664712	1	25	25	6	89A 80 I5 V111	10	
	807013	1	25	25	8	89A 60 J5 V111	10	
	664715	1	25	25	8	89A 80 I5 V111	10	
	795621	1	25	25	10	89A 60 J5 V111	10	
	664716	1	25	25	10	89A 80 I5 V111	10	
	664703	1	30	30	10	89A 60 J5 V111	10	
	664717	1	30	30	10	89A 80 I5 V111	10	
	445055	1	32	25	10	89A 60 J5 V111	10	
	664718	1	32	25	10	89A 80 I5 V111	10	
	664704	1	32	32	10	89A 60 J5 V111	10	
	563191	1	32	32	10	89A 80 I5 V111	10	
	664706	1	40	40	13	89A 60 J5 V111	10	
	664719	1	40	40	13	89A 80 I5 V111	10	
	234387	1	50	40	16	89A 60 J5 V111	10	
	664721	1	50	40	16	89A 80 I5 V111	10	
664708	1	50	50	16	89A 60 J5 V111	10		
664722	1	50	50	16	89A 80 I5 V111	10		



# INTERNAL CYLINDRICAL GRINDING CONVENTIONAL CERAMICS




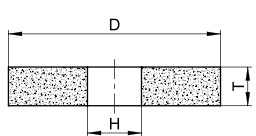
## NON AND LOW-ALLOYED STEELS

	TYPE NO.	SHAPE	D	T	H	P X F	SPECIFICATION	PU	COMMENTS
  Shape 5	664768	5	20	20	6	13 x 7	89A 60 J5 V111	25	Maximum operating speed 50m/s
	664787	5	20	20	6	13 x 7	89A 80 I5 V111	25	
	664771	5	25	25	6	12 x 13	89A 60 J5 V111	10	
	664791	5	25	25	6	12 x 13	89A 80 I5 V111	10	
	664772	5	25	25	10	16 x 10	89A 60 J5 V111	10	
	664792	5	25	25	10	16 x 10	89A 80 I5 V111	10	
	664777	5	32	32	10	18 x 16	89A 60 J5 V111	10	
	664793	5	32	32	10	18 x 16	89A 80 I5 V111	10	
	664780	5	40	40	13	20 x 20	89A 60 J5 V111	10	
	664794	5	40	40	13	20 x 20	89A 80 I5 V111	10	
	664783	5	50	40	16	30 x 13	89A 60 J5 V111	10	
	664795	5	50	40	16	30 x 13	89A 80 I5 V111	10	
	664785	5	50	50	16	25 x 25	89A 60 J5 V111	10	
	664796	5	50	50	16	25 x 25	89A 80 I5 V111	10	




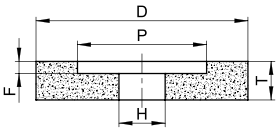
## HIGH-ALLOYED STEELS AND HSS

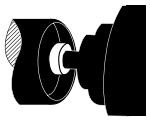
	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
97A, AT			○		●	●	○					●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	781647	1	15	15	6	97A 80 I5 V112	25	Maximum operating speed 80m/s
	664683	1	15	15	6	AT 60 J6 VCOL	25	
	781649	1	20	20	6	97A 80 I5 V112	25	
	664684	1	20	20	6	AT 60 J6 VCOL	25	
	664666	1	25	25	6	97A 80 I5 V112	10	
	664685	1	25	25	6	AT 60 J6 VCOL	10	
	664668	1	25	25	8	97A 80 I5 V112	10	
	664686	1	25	25	8	AT 60 J6 VCOL	10	
	664669	1	25	25	10	97A 80 I5 V112	10	
	664689	1	25	25	10	AT 60 J6 VCOL	10	
	664670	1	30	30	10	97A 80 I5 V112	10	
	664692	1	30	30	10	AT 60 J6 VCOL	10	
	664672	1	32	25	10	97A 80 I5 V112	10	
	664693	1	32	25	10	AT 60 J6 VCOL	10	
	664673	1	32	32	10	97A 80 I5 V112	10	
	664694	1	32	32	10	AT 60 J6 VCOL	10	
	664675	1	40	40	13	97A 80 I5 V112	10	
	664695	1	40	40	13	AT 60 J6 VCOL	10	
	664677	1	50	40	16	97A 80 I5 V112	10	
	664696	1	50	40	16	AT 60 J6 VCOL	10	
664679	1	50	50	16	97A 80 I5 V112	10		
664697	1	50	50	16	AT 60 J6 VCOL	10		



**HIGH-ALLOYED STEELS AND HSS**

	TYPE NO.	SHAPE	D	T	H	P X F	SPECIFICATION	PU	COMMENTS
  <p>Shape 5</p>	664728	5	20	20	6	13 x 7	97A 80 I5 V112	25	Maximum operating speed 80m/s
	664757	5	20	20	6	13 x 7	AT 60 J6 VCOL	25	
	664737	5	25	25	6	12 x 13	97A 80 I5 V112	10	
	664759	5	25	25	6	12 x 13	AT 60 J6 VCOL	10	
	664738	5	25	25	10	16 x 10	97A 80 I5 V112	10	
	664760	5	25	25	10	16 x 10	AT 60 J6 VCOL	10	
	664742	5	32	32	10	18 x 16	97A 80 I5 V112	10	
	664761	5	32	32	10	18 x 16	AT 60 J6 VCOL	10	
	664744	5	40	40	13	20 x 20	97A 80 I5 V112	10	
	664764	5	40	40	13	20 x 20	AT 60 J6 VCOL	10	
	664746	5	50	40	16	30 x 13	97A 80 I5 V112	10	
	664766	5	50	40	16	30 x 13	AT 60 J6 VCOL	10	
	664749	5	50	50	16	25 x 25	97A 80 I5 V112	10	
	664767	5	50	50	16	25 x 25	AT 60 J6 VCOL	10	



## CBN & DIAMOND - GALVANIC / RESIN

### Product advantages:

- Compared to conventional grinding tools, diamond and CBN tools are characterised by a better lifetime and shorter grinding times
- Improved dimensional accuracy as a result of long tool life

### Application tips:

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




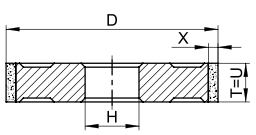
### Safety information:

- Observe safety information
- See chapter "Safety when grinding" (page 29)



## HIGH-ALLOYED STEELS AND HSS

B	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
			○		●	●	○				○	●

	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
	 <p>Shape 1A1</p>	384481	1A1	12	10	6	10	2	B126 C75 B54	5
34937	1A1	15	10	6	10	2	B126 C75 B54	5		
127356	1A1	20	10	6	10	2	B126 C75 B54	5		
55282	1A1	25	10	8	10	3	B126 C75 B54	5		
43017	1A1	30	10	10	10	3	B126 C75 B54	2		
29371	1A1	40	10	10	10	2	B126 C75 B54	2		



## HIGH-ALLOYED STEELS AND HSS

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
	477403	1A1W	1,5	4	S3 x 50	B91 GST	5	CBN galvanic-bonded CBN layer, single
	477406	1A1W	2	4	S3 x 50	B91 GST	5	
	477407	1A1W	2,5	4	S3 x 50	B91 GST	5	
	477409	1A1W	3	5	S3 x 50	B91 GST	5	
	477411	1A1W	4	5	S3 x 50	B126 GST	5	
	477412	1A1W	5	7	S3 x 50	B126 GST	5	
	477413	1A1W	6	7	S6 x 50	B126 GST	5	
	477414	1A1W	7	8	S6 x 50	B126 GST	5	
	477416	1A1W	8	10	S6 x 50	B126 GST	5	
	477418	1A1W	12	10	S6 x 50	B151 GST	5	



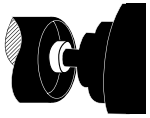
Shape 1A1AW (D<Y)



Shape 1A1AW (D>Y)



Shape 1A1AW (D>Y)

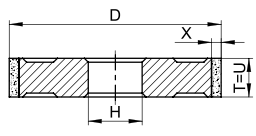


# INTERNAL CYLINDRICAL GRINDING CBN & DIAMOND GALVANIC / RESIN



## CEMENTED CARBIDE & INDUSTRIAL CERAMICS


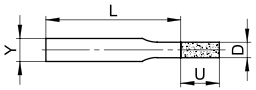
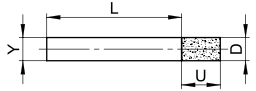
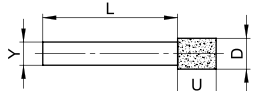
D	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
								●	●		○	●

	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  Shape 1A1	786986	1A1	12	10	6	10	2	D91 C75 B	5	Diamond resin-bonded
	786952	1A1	15	10	6	10	2	D91 C75 B	5	
	786953	1A1	20	10	6	10	2	D91 C75 B	5	
	665019	1A1	25	10	8	10	3	D91 C75 B	5	
	319980	1A1	30	10	10	10	3	D91 C75 B	2	
	872750	1A1	40	10	10	10	2	D91 C75 B	2	





**CEMENTED CARBIDE & INDUSTRIAL CERAMICS**

	TYPE NO.	SHAPE	D	U	Y X L	SPECIFICATION	PU	COMMENTS
  <p>Shape 1A1AW (D&lt;Y)</p>  <p>Shape 1A1AW (D&gt;Y)</p>  <p>Shape 1A1AW (D&gt;Y)</p>	477335	1A1W	1	4	S3 x 50	D91 XGST	5	Diamond galvanic-bonded Diamond layer, single
	477342	1A1W	2	4	S3 x 50	D91 XGST	5	
	477346	1A1W	3	5	S3 x 50	D91 XGST	5	
	477349	1A1W	4	5	S3 x 50	D126 XGST	5	
	477352	1A1W	6	7	S6 x 50	D126 XGST	5	
	477356	1A1W	8	10	S6 x 50	D126 XGST	5	
	477358	1A1W	10	10	S6 x 50	D151 XGST	5	
	477360	1A1W	15	10	S6 x 50	D151 XGST	5	



## HAND HELD GRINDING

TYROLIT offers a wide choice of hand-operated tools, both in aluminium oxide and silicon carbide, depending on the application.

### Information on specification

#### Files, bench stones, knife blade files and hollow chisel stones:

- COURSE = grit size 120
- MEDIUM = grit size 240
- FINE = grit size 400
- SUPER = grit size 1200 (shape 90B, 90HM)

#### Combination stones

- COMBI = grit size 120/400

#### TYFIX Hand rubbing bricks

- For improving surface (removal of rust, colour, contamination)
- MEDIUM = grit size 100
- FINE = grit size 240


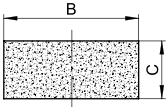
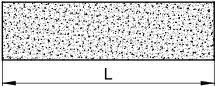
#### Safety information:

- Observe safety information
- See chapter "Safety when grinding" (page 29)



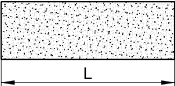




## FLAT FILES, SHAPE 9010



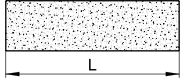
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  Shape 9010 	548	9010	6	3	100	89AMEDIUM	10	
	547	9010	6	3	100	89AFINE	10	
	556	9010	6	3	100	CCOURSE	10	
	557	9010	6	3	100	CMEDIUM	10	
	555	9010	6	3	100	CFINE	10	
	550	9010	10	5	100	89AMEDIUM	10	
	549	9010	10	5	100	89AFINE	10	
	559	9010	10	5	100	CCOURSE	10	
	560	9010	10	5	100	CMEDIUM	10	
	558	9010	10	5	100	CFINE	10	
	552	9010	13	6	150	89AMEDIUM	10	
	551	9010	13	6	150	89AFINE	10	
	562	9010	13	6	150	CCOURSE	10	
	563	9010	13	6	150	CMEDIUM	10	
	561	9010	13	6	150	CFINE	10	
	554	9010	30	13	200	89AMEDIUM	10	
	566	9010	30	13	200	CMEDIUM	10	
	564	9010	30	13	200	CFINE	10	

## SQUARE FILES, SHAPE 9011




	TYPE NO.	SHAPE	B	L	SPECIFICATION	PU	COMMENTS
  Shape 9011 	729	9011	6	100	89AMEDIUM	10	
	728	9011	6	100	89AFINE	10	
	749	9011	6	100	CMEDIUM	10	
	747	9011	6	100	CFINE	10	
	732	9011	10	100	89AMEDIUM	10	
	733	9011	10	100	89AFINE	10	
	754	9011	10	100	CMEDIUM	10	
	752	9011	10	100	CFINE	10	
	739	9011	13	150	89AMEDIUM	10	
	738	9011	13	150	89AFINE	10	
	760	9011	13	150	CMEDIUM	10	
	758	9011	13	150	CFINE	10	
	742	9011	16	150	89AMEDIUM	10	
	741	9011	16	150	89AFINE	10	
	763	9011	16	150	CMEDIUM	10	
	761	9011	16	150	CFINE	10	
	746	9011	20	200	89AMEDIUM	10	
	6341	9011	20	200	89AFINE	10	
	768	9011	20	200	CCOURSE	10	
	769	9011	20	200	CMEDIUM	10	
767	9011	20	200	CFINE	10		



## TRIANGULAR FILES, SHAPE 9020



	TYPE NO.	SHAPE	B	L	SPECIFICATION	PU	COMMENTS
  Shape 9020 	501	9020	6	100	89AMEDIUM	10	
	519	9020	6	100	CMEDIUM	10	
	518	9020	6	100	CFINE	10	
	504	9020	10	100	89AMEDIUM	10	
	505	9020	10	100	89AFINE	10	
	525	9020	10	100	CMEDIUM	10	
	523	9020	10	100	CFINE	10	
	510	9020	13	150	89AMEDIUM	10	
	511	9020	13	150	89AFINE	10	
	533	9020	13	150	CMEDIUM	10	
	531	9020	13	150	CFINE	10	
	512	9020	16	150	89AMEDIUM	10	
	8807	9020	16	150	89AFINE	10	
	536	9020	16	150	CMEDIUM	10	
	534	9020	16	150	CFINE	10	
	516	9020	20	200	89AMEDIUM	10	
	8808	9020	20	200	89AFINE	10	
	542	9020	20	200	CMEDIUM	10	
	540	9020	20	200	CFINE	10	

## HALF ROUND FILES, SHAPE 9040

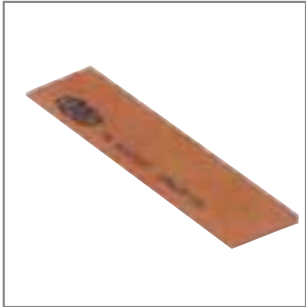
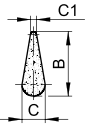
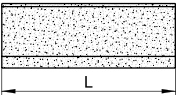
	TYPE NO.	SHAPE	D	L	SPECIFICATION	PU	COMMENTS
  Shape 9040 	6313	9040	6	100	89AMEDIUM	10	
	603	9040	10	100	89AMEDIUM	10	
	607	9040	13	150	89AMEDIUM	10	
	629	9040	13	150	CFINE	10	
	610	9040	16	150	89AMEDIUM	10	
	633	9040	16	150	CMEDIUM	10	
	632	9040	16	150	CFINE	10	
	637	9040	20	200	CMEDIUM	10	



## ROUND FILES, SHAPE 9030


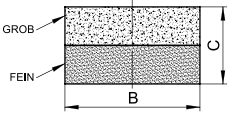
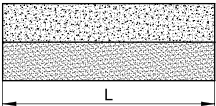
	TYPE NO.	SHAPE	D	L	SPECIFICATION	PU	COMMENTS
  Shape 9030 	660	9030	6	100	89AFINE	10	
	616	9030	6	100	CMEDIUM	10	
	614	9030	6	100	CFINE	10	
	666	9030	10	100	89AMEDIUM	10	
	664	9030	10	100	89AFINE	10	
	656	9030	10	100	CFINE	10	
	671	9030	13	150	89AMEDIUM	10	
	657	9030	13	150	89AFINE	10	
	693	9030	13	150	CMEDIUM	10	
	691	9030	13	150	CFINE	10	
	674	9030	16	150	89AMEDIUM	10	
	698	9030	16	150	CMEDIUM	10	
	696	9030	16	150	CFINE	10	

## KNIFE BLADE FILES, SHAPE 90FMK


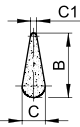
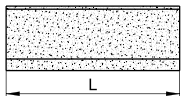
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  Shape 90FMK 	6322	90FMK	25	3	100	89AMEDIUM	10	
	6321	90FMK	25	3	100	89AFINE	10	
	6324	90FMK	25	3	100	CMEDIUM	10	



## COMBINATION STONES, SHAPE 90K, 90SK


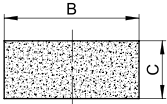
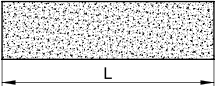
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
	185988	90K	18	10	75	89ACOMBI	10	
	186109	90K	18	10	75	CCOMBI	10	
	6314	90K	25	13	100	89ACOMBI	10	
	642	90K	25	13	100	CCOMBI	10	
	640	90K	40	20	125	89ACOMBI	10	
	6317	90K	40	20	125	CCOMBI	10	
	6315	90K	50	25	150	89ACOMBI	10	
	644	90K	50	25	150	CCOMBI	10	
	6316	90K	50	25	200	89ACOMBI	10	
	645	90K	50	25	200	CCOMBI	10	
 <p>Shape 90K</p> 	6318	90SK	25	20	100	CCOMBI	10	

## HOLLOW CHISEL STONES, SHAPE 90HM


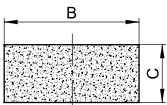
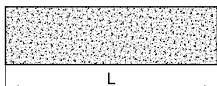
	TYPE NO.	SHAPE	B	C	C1	L	SPECIFICATION	PU	COMMENTS	
	577	90HM	25	6	1	100	89AMEDIUM	10		
	576	90HM	25	6	1	100	89AFINE	10		
	584	90HM	25	6	1	100	CMEDIUM	10		
	583	90HM	25	6	1	100	CFINE	10		
	579	90HM	45	6	2	115	89AMEDIUM	10		
	15885	90HM	45	6	2	115	89AFINE	10		
	587	90HM	45	6	2	115	CMEDIUM	10		
	9017	90HM	45	6	2	115	CFINE	10		
	28465	90HM	45	10	3	100	89ASUPER	10		
	6309	90HM	45	10	3	100	89AMEDIUM	10		
	578	90HM	45	10	3	100	89AFINE	10		
	586	90HM	45	10	3	100	CMEDIUM	10		
	6310	90HM	45	10	3	100	CFINE	10		
	 <p>Shape 90HM</p> 	20332	90HM	50	16	5	150	CFINE	10	



## BENCH STONES, SHAPE 90B


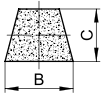
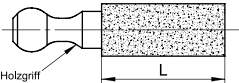
	TYPE NO.	SHAPE	D	C	L	SPECIFICATION	PU	COMMENTS
  <p>Shape 90B</p> 	20311	90B	25	6	100	CFINE	10	
	8804	90B	25	13	100	89AMEDIUM	10	
	469	90B	25	13	100	CMEDIUM	10	
	20313	90B	25	13	100	CFINE	10	
	28466	90B	45	13	100	89ASUPER	10	
	28467	90B	50	25	150	89ASUPER	10	
	456	90B	50	25	150	89AMEDIUM	10	
	457	90B	50	25	150	89AFINE	10	
	481	90B	50	25	150	CMEDIUM	10	
	479	90B	50	25	150	CFINE	10	
	462	90B	50	25	200	89AMEDIUM	10	
	461	90B	50	25	200	89AFINE	10	
	485	90B	50	25	200	CMEDIUM	10	
	486	90B	50	25	200	CFINE	10	

## COARSE BENCH STONES, SHAPE 90B


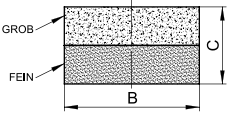
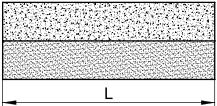
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  <p>Shape 90B</p> 	29382	90B	50	25	200	1C 24 M5 V15	10	
	103622	90B	50	25	200	1 C36 L5 V15	10	
	28869	90B	50	50	200	1 C24 M5 V15	10	



## FILES WITH HANDLE SHAPE 90FHG

	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  Shape 90FHG 	79664	90FHG	40	30	230	C70 O5 V18	1	



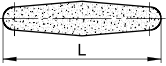
## COMBINED RUBBING BRICKS FOR TILES, SHAPE 90K

	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  Shape 90K 	175220	90K	80	30	160	C24 M5 V15 / C70 L5 V15	1	
	146640	90K	120	30	200	C24 M5 V15 / C70 L5 V15	1	





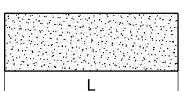


## WHETSTONES, SHAPE 90W


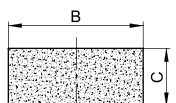
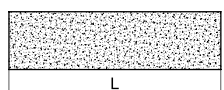
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
  <p>Shape 90W</p> 	362775	90W	35	13	230	AC-V	1	



## SQUARE FILES, SHAPE 9011


	TYPE NO.	SHAPE	B	L	SPECIFICATION	PU	COMMENTS
	35677	9011	15	100	C80 - BE15	10	Deburring (course)
	6335	9011	20	100	C400 - BE15	10	Polishing (fine)
 <p>Shape 9011</p> 							

## TYFIX HAND RUBBING BRICKS, SHAPE 90TY

	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
	1872	90TY	50	20	80	C60 - BE5	1	Green Course
	1870	90TY	40	20	50	C100 - BE5	1	Green Medium
	1873	90TY	50	20	80	C100 - BE5	1	Green Medium
	1874	90TY	50	20	80	C240 BE5	1	Green Fine
	501861	90TY	40	20	80	CMEDIUM	1	Grey
	502437	90TY	55	30	110	CMEDIUM	1	Dark blue
	502457	90TY	55	30	110	CFINE	1	Light blue
 <p>Shape 90TY</p> 								




## HAND-GUIDED LAPPER, SHAPE 90H

	TYPE NO.	SHAPE	L	L2 - W - X	SPECIFICATION	PU	COMMENTS
	91963	90H	150	40 - 10 - 2	D35 C50 B	1	
	95717	90H	150	25 - 10 - 2	D35 C50 B	1	



## DIAMOND FILES, SHAPE 90N

	TYPE NO.	SHAPE	B	C	SPECIFICATION	PU	COMMENTS
	477283	90N	140	70 - 3	D126 GST	1	Square
	477430	90N	140	70 - 3	D126 GST	1	Half round
	477289	90N	140	70 - 3	D126 GST	1	Flat point



## SHARPENING PRECISION

— Saw sharpening	206
— Universal tool grinding, ceramic	211
— Universal tool grinding, resin	215



## SAW SHARPENING

### Product advantages:

Specially selected grain qualities and innovative bond systems with efficient grinding wheel design guarantee optimum quality on cutting edge

### Application tips:

Operating speed: 25 – 40 m/s


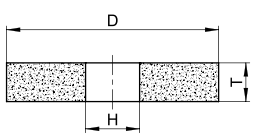
### Safety information:

- Observe safety information
- See chapter "Safety when grinding" (page 29)




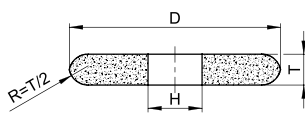
## GRINDING TOOLS FOR AUTOMATIC SAW SHARPENING MACHINES

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
SA					●	●					●	●
A		●	○								●	●
88A, 89A			●		●	●					●	●
455A					●							●

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	292129	1	150	1,5	32	SA 80 L4 VN-MOD	10	Maximum operating speed 63m/s
	935730	1	150	2	32	SA 80 L4 VN-MOD	10	
	123688	1	150	2,5	32	SA 80 L4 VN-MOD	10	
	226295	1	150	3	32	SA 80 L5 VN-MOD	10	
	159000	1	150	4	32	SA 80 L5 VN-MOD	10	
	667182	1	150	5	32	SA 80 L5 VN-MOD	10	
	946904	1	150	6	32	SA 60 L5 VN-MOD	10	
	17256	1	150	6	38	SA 60 K5 VN-MOD	10	
	441302	1	150	8	32	SA 60 L5 VN-MOD	10	
	441301	1	150	10	32	SA 60 L5 VN-MOD	10	
	922647	1	200	1,5	32	SA 80 L4 VN-MOD	10	
	804963	1	200	1,75	32	SA 80 L4 VN-MOD	10	
	922857	1	200	2	32	SA 80 L4 VN-MOD	10	
	867603	1	200	2,5	32	SA 80 L4 VN-MOD	10	
	922860	1	200	3	32	SA 80 L5 VN-MOD	10	
	804957	1	200	3,5	32	SA 80 L5 VN-MOD	10	
	804945	1	200	4	32	SA 80 L5 VN-MOD	10	
	804993	1	200	5	32	SA 60 L5 VN-MOD	10	
	805000	1	200	6	32	SA 60 L5 VN-MOD	10	
	804976	1	200	8	32	SA 60 L5 VN-MOD	10	
804979	1	200	10	32	SA 60 L5 VN-MOD	10		
901252	1	250	3	32	SA 80 L4 VN-MOD	10		
901254	1	250	4	32	SA 80 L4 VN-MOD	10		
901256	1	250	5	32	SA 60 L5 VN-MOD	10		
901258	1	250	6	32	SA 60 L5 VN-MOD	10		


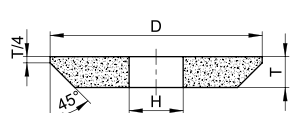


## GRINDING TOOLS FOR AUTOMATIC SAW SHARPENING MACHINES

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  <p>Shape 1F</p>	805007	1F	200	8	32	SA 60 K5 VN-MOD	10	Maximum operating speed 63m/s
	804986	1F	200	8	32	SA 60 L5 VN-MOD	10	
	805008	1F	200	10	32	SA 60 K5 VN-MOD	10	
	804983	1F	200	10	32	SA 60 L5 VN-MOD	10	
	805017	1F	250	8	32	SA 60 K5 VN-MOD	10	
	805018	1F	250	10	32	SA 60 K5 VN-MOD	10	
	805019	1F	250	12	32	SA 60 K5 VN-MOD	10	
	805015	1F	250	13	32	SA 60 K5 VN-MOD	10	


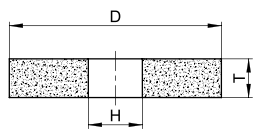
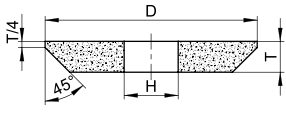


## GRINDING TOOLS FOR AUTOMATIC SAW SHARPENING MACHINES

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  <p>Shape 1C</p>	172352	1C	175	8	20	88A 60 N4 AV217	10	Two-layer wheels
						89A 60 M5 AV217		
	719918	1C	200	10	20	88A 60 N4 AV217	10	
						89A 60 M5 AV217		
	720012	1C	200	10	32	88A 60 N4 AV217	10	
						89A 60 M5 AV217		
	162874	1C	200	12	20	88A 60 N4 V217	10	
						89A 60 M5 AV217		
	161678	1C	250	10	20	88A 60 N4 AV217	10	
						89A 60 M5 AV217		




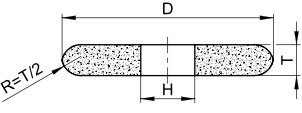
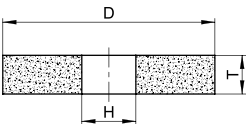
## GRINDING TOOLS FOR AUTOMATIC SAW SHARPENING MACHINES

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  <p>Shape 1</p>  <p>Shape 1C</p>	18825	1	150	3	30	88A 80 M5 AV217	10	Steel blade relief grinding for CC saws
	55375	1	150	3	32	88A 80 M5 AV217	10	
	9293	1	150	4	20	88A 80 M5 AV217	10	
	19117	1	150	4	20	A 60 N4 B2	10	
	291120	1	150	4	32	88A 80 M5 AV217	10	
	719904	1	150	6	38	88A 60 K5 AV217	10	
	490222	1	150	6	38	88A 80 K5 AV217	10	
	455124	1	150	8	32	89A 60 M5 AV217	10	
	10265	1	150	10	32	89A 60 M5 AV217	10	
	719906	1	175	3	51	89A 60 M5 AV217	10	
	123222	1	175	6	51	89A 60 M5 AV217	10	
	50845	1	175	8	51	89A 60 M5 AV217	10	
	448603	1	200	2	32	88A 80 M5 AV217	10	
	7318	1	200	3	32	88A 80 M5 V217	10	
	3070	1	200	6	20	89A 60 M5 AV217	10	
	110554	1	200	6	32	89A 60 K5 AV217	10	
	7328	1	200	6	32	89A 60 M5 V217	10	
	107050	1	200	6	32	89A 60 M5 V227	10	
	3077	1	200	8	20	89A 60 M5 AV217	10	
	525686	1	200	8	32	89A 60 M5 AV217	10	
	3085	1	200	10	20	89A 60 M5 AV217	10	
	3091	1	200	10	32	89A 60 K5 AV217	10	
	608080	1	200	10	32	89A 60 M5 AV217	10	
	762445	1	200	10	32	89A 60 M5 AV217	10	
	3092	1	200	10	32	89A 60 M5 V217	10	
	28549	1C	200	10	32	89A 60 M5 AV217	10	
	51494	1	200	13	32	89A 60 M5 AV217	10	
	3424	1	250	10	20	89A 60 M5 AV217	10	
	437634	1	250	10	32	52A 54 M5 V217	10	
	461239	1	250	10	32	89A 60 M5 V217	10	
33249	1	250	13	20	89A 60 M5 AV217	10		
719922	1	250	13	32	89A 60 M5 AV217	10		





## GRINDING TOOLS FOR AUTOMATIC SAW SHARPENING MACHINES

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  	150402	1F	300	10	32	455A 60 L7 B82	1	for stellite band and frame saws; maximum operating speed is 63m/s
	179959	1	300	10	40	455A 80 M6 B22	1	
	223733	1	300	12	40	455A 60 M7 B82	1	
	226682	1	300	10	30	455A 80 M6 B22	1	
	241857	1	300	10	32	455A 80 K6 B22	1	
	313636	1	300	10	40	455A 60 M7 B82	1	
	471747	1	300	12	40	455A 80 M6 B22	1	
	485953	1	300	8	32	455A 80 M6 B22	1	
	527875	1	300	10	32	455A 60 L7 B82	1	


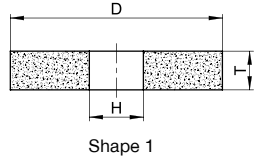


# SAW SHARPENING ELASTIC



## SAW BLANK POLISHING

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

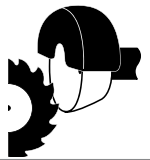
	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	491888	1	250	25	32	C46 - BE16	1	Saw blade polishing
	401616	1	250	25	32	C46 - BE19F	1	

Comments:

BE16 = hard,  $v_{max} = 32m/s$

BE19 = medium-hard,  $v_{max} = 32m/s$

**Use 2/3 wheel flange**



## CONVENTIONAL CERAMICS

### Product advantages:

- Grit sizes tailored to application (46 – 100 ) and qualities
- 89A white aluminium oxide suitable for universal use
- 91A ruby aluminium oxide – special aluminium oxide with high level of toughness, particularly suitable for intermittent grinding
- Cooler grinding

### Application tips:

- Choice of grit size depends on the steel quality to be processed
- Low-alloyed steels = grit size 46 – 60
- HSS and special steels = grit size 60 – 80

### Safety information:

- Observe safety information
- See chapter "Safety when grinding" (page 29)





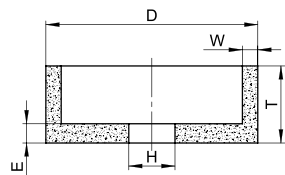
# UNIVERSAL TOOL GRINDING CONVENTIONAL CERAMICS



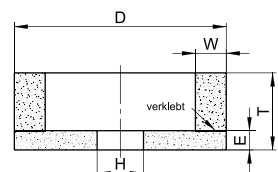
## DRY GRINDING

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
89A			●		●	●					●	
91A						●					●	
C								●			●	

	TYPE NO.	SHAPE	D	T	H	W - E	SPECIFICATION	PU	COMMENTS	
	5843	6	80	40	20	6 - 10	89A 60 K5 AV53	1	For achievable surface finishes (standard values), see table on page 25	
	34924	6	100	50	20	10 - 10	89A 46 K5 AV53	1		
	19040	6	100	50	20	8 - 10	89A 54 I5 AV53	1		
	5886	6	100	50	20	10 - 10	89A 60 J5 AV53	1		
	5887	6	100	50	20	10 - 10	89A 60 K5 AV53	1		
	49273	6	100	50	20	10 - 10	89A 60 M5 AV53	1		
	9627	6	100	50	20	10 - 10	89A 80 I7 AV53	1		
	568265	6	100	50	20	10 - 10	89A 80 I7 AV53/U5	1		with peripheral treatment
	5889	6	100	50	20	10 - 10	89A 80 J5 AV53	1		For achievable surface finishes (standard values), see table on page 25
	8641	6	100	50	20	10 - 10	89A 80 K5 AV53	1		
	54820	6	100	50	20	10 - 10	89A 80 L5 V55	1	for CC and coated tools	
	122989	6	100	50	20	10 - 10	91A 80 L5 AV217	1		
	139155	6	100	50	20	10 - 10	C80 I5 V15	1	For achievable surface finishes (standard values), see table on page 25	
	131991	6	125	50	32	13 - 13	89A 60 K5 V53	1		
	451151	6	125	63	20	8 - 13	89A 54 I5 AV53	1		
	78847	6	150	50	32	12 - 15	89A 60 K5 V53	1		
	77824	6	150	60	50	15 - 15	89A 36 H7 V217	1		
	438088	6	150	63	32	15 - 16	91A 46 G9 AV217/P3	1		
	84809	6	150	70	28	17 - 16	89A 36 H8 V217	1		
	91350	6	150	76	28	17,5 - 16	89A 46 J8 V217	1		
	186445	6	150	80	32	10 - 16	89A 60 J5 AV53	1		
	365824	6	150	80	50	10 - 16	89A 46 H7 AV53	1		
	75803	6	165	60	32	15 - 15	91A 46 G9 AV217/P3	1	For achievable surface finishes (standard values), see table on page 25	
	54119	6	175	75	76,2	17,5 - 17	89A 36 J8 V217	1		
	126245	6	175	75	78	15 - 18	89A 36 H7 AV217	1		
	712490	6	175	75	78	15 - 18	89A 36 J10 AV237 P22	1		
	91441	6	175	75	78	15 - 18	89A 46 H7 V217	1		
	587026	6	175	80	32	13 - 20	89A 46 G10 AV217	1		
	70128	6	200	80	78	20 - 20	89A 36 H7 V217	1		
	798715	6	200	80	78	20 - 20	89A 36 J10 AV237 P22	1		
	70092	6BS	200	100	51	25 - 25	89A 36 I8 AV217	1		




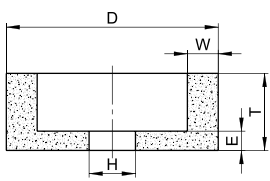
Shape 6



Shape 6BS


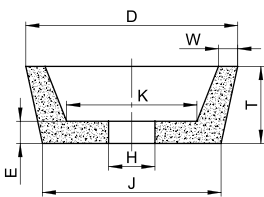


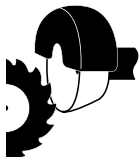
**DRY GRINDING**

	TYPE NO.	SHAPE	D	T	H	W - E	SPECIFICATION	PU	COMMENTS
  Shape 6BB	24299	6BB	127	63	32	22,5 - 13	C46 J5 V15	2	for mining drill grinding machines
	108479	6BB	200	100	32	25,5 - 20	C46 J5 V15	1	



**DRY GRINDING**


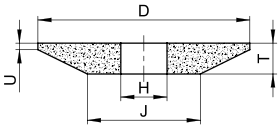
	TYPE NO.	SHAPE	D/J	T	H	W - E	K	SPECIFICATION	PU	COMMENTS
  Shape 11	334166	11	80/57	32	20	6 - 8	46	89A 100 H5 AV53	1	
	338237	11	80/57	32	20	6 - 8	46	89A 60 K5AV53	1	
	4917	11	100/71	40	20	8 - 10	56	89A 46 J5 AV53	1	
	4924	11	100/71	40	20	8 - 10	56	89A 60 K5 AV53	1	
	631057	11	100/71	40	32	8 - 10	56	89A 60 J5 AV53	1	
	63195	11	100/80	50	32	9 - 13	67	89A 60 K5 V53	1	
	31675	11	125/96	40	20	8 - 10	81	89A 46 K5 AV53	1	
	331500	11	125/96	40	32	8 - 10	81	89A 60 J5 AV53	1	
	203176	11	150/114	50	32	10 - 13	96	89A 46 I5 AV53	1	
	498229	11	150/114	50	32	10 - 13	96	89A 60 J5 AV53	1	



# UNIVERSAL TOOL GRINDING CONVENTIONAL CERAMICS


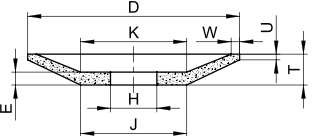


**DRY GRINDING**

	TYPE NO.	SHAPE	D/J	T/U	H	SPECIFICATION	PU	COMMENTS
  Shape 3	31009	3	150/75	8/2	20	89A60J5AV53	1	



**DRY GRINDING**

	TYPE NO.	SHAPE	D/J	T/U	H	W - E	K	SPECIFICATION	PU	COMMENTS
  Shape 12	19659	12	100/50	13/3	20	5 - 7	50	89A 60 K5 AV53	1	
	364685	12	125/63	13/3	20	6 - 7	63	89A60I5AV53	1	
	216789	12	125/63	13,3/3	20	6 - 7	63	89A46J5AV53	1	
	9398	12	150/75	16/3	20	10 - 10	85	89A 60 J5 AV53	1	
	9833	12	175/85	18/3	20	10 - 10	85	89A60I5AV53	1	



## CBN & DIAMOND RESIN

### Product advantages:

- Bond systems and cores optimally tailored for dry grinding by means of high heat conductivity
- Particularly cool grinding

### Application tips:

- Recommended operating speed for cemented carbide: 16 – 22 m/s
- Recommended operating speed for HSS: 20 – 25 m/s


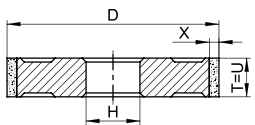
### Safety information:

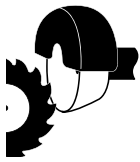
- Observe safety information
- See chapter "Safety when grinding" (page 29)



## DRY GRINDING FOR HSS

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
AMIGO, B			●		●	●					●	


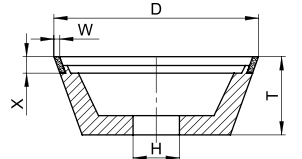
	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  Shape 1A1	620464	1A1	100	10	20	10	6	B126 C50 B54 BA	1	



# UNIVERSAL TOOL GRINDING CBN & DIAMOND RESIN


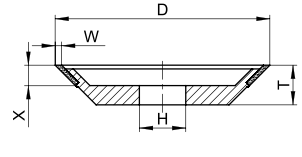


## DRY GRINDING FOR HSS

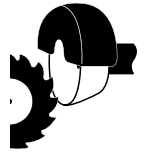
	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 11V9	640777	11V9	75	30	20	2	10	AMIGO B126 C75 B	1	Long life
	666288	11V9	100	35	20	2	10	AMIGO B181 C75 B	1	
	561391	11V9	100	35	20	2	10	B151 C75 B	1	
	617388	11V9	100	35	20	2	10	AMIGO B126 C75 B	1	
	644514	11V9	100	35	20	2	10	AMIGO B91 C75 B	1	
	636398	11V9	100	35	20	3	10	AMIGO B126 C75 B	1	
	649723	11V9	100	35	32	2	10	AMIGO B126 C75 B	1	
	641854	11V9	125	40	20	2	10	AMIGO B126 C75 B	1	
	644532	11V9	125	40	20	2	10	AMIGO B91 C75 B	1	




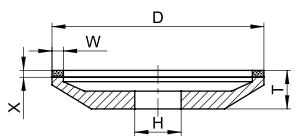
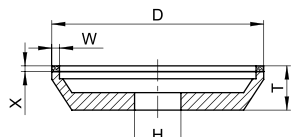
## DRY GRINDING FOR HSS

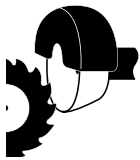
	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 12V9	703242	12V9	75	20	20	2	6	AMIGO B126 C75 B	1	Long life
	636658	12V9	100	20	20	2	10	AMIGO B181 C75 B	1	
	85701	12V9	100	20	20	2	10	B151 C75 B	1	
	840506	12V9	125	25	20	2	10	AMIGO B126 C75 B	1	





**DRY GRINDING FOR HSS**


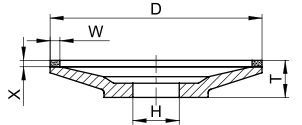
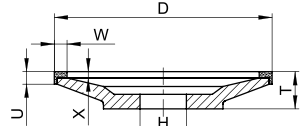
	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 12A2  Shape 12A2D	436484	12A2	150	18	20	5	2	B126 C50 B	1	
	124644	12A2	150	18	20	5	3	B126 C50 B	1	
	217976	12A2D	100	25	20	6	2	B126 C50 B	1	
	666137	12A2D	100	25	20	6	3	B126 C50 B		
	337051	12A2	150	18	20	4	3	B126 C75 B	1	
	649692	12A2	175	20	20	6	2	B151 C75 B	1	



UNIVERSAL TOOL GRINDING  
CBN & DIAMOND RESIN


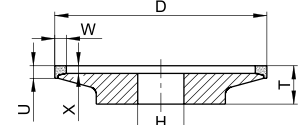


**DRY GRINDING FOR HSS**

	TYPE NO.	SHAPE	D	T	H	W	U	X	SPECIFICATION	PU	COMMENTS
  Shape 12A2F  Shape 12C2F	69502	12A2F	125	23	20	5		4	B126 C50 B	1	
	646778	12C2F	125	23	20	5	5	4	AMIGO B91C75 B	1	
	641839	12C2F	125	23	20	5	5	4	AMIGO B151 C75 B	1	
	641842	12C2F	150	23	20	5	5	4	AMIGO B151 C75 B	1	


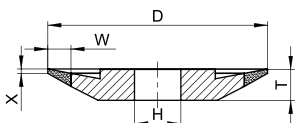


**DRY GRINDING FOR HSS**

	TYPE NO.	SHAPE	D	T	H	U	W	R	SPECIFICATION	PU	COMMENTS
  Shape 4C2	83827	4C2	100	13	20	5,1	6	2	B126 C75 B	1	


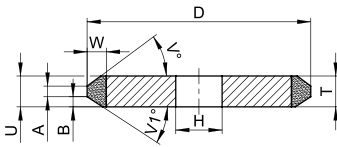


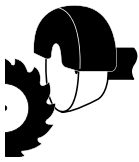
**DRY GRINDING FOR HSS**

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 4BT9	119325	4BT9	100	10	20	10	1	B126 C75 B	1	



**DRY GRINDING FOR HSS**


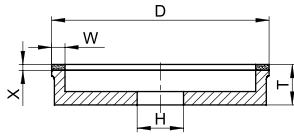
	TYPE NO.	SHAPE	D	T	H	U	A	B	X	V°	V1°	SPECIFICATION	PU	COMMENTS
  Shape 1BM1	463068	1BM1	75	4	20	4	0,9	1,5	8	45	22,5	B91 C75 B	1	Drill bit diameter 4 mm
	102748	1BM1	75	4,5	20	4,5	1,7	1,5	7	45	22,5	B91 C75 B	1	Drill bit diameter 5 and 6 mm
	463070	1BM1	75	5	20	5	2,4	1,5	6,5	45	22,5	B91 C75 B	1	Drill bit diameter 8 mm
	463071	1BM1	75	6	20	6	3,7	1,5	6	45	22,5	B91 C75 B	1	Drill bit diameter 10 mm



# UNIVERSAL TOOL GRINDING CBN & DIAMOND RESIN



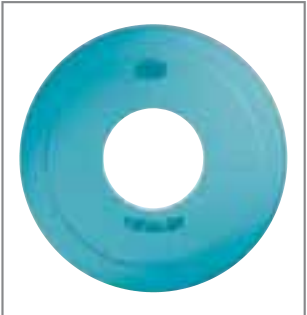
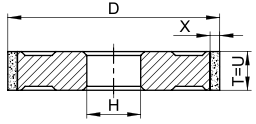
## DRY GRINDING FOR HSS

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 6A2	735896	6A2	100	30	20	3	6	B126 C75 B	1	




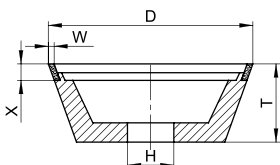
## DRY GRINDING FOR CEMENTED CARBIDE

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
DIAGO, D								●			●	

	TYPE NO.	SHAPE	D	T	H	U	X	SPECIFICATION	PU	COMMENTS
  Shape 1A1	640978	1A1	100	10	20	10	6	D64 C50 B	1	


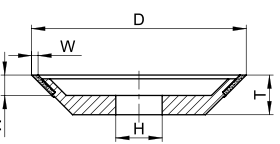


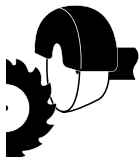
## DRY GRINDING FOR CEMENTED CARBIDE

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 11V9	249717	11V9	75	30	20	2	6	D126 C75 B	1	Long life
	679634	11V9	75	30	20	2	10	DIAGO D126 C75 B	1	
	721301	11V9	75	30	20	2	10	DIAGO D64 C50 B	1	
	676589	11V9	100	35	20	2	10	DIAGO D181 C75 B	1	
	675309	11V9	100	35	20	2	10	DIAGO D126 C75 B	1	
	335803	11V9	100	35	31,75	2	10	DIAGO D126 C75 B	1	
	681915	11V9	100	35	20	2	10	DIAGO D91 C75 B	1	
	675272	11V9	100	35	20	2	10	DIAGO D64 C50 B	1	
	576021	11V9	100	35	20	2	10	D126 C75 B	1	Long life
	5028	11V9	100	35	20	3	10	D126 C75 B	1	Long life
	561390	11V9	100	35	20	3	10	D126 C75 B	1	Long life
	675318	11V9	100	35	20	3	10	DIAGO D126 C75 B	1	
	721303	11V9	100	35	20	3	10	DIAGO D64 C50 B	1	
	679946	11V9	125	40	20	3	10	DIAGO D126 C75 B	1	



## DRY GRINDING FOR CEMENTED CARBIDE


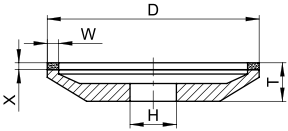
	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 12V9	696324	12V9	75	20	20	2	6	DIAGO D126 C75 B	1	
	721319	12V9	75	20	20	2	6	DIAGO D64 C50 B	1	
	689930	12V9	100	20	20	2	10	DIAGO D126 C75 B	1	
	311250	12V9	125	25	20	2	10	D126 C75 B	1	Long life
	90998	12V9	125	25	20	2	6	D54 C65 B	1	
	194540	12V9	100	20	20	2	10	DIAGO D91 C75 B	1	
	43588	12V9	100	20	20	2	10	D91 C75 B	1	



# UNIVERSAL TOOL GRINDING CBN & DIAMOND RESIN


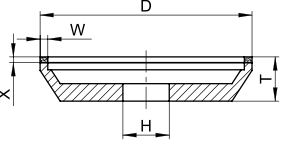
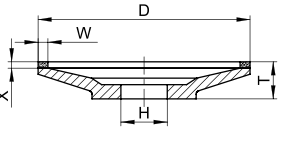


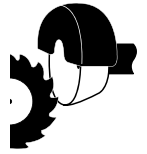
## DRY GRINDING FOR HSS

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 12A2	19220	12A2	125	16	20	6	2	D126 C75 B	1	
	291603	12A2	150	18	20	5	3	D91 C75 B	1	


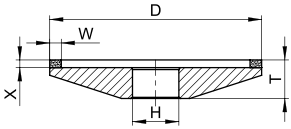


## DRY GRINDING FOR CEMENTED CARBIDE

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 12A2D   Shape 12A2F	104376	12A2D	100	25	20	5	3	D91 C75 B	1	
	28162	12A2D	100	25	20	6	2	D126 C75 B	1	
	38012	12A2D	100	25	20	6	2	D64 C50 B	1	
	462949	12A2D	100	27	20	6	4	D64 C50 B	1	
	779789	12A2D	100	25	20v	10	3	D91 C75 B	1	
	102902	12A2F	125	23	20	5	4	D126 C50 B	1	
	842923	12A2F	125	23	20	5	4	D151 C75 B	1	Long life
	731399	12A2F	125	23	20	5	4	D151 C75 B	1	
	731387	12A2F	125	23	20	5	4	D64 C50 B	1	
	97868	12A2F	125	23	20	5	4	D64 C50 B	1	Long life
	416671	12A2F	150	22	20	4	3	D64 C50 B	1	
	679671	12A2F	150	23	20	5	4	D126 C75 B	1	


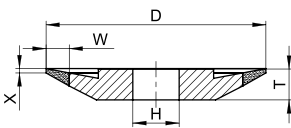


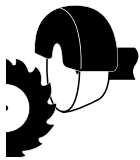
**DRY GRINDING FOR CEMENTED CARBIDE**

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 4A2	86734	4A2	125	10	20	5	2	D64 C50 B	1	
	480500	4A2	125	10	20	5	2	D126 C75 B	1	
	215813	4A2	150	12	20	5	2	D126 C50 B	1	
	436472	4A2	150	12	20	5	2	D64 C50 B	1	


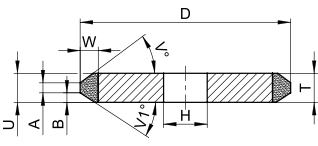


**DRY GRINDING FOR CEMENTED CARBIDE**

	TYPE NO.	SHAPE	D	T	H	W	X	SPECIFICATION	PU	COMMENTS
  Shape 4BT9	255835	4BT9	100	10	20	10	1	D91 C75 B	1	



**DRY GRINDING FOR CEMENTED CARBIDE**

	TYPE NO.	SHAPE	D	T	H	U	A	B	X	V°	V1°	SPECIFICATION	PU	COMMENTS
  Shape 1BM1	790783	1BM1	75	4	20	4	0,9	1,5	8	45	22,5	D64 C75 B	1	Drill bit diameter 4 mm
	848480	1BM1	75	4,5	20	4,5	1,7	1,5	7	45	22,5	D64 C75 B	1	Drill bit diameter 5 and 6 mm
	790784	1BM1	75	5	20	5	2,4	1,5	6,5	45	22,5	D64 C75 B	1	Drill bit diameter 8 mm
	867805	1BM1	75	6	20	6	3,7	1,5	6	45	22,5	D64 C75 B	1	Drill bit diameter 10 mm





## **DRESSING PRECISION**

- Resin for pedestal and swing frame grinding 226
- Dressing and sharpening 227



## CONVENTIONAL RESIN

### Product advantages:

- High performance and optimised efficiency
- Less effort required through high cutting ability
- Individually tailored products for your grinding application
- Ultimate safety for manual grinding work
- Available in all standard sizes (on request)

### Application tips:

- Dressing of grinding wheels guarantees quiet operation and free-cutting grinding surface
- Use hard specifications for deburring
- Use soft specifications for large feeder cross sections and for hard cast materials




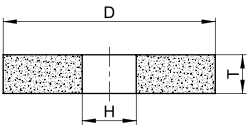
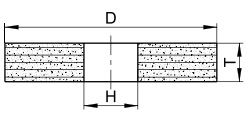
### Safety information:

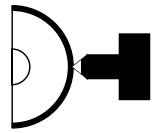
- Observe max. permissible peripheral speed
- Observe safety information
- See chapter "Safety when grinding" (page 29)



## CAST MATERIALS

	Alu	Non and low-alloyed steels		High-alloyed steels		HSS	INOX	Cemented carbide	Industrial ceramics	Cast iron	Dry grinding	Wet grinding
		Unhardened	Hardened	Unhardened	Hardened							
112A, 202A		○		○			○			●	●	

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
	339583	1	500	60	127	112A 16 Q4 B26/63	1	Automated grinding machines
	662442	1F63	600	60	203,2	M202 A16 P5 BF83/63	1	Grey / spheroidal iron
 <p>Shape 1</p>								
 <p>Shape 1F63</p>								



## DRESSING AND SHARPENING

### Product advantages:

- CSS dressing plates achieve constant dressing results for the entire service life by virtue of precisely defined diamond cross sections
- Multi-grain dressers achieve considerably shorter dressing times in comparison to single grain dressers

### Application tips:

- Ensuring sufficient coolant supply while dressing increases lifetime (to avoid thermal overload of dressing diamonds)
- The active width ( $b_d$ ) describes the effective diamond width of the dressing tools for a certain infeed depth when dressing
- With the overlap rate ( $U_d$ ), surfaces and stock removal rates can be significantly affected
- The overlap rate ( $U_d$ ) defines the number of grinding wheel rotations during which time the dressing tool has deployed to its active width
- An increased overlap rate will make the grinding wheel surface smoother and, as a consequence, the actual surface roughness smaller
- Standard values for the overlap rate:
  - Roughing 2 - 3
  - Standard grinding 4 - 6
  - Fine grinding  $\geq 7$
- The formulas specified only apply to dressers with defined effective widths  $b_d$  (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

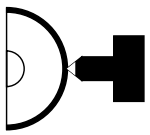
$v_d$  = Traverse speed of dresser

- Further information can be found on page 22




### Safety information:

- Observe safety information
- See chapter "Safety when grinding" (page 29)




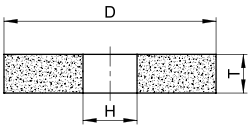
## BREAK DRESSING

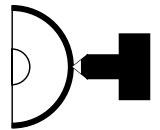
### AV500 DRESSING DEVICE, SHAPE 96

	TYPE NO.	SHAPE	DESCRIPTION	PU	COMMENTS
 <p>Shape 96</p>	96821	96	AV500	1	for concentrically trueing resin and metal-bonded diamond and CBN wheels


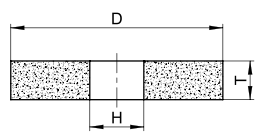
### RECOMMENDED DRESSING WHEELS FOR DIAMOND AND CBN WHEELS, SHAPE 1

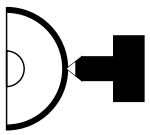
(FOR AV500 AND AGATHON DRESSING DEVICES)

	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  <p>Shape 1</p>	473304	1	75	20	12,7	C120 J5 V15	10	For grit sizes <= D91
	7035	1	75	25	12,7	1C70 M5 V15	10	Long life, for wider layers
	443944	1	75	25	12,7	1C80 G7 V15	10	Standard hardness, for grit sizes 151 - 64
	448482	1	75	25	12,7	C80 J5 V18	10	Harder than standard, for grit sizes 151 - 64


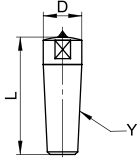


## RECOMMENDED DRESSING WHEELS FOR DIAMOND AND CBN WHEELS, SHAPE 1


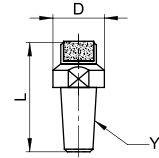
	TYPE NO.	SHAPE	D	T	H	SPECIFICATION	PU	COMMENTS
  Shape 1	786852	1	200	12	76,2	C120 K5 AV15	1	For grit sizes <= D91, for wider layers
	413027	1	250	12	51	C120 H5 AV18	1	For grit sizes <= D91
	250491	1	250	12	51	C80 H8 V15	1	Standard hardness, for grain sizes 151 - 64
	619701	1	250	12	51	C80 J5 V15	1	Harder than standard, for grit sizes 151 - 64

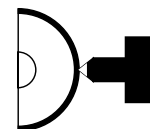


## RECOMMENDED SINGLE-GRAIN DRESSER, SHAPE 50EA


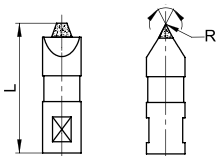
	TYPE NO.	SHAPE	D	L	Y / ADAP	SPECIFICATION	ct	PU	COMMENTS
  Shape 50EA	313127	50EA	8	90	8	BD5ST	0,5	1	for conventional tools; single dresser for cylindrical and surface grinding machines  * wrench width for MK0 and MK1 only
	611499	50EA	10	90	10	ED10ST	1,0	1	
	363249	50EA	10	90	10	ED5ST	0,5	1	
	856232*	50EA	9,3	31,5	MK0	DD10ST	1,0	1	
	316272*	50EA	12,4	49	MK1	BD10	1,0	1	
	313466*	50EA	12,4	49	MK1	BD5ST	0,5	1	
	331997*	50EA	14	57	MK1	ED15ST	1,5	1	

## RECOMMENDED MULTI-GRAIN DRESSER, SHAPE 50MA


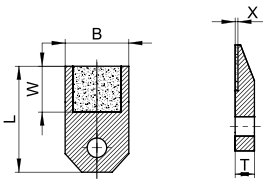
	TYPE NO.	SHAPE	D	L	Y / ADAP	SPECIFICATION	ct	PU	COMMENTS
  Shape 50MA	446432	50MA	12	50	10	10 x 10	M65	1	for conventional tools; Multi-set diamond dresser for quick, coarse dressing jobs, for straight profile  * wrench width for MK1 only
	446453	50MA	12	90	10	10 x 10	M65	1	
	316286*	50MA	14	57	MK1	12 x 10	M125	1	
	315877*	50MA	14	57	MK1	10 x 10	M65	1	

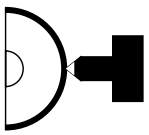


## RECOMMENDED PROFILE DIAMONDS / DIAFORM, SHAPE 50PD


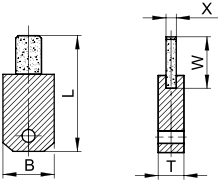
	TYPE NO.	SHAPE	DIMENSIONS	SPECIFICATION	PU	COMMENTS
  Shape 50PD	475960	50PD	44.5 x DF / V40 / R 0.25	D 0.4	1	for trueing complicated grinding wheel shapes
	477837	50PD	44.5 x DF / V60 / R 0.75	D 0.4	1	

## RECOMMENDED DIAMOND DRESSING PLATES, SHAPE 50AP

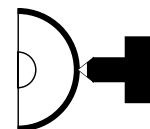
	TYPE NO.	SHAPE	B	L	T	W-X	SPECIFICATION	PU	COMMENTS
  Shape 50AP	477760	50AP	20,5	28	5	10 - 1,8	C180	1	sintered on sides, for cylindrical and surface grinding machines, for straight and simple profile
	476859	50AP	20,5	33	5	15 - 1,15	A115	1	
	477746	50AP	20,5	33	5	15 - 1,4	A140	1	
	477753	50AP	10,5	33	5	15 - 1,5	B115	1	
	477755	50AP	10,5	33	5	15 - 1,8	B180	1	
	477749	50AP	20,5	33	5	15 - 1,8	A185	1	




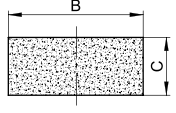
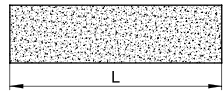
**RECOMMENDED CSS DRESSING PLATES,  
SHAPE 50AP**

	TYPE NO.	SHAPE	B	L	T	W-X	SPECIFICATION	PU	COMMENTS
  <p>Shape 50AP</p>	853704	50AP	10	33	5	10 - 2	S3R0107042	1	for sintered aluminium oxide wheels; long life; 3 dia rods
	853680	50AP	20	33	5	10 - 2	W5R071004	1	for sintered aluminium oxide wheels; long life; 5 dia rods


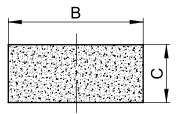
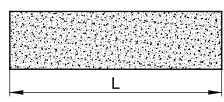


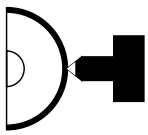


## RECOMMENDED DRESSING STONES FOR ALUMINIUM OXIDE AND SILICON CARBIDE GRINDING WHEELS, SHAPE 90AS


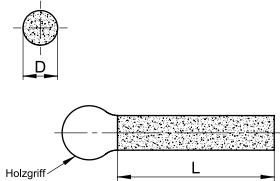
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
   Shape 90AS	43311	90AS	25	25	150	CCOURSE	10	
	9009	90AS	50	20	150	CCOURSE	1	
	6216	90AS	50	25	200	CCOURSE	1	
	153	90AS	50	25	200	CMEDIUM	1	

## RECOMMENDED ROUGHING STONES FOR DIAMOND AND CBN GRINDING WHEELS, SHAPE 90AS


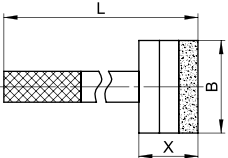
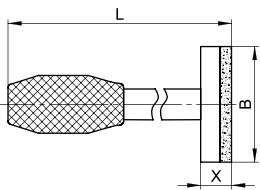
	TYPE NO.	SHAPE	B	C	L	SPECIFICATION	PU	COMMENTS
   Shape 90AS	845593	90AS	24	13	100	89A 120 H7 AV17	10	for grain size $\geq$ 126
	845594	90AS	24	13	100	89A 120 J7 AV17	10	
	395773	90AS	50	25	200	89A 120 H7 AV17	1	
	460976	90AS	50	25	200	89A 120 J7 AV17	1	for grit size $>$ 46 and $<$ 126
	845595	90AS	24	13	100	89A 240 J7 AV17	10	
	932780	90AS	25	13	200	89A 240 H5 AV83	10	
	391718	90AS	50	25	200	89A 240 -35 V83	1	
	464290	90AS	50	25	200	89A 240 J7 AV17	1	
	112055	90AS	50	25	200	50C 2208 C4 B22	1	for grit size $\leq$ 46
	577953	90AS	24	13	200	89A 600 J5 AV83	10	
	33531	90AS	25	13	100	89A 600 -25 V83	10	
	251584	90AS	50	25	200	89A 600 -25 V83	1	

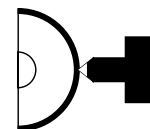


## RECOMMENDED DRESSING TUBES, SHAPE 90AR


	TYPE NO.	SHAPE	B	C	SPECIFICATION	PU	COMMENTS
  Shape 90AR	351767	90AR	17	290	C16 B	1	for dressing and sharpening of ceramic and resin-bonded grinding wheels

## RECOMMENDED HAND-GUIDED DIAMOND DRESSERS, SHAPE 50HAG, STSEG


	TYPE NO.	SHAPE	L	B	X	SPECIFICATION	PU	COMMENTS
  Shape STSEG  Shape 50HAG	477724	50HAG	185	20	8	D30ST	1	1 carat
	477726	50HAG	185	30	10	D2ST	1	2 carat
	477254	50HAG	250	40	10	D35ST	1	3 carat
	195112	STSEG	185	5	8	HA_DIA	1	

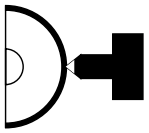


## GRINDING WHEEL DRESSER SET, SHAPE 100AKO


	TYPE NO.	SHAPE	SPECIFICATION	PU	COMMENTS
 Shape 100AKO	15321	100AKO	S3610	1	Dresser for A+C grinding wheels; D = 120-250 mm; Tmax = 40 mm; grit size: 24-80; hard: H-Q
	74497	100AKO	S3611	1	Dresser for A+C grinding wheels; D = 300-600mm; Tmax = 63mm; grit size: 16-60; hard: H-Q

## REPLACEMENT ROLLERS FOR GRINDING WHEEL DRESSERS, SHAPE 100ARO

	TYPE NO.	SHAPE	B	L	T	SPECIFICATION	PU	COMMENTS
 Shape 100ARO	74492	100ARO	36	21	8	S3610	1	
	74493	100ARO	55	39	12	S3611	1	
	75915	100ARO	55	65	12	S3612	1	



## TETRABOR DRESSERS, SHAPE 100ASB

	TYPE NO.	SHAPE	B	C	L	PU	COMMENTS
 <p>Shape 100ASB</p>	26571	100ASB	12	6	75	1	Ultra-hard tool, high edge retention; for dressing and truing conventional grinding wheels

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 Country: CHINA  
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 Telephone: 0037 2 6066 842

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 Country: HUNGARY  
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**USA:**

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 Country: UNITED STATES OF AMERICA  
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