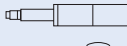
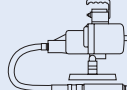
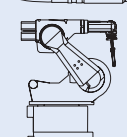




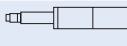
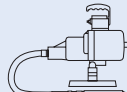
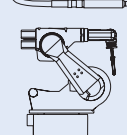
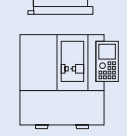










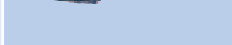
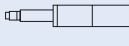
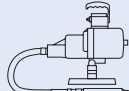





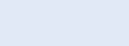
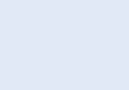


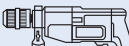

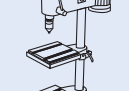



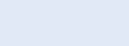

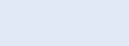



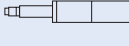
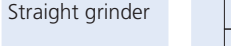


Contents		Page	
■ General information		3	
■ The fast way to the best tool		4	
Drive	Contents	Page	
TC burrs for universal applications (TC = tungsten carbide)			
  		TC burrs ■ Cut 1 ■ Cut 3 ■ Cut 3 PLUS ■ Cut 4 ■ Cut 5	6
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		Stationary application
		Power drill
		Column drill

PFERD burrs

PFERD tools are manufactured in compliance with the highest quality standards. The broad product range offers the best tool solution for every application. Outstanding quality, long tool life and excellent stock removal performance allow economical work with diverse materials, delivering excellent results. PFERD quality is certified according to ISO 9001.



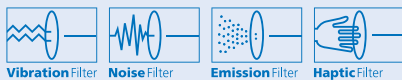
PFERDVIDEO

You will receive more information here or at www.pferd.com

PFERDERGONOMICS®

The **PFERDERGONOMICS®** programme aims at the long-term reduction of dust, noise and vibration levels produced by tools, and at perceptibly increasing tool haptics. The focus is on people.

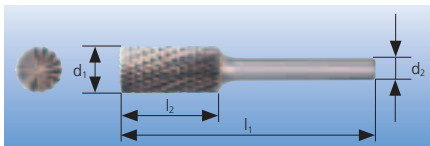
Recognize straight away the areas where our tools offer you advantages. Tools with **PFERDERGONOMICS®** properties are marked with corresponding pictograms.



PFERD offers burrs with innovative cuts, which significantly reduce vibrations and noise during use.

Ordering instructions

Please state the EAN code or description, cut and shank diameter when ordering. If no details are provided, cut 3 PLUS and shank dia. 6 mm will be delivered. In the case of tungsten carbide burrs with a shank diameter of 3 mm, cut 5 will be delivered.



Ordering example: TC burrs

EAN 4007220045176

ZYAS 1225 6 Z3 PLUS

① ② ③ ④ ⑤

Explanation of the description

- ① Shape
- ② Only for cylindrical shape with end cut
- ③ Burr diameter x cut length $d_1 \times l_2$ [mm]
- ④ Shank diameter d_2 [mm]
- ⑤ Cut



Technical customer support

If you have any questions about the optimization of your burr applications, our sales representatives and technical advisors will be happy to help or visit you. PFERD works alongside you to provide application engineering solutions for working with diverse materials. Please contact us. You can find our worldwide sales offices at: www.pferd.com



PFERD packaging

PFERD packaging provides optimum protection for tools. All burrs and tungsten carbide hole cutters are supplied individually packed in a sturdy plastic box. HSS hole saws are supplied in a practical cardboard box. All packagings come with European standard hole pattern for the presentation on the PFERD TOOL-CENTER. The packaging labels contain technical information, the description, EAN code and article number.

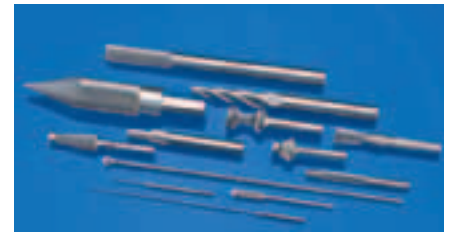
Resharpener

PFERD offers resharpener of tungsten carbide burrs. According to the level of wear, the following differentiation is made:

1. Tungsten carbide burrs that have become blunt during normal use.
2. Tungsten carbide burrs that are extremely worn and e.g. have broken teeth or damaged shanks.

In each individual case, our production specialists will decide whether regrinding makes sense from an economic point of view and is technically feasible. Regrinding of HSS rotary cutters or tungsten carbide burrs with a shank diameter of 3 mm is not recommended for economic reasons.

Please talk to our sales representatives.



Products made to order

If you cannot find the solution for your particular application in our product range, we produce burrs of premium PFERD quality on request, tailor-made to meet the requirements of your job. Further information on PFERD products made to order can be found on page 84.



PFERD TOOL-CENTER

On the TOOL-CENTER, the point of sale from PFERD, you will find all the important information required for selecting the most appropriate tool. The PFERD information and symbol cards contain important tips about tools and applications.

If you have questions, your local retailer or PFERD representative will be happy to assist you.



Use of robots



PFERD tungsten carbide burrs can be used on robots. The optimum burr for your application depends on the operating conditions.

Our sales representatives and our technical customer support team will be happy to assist you in selecting the most suitable tool.

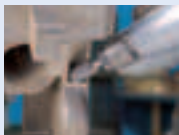

Application	Material group		
Deburring, chamfering, milling out for the preparation of build-up welding, machining of welded joints, machining of contours, cleaning cast material	Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel
		Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel
	Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels
	Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Aluminium
			Brass, copper, zinc
		Hard non-ferrous metals	Aluminium alloys, brass, copper, zinc
			Bronze, titanium/titanium alloys hard aluminium alloys (high Si content)
		High-temperature-resistant materials	Nickel-based and cobalt-based alloys, (engine and turbine construction)
	Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)
Milling out, machining of contours	Plastics, other materials	Fibre-reinforced plastics (GRP/CRP) fibre content ≤ 40 %, fibre-reinforced plastics (GRP/CRP) fibre content > 40 %, thermoplastics	
Trimming, contour milling, cutting out holes			

Special applications



Hard-to-reach places

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Broken teeth

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Work on edges

High-performance application		Page
TC burrs cut EDGE		57
Universal application		
TC burrs shapes KSK, KSJ, V, R		56

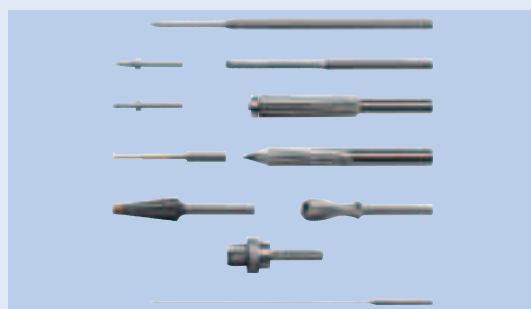
Application	High-performance application	Page	Universal application	Page
Coarse stock removal	STEEL	23	3 PLUS	8
	HICOAT® HC-FEP	51		
Fine stock removal	MICRO	47	3	
Coarse stock removal	STEEL	23	3 PLUS	
	HICOAT® HC-FEP	51		
Fine stock removal	MICRO	47	5	
Coarse stock removal	INOX	27	4	8
Fine stock removal	MICRO	47	5	
Coarse stock removal	HICOAT® HC-NFE	51	1	8
	ALU	32		
Fine stock removal	HICOAT® HC-NFE	51	-	
	ALU	32		
Coarse stock removal	ALU	32	1	
	NON-FERROUS	32		
Fine stock removal	ALU	32	3	
Coarse stock removal	HICOAT® HC-NFE	51	1	
	ALU	32		
Fine stock removal	HICOAT® HC-NFE	51	-	
	ALU	32		
Coarse stock removal	ALU	32	3	
	NON-FERROUS	32	4	
Fine stock removal	ALU	32	3	
Coarse stock removal	HICOAT® HC-HT	51	4	
Fine stock removal	MICRO	47	5	
Coarse stock removal	CAST	36	3 PLUS	8
Fine stock removal	MICRO	47	3	
Coarse stock removal	ALU	32	-	-
	NON-FERROUS	32		
	HICOAT® HC-NFE	51		
Fine stock removal	ALU	32	-	
Coarse stock removal	PLAST	40	-	
	FVK	40		

Cutting out holes

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Customer-specific tool solutions


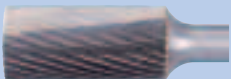








High-performance application
<p>If you cannot find the solution for your particular application in our product range, we produce PFERD premium-quality burrs, tailor-made to meet the requirements of your job. Further information on PFERD products made to order can be found on page 84.</p>



Tungsten carbide burrs

PFERD cuts and their applications



Cuts for universal applications	
Cut 1 (C according to DIN 8033) 	<ul style="list-style-type: none"> ■ Machining of light metals, non-ferrous metals, steel and cast iron ■ High stock removal
Cut 3 (MY according to DIN 8033) 	<ul style="list-style-type: none"> ■ Machining of cast iron, steel < 60 HRC, stainless steel (INOX), nickel-based alloys and titanium alloys ■ High stock removal ■ Good surface
Cut 3 PLUS (MX according to DIN 8033) 	<ul style="list-style-type: none"> ■ Similar to cut 3, but with cross cut ■ Machining of cast iron, steel < 60 HRC, stainless steel (INOX), nickel-based alloys and titanium alloys ■ High stock removal
Cut 4 (MX according to DIN 8033) 	<ul style="list-style-type: none"> ■ Machining of stainless steel (INOX), steel < 60 HRC and high-temperature-resistant materials such as nickel-based and cobalt-based alloys ■ High stock removal with short chips ■ Good surface
Cut 5 (F according to DIN 8033) 	<ul style="list-style-type: none"> ■ Fine machining of cast iron, steel < 60 HRC, stainless steel (INOX) and high-temperature-resistant materials such as nickel-based and cobalt-based alloys ■ Good surface
Cuts for high-performance applications	
Cut STEEL 	<ul style="list-style-type: none"> ■ Extremely high stock removal performance on steel and cast steel ■ Smooth milling ■ Reduced vibration and less noise
Cut INOX 	<ul style="list-style-type: none"> ■ Extremely high stock removal performance on all austenitic, rust- and acid-resistant steels, stainless steel (INOX) ■ Substantially reduced vibration and less noise
Cut ALU 	<ul style="list-style-type: none"> ■ High stock removal performance on aluminium and aluminium alloys, light metals, non-ferrous metals and plastics ■ Smooth milling
Cut NON-FERROUS 	<ul style="list-style-type: none"> ■ High stock removal performance on non-ferrous metals, brass, copper, plastics and fibre-reinforced plastics ■ Universally usable
Cut CAST 	<ul style="list-style-type: none"> ■ Extremely high stock removal performance on cast iron ■ Smooth milling ■ Reduced vibration and less noise
Cut EDGE 	<ul style="list-style-type: none"> ■ Creates exact edge shapes – with either 30°- or 45°-chamfering or a defined radius of 3.0 mm ■ Safe and comfortable to guide

Cut PLAST 	<ul style="list-style-type: none"> ■ Trimming and contour milling of workpieces from less hard glass- and carbon-fibre-reinforced duroplastics (GRP and CRP ≤ 40 % fibre content) and fibre-reinforced thermoplastics ■ Minimized delamination and fraying through straight cut ■ Suitable for use on machines and on robots ■ Burrs with end cut or with center drill tips allow combined drilling and cutting tasks ■ Reduced vibration and less noise
Cut FVK 	<ul style="list-style-type: none"> ■ Trimming and contour milling of workpieces from hard glass- and carbon-fibre-reinforced duroplastics (GRP and CRP > 40 %) ■ Burrs with end cut or with center drill tips allow combined drilling and cutting tasks
Cut FVK5 	<ul style="list-style-type: none"> ■ Similar to cut FVK ■ Suitable for use on machines and on robots with high feed rates ■ Smooth milling ■ Burrs with end cut or with center drill tips allow combined drilling and cutting tasks
Cut TOUGH 	<ul style="list-style-type: none"> ■ High stock removal performance on cast iron, steel < 55 HRC ■ High stock removal ■ Extreme impact resistance ■ Also suitable for use with high surface contact angles > 1/3 and under impact loads
Cut TOUGH-S 	<ul style="list-style-type: none"> ■ High stock removal performance on cast iron, steel < 55 HRC ■ High stock removal. Similar to cut TOUGH, but with smoother milling and shorter chips ■ Extreme impact resistance ■ Also suitable for use with high surface contact angles > 1/3 and under impact loads
Cut MICRO 	<ul style="list-style-type: none"> ■ Good stock removal on almost all materials < 68 HRC ■ High surface quality ■ Reduced vibration and less noise
HICOAT® coatings	
   	<ul style="list-style-type: none"> ■ In general, all PFERD tungsten carbide burrs are also available with HICOAT® coatings ■ Improved anti-adhesion characteristics ■ Effective chip discharge ■ Lower thermal loads ■ Increased tool life

PFERD tungsten carbide burrs

PFERD tungsten carbide burrs are designed for machining materials of virtually any strength. They are manufactured in compliance with the highest quality standards.

Advantages:

- Highest stock removal performance through optimum matching of tungsten carbide, geometry, cut and coating, if necessary
- Improved comfort with reduced operator fatigue due to innovative cuts for high-performance applications
- Very long tool life and high stock removal rates due to application-oriented tool design
- Reduced wear of the drive system due to impact-free work without chatter marks, thanks to the high concentricity

Application examples:

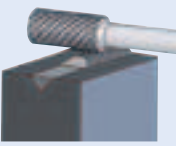
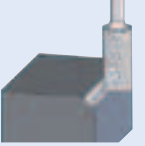
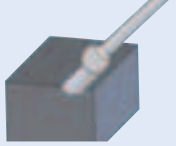

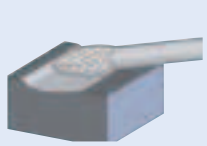

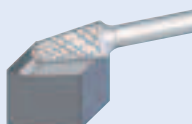



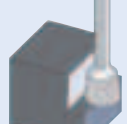

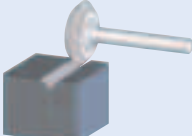
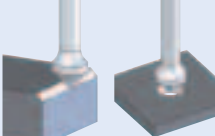
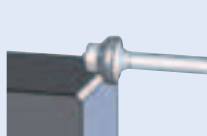
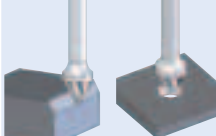

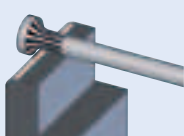



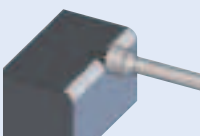
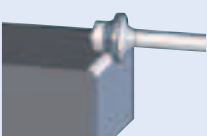
- Deburring
- Contouring
- Edge chamfering/rounding
- Milling out in preparation for build-up welding
- Preparation of weld seams/weld dressing
- Cleaning cast material
- Modification of workpiece geometry

Recommendations for use:

Optimum power output and rotational speed of the drive system (air-powered or electric grinders, flexible shaft system) are necessary conditions for a cost-effective use of tungsten carbide burrs.

- Use the highest rotational speed possible within the recommended rotational speed and cutting speed range.
- In exceptional cases, it is possible to work at less than 3,000 RPM. This is preferable for stationary use or when countersinking with 360° use of the burr surface.
- For low stock removal (deburring, chamfering, surface finishing), the rotational speed can be substantially increased up to 100 % (exception: tungsten carbide burrs with long shanks).
- For materials which do not conduct heat well, such as stainless steel (INOX), titanium alloys, etc., in particular, follow the rotational speed recommendations in order not to damage the tool. Avoid making the shank and tool turn blue.
- Use only rigid clamping systems and drives, as impacts on and chattering of the tools lead to premature wear.
- Do not choose a burr clamping depth that is too small. In general, the minimum clamping depth is 2/3 of the shank length.
- For cost-effective use of burrs with a shank diameter > 6 mm, a tool drive output of 300–500 watts is required when used at higher rotational speed and cutting speed. When using burrs with coarse cuts (e.g. ALU cut), even higher tool drive outputs above 500 watts are advantageous.
- The burr surface in contact with the workpiece must not exceed 30 % of the total burr surface. Failure to comply with this recommendation will result in rough milling behaviour and possibly in broken teeth. If this cannot be avoided, we recommend using the TOUGH and TOUGH-S cuts.
- Burrs with a HICOAT® coating are particularly well suited to work with heavily lubricating materials. Alternatively, the use of a lubricant, such as cutting oil, grease, kerosene or similar, is recommended to prevent the cut from clogging up.
- In general, burrs are used counter-rotationally or with a swinging motion. Pass the tool rapidly over the workpiece in the direction of rotation to achieve fine finishes.

Burr shapes and their applications

Cylindrical shape	with end cut	Ball shape	Cylindrical shape with radius end	Flame shape	Pointed tree shape
					
ZYA	ZYAS	KUD	WRC	B	SPG
Conical shape with radius end	Conical pointed shape	Tree shape with radius end	Oval shape	Inverted cone	with end cut
					
KEL	SKM	RBF	TRE	WKN	WKNS
Rim shaped	Conical counterbore shape 90°	EDGE 45°	Conical counterbore shape 60°	EDGE 30°	Radius burrs
					
N	KSK	KSK	KSJ	KSJ	R
Concave radius burrs	EDGE R3,0	Safety notes: <div>  = Wear eye protection! </div> <div>  = Wear hearing protection! </div> <div>  Observe the recommended = rotational speed, especially when using burrs with long shanks! </div>			
					
V	V				

Tungsten carbide burrs

TC burrs for universal applications



Cut 1
(C acc. to DIN 8033)



Cut 3
(MY acc. to DIN 8033)



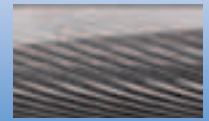
Cut 3 PLUS
(MX acc. to DIN 8033)



Cut 4
(MX acc. to DIN 8033)



Cut 5
(F acc. to DIN 8033)



Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- ❶ Select the material group to be machined
- ❷ Determine the type of application
- ❸ Select the cut
- ❹ Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- ❺ Select the required burr diameter
- ❻ The cutting speed range and the burr diameter determine the recommended rotational speed range



❶ Material group			❷ Application	❸ Cut	❹ Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Coarse stock removal	1	600–900 m/min
				3 PLUS	450–600 m/min
	Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel	Fine stock removal	3	450–600 m/min
				3	250–350 m/min
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	3 PLUS	
				4	
			Fine stock removal	5	350–450 m/min
				1	250–450 m/min
Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Aluminium alloys, brass, copper, zinc	Coarse stock removal	3	250–350 m/min
				4	
	Hard non-ferrous metals	Bronze, titanium/titanium alloys, hard aluminium alloys (high Si content)	Fine stock removal	3	350–450 m/min
				3 PLUS	250–450 m/min
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal	4	
			Fine stock removal	5	350–600 m/min
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Coarse stock removal	1	600–900 m/min
				3 PLUS	450–600 m/min
			Fine stock removal	3	450–600 m/min

Example:

TC burr,
Cut 3 PLUS,
Burr dia. 12 mm.
Coarse stock removal on non-hardened, non-heat-treated steels.
Cutting speed: 450–600 m/min
Rotational speed: 12,000–16,000 RPM

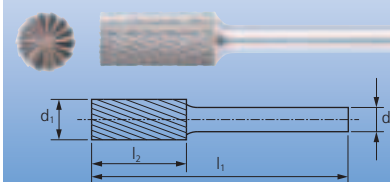
❺ Burr dia. [mm]	❻ Cutting speed [m/min]				
	250	350	450	600	900
	Rotational speed [RPM]				
1.5	53,000	74,000	95,000	127,000	191,000
2	40,000	56,000	72,000	95,000	143,000
3	27,000	37,000	48,000	64,000	95,000
4	20,000	28,000	36,000	48,000	72,000
6	13,000	19,000	24,000	32,000	48,000
8	10,000	14,000	18,000	24,000	36,000
10	8,000	11,000	14,000	19,000	29,000
12	7,000	9,000	12,000	16,000	24,000
16	5,000	7,000	9,000	12,000	18,000
20	4,000	6,000	7,000	10,000	14,000
25	3,000	4,000	6,000	8,000	11,000



Cylindrical burr according to DIN 8032 with cut conforming to DIN 8033. Shape ZYAS with cut on the circumference and end.

Ordering example:
 EAN 4007220045435
 ZYA 0413/6 Z3 PLUS
 Please complete the description with the desired cut.

Cylindrical shape ZYA
Cylindrical shape ZYAS with end cut



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	1	3	3 PLUS	4	5				
									
EAN 4007220									

Shank dia. 3 mm without end cut

ZYA 0210/3	-	-	233771	233788	233795	3	2 x 10	40	1
ZYA 0313/3	-	-	233801	402627	233818	3	3 x 13	43	1
ZYA 0607/3	-	-	233825	-	233832	3	6 x 7	37	1
ZYA 0613/3	-	-	233849	-	233856	3	6 x 13	43	1

Shank dia. 3 mm with end cut

ZYAS 0210/3	-	-	049471	049457	049464	3	2 x 10	40	1
ZYAS 0313/3	-	-	049501	072394	049488	3	3 x 13	43	1
ZYAS 0607/3	-	-	049532	-	049518	3	6 x 7	37	1
ZYAS 0613/3	-	-	049563	402634	049549	3	6 x 13	43	1

Shank dia. 6 mm without end cut

ZYA 0413/6	-	-	045435	045459	045466	6	4 x 13	55	1
ZYA 0616/6	-	045473	045480	045503	045510	6	6 x 16	55	1
ZYA 0820/6	-	045534	045541	045565	045572	6	8 x 20	60	1
ZYA 1013/6	-	-	045596	045626	045640	6	10 x 13	53	1
ZYA 1020/6	045862	045855	045879	045916	045930	6	10 x 20	60	1
ZYA 1025/6	-	-	045978	046012	-	6	10 x 25	65	1
ZYA 1225/6	045671	045657	045695	045732	045756	6	12 x 25	65	1
ZYA 1625/6	-	045787	045800	045848	-	6	16 x 25	65	1

Shank dia. 6 mm with end cut

ZYAS 0413/6	-	-	044926	044940	044957	6	4 x 13	55	1
ZYAS 0616/6	-	044964	044971	044995	045008	6	6 x 16	55	1
ZYAS 0820/6	-	045015	045022	045046	045053	6	8 x 20	60	1
ZYAS 1013/6	-	-	045084	-	-	6	10 x 13	53	1
ZYAS 1020/6	-	045299	045305	045336	045350	6	10 x 20	60	1
ZYAS 1025/6	-	-	045374	045404	-	6	10 x 25	65	1
ZYAS 1225/6	-	045145	045176	045213	045237	6	12 x 25	65	1
ZYAS 1625/6	-	045244	045251	045275	045282	6	16 x 25	65	1

Shank dia. 8 mm without end cut

ZYA 1225/8	-	-	045701	045749	-	8	12 x 25	65	1
ZYA 1625/8	-	-	045817	-	-	8	16 x 25	65	1

Shank dia. 8 mm with end cut

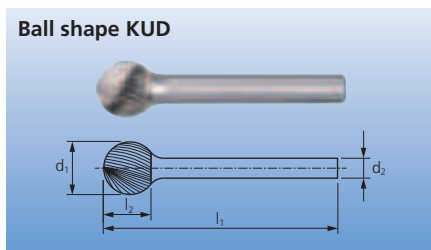
ZYAS 1225/8	-	-	045183	-	-	8	12 x 25	65	1
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Tungsten carbide burrs

TC burrs for universal applications



Ball shape KUD



Ball-shaped burr according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:

EAN 4007220**046791**

KUD 0403/6 Z3 PLUS

Please complete the description with the desired cut.



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	1	3	3 PLUS	4	5				
	EAN 4007220								

Shank dia. 3 mm

KUD 01,51/3	-	-	955444	-	955451	3	1.5 x 1	33	1
KUD 021,5/3	-	-	955468	-	955475	3	2 x 1.5	33	1
KUD 0302/3	-	-	049778	392058	049761	3	3 x 2	33	1
KUD 0403/3	-	-	049792	394915	049785	3	4 x 3	34	1
KUD 0605/3	-	-	049815	393192	049808	3	6 x 5	35	1

Shank dia. 6 mm

KUD 0403/6	-	-	046791	-	046807	6	4 x 3	45	1
KUD 0605/6	046814	046838	046821	046845	046852	6	6 x 5	45	1
KUD 0807/6	046876	046890	046883	046906	046913	6	8 x 7	47	1
KUD 1009/6	046944	046937	046951	046975	046982	6	10 x 9	49	1
KUD 1210/6	-	047002	047033	047071	047088	6	12 x 10	51	1
KUD 1614/6	047125	-	047132	047170	047187	6	16 x 14	54	1
KUD 2018/6	-	047194	047224	-	-	6	20 x 18	58	1

Shank dia. 8 mm

KUD 1210/8	-	-	047040	-	-	8	12 x 10	51	1
KUD 1614/8	-	-	047149	-	-	8	16 x 14	54	1
KUD 2018/8	-	-	047231	-	-	8	20 x 18	58	1





Cylindrical burr with radius end according to DIN 8032 with cut conforming to DIN 8033. A combination of cylindrical and ball-shaped geometries.

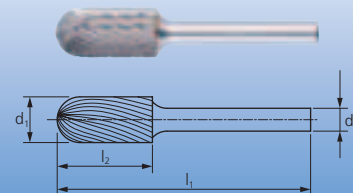
Ordering example:

EAN 4007220046173

WRC 0413/6 Z3 PLUS

Please complete the description with the desired cut.

Cylindrical shape with radius end WRC



Description	Cut					Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	1	3	3 PLUS	4	5				
									
	EAN 4007220								

Shank dia. 3 mm

WRC 0210/3	-	-	049631	395837	049624	3	2 x 10	40	1
WRC 0313/3	-	-	049662	393161	049648	3	3 x 13	43	1
WRC 0613/3	-	-	049693	393178	049679	3	6 x 13	43	1

Shank dia. 6 mm

WRC 0413/6	-	-	046173	046197	-	6	4 x 13	55	1
WRC 0616/6	046227	046210	046234	046258	046265	6	6 x 16	55	1
WRC 0820/6	046296	046289	046302	046326	046333	6	8 x 20	60	1
WRC 1020/6	046371	046357	046388	046425	046449	6	10 x 20	60	1
WRC 1025/6	-	046708	046715	046746	-	6	10 x 25	65	1
WRC 1225/6	046487	046463	046500	046548	046562	6	12 x 25	65	1
WRC 1625/6	046623	046609	046630	046678	-	6	16 x 25	65	1

Shank dia. 8 mm

WRC 1020/8	-	-	046395	-	-	8	10 x 20	60	1
WRC 1225/8	-	-	046517	046555	-	8	12 x 25	65	1
WRC 1625/8	-	-	046647	-	-	8	16 x 25	65	1



Flame-shaped burr according to ISO 7755/8 with cut conforming to DIN 8033.

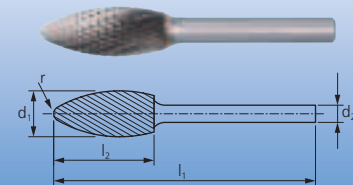
Ordering example:




EAN 4007220046067

B 0820/6 Z3 PLUS

Please complete the description with the desired cut.

Flame shape B



Description	Cut			Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	3	3 PLUS	5					
								
	EAN 4007220							

Shank dia. 3 mm

B 0307/3	-	955482	049570	3	3 x 7	37	0.8	1
B 0613/3	-	955499	049594	3	6 x 13	43	1.0	1

Shank dia. 6 mm

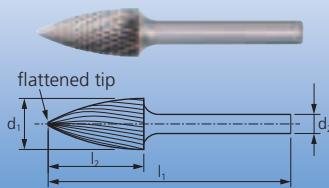
B 0820/6	046050	046067	-	6	8 x 20	60	1.5	1
B 1025/6	-	955505	-	6	10 x 25	65	1.7	1
B 1230/6	046098	046111	-	6	12 x 30	70	2.1	1
B 1635/6	-	046142	-	6	16 x 35	75	2.6	1

Tungsten carbide burrs

TC burrs for universal applications



Pointed tree shape SPG



Pointed tree-shaped burr according to DIN 8032 with cut conforming to DIN 8033, flattened tip.

Ordering example:
EAN 4007220**047941**

SPG 0618/6 Z3 PLUS
Please complete the description with the desired cut.



Description	Cut					Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	1	3	3 PLUS	4	5				
	EAN 4007220								

Shank dia. 3 mm

SPG 0307/3	-	-	049921	470626	049907	3	3 x 7	37	1
SPG 0313/3	-	-	049952	393208	049938	3	3 x 13	43	1
SPG 0613/3	-	-	049983	393215	049969	3	6 x 13	43	1

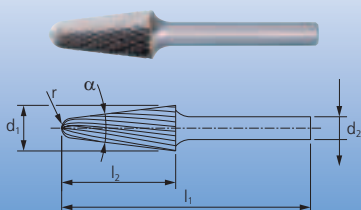
Shank dia. 6 mm

SPG 0618/6	047934	047927	047941	047965	047972	6	6 x 18	55	1
SPG 0820/6	-	955529	955512	955536	955543	6	8 x 20	60	1
SPG 1020/6	048016	047996	048023	048061	048085	6	10 x 20	60	1
SPG 1225/6	048139	048115	048146	048184	048207	6	12 x 25	65	1
SPG 1230/6	048368	048344	048382	048429	048443	6	12 x 30	70	1
SPG 1630/6	048252	048238	048276	048313	-	6	16 x 30	70	1

Shank dia. 8 mm

SPG 1020/8	-	-	048030	-	-	8	10 x 20	60	1
SPG 1225/8	-	-	048153	048191	-	8	12 x 25	65	1
SPG 1630/8	048269	-	048283	-	-	8	16 x 30	70	1

Conical shape with radius end KEL



Conical burr with radius end according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**048481**

KEL 1020/6 Z3 PLUS
Please complete the description with the desired cut.



Description	Cut					Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	1	3	3 PLUS	4	5						
	EAN 4007220										

Shank dia. 6 mm

KEL 0820/6	-	955598	955581	955604	-	6	8 x 20	60	16°	1.25	1
KEL 1020/6	-	048467	048481	048504	-	6	10 x 20	60	14°	2.9	1
KEL 1225/6	-	048528	048559	048597	-	6	12 x 25	65	14°	3.3	1
KEL 1230/6	048627	048603	048634	048672	048689	6	12 x 30	70	14°	2.6	1
KEL 1630/6	-	-	048719	048733	-	6	16 x 30	70	14°	4.8	1

Shank dia. 8 mm

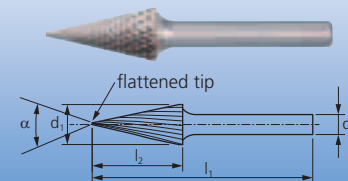
KEL 1225/8	-	-	048566	-	-	8	12 x 25	65	14°	3.3	1
KEL 1230/8	-	-	048641	-	-	8	12 x 30	70	14°	2.6	1




Conical pointed burr according to DIN 8032 with cut conforming to DIN 8033, flattened tip.

Ordering example:
 EAN 4007220047293
 SKM 0618/6 Z3 PLUS
 Please complete the description with the desired cut.

Conical pointed shape SKM



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Angle α	
	1	3	3 PLUS	4	5					
										
	EAN 4007220									

Shank dia. 3 mm

SKM 0307/3	-	-	049839	-	049822	3	3 x 7	37	21°	1
SKM 0311/3	-	-	049853	451816	049846	3	3 x 11	41	14°	1
SKM 0613/3	-	-	049877	-	049860	3	6 x 13	43	25°	1

Shank dia. 6 mm

SKM 0618/6	047286	047279	047293	047316	047323	6	6 x 18	55	18°	1
SKM 1020/6	-	047330	047354	047378	047385	6	10 x 20	60	28°	1
SKM 1225/6	047415	047392	047422	047460	047477	6	12 x 25	65	26°	1

Shank dia. 8 mm

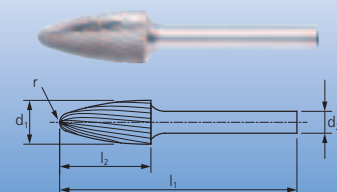
SKM 1225/8	-	-	047439	-	-	8	12 x 25	65	26°	1
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



Tree-shaped burr with radius end according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
 EAN 4007220047606
 RBF 0618/6 Z3 PLUS
 Please complete the description with the desired cut.

Tree shape with radius end RBF



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	1	3	3 PLUS	4	5					
										
	EAN 4007220									

Shank dia. 3 mm

RBF 0307/3	-	-	049891	-	049884	3	3 x 7	37	0.75	1
RBF 0313/3	-	-	955550	-	955567	3	3 x 13	43	0.75	1
RBF 0613/3	-	-	050019	400722	049990	3	6 x 13	43	1.5	1

Shank dia. 6 mm

RBF 0618/6	-	047590	047606	047620	047637	6	6 x 18	55	1.5	1
RBF 0820/6	-	047644	047651	047675	-	6	8 x 20	60	1.2	1
RBF 1020/6	-	047682	047705	047729	047736	6	10 x 20	60	2.5	1
RBF 1225/6	047774	047750	047781	047828	047835	6	12 x 25	65	2.5	1
RBF 1630/6	-	047859	047873	047910	-	6	16 x 30	70	3.6	1

Shank dia. 8 mm

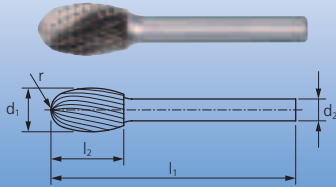
RBF 1225/8	-	-	047798	-	-	8	12 x 25	65	2.5	1
RBF 1630/8	-	-	047880	-	-	8	16 x 30	70	3.6	1

Tungsten carbide burrs

TC burrs for universal applications



Oval shape TRE



Oval burr according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**048771**

TRE 0610/6 Z3 PLUS

Please complete the description with the desired cut.



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	1	3	3 PLUS	4	5					
	EAN 4007220									

Shank dia. 3 mm

TRE 0307/3	-	-	049754	-	049747	3	3 x 7	37	1.2	1
TRE 0610/3	-	-	050040	-	050026	3	6 x 10	40	2.8	1

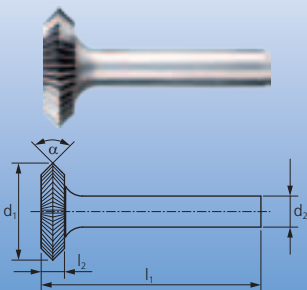
Shank dia. 6 mm

TRE 0610/6	-	-	048771	-	048801	6	6 x 10	50	2.8	1
TRE 0813/6	-	-	048894	048917	048924	6	8 x 13	53	3.7	1
TRE 1016/6	-	-	048832	048856	-	6	10 x 16	56	4.0	1
TRE 1220/6	048955	048931	048962	049006	049020	6	12 x 20	60	5.0	1
TRE 1625/6	049075	-	049099	049136	-	6	16 x 25	65	6.5	1

Shank dia. 8 mm

TRE 1220/8	-	-	048979	049013	-	8	12 x 20	60	5.0	1
TRE 1625/8	-	-	049105	-	-	8	16 x 25	65	6.5	1

Rim shape N



Rim-shaped burr, circumferential cut is 90° and symmetric, tapered tip.

Applications:

- Producing and processing of prism-shaped keyways

Ordering example:

EAN 4007220**048740**

N 2503/8 Z3



Description	Cut		Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Angle α	
	3						
	EAN 4007220						

Shank dia. 8 mm

N 2503/8	048740		8	25 x 3	43	90°	1
N 2506/8	048757		8	25 x 6	46	90°	1

Set 1501 HM contains 15 small tungsten carbide burrs in the most common shapes and dimensions for general applications. The sturdy plastic box protects the tools from dirt and damage.

Contents:

15 tungsten carbide burrs,
shank dia. 3 mm, cut 5

1 piece each:

ZYA 0210/3 Z5	SPG 0307/3 Z5
ZYA 0313/3 Z5	SKM 0613/3 Z5
ZYA 0607/3 Z5	RBF 0307/3 Z5
ZYA 0613/3 Z5	RBF 0613/3 Z5
B 0307/3 Z5	TRE 0307/3 Z5
KUD 0403/3 Z5	TRE 0610/3 Z5
WRC 0210/3 Z5	WKN 0307/3 Z5
WRC 0313/3 Z5	

Set 1501 HM



Description

Cut

5



EAN 4007220



Shank dia. 3 mm

1501 HM

055892

1

Set 1500 HM contains 22 tungsten carbide burrs in the most common shapes and dimensions for general applications. The robust wooden box protects the tools from dirt and damage.

Contents:

22 tungsten carbide burrs,
shank dia. 3 mm, cut 5

1 piece each:

ZYAS 0210/3 Z5	SPG 0307/3 Z5
ZYAS 0313/3 Z5	RBF 0307/3 Z5
WRC 0210/3 Z5	TRE 0307/3 Z5
WRC 0313/3 Z5	WKN 0307/3 Z5

shank dia. 6 mm, cut 3 PLUS

1 piece each:

ZYAS 0616/6 Z3 PLUS	WRC 0616/6 Z3 PLUS
ZYAS 1013/6 Z3 PLUS	WRC 1225/6 Z3 PLUS
ZYAS 1225/6 Z3 PLUS	SPG 0618/6 Z3 PLUS
KUD 0605/6 Z3 PLUS	SPG 1020/6 Z3 PLUS
KUD 0807/6 Z3 PLUS	SPG 1225/6 Z3 PLUS
KUD 1210/6 Z3 PLUS	SKM 0618/6 Z3 PLUS
KUD 1614/6 Z3 PLUS	SKM 1020/6 Z3 PLUS

Set 1500 HM



Description

Cut

3 PLUS

5



EAN 4007220



Shank dia. 3 and 6 mm

1500 HM

055885

1

Set 1506 HM contains five tungsten carbide burrs in the shapes and dimensions most commonly used in the workshop.

The sturdy plastic box protects the tools from dirt and damage. The burrs are secured at the shanks, facilitating the selection and withdrawal of the tools.

Five further unused slots are available for other burrs.

Contents:

5 tungsten carbide burrs,
shank diameter 6 mm, cut 3 PLUS

1 piece each:

ZYA 0616/6 Z3 PLUS
KUD 0605/6 Z3 PLUS
WRC 0616/6 Z3 PLUS
SPG 0618/6 Z3 PLUS
RBF 0618/6 Z3 PLUS

Set 1506 HM



Description

Cut

3 PLUS



EAN 4007220



Shank dia. 6 mm

1506 HM

801017

1

Tungsten carbide burrs

TC burr sets



Set 1512 HM



Set 1512 HM contains five tungsten carbide burrs in the shapes and dimensions most commonly used in the workshop. The sturdy plastic box protects the tools from dirt and damage. The burrs are secured at the shanks, facilitating the selection and withdrawal of the tools. Five further unused slots are available for other burrs.

Contents:
5 tungsten carbide burrs,
shank diameter 6 mm, cut 3 PLUS
1 piece each:
ZYA 1225/6 Z3 PLUS
KUD 1210/6 Z3 PLUS
WRC 1225/6 Z3 PLUS
SPG 1225/6 Z3 PLUS
RBF 1225/6 Z3 PLUS

Description

Cut

3 PLUS



EAN 4007220



Shank dia. 6 mm

1512 HM

801338

1



Cut 3 PLUS (MX according to DIN 8033)

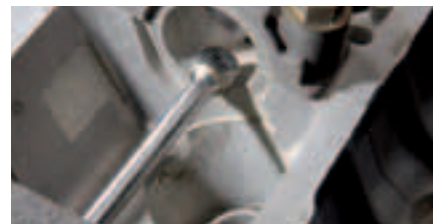


Tungsten carbide burrs with long shanks are ideal for economical machining of small, hard-to-reach areas of components.

Cut 5 (F according to DIN 8033)



Note:
Tungsten carbide burrs with long shanks can be shortened if required. Tungsten carbide burrs marked **GL 75 mm** are made of solid metal and can therefore only be shortened using diamond tools.
GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)



Safety notes:

Not suitable for robotic or stationary use.
Danger of bending. Use only rigid clamping systems/drives.



= Observe the prescribed rotational speed!

Safety note – maximum rotational speed range

When working with long shank burrs, the burr must be in contact with the workpiece (or inserted in the bore or slot to be machined) before the machine is turned on. As a rule, the tool must remain in contact with the workpiece for as long as the machine is running. Failure to observe this procedure may result in shank failure and hence an increased accident risk. If the continuous contact between the tool

and the workpiece is not guaranteed, **the maximum idling speeds** stated in the table **should not be exceeded.**

For safety reasons, the maximum application speeds **with contact to the workpiece** require a reduction in the recommended standard shank burr speed. The reduced speeds are stated in the table below.

To determine the recommended rotational speed range, please proceed as follows:

- ❶ Select the material group to be machined
- ❷ Determine the type of application
- ❸ Select the cut
- ❹ Select the required burr diameter
- ❺ For the maximum application speed [RPM] with contact to the workpiece, please refer to the right-hand side of the table

❶ Material group			❷ Application	❸ Cut
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Coarse stock removal	3 PLUS
	Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel	Fine stock removal	5
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	3 PLUS
			Fine stock removal	5
Non-ferrous metals	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal	3 PLUS
			Fine stock removal	5
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Coarse stock removal	3 PLUS
			Fine stock removal	5

Example:

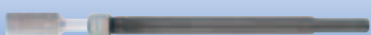
TC burr, SL 150 mm,
Cut 3 PLUS,
Burr dia. 12 mm.
Coarse stock removal on non-hardened, non-heat-treated steels.

Maximum application speed with contact to the workpiece: 7,000 RPM

❹ Burr dia. [mm]	❺ Maximum idling speed [RPM] without contact to the workpiece		❺ Maximum application speed [RPM] with contact to the workpiece	
	Shank length [mm]			
	75	150	75	150
3	10,000	-	31,000	-
6	6,000	-	15,000	-
8	-	6,000	-	11,000
12	-	3,000	-	7,000

Extensions for drive spindles

In some applications, spindle extensions are an economic alternative to special burrs with long shanks. For additional information, refer to page 22.

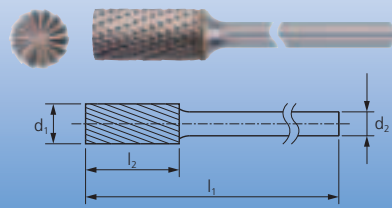


Tungsten carbide burrs

TC burrs with long shank



Cylindrical shape ZYA Cylindrical shape ZYAS with end cut



Cylindrical burr according to DIN 8032 with cut conforming to DIN 8033. Shape ZYAS with cut on circumference and end.




GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)

Ordering example:

EAN 4007220617632

ZYA 0820/6 Z3 PLUS SL 150

Please complete the description with the desired cut.

Description	Cut		Shank dia. d_2 [mm]	Shank length [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	3 PLUS 	5 					
	EAN 4007220						

Shank dia. 3 mm without end cut

ZYA 0313/3 GL 75	779699	779644	3	62	3 x 13	75	1
ZYA 0613/3 SL 75	779606	779583	3	75	6 x 13	88	1

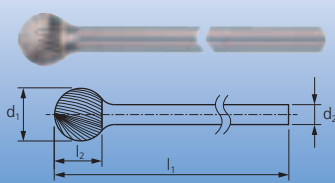
Shank dia. 3 mm with end cut

ZYAS 0313/3 GL 75	779705	779712	3	62	3 x 13	75	1
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Shank dia. 6 mm without end cut

ZYA 0820/6 SL 150	617632	-	6	150	8 x 20	170	1
ZYA 1225/6 SL 150	617649	-	6	150	12 x 25	175	1

Ball shape KUD



Ball-shaped burr according to DIN 8032 with cut conforming to DIN 8033.

GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)




Ordering example:

EAN 4007220617687

KUD 0807/6 Z3 PLUS SL 150

Please complete the description with the desired cut.



Description	Cut		Shank dia. d_2 [mm]	Shank length [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	3 PLUS 	5 					
	EAN 4007220						

Shank dia. 3 mm

KUD 0302/3 GL 75	780060	780053	3	73	3 x 2	75	1
KUD 0605/3 SL 75	780039	780022	3	75	6 x 5	80	1

Shank dia. 6 mm

KUD 0807/6 SL 150	617687	-	6	150	8 x 7	157	1
KUD 1210/6 SL 150	617694	-	6	150	12 x 10	160	1



Cylindrical burr with radius end according to DIN 8032 with cut conforming to DIN 8033. A combination of cylindrical and ball-shaped geometries.

GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)

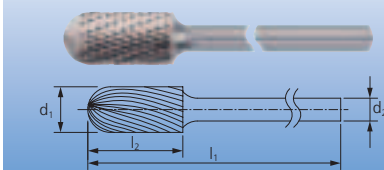
Ordering example:




EAN 4007220617656

WRC 0820/6 Z3 PLUS SL 150

Please complete the description with the desired cut.

Cylindrical shape with radius end WRC



Description	Cut		Shank dia. d_2 [mm]	Shank length [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	3 PLUS 	5 					
	EAN 4007220						

Shank dia. 3 mm

WRC 0313/3 GL 75	779767	779750	3	62	3 x 13	75	1
WRC 0613/3 SL 75	779743	779729	3	75	6 x 13	88	1

Shank dia. 6 mm

WRC 0820/6 SL 150	617656	-	6	150	8 x 20	170	1
WRC 1225/6 SL 150	617663	-	6	150	12 x 25	175	1



Flame-shaped burr according to ISO 7755/8 with cut conforming to DIN 8033.

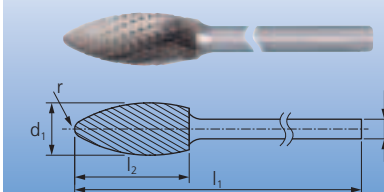
SL = Shank length (long steel shank)


Ordering example:

EAN 4007220617755

B 0820/6 Z3 PLUS SL 150

Flame shape B



Description	Cut	Shank dia. d_2 [mm]	Shank length [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	3 PLUS						
	EAN 4007220						

Shank dia. 6 mm

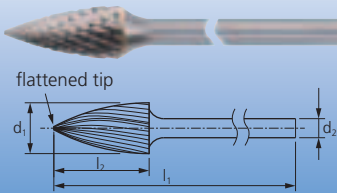
B 0820/6 SL 150	617755	6	150	8 x 20	170	1.5	1
B 1230/6 SL 150	617779	6	150	12 x 30	180	2.1	1

Tungsten carbide burrs

TC burrs with long shank



Pointed tree shape SPG



Pointed tree-shaped burr according to DIN 8032 with cut conforming to DIN 8033, flattened tip.

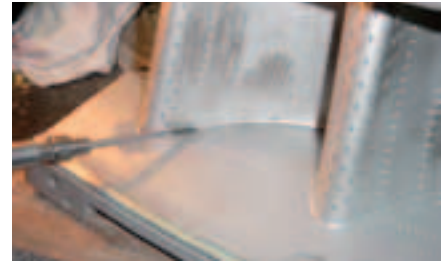
GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)




Ordering example:

EAN 4007220**779972**

SPG 0313/3 Z3 PLUS GL 75

Please complete the description with the desired cut.



Description	Cut		Shank dia. d_2 [mm]	Shank length [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	3 PLUS 	5 					
	EAN 4007220						

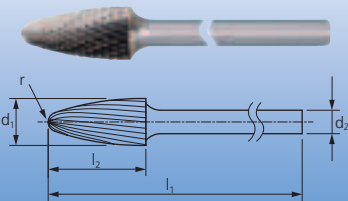
Shank dia. 3 mm

SPG 0313/3 GL 75	779972	779965	3	62	3 x 13	75	1
SPG 0613/3 SL 75	779828	779811	3	75	6 x 13	88	1

Shank dia. 6 mm

SPG 0820/6 SL 150	955611	-	6	150	8 x 20	170	1
SPG 1225/6 SL 150	955628	-	6	150	12 x 25	175	1

Tree shape with radius end RBF



Tree-shaped burr with radius end according to DIN 8032 with cut conforming to DIN 8033.

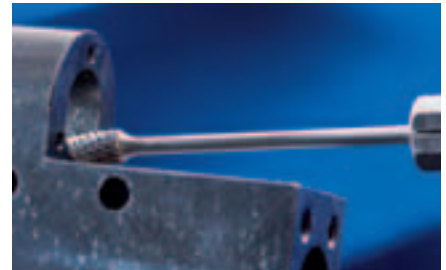
GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)




Ordering example:

EAN 4007220**617731**

RBF 0820/6 Z3 PLUS SL 150

Please complete the description with the desired cut.



Description	Cut		Shank dia. d_2 [mm]	Shank length [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	3 PLUS 	5 						
	EAN 4007220							

Shank dia. 3 mm

RBF 0307/3 GL 75	780015	780008	3	68	3 x 7	75	0.75	1
RBF 0613/3 SL 75	779996	779989	3	75	6 x 13	88	1.5	1

Shank dia. 6 mm

RBF 0820/6 SL 150	617731	-	6	150	8 x 20	170	1.2	1
RBF 1225/6 SL 150	617748	-	6	150	12 x 25	175	2.5	1

Oval burr according to DIN 8032 with cut conforming to DIN 8033.

GL = Total length (solid tungsten carbide)
SL = Shank length (long steel shank)

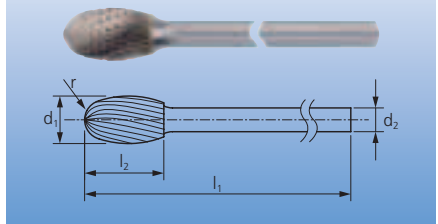
Ordering example:




EAN 40072206**17700**

TRE 0813/6 Z3 PLUS SL 150

Please complete the description with the desired cut.

Oval shape TRE



Description	Cut		Shank dia. d ₂ [mm]	Shank length [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	3 PLUS	5						
								
EAN 4007220								
Shank dia. 3 mm								
TRE 0307/3 GL 75	779804	779798	3	68	3 x 7	75	1.2	1
TRE 0610/3 SL 75	779781	779774	3	75	6 x 10	85	2.8	1
Shank dia. 6 mm								
TRE 0813/6 SL 150	617700	-	6	150	8 x 13	163	3.7	1
TRE 1220/6 SL 150	617724	-	6	150	12 x 20	170	5.0	1



Tungsten carbide burrs

Drive spindle extensions



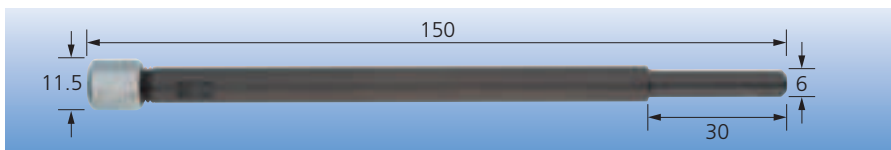
Burrs (shank dia. 3, 6 and 8 mm) can be extended with spindle extensions. They allow access to hard-to-reach areas. The spindle extension is mounted in the collet chuck of the tool drive (air-powered or electric), or in the hand-piece of the flexible shaft. In some applications, spindle extensions are an efficient alternative to customized burrs with long shanks.

Safety notes:

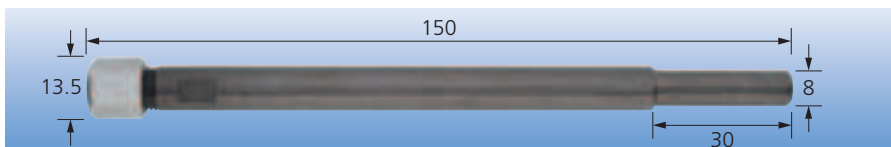
- For safety reasons, it is not possible to use spindle extensions in combination with long shank burrs.
- For additional safety information, please refer to Catalogue 209.



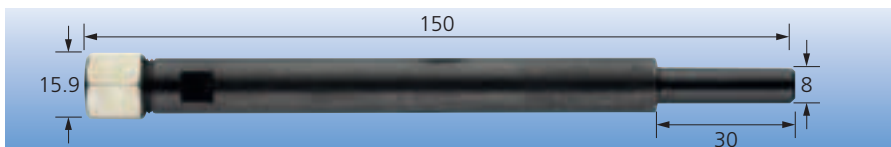
= Read the safety instructions!



Extension SPV 150-3 S6
for shank diameter 3 mm



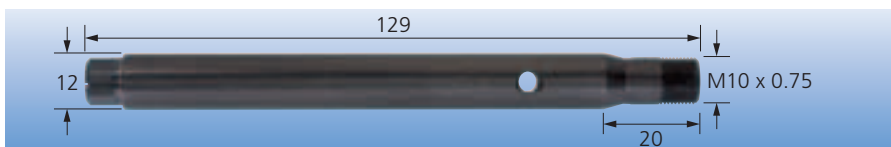
Extension SPV 150-6 S8
for shank diameter 6 mm



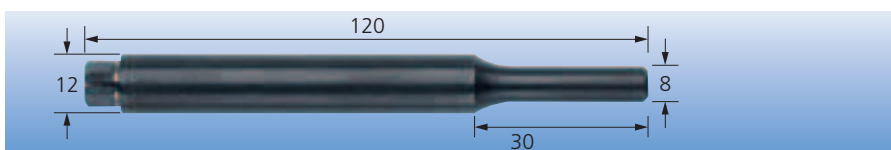
Extension SPV 150-8 S8
for shank diameter 8 mm



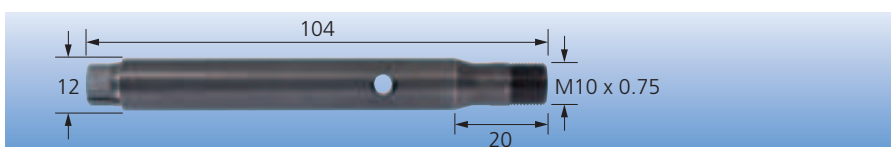
Extension SPV 100-6 S8
for shank diameter 6 mm



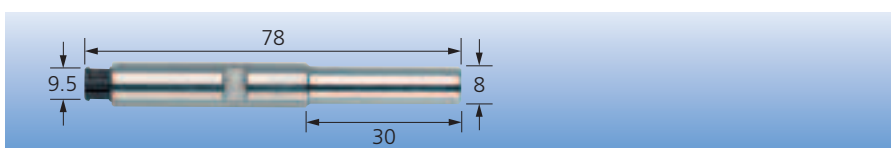
Extension SPV 100-6 SPG 6
for shank diameter 6 mm



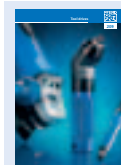
Extension SPV 75-6 S8
for shank diameter 6 mm



Extension SPV 75-6 SPG 6
for shank diameter 6 mm

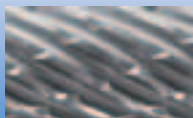


Extension SPV 50-3 S8
for shank diameter 3 mm



More detailed information and ordering data for spindle extensions can be found in Catalogue 209.

Cut STEEL



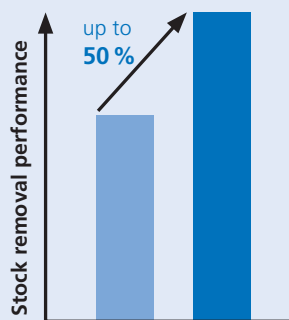
With the innovative STEEL cut, PFERD has developed burrs for working with steel and cast steel. They are characterized by a significantly increased aggressiveness and good guidability. Thus they ensure safe and precise work.

The extremely high stock removal performance makes these burrs with cut STEEL impressive, with significant time savings and high economic value.

Advantages:

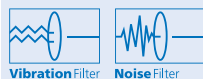
- Up to 50 % higher stock removal performance when used on steel and cast steel in comparison to conventional cross cut burrs
- Significantly increased aggressiveness, large chips and very good chip removal through the innovative tooth geometry
- Protection of the workpiece and tool through much lower thermal load

Performance values for applications on steel and cast steel



■ Conventional burrs with cross cut
■ Tungsten carbide burrs, STEEL cut

PFERDERGONOMICS® recommends burrs with STEEL cut as an innovative tool solution for comfortable working with reduced vibration and lower noise.



Recommended rotational speed range

To determine the recommended RPM range, please proceed as follows:

- ① Refer to the table for the cutting speed
- ② Select the required burr diameter
- ③ The cutting speed range and the burr diameter determine the recommended rotational speed range

Material groups			Application	Cut	① Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Coarse stock removal	STEEL	450–750 m/min
	Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steel, cast steel			

Example:

TC burr,
Cut STEEL,
Burr dia. 12 mm.
Cutting speed: 450–750 m/min
Rotational speed: 12,000–20,000 RPM

② Burr dia. [mm]	③ Cutting speed [m/min]	
	450	750
	Rotational speed [RPM]	
6	24,000	40,000
8	18,000	30,000
10	14,000	24,000
12	12,000	20,000



PFERDVIDEO

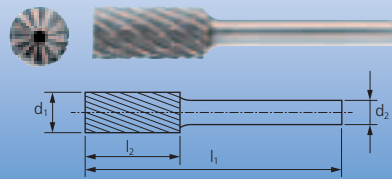
You will receive more information here or at www.pferd.com

Tungsten carbide burrs

TC burrs for steel and cast steel



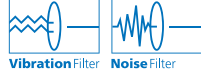
Cylindrical shape ZYA Cylindrical shape ZYAS with end cut



Cylindrical burr according to DIN 8032.
Shape ZYAS with circumferential and end cut.

Ordering example:
EAN 4007220**937198**
ZYA 0616/6 STEEL

PFERDERGONOMICS®:



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length d_1 x l_2 [mm]	Overall length l_1 [mm]	
	STEEL				
					
EAN 4007220					

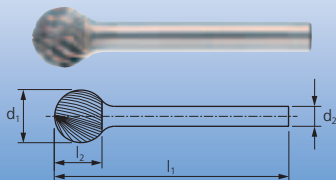
Shank dia. 6 mm without end cut

ZYA 0616/6	937198	6	6 x 16	55	1
ZYA 0820/6	937211	6	8 x 20	60	1
ZYA 1020/6	937235	6	10 x 20	60	1
ZYA 1225/6	937242	6	12 x 25	65	1

Shank dia. 6 mm with end cut

ZYAS 0616/6	937259	6	6 x 16	55	1
ZYAS 0820/6	937266	6	8 x 20	60	1
ZYAS 1020/6	937310	6	10 x 20	60	1
ZYAS 1225/6	937341	6	12 x 25	65	1

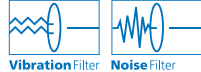
Ball shape KUD



Ball-shaped burr according to DIN 8032.

Ordering example:
EAN 4007220**936832**
KUD 0605/6 STEEL

PFERDERGONOMICS®:



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length d_1 x l_2 [mm]	Overall length l_1 [mm]	
	STEEL 				
	EAN 4007220				



Shank dia. 6 mm

KUD 0605/6	936832	6	6 x 5	45	1
KUD 0807/6	936849	6	8 x 7	47	1
KUD 1009/6	936863	6	10 x 9	49	1
KUD 1210/6	936870	6	12 x 10	51	1

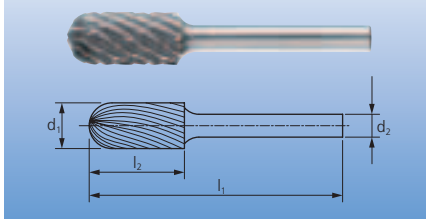




Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220937129
WRC 0616/6 STEEL

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Cylindrical shape with radius end WRC





Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	STEEL 				
	EAN 4007220				

Shank dia. 6 mm

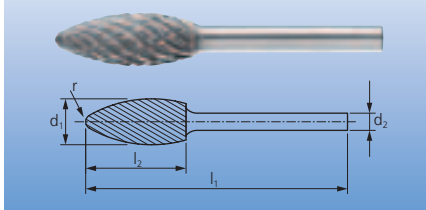
WRC 0616/6	937129	6	6 x 16	55	1
WRC 0820/6	937150	6	8 x 20	60	1
WRC 1020/6	937174	6	10 x 20	60	1
WRC 1225/6	936696	6	12 x 25	65	1



Flame-shaped burr according to ISO 7755/8.

Ordering example:
EAN 4007220936719
B 0820/6 STEEL

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Flame shape B



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	STEEL					
						
	EAN 4007220					



Shank dia. 6 mm

B 0820/6	936719	6	8 x 20	60	1.5	1
B 1230/6	936764	6	12 x 30	70	2.1	1

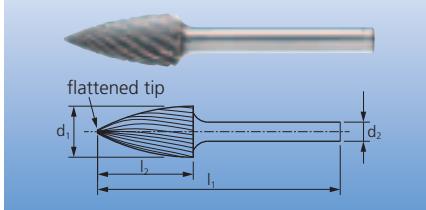




Pointed tree-shaped burr according to DIN 8032, flattened tip.

Ordering example:
EAN 4007220937013
SPG 1020/6 STEEL

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Pointed tree shape SPG



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	STEEL 				
	EAN 4007220				

Shank dia. 6 mm

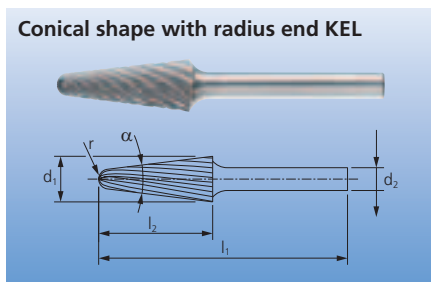
SPG 0618/6	936979	6	6 x 18	55	1
SPG 0820/6	936993	6	8 x 20	60	1
SPG 1020/6	937013	6	10 x 20	60	1
SPG 1225/6	937082	6	12 x 25	70	1

Tungsten carbide burrs

TC burrs for steel and cast steel



Conical shape with radius end KEL





Conical burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**936818**
KEL 1230/6 STEEL

PFERDERGONOMICS®:

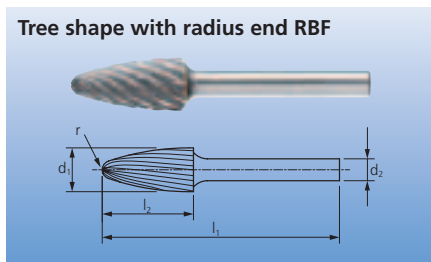


Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	STEEL 						
	EAN 4007220						

Shank dia. 6 mm

KEL 1020/6	936771	6	10 x 20	60	14°	2.9	1
KEL 1230/6	936818	6	12 x 30	70	14°	2.6	1

Tree shape with radius end RBF





Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**936887**
RBF 0618/6 STEEL

PFERDERGONOMICS®:



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	STEEL 					
	EAN 4007220					

Shank dia. 6 mm

RBF 0618/6	936887	6	6 x 18	55	1.5	1
RBF 0820/6	936900	6	8 x 20	60	1.2	1
RBF 1020/6	936924	6	10 x 20	60	2.5	1
RBF 1225/6	936931	6	12 x 25	65	2.5	1

Cut INOX

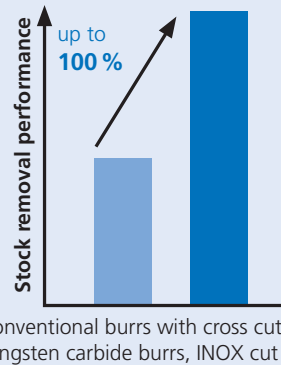


PFERD has developed innovative burrs with INOX cut for work on stainless steel (INOX). The INOX cut is characterized by an extremely high stock removal performance on all austenitic as well as rust- and acid-resistant steels. It creates significantly less vibration than a comparable cross cut.

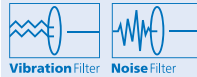
Advantages:

- Outstanding stock removal performance and tool life due to the innovative tooth geometry
- Achieves high surface qualities through optimum chip formation
- Prevents heat discolouration in the material due to the reduced heat generation

Performance values for applications on stainless steel (INOX)



PFERDERGONOMICS® recommends burrs with INOX cut as an innovative tool solution for comfortable working with significantly reduced vibration and lower noise.



Recommended rotational speed range

To determine the recommended rotational speed range, please proceed as follows:

- 1 Refer to the table for the cutting speed
- 2 Select the required burr diameter
- 3 The cutting speed range and the burr diameter determine the recommended rotational speed range

Material group			Application	Cut	1 Cutting speed
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	INOX	450–600 m/min

Example:

TC burr,
Cut INOX,
Burr dia. 12 mm.
Cutting speed: 450–600 m/min
Rotational speed: 12,000–6,000 RPM

2 Burr dia. [mm]	3 Cutting speed [m/min]	
	450	600
	Rotational speed [RPM]	
3	48,000	64,000
6	24,000	32,000
8	18,000	24,000
10	14,000	19,000
12	12,000	16,000



More PFERD tools and a large number of application tips on working with stainless steel (INOX) can be found in our PRAXIS brochure "PFERD tools for use on stainless steel". Please contact us.



PFERDVIDEO

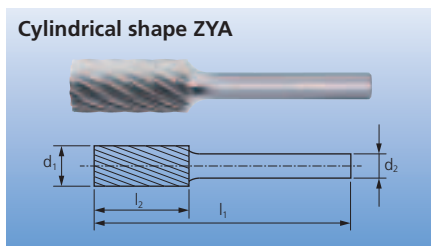
You will receive more information here or at www.pferd.com

Tungsten carbide burrs

TC burrs for stainless steel (INOX)



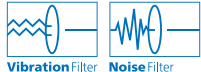
Cylindrical shape ZYA



Cylindrical burr according to DIN 8032.

Ordering example:
EAN 4007220**900499**
ZYA 0616/6 INOX

PFERDERGONOMICS®:



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	INOX EAN 4007220				

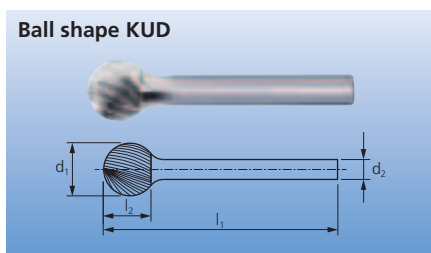
Shank dia. 3 mm

ZYA 0313/3	930380	3	3 x 13	43	1
ZYA 0613/3	930403	3	6 x 13	43	1

Shank dia. 6 mm

ZYA 0616/6	900499	6	6 x 16	55	1
ZYA 0820/6	952245	6	8 x 20	60	1
ZYA 1020/6	952252	6	10 x 20	60	1
ZYA 1225/6	900505	6	12 x 25	55	1

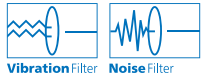
Ball shape KUD



Ball-shaped burr according to DIN 8032.

Ordering example:
EAN 4007220**900536**
KUD 0605/6 INOX

PFERDERGONOMICS®:



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	INOX EAN 4007220				

Shank dia. 3 mm

KUD 0302/3	930434	3	3 x 2	33	1
KUD 0605/3	930441	3	6 x 5	35	1



Shank dia. 6 mm

KUD 0605/6	900536	6	6 x 5	45	1
KUD 0807/6	952269	6	8 x 7	47	1
KUD 1009/6	952276	6	10 x 9	49	1
KUD 1210/6	900543	6	12 x 10	51	1

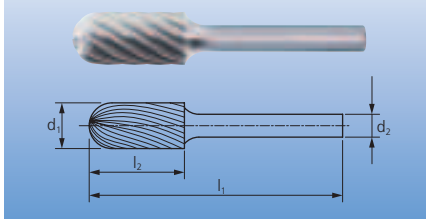




Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220**900512**
WRC 0616/6 INOX

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Cylindrical shape with radius end WRC



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	INOX  EAN 4007220				

Shank dia. 3 mm



WRC 0313/3	930410	3	3 x 13	43	1
WRC 0613/3	930427	3	6 x 13	43	1

Shank dia. 6 mm

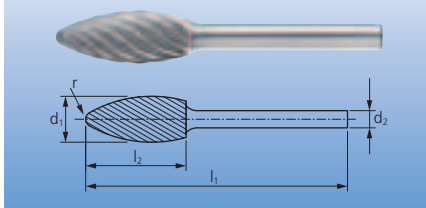
WRC 0616/6	900512	6	6 x 16	55	1
WRC 0820/6	952283	6	8 x 20	60	1
WRC 1020/6	952290	6	10 x 20	60	1
WRC 1225/6	900529	6	12 x 25	65	1



Flame-shaped burr according to ISO 7755/8.

Ordering example:
EAN 4007220**930502**
B 1230/6 INOX

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Flame shape B



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	INOX  EAN 4007220					

Shank dia. 6 mm

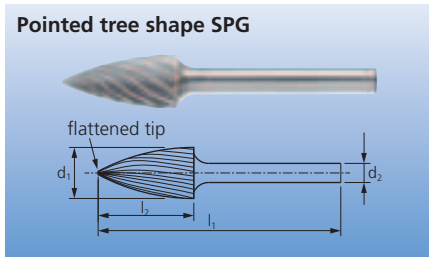
B 0820/6	952306	6	8 x 20	60	1.5	1
B 1025/6	952313	6	10 x 25	65	1.7	1
B 1230/6	930502	6	12 x 30	70	2.1	1

Tungsten carbide burrs

TC burrs for stainless steel (INOX)



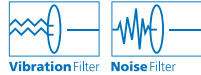
Pointed tree shape SPG



Pointed tree-shaped burr according to DIN 8032, flattened tip.

Ordering example:
EAN 4007220**936948**
SPG 0618/6 INOX

PFERDERGONOMICS®:

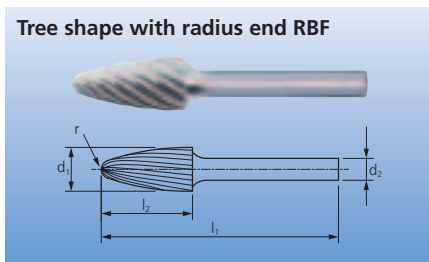


Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	INOX EAN 4007220				

Shank dia. 6 mm

SPG 0618/6	936948	6	6 x 18	55	1
SPG 0820/6	952320	6	8 x 20	60	1
SPG 1020/6	952337	6	10 x 20	60	1
SPG 1225/6	936894	6	12 x 25	65	1

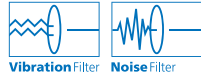
Tree shape with radius end RBF



Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**900550**
RBF 0618/6 INOX

PFERDERGONOMICS®:



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	INOX EAN 4007220					

Shank dia. 3 mm

RBF 0313/3	930472	3	3 x 13	43	0.75	1
RBF 0613/3	930489	3	6 x 13	43	1.5	1

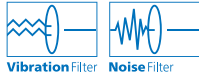
Shank dia. 6 mm

RBF 0618/6	900550	6	6 x 18	55	1.5	1
RBF 0820/6	952344	6	8 x 20	60	1.2	1
RBF 1020/6	952351	6	10 x 20	60	2.5	1
RBF 1225/6	900567	6	12 x 25	65	2.5	1

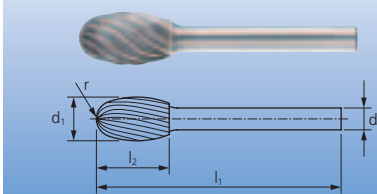
Oval burr according to DIN 8032.



Ordering example:
EAN 4007220**930519**
TRE 1220/6 INOX

PFERDERGONOMICS®:



Oval shape TRE



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	INOX  EAN 4007220					

Shank dia. 6 mm

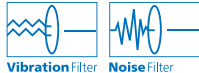
TRE 0813/6	952368	6	8 x 13	53	3.7	1
TRE 1016/6	952375	6	10 x 16	56	4.0	1
TRE 1220/6	930519	6	12 x 20	60	5.0	1



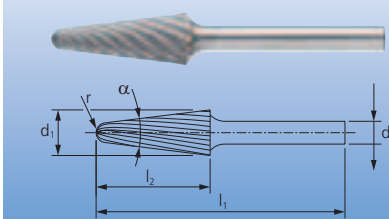
Conical burr with radius end according to DIN 8032.



Ordering example:
EAN 4007220**930496**
KEL 1230/6 INOX

PFERDERGONOMICS®:



Conical shape with radius end KEL



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	INOX  EAN 4007220						

Shank dia. 6 mm

KEL 0820/6	952382	6	8 x 20	60	16°	1.25	1
KEL 1020/6	952399	6	10 x 20	60	14°	2.9	1
KEL 1230/6	930496	6	12 x 30	70	14°	2.6	1

Tungsten carbide burrs

TC burrs for aluminium/non-ferrous metals

Cut ALU



PFERD has further developed the ALU cut especially for stock removal on aluminium. This cut is characterized by its high stock removal performance.

Advantages:

- Extremely high stock removal performance
- Large chips
- Reduced material adhesion
- Long tool life and smooth running
- Can be used with cutting speeds of up to 1,100 m/min

Cut NON-FERROUS



PFERD has developed the NON-FERROUS cut for universal use on non-ferrous metals and fibre-reinforced plastics. This cut is characterized by its high stock removal performance.

Advantages:

- Universally suitable for coarse stock removal on non-ferrous metals, brass, copper, plastics and fibre-reinforced plastics

Notes:

- The use of burrs with PFERD HICOAT® coating HC-NFE prevents chips adhering during work on soft aluminium alloys. This increases the tool life and improves the surface quality of the workpiece.
For coated tungsten carbide burrs with ALU cut, please refer to tungsten carbide burrs with HICOAT® coating HC-NFE on pages 54 and following.
- Alternatively, grinding oil can be used. More detailed information and ordering data for grinding oil 412 ALU can be found in Catalogue 204.

Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- 1 Select the material group to be machined
- 2 Determine the type of application

3 Select the cut

4 Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

5 Select the required burr diameter

6 The cutting speed range and the burr diameter determine the recommended rotational speed range

1 Material groups			2 Application	3 Cut	4 Cutting speed
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys	Coarse stock removal	ALU	600–1,100 m/min
			Fine stock removal		900–1,100 m/min
		Brass, copper, zinc	Coarse stock removal	ALU	600–1,100 m/min
			Fine stock removal	NON-FERROUS	450–600 m/min
	Hard non-ferrous metals	Hard aluminium alloys (high Si content)	Coarse stock removal	ALU	600–1,100 m/min
			Fine stock removal	ALU	900–1,100 m/min
		Titanium and titanium alloys	Coarse stock removal	ALU	450–600 m/min
			Fine stock removal	ALU	600–900 m/min
		Bronze	Coarse stock removal	ALU	600–1,100 m/min
			Fine stock removal	NON-FERROUS	600–1,100 m/min
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics		Coarse stock removal	NON-FERROUS	600–1,100 m/min
			Fine stock removal	ALU	600–900 m/min

Example:

TC burr,
Cut ALU,
Burr dia. 12 mm.

Coarse stock removal on hard non-ferrous metals, e.g. bronze.

Cutting speed: 600–1,100 m/min

Rotational speed: 16,000–30,000 RPM

5 Burr dia. [mm]	6 Cutting speed [m/min]			
	450	600	900	1,100
	Rotational speed [RPM]			
3	48,000	64,000	95,000	117,000
6	24,000	32,000	48,000	59,000
8	18,000	24,000	36,000	44,000
10	14,000	19,000	29,000	35,000
12	12,000	16,000	24,000	30,000
16	9,000	12,000	18,000	22,000



More PFERD tools and a large number of application tips on working with aluminium can be found in our PRAXIS brochure "PFERD tools for use on aluminium". Please contact us.



PFERDVIDEO

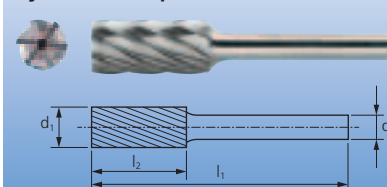
You will receive more information here or at www.pferd.com






Cylindrical burr according to DIN 8032.
Shape ZYAS with circumferential and end cut.

Ordering example:
EAN 4007220**246986**
ZYAS 0616/6 ALU
Please complete the description with the desired cut.

Cylindrical shape ZYA
Cylindrical shape ZYAS with end cut



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	ALU	NON-FERROUS				
						
EAN 4007220						

Shank dia. 3 mm with end cut

ZYAS 0313/3	803653	-	3	3 x 13	43	1
ZYAS 0613/3	803660	-	3	6 x 13	43	1

Shank dia. 6 mm without end cut

ZYA 0616/6	-	221044	6	6 x 16	55	1
ZYA 1225/6	-	533314	6	12 x 25	65	1

Shank dia. 6 mm with end cut

ZYAS 0616/6	246986	-	6	6 x 16	55	1
ZYAS 0820/6	952955	-	6	8 x 20	60	1
ZYAS 1020/6	533321	-	6	10 x 20	60	1
ZYAS 1225/6	533345	-	6	12 x 25	65	1
ZYAS 1625/6	803974	-	6	16 x 25	65	1

Shank dia. 8 mm without end cut

ZYA 1225/8	-	221051	8	12 x 25	65	1
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Shank dia. 8 mm with end cut

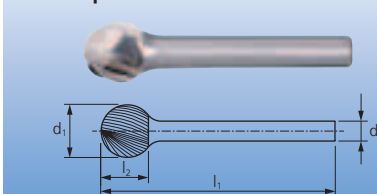
ZYAS 1225/8	246979	-	8	12 x 25	65	1
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


Ball-shaped burr according to DIN 8032.

Ordering example:
EAN 4007220**533147**
KUD 1210/6 ALU
Please complete the description with the desired cut.

Ball shape KUD



Description	Cut		Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU	NON-FERROUS				
						
EAN 4007220						

Shank dia. 3 mm

KUD 0302/3	803714	-	3	3 x 2	32	1
KUD 0605/3	803721	-	3	6 x 5	35	1

Shank dia. 6 mm

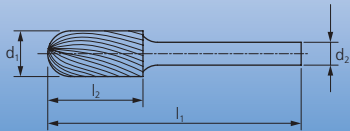
KUD 0605/6	869123	-	6	6 x 5	45	1
KUD 0807/6	869130	221082	6	8 x 7	47	1
KUD 1009/6	952962	-	6	10 x 9	49	1
KUD 1210/6	533147	533154	6	12 x 10	50	1
KUD 1614/6	803998	-	6	16 x 14	54	1

Tungsten carbide burrs

TC burrs for aluminium/non-ferrous metals



Cylindrical shape with radius end WRC






Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220**247006**

WRC 0616/6 ALU
Please complete the description with the desired cut.



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	ALU 	NON-FERROUS 				
	EAN 4007220					

Shank dia. 3 mm

WRC 0313/3	803691	-	3	3 x 13	43	1
WRC 0613/3	803707	-	3	6 x 13	43	1

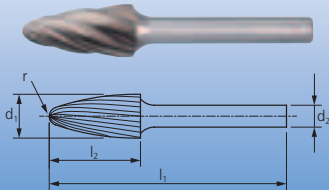
Shank dia. 6 mm

WRC 0616/6	247006	221068	6	6 x 16	55	1
WRC 0820/6	952979	-	6	8 x 20	60	1
WRC 1020/6	952986	-	6	10 x 20	60	1
WRC 1225/6	533260	533284	6	12 x 25	65	1
WRC 1625/6	803981	-	6	16 x 25	65	1

Shank dia. 8 mm

WRC 1225/8	247013	-	8	12 x 25	65	1
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Tree shape with radius end RBF





Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**328071**

RBF 0618/6 ALU



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	ALU 						
	EAN 4007220						

Shank dia. 3 mm

RBF 0313/3	803677	3	3 x 13	43	0.75	1
RBF 0613/3	803684	3	6 x 13	43	1.5	1

Shank dia. 6 mm

RBF 0618/6	328071	6	6 x 18	55	1.5	1
RBF 0820/6	952993	6	8 x 20	60	1.2	1
RBF 1020/6	953006	6	10 x 20	60	2.5	1
RBF 1225/6	533208	6	12 x 25	65	2.5	1
RBF 1630/6	804001	6	16 x 30	70	3.6	1

Shank dia. 8 mm

RBF 1225/8	247020	8	12 x 25	65	2.5	1
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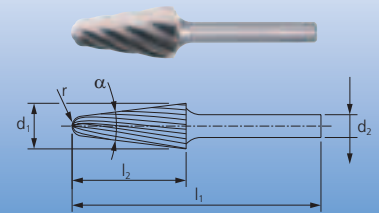
Conical burr with radius end according to DIN 8032.




Ordering example:
EAN 4007220**533109**

KEL 1230/6 ALU

Please complete the description with the desired cut.

Conical shape with radius end KEL



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	ALU	NON-FER-ROUS						
								
EAN 4007220								

Shank dia. 6 mm

KEL 0820/6	953013	-	6	8 x 20	60	16°	1.25	1
KEL 1020/6	953020	221105	6	10 x 20	60	14°	2.9	1
KEL 1230/6	533109	533116	6	12 x 30	70	14°	2.6	1
KEL 1630/6	804018	-	6	16 x 30	70	14°	4.8	1

Shank dia. 8 mm

KEL 1230/8	247037	-	8	12 x 30	70	14°	2.6	1
KEL 1630/8	-	221129	8	16 x 30	70	14°	4.8	1



Tungsten carbide burrs

TC burrs for cast iron



Cut CAST

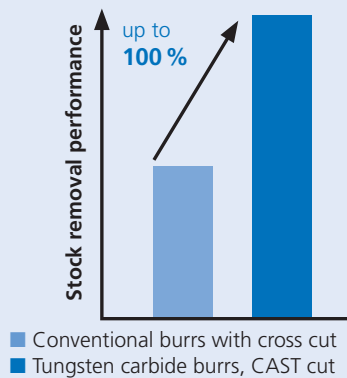


With the CAST cut, PFERD has developed innovative burrs especially for work on cast iron. They are characterized by an extremely high stock removal performance on cast iron and impress through smooth milling with significantly reduced vibration and less noise.

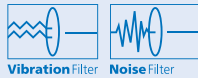
Advantages:

- Up to 100 % higher stock removal performance when used on cast iron due to the innovative tooth geometry, when compared with conventional cross cut burrs
- Significantly increased aggressiveness, large chips, very good chip removal

Performance values for applications on cast iron



PFERDERGONOMICS® recommends burrs with CAST cut as an innovative tool solution for comfortable working with reduced vibration and lower noise.



Recommended rotational speed range

To determine the recommended rotational speed range, please proceed as follows:

- 1 Refer to the table for the cutting speed
- 2 Select the required burr diameter
- 3 The cutting speed range and the burr diameter determine the recommended rotational speed range

Material group			Application	Cut	1 Cutting speed
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Coarse stock removal	CAST	450–750 m/min

Example:

TC burr,
Cut CAST,
Burr dia. 12 mm.
Coarse stock removal on cast iron.
Cutting speed: 450–750 m/min
Rotational speed: 12,000–20,000 RPM

2 Burr dia. [mm]	3 Cutting speed [m/min]	
	450	750
	Rotational speed [RPM]	
6	24,000	40,000
10	14,000	24,000
12	12,000	20,000





PFERDVIDEO

You will receive more information here or at www.pferd.com

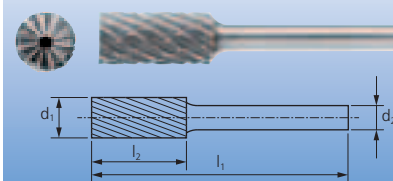




Cylindrical burr according to DIN 8032.
Shape ZYAS with circumferential and end cut.

Ordering example:
EAN 4007220**952658**
ZYAS 0616/6 CAST

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Cylindrical shape ZYAS with end cut





Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	CAST  EAN 4007220				

Shank dia. 6 mm

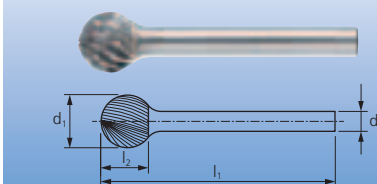
ZYAS 0616/6	952658	6	6 x 16	55	1
ZYAS 1020/6	952665	6	10 x 20	60	1
ZYAS 1225/6	952672	6	12 x 25	65	1


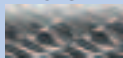
Ball-shaped burr according to DIN 8032.

Ordering example:
EAN 4007220**952498**
KUD 0605/6 CAST

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Ball shape KUD



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	CAST  EAN 4007220				



Shank dia. 6 mm

KUD 0605/6	952498	6	6 x 5	45	1
KUD 1009/6	952504	6	10 x 9	49	1
KUD 1210/6	952511	6	12 x 10	51	1

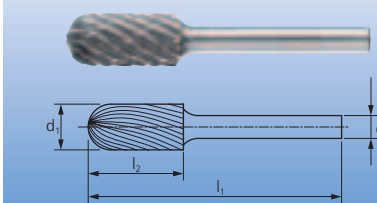




Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220**952610**
WRC 0616/6 CAST

PFERDERGONOMICS®:


 Vibration Filter Noise Filter

Cylindrical shape with radius end WRC



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	CAST  EAN 4007220				

Shank dia. 6 mm

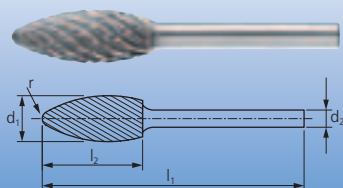
WRC 0616/6	952610	6	6 x 16	55	1
WRC 1020/6	952627	6	10 x 20	60	1
WRC 1225/6	952634	6	12 x 25	65	1

Tungsten carbide burrs

TC burrs for cast iron



Flame shape B



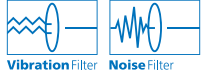
Flame-shaped burr according to ISO 7755/8.

Ordering example:

EAN 4007220**952450**

B 1230/6 CAST

PFERDERGONOMICS®:

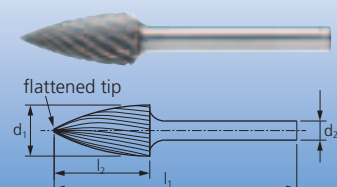


Description	Cut CAST	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	EAN 4007220					

Shank dia. 6 mm

B 1230/6	952450	6	12 x 30	70	2.1	1
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Pointed tree shape SPG



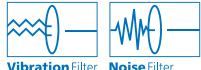
Pointed tree-shaped burr according to DIN 8032, flattened tip.

Ordering example:

EAN 4007220**952580**

SPG 0618/6 CAST

PFERDERGONOMICS®:

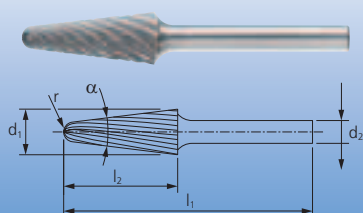


Description	Cut CAST	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	EAN 4007220				

Shank dia. 6 mm

SPG 0618/6	952580	6	6 x 18	55	1
SPG 1020/6	952597	6	10 x 20	60	1
SPG 1225/6	952603	6	12 x 25	70	1

Conical shape with radius end KEL



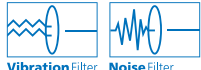
Conical burr with radius end according to DIN 8032.

Ordering example:

EAN 4007220**952474**

KEL 1230/6 CAST

PFERDERGONOMICS®:



Description	Cut CAST	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	EAN 4007220						

Shank dia. 6 mm

KEL 1230/6	952474	6	12 x 30	70	14°	2.6	1
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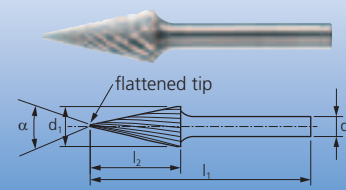
Conical pointed burr according to DIN 8032, flattened tip.

Ordering example:
EAN 4007220**952481**
SKM 1225/6 CAST

PFERDERGONOMICS®:



Conical pointed shape SKM



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	
	CAST					
	EAN 4007220					

Shank dia. 6 mm

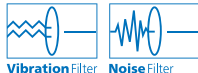
SKM 1225/6	952481	6	12 x 25	65	26°	1
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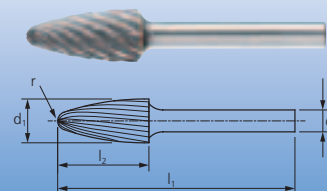
Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**952528**
RBF 0618/6 CAST

PFERDERGONOMICS®:



Tree shape with radius end RBF



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	CAST					
	EAN 4007220					

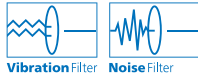
Shank dia. 6 mm

RBF 0618/6	952528	6	6 x 18	55	1.5	1
RBF 1020/6	952559	6	10 x 20	60	2.5	1
RBF 1225/6	952566	6	12 x 25	65	2.5	1

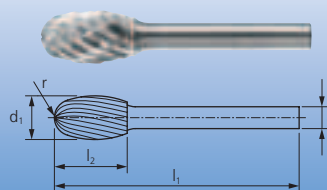
Oval burr according to DIN 8032.

Ordering example:
EAN 4007220**952467**
TRE 1220/6 CAST

PFERDERGONOMICS®:



Oval shape TRE



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	CAST					
	EAN 4007220					

Shank dia. 6 mm

TRE 1220/6	952467	6	12 x 20	60	5.0	1
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Tungsten carbide burrs

TC burrs for GRP/CRP

Tungsten carbide burrs with PLAST, FVK and FVKS cuts are suitable for trimming and contour milling of a wide range of fibre-reinforced plastics (GRP/CRP).

Burrs with end cut (BS) or with center drill (ZBS) allow combined drilling and cutting tasks.

The special tooth geometry allows high feed rates due to the low resistance. In addition these burrs are characterized by smooth milling.

Application examples:

- Trimming
- Contour milling
- Creating cut-outs
- Deburring

Recommendations for use:

- The design with special end cut (BS) is particularly suitable for machine and robot use, while the version with center drill (ZBS) is used for manual applications. It allows secure drilling on almost all surface conditions.
- Select a burr diameter greater than the thickness of the material to be machined, to avoid impacts and chattering with the risk of damaging or breaking the tool.
- Increase the rotational speed if the tool tends to chatter.
- If necessary, reduce the rotational speed and contact pressure if melting occurs.

Recommended rotational speed range

To determine the recommended rotational speed range, please proceed as follows:

- ① Select the material group to be machined

Cut PLAST



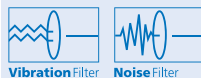
Tungsten carbide burrs with the PLAST cut are particularly suitable for use on less hard glass- and carbon-fibre-reinforced duroplastics (GRP and CRP ≤ 40 % fibre content) and fibre-reinforced thermoplastics.

The cut (similar to PCD milling) minimizes delamination and fraying.

Advantages:

- Particularly suitable for GRP and CRP ≤ 40 % fibre content
- Minimizes delamination and fraying due to the special cut that is similar to PCD mills
- Very suitable for machine use and robot use
- Very low cutting force
- High feed rates

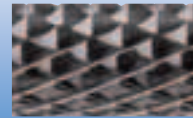
PFERDERGONOMICS® recommends burrs with PLAST cut as an innovative tool solution for comfortable working with significantly reduced vibration and lower noise.



Cut FVK



Cut FVKS



Tungsten carbide burrs with FVK and FVKS cuts can be used on hard glass- and carbon-fibre-reinforced duroplastics (GRP and CRP > 40 % fibre content).

Due to its high concentricity, the FVK cut is suitable for tool machines and manual applications.

The FVKS cut is suitable for use on machines and robots with high feed rates. It is characterized by smooth milling and produces a smooth cut edge.

Advantages:

- Particularly suitable for GRP and CRP > 40 % fibre content
- The FVKS cut produces smooth edges and is characterized by smooth milling

- ⑤ The cutting speed range and the burr diameter determine the recommended rotational speed range

① Material groups		Application	② Cut	③ Cutting speed
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), fibre content ≤ 40 %, thermoplastics	Trimming, contour milling, creating cut-outs, deburring	PLAST	450–900 m/min
	Fibre-reinforced plastics (GRP/CRP), fibre content > 40 %		FVK	
			FVKS	

Example:

TC burr,
Cut PLAST,
Burr dia. 8 mm.
Trimming of plastics.
Cutting speed: 450–900 m/min
Rotational speed: 18,000–36,000 RPM

④ Burr dia. [mm]	⑤ Cutting speed [m/min]	
	450	900
	Rotational speed [RPM]	
6	24,000	48,000
8	18,000	36,000



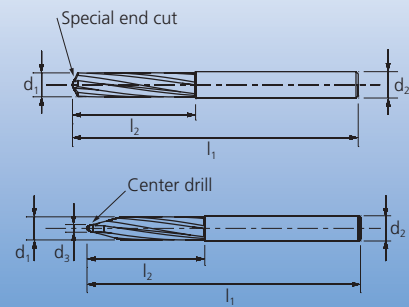
More PFERD tools and a large number of application tips on working with plastics can be found in our PRAXIS brochure "PFERD tools for use on plastics". Please contact us.



PFERDVIDEO

You will receive more information here or at www.pferd.com

Cylindrical shape ZYA



Cylindrical burr.

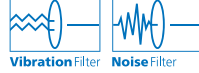
Ordering example:
EAN 4007220050217

ZYA 0625/6 BS FVK

Please complete the description with the desired cut.





PFERDERGONOMICS®:

Cut PLAST



Cylindrical shape ZYA



Description	Cut			Shank dia. d_2 [mm]	Center drill d_3 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	PLAST	FVK	FVKS					
								
	EAN 4007220							
Shank dia. 6 mm with end cut								
ZYA 0625/6 BS	900413	050217	808900	6	-	6 x 25	65	1
Shank dia. 8 mm with end cut								
ZYA 0825/8 BS	900468	050231	808917	8	-	8 x 25	65	1
Shank dia. 6 mm with center drill								
ZYA 0625/6 ZBS	900451	869048	869055	6	2.5	6 x 25	65	1
Shank dia. 8 mm with center drill								
ZYA 0825/8 ZBS	900475	869079	869086	8	3	8 x 25	65	1



Tungsten carbide burrs

TC burrs for tough applications

The TOUGH and TOUGH-S cuts have been specially designed for tough operating conditions in dockyards, foundries and steel constructions. They are also ideal for use in all manufacturing sectors where, due to the difficult production environment, tooth breakages or other damage to conventional burrs is a frequent occurrence.

Application examples:

- High-impact applications, due to use of shank extensions
- Heavy-duty applications, due to angled working
- Applications with a high angle of surface contact
- Milling of narrow contours
- Applications where high rotational speeds are not available

Advantages:

- Innovative, special cuts providing exceptional impact resistance
- Minimizing of tooth chipping/breakage, splintering and burr failures due to very robust, high-performance cuts
- Also useable in the low rotational speed range

Note:

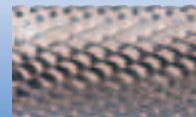
- Due to their extreme impact resistance, they can perfectly be used as long shank variants. Available as products made to order with any shank length. Please contact us.
- The TOUGH and TOUGH-S cuts can be used on materials up to 55 HRC. For harder materials, it is recommended to perform trials beforehand.

Cut TOUGH



Tungsten carbide burrs with TOUGH cut are particularly aggressive and are characterized by high stock removal.

Cut TOUGH-S



Tungsten carbide burrs with TOUGH-S cut are characterized by smooth milling and high stock removal.

Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- ① Select the material group to be machined
- ② Select the cut
- ③ Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- ④ Select the required burr diameter
- ⑤ The cutting speed range and the burr diameter determine the recommended rotational speed range



① Material group			Application	② Cut	③ Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Coarse stock removal with impact load	TOUGH	250–600 m/min
	Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel		TOUGH-S	
Non-ferrous metals	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal with impact load	TOUGH	250–450 m/min
				TOUGH-S	
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Coarse stock removal with impact load	TOUGH	250–600 m/min
				TOUGH-S	

Example:

TC burr,
Cut TOUGH

Burr dia. 12 mm.

Coarse stock removal with impact load on non-hardened, non-heat-treated steels.
Cutting speed: 250–600 m/min

Rotational speed: 7,000–16,000 RPM

④ Burr dia. [mm]	⑤ Cutting speed [m/min]			
	250	350	450	600
	Rotational speed [RPM]			
8	10,000	14,000	18,000	24,000
10	8,000	11,000	14,000	19,000
12	7,000	9,000	12,000	16,000
16	5,000	7,000	9,000	12,000



PFERDVIDEO

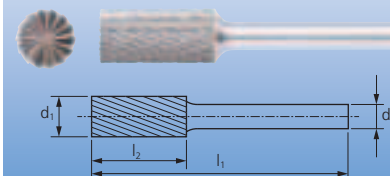
You will receive more information here or at www.pferd.com






Cylindrical burr according to DIN 8032.
Shape ZYAS with circumferential and end cut.

Ordering example:
EAN 4007220**769997**
ZYAS 0820/6 TOUGH
Please complete the description with the desired cut.

Cylindrical shape ZYA
Cylindrical shape ZYAS with end cut



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	TOUGH 	TOUGH-S 				
	EAN 4007220					

Shank dia. 6 mm without end cut

ZYA 0820/6	895504	-	6	8 x 20	55	1
ZYA 1020/6	895658	-	6	10 x 20	60	1
ZYA 1225/6	895665	895672	6	12 x 25	65	1

Shank dia. 6 mm with end cut

ZYAS 0820/6	769997	-	6	8 x 20	60	1
ZYAS 1020/6	770023	-	6	10 x 20	60	1
ZYAS 1225/6	869109	-	6	12 x 25	65	1

Shank dia. 8 mm with end cut

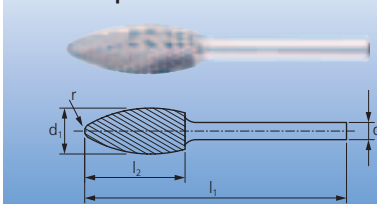
ZYAS 1225/8	770054	-	8	12 x 25	65	1
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Flame-shaped burr according to ISO 7755/8.

Ordering example:
EAN 4007220**770061**
B 0820/6 TOUGH

Flame shape B



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	TOUGH					
						
EAN 4007220						

Shank dia. 6 mm

B 0820/6	770061	6	8 x 20	60	1.5	1
B 1230/6	770085	6	12 x 30	70	2.1	1

Shank dia. 8 mm

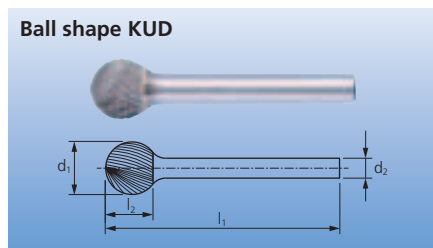
B 1230/8	770092	8	12 x 30	70	2.1	1
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Tungsten carbide burrs

TC burrs for tough applications





Ball shape KUD



Ball-shaped burr according to DIN 8032.

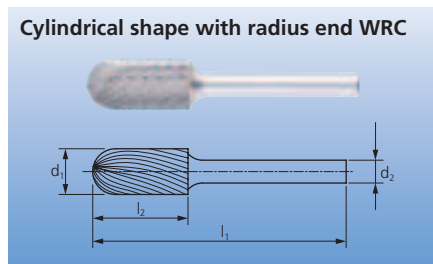
Ordering example:
EAN 4007220**770160**
KUD 1210/6 TOUGH

Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	TOUGH					
	EAN 4007220					

Shank dia. 6 mm

KUD 0807/6	955383		6	8 x 7	47	1
KUD 1009/6	953037		6	10 x 9	49	1
KUD 1210/6	770160		6	12 x 10	51	1




Cylindrical shape with radius end WRC



Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220**770108**
WRC 0820/6 TOUGH
Please complete the description with the desired cut.



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	TOUGH	TOUGH-S				
						
	EAN 4007220					

Shank dia. 6 mm

WRC 0820/6	770108	-	6	8 x 20	60	1
WRC 1020/6	770115	-	6	10 x 20	60	1
WRC 1225/6	770122	770139	6	12 x 25	65	1

Shank dia. 8 mm

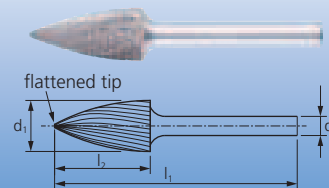
WRC 1225/8	769881	770153	8	12 x 25	65	1
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Pointed tree-shaped burr according to DIN 8032, flattened tip.

Ordering example:
 EAN 4007220**770252**
 SPG 1020/6 TOUGH
 Please complete the description with the desired cut.

Pointed tree shape SPG



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	TOUGH 	TOUGH-S 				
	EAN 4007220					

Shank dia. 6 mm

SPG 1020/6	770252	770269	6	10 x 20	60	1
SPG 1225/6	770276	-	6	12 x 25	65	1

Shank dia. 8 mm

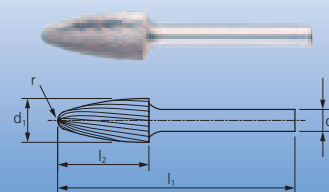
SPG 1225/8	770283	-	8	12 x 25	65	1
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Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
 EAN 4007220**770191**
 RBF 0820/6 TOUGH
 Please complete the description with the desired cut.

Tree shape with radius end RBF



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_1$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	TOUGH 	TOUGH-S 					
	EAN 4007220						

Shank dia. 6 mm

RBF 0820/6	770191	-	6	8 x 20	60	1.2	1
RBF 1020/6	770207	-	6	10 x 20	60	2.5	1
RBF 1225/6	770214	770238	6	12 x 25	65	2.5	1
RBF 1625/6	869116	-	6	16 x 25	65	4.9	1

Shank dia. 8 mm

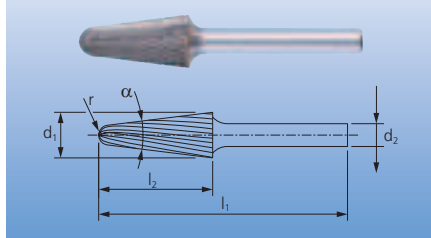
RBF 1225/8	770221	770245	8	12 x 25	65	2.5	1
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Tungsten carbide burrs

TC burrs for tough applications





Conical shape with radius end KEL



Conical burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**770320**
KEL 1225/6 TOUGH



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	TOUGH  EAN 4007220						

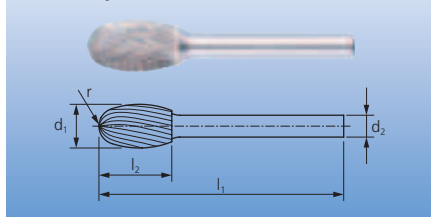
Shank dia. 6 mm

KEL 1225/6	770320	6	12 x 25	65	14°	3.3	1
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Shank dia. 8 mm

KEL 1225/8	770337	8	12 x 25	65	14°	3.3	1
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Oval shape TRE



Oval burr according to DIN 8032.

Ordering example:
EAN 4007220**770344**
TRE 1016/6 TOUGH



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	TOUGH  EAN 4007220					

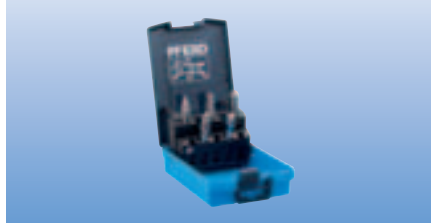
Shank dia. 6 mm

TRE 1016/6	770344	6	10 x 16	56	4.0	1
TRE 1220/6	770351	6	12 x 20	60	5.0	1

Shank dia. 8 mm

TRE 1220/8	770368	8	12 x 20	60	5.0	1
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Set 1712 HM



Set 1712 HM contains five tungsten carbide burrs in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage. The burrs are secured at the shanks, facilitating the selection and withdrawal of the tools. Five further unused slots are available for other burrs.

Contents:

5 tungsten carbide burrs,
shank diameter 6 mm, cut TOUGH
1 piece each:
WRC 1225/6 TOUGH
SPG 1225/6 TOUGH
RBF 1225/6 TOUGH
KEL 1225/6 TOUGH
TRE 1220/6 TOUGH

Description	Cut	
	TOUGH  EAN 4007220	

Shank dia. 6 mm

1712 HM	955635	1
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Cut MICRO



Tungsten carbide burrs with MICRO cut are specifically designed for finishing. They are well suited for manual and machine applications and are characterized by good stock removal and a high surface quality.

The MICRO cut can be used for work on almost all materials up to a hardness of 68 HRC. Tungsten carbide burrs with MICRO cut can be used in areas in which mounted points are usually used, but where a high stock removal is also required. They work with less noise and low vibrations.

Application examples:

- Finishing
- Very fine cleaning work
- Corrections in tool and mould construction
- Sharpening of cutting tools

Advantages:

- High surface quality
- Unlike with mounted points, there is no change in geometry due to wear and tear
- Work on almost all materials up to 68 HRC

PFERDERGONOMICS® recommends burrs with MICRO cut as an innovative tool solution for comfortable working with significantly reduced vibration and lower noise.



Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- ① Select the material group to be machined
- ② Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- ③ Select the required burr diameter
- ④ The cutting speed range and the burr diameter determine the recommended rotational speed range



① Material group			Application	Cut	② Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Fine stock removal	MICRO	600–750 m/min
	Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel			450–600 m/min
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Fine stock removal	MICRO	450–600 m/min
Non-ferrous metals	Hard non-ferrous metals	Bronze, titanium/titanium alloys, hard aluminium alloys (high Si content)	Fine stock removal	MICRO	450–600 m/min
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)			
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Fine stock removal	MICRO	600–750 m/min

Example:

TC burr,
Cut MICRO,
Burr dia. 10 mm.
Fine stock removal on non-hardened, non-heat-treated steels
Cutting speed: 600–750 m/min
Rotational speed: 19,000–24,000 RPM

③ Burr dia. [mm]	④ Cutting speed [m/min]		
	450	600	750
	Rotational speed [RPM]		
2	72,000	95,000	120,000
3	48,000	64,000	80,000
4	36,000	48,000	60,000
6	24,000	32,000	40,000
8	18,000	24,000	30,000
10	14,000	19,000	24,000
12	12,000	16,000	20,000



PFERDVIDEO

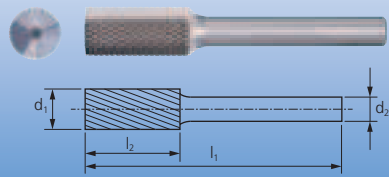
You will receive more information here or at www.pferd.com

Tungsten carbide burrs

TC burrs for finishing



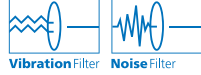
Cylindrical shape ZYA Cylindrical shape ZYAS with end cut



Cylindrical burr according to DIN 8032.
Shape ZYAS with circumferential and end cut.

Ordering example:
EAN 4007220**895511**
ZYA 0210/3 MICRO

PFERDERGONOMICS®:



Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	MICRO 				
	EAN 4007220				

Shank dia. 3 mm without end cut

ZYA 0210/3	895511	3	2 x 10	40	1
ZYA 0313/3	895535	3	3 x 13	43	1
ZYA 0413/3	895542	3	4 x 13	43	1
ZYA 0613/3	953068	3	6 x 13	43	1

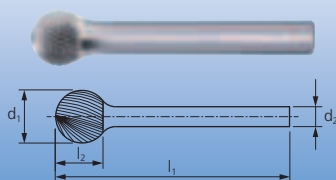
Shank dia. 6 mm without end cut

ZYA 0616/6	895559	6	6 x 16	55	1
ZYA 0820/6	895573	6	8 x 20	60	1
ZYA 1020/6	895603	6	10 x 20	60	1
ZYA 1225/6	953051	6	12 x 25	65	1

Shank dia. 6 mm with end cut

ZYAS 0616/6	895566	6	6 x 16	55	1
ZYAS 0820/6	895580	6	8 x 20	60	1
ZYAS 1020/6	895610	6	10 x 20	60	1
ZYAS 1225/6	953105	6	12 x 25	65	1

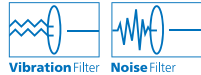
Ball shape KUD



Ball-shaped burr according to DIN 8032.

Ordering example:
EAN 4007220**895399**
KUD 021,5/3 MICRO

PFERDERGONOMICS®:



Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	MICRO 				
	EAN 4007220				

Shank dia. 3 mm

KUD 021,5/3	895399	3	2 x 1.5	33	1
KUD 0302/3	895405	3	3 x 2	33	1
KUD 0403/3	895412	3	4 x 3	34	1
KUD 0605/3	953129	3	6 x 5	35	1



Shank dia. 6 mm

KUD 0605/6	895436	6	6 x 5	35	1
KUD 0807/6	895474	6	8 x 7	47	1
KUD 1009/6	895481	6	10 x 9	49	1
KUD 1210/6	953112	6	12 x 10	51	1

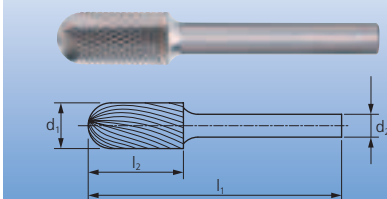




Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220869000
WRC 0313/3 MICRO

PFERDERGONOMICS®:
 
Vibration Filter Noise Filter

Cylindrical shape with radius end WRC



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	MICRO				
					
EAN 4007220					

Shank dia. 3 mm

WRC 0210/3	953167	3	2 x 10	43	1
WRC 0313/3	869000	3	3 x 13	43	1
WRC 0613/3	953150	3	6 x 13	43	1



Shank dia. 6 mm

WRC 0616/6	869017	6	6 x 16	55	1
WRC 0820/6	869024	6	8 x 20	60	1
WRC 1020/6	869031	6	10 x 20	60	1
WRC 1225/6	953136	6	12 x 25	65	1

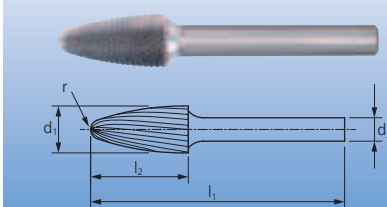




Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220835524
RBF 0307/3 MICRO

PFERDERGONOMICS®:
 
Vibration Filter Noise Filter

Tree shape with radius end RBF



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	MICRO 					
	EAN 4007220					

Shank dia. 3 mm

RBF 0307/3	835524	3	3 x 7	37	0.75	1
RBF 0313/3	955352	3	3 x 13	43	0.75	1
RBF 0613/3	955338	3	6 x 13	43	1.5	1

Shank dia. 6 mm

RBF 0618/6	835494	6	6 x 18	55	1.5	1
RBF 0820/6	835500	6	8 x 20	60	1.2	1
RBF 1020/6	835517	6	10 x 20	60	2.5	1
RBF 1225/6	953143	6	12 x 25	65	2.5	1

Tungsten carbide burrs

TC burrs for finishing

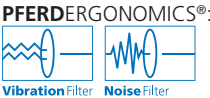


Set 1502 HM



Set 1502 HM contains ten tungsten carbide burrs for finishing in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage.

- Contents:**
10 tungsten carbide burrs,
shank diameter 3 mm, cut MICRO
1 piece each:
- | | |
|------------------|------------------|
| ZYA 0210/3 MICRO | WRC 0613/3 MICRO |
| ZYA 0313/3 MICRO | KUD 0302/3 MICRO |
| ZYA 0613/3 MICRO | KUD 0605/3 MICRO |
| WRC 0210/3 MICRO | RBF 0307/3 MICRO |
| WRC 0313/3 MICRO | RBF 0613/3 MICRO |



Description	Cut	Shank dia. [mm]	
	MICRO		
	 EAN 4007220		
Shank dia. 3 mm			
Set 1502 HM	896181	3	1



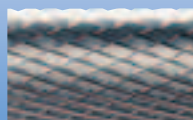
HICOAT® coating HC-FEP for iron and steel materials



Advantages:

- Mainly used for work on steel and cast iron
- High hardness and wear resistance
- Effective chip removal through improved anti-adhesion characteristics
- Very high resistance against thermal load
- Increased tool life

HICOAT® coating HC-HT for high-temperature-resistant materials



Advantages:

- Mainly used for high-temperature-resistant non-ferrous metals
- Low friction values, low heat generation
- Good oxidation resistance and reduced chemical wear
- Increased tool life

HICOAT® coating HC-NFE for aluminium and non-ferrous metals



Advantages:

- Mainly used for long-chipping and lubricating non-ferrous metals
- Highest stock removal performance
- Effective chip removal through improved anti-adhesion characteristics
- Lower thermal loads
- Increased tool life

Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- 1 Select the material group to be machined
- 2 Determine the type of application
- 3 Select the cut
- 4 Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- 5 Select the required burr diameter
- 6 The cutting speed range and the burr diameter determine the recommended rotational speed range

1 Material group			2 Application	3 Cut	Coating	4 Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Coarse stock removal	3 PLUS	HC-FEP	450–600 m/min
	Hardened, heat-treated steels over 1,200 N/mm² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel				250–350 m/min
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys, brass, copper, zinc	Coarse stock removal	ALU	HC-NFE	600–1,100 m/min
			Fine stock removal			900–1,100 m/min
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal	4	HC-HT	250–450 m/min
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/ nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Coarse stock removal	3 PLUS	HC-FEP	450–600 m/min
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics		Coarse stock removal	ALU	HC-NFE	450–1,100 m/min
			Fine stock removal			

Example:

TC burr,

Cut 3 PLUS HC-FEP

Burr dia. 12 mm.

Coarse stock removal on non-hardened, non-heat-treated steels.

Cutting speed: 450–600 m/min

Rotational speed: 12,000–16,000 RPM

5 Burr dia. [mm]	6 Cutting speed [m/min]					
	250	350	450	600	900	1,100
	Rotational speed [RPM]					
3	27,000	37,000	48,000	64,000	95,000	117,000
6	13,000	19,000	24,000	32,000	48,000	59,000
8	10,000	14,000	18,000	24,000	36,000	44,000
10	8,000	11,000	14,000	19,000	29,000	35,000
12	7,000	9,000	12,000	16,000	24,000	30,000

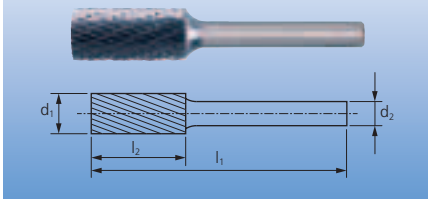
In general, all PFERD tungsten carbide burrs are also available with HICOAT® coatings. Contact us. Our worldwide sales addresses can be found at: www.pferd.com.

Tungsten carbide burrs

TC burrs with HICOAT® coating HC-FEP





Cylindrical shape ZYA



Cylindrical burr according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**835548**
ZYA 0616/6 Z3 PLUS HC-FEP

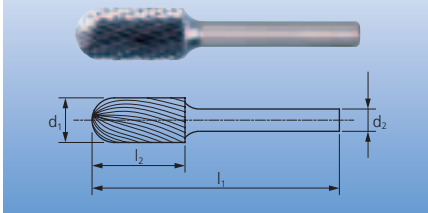


Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	3 PLUS  EAN 4007220						

Shank dia. 6 mm


ZYA 0616/6	835548	HC-FEP	violet-grey	6	6 x 16	55	1
ZYA 1225/6	835555	HC-FEP	violet-grey	6	12 x 25	65	1

Cylindrical shape with radius end WRC



Cylindrical burr with radius end according to DIN 8032, with cut conforming to DIN 8033. Combination of cylindrical and ball-shaped geometries.

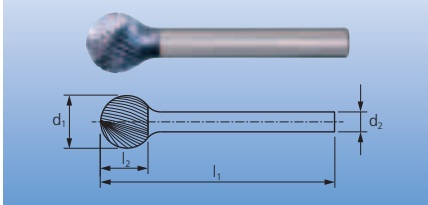
Ordering example:
EAN 4007220**835562**
WRC 0616/6 Z3 PLUS HC-FEP

Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	3 PLUS  EAN 4007220						

Shank dia. 6 mm

WRC 0616/6	835562	HC-FEP	violet-grey	6	6 x 16	55	1
WRC 1225/6	835579	HC-FEP	violet-grey	6	12 x 25	65	1


Ball shape KUD



Ball-shaped burr according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**835586**
KUD 0605/6 Z3 PLUS HC-FEP



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	3 PLUS  EAN 4007220						

Shank dia. 6 mm

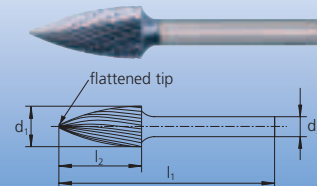
KUD 0605/6	835586	HC-FEP	violet-grey	6	6 x 5	45	1
KUD 1009/6	835593	HC-FEP	violet-grey	6	10 x 9	49	1
KUD 1210/6	835609	HC-FEP	violet-grey	6	12 x 10	45	1



Pointed tree-shaped burr according to DIN 8032 with cut conforming to DIN 8033, flattened tip.

Ordering example:
EAN 4007220**835630**
SPG 0618/6 Z3 PLUS HC-FEP

Pointed tree shape SPG



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	3 PLUS  EAN 4007220						

Shank dia. 6 mm

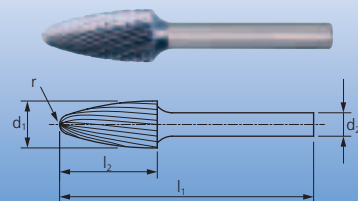
SPG 0618/6	835630	HC-FEP	violet-grey	6	6 x 18	55	1
SPG 1225/6	835654	HC-FEP	violet-grey	6	12 x 25	65	1





Tree-shaped burr with radius end according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**835616**
RBF 0618/6 Z3 PLUS HC-FEP

Tree shape with radius end RBF



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	3 PLUS  EAN 4007220							

Shank dia. 6 mm

RBF 0618/6	835616	HC-FEP	violet-grey	6	6 x 18	55	1.5	1
RBF 1225/6	835623	HC-FEP	violet-grey	6	12 x 25	65	2.5	1

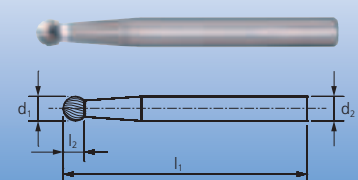
TC burrs with HICOAT® coating HC-HT





Ball-shaped burr according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**533574**
KUD 0302/3 Z4 HC-HT

Ball shape KUD



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	4  EAN 4007220						

Shank dia. 3 mm

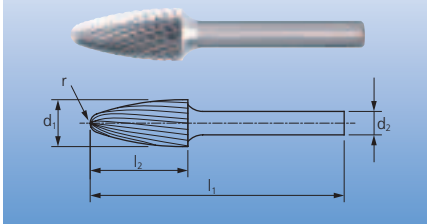
KUD 0302/3	533574	HC-HT	silver-grey	3	3 x 2	33	1
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Tungsten carbide burrs

TC burrs with HICOAT® coating HC-HT





Tree shape with radius end RBF



Tree-shaped burr with radius end according to DIN 8032 with cut conforming to DIN 8033.

Ordering example:
EAN 4007220**533581**
RBF 0613/3 Z4 HC-HT

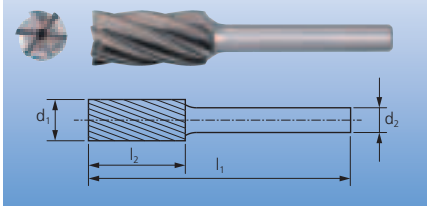
Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	4  EAN 4007220							

Shank dia. 3 mm

RBF 0613/3	533581	HC-HT	silver-grey	3	6 x 13	43	1.5	1
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TC burrs with HICOAT® coating HC-NFE

Cylindrical shape ZYAS with end cut



Cylindrical burr according to DIN 8032 with circumferential and end cut.

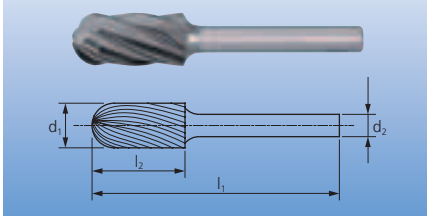
Ordering example:
EAN 4007220**804117**
ZYAS 1225/6 ALU HC-NFE

Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU  EAN 4007220						

Shank dia. 6 mm

ZYAS 1225/6	804117	HC-NFE	black-grey	6	12 x 25	65	1
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Cylindrical shape with radius end WRC



Cylindrical burr with radius end according to DIN 8032. Combination of cylindrical and ball-shaped geometries.

Ordering example:
EAN 4007220**804131**
WRC 1225/6 ALU HC-NFE



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU  EAN 4007220						

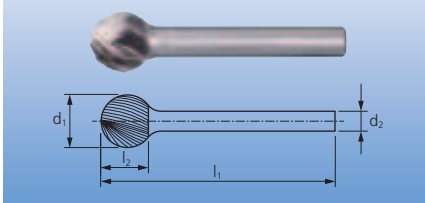
Shank dia. 6 mm



WRC 1225/6	804131	HC-NFE	black-grey	6	12 x 25	65	1
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Ball-shaped burr according to DIN 8032.

Ordering example:
EAN 4007220**804155**
KUD 1210/6 ALU HC-NFE

Ball shape KUD



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU 						
	EAN 4007220						

Shank dia. 6 mm

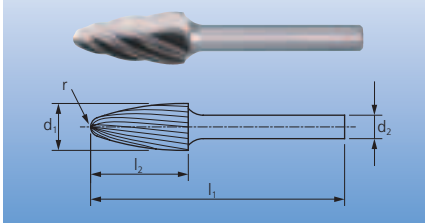
KUD 1210/6	804155	HC-NFE	black-grey	6	12 x 10	50	1
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Tree-shaped burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**533192**
RBF 1225/6 ALU HC-NFE

Tree shape with radius end RBF



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	ALU 							
	EAN 4007220							

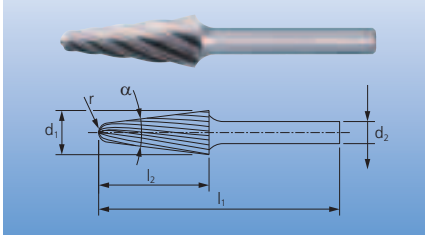
Shank dia. 6 mm



RBF 1225/6	533192	HC-NFE	black-grey	6	12 x 25	65	2.5	1
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Conical burr with radius end according to DIN 8032.

Ordering example:
EAN 4007220**533093**
KEL 1230/6 ALU HC-NFE

Conical shape with radius end KEL



Description	Cut	Coating	Coating colour	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Angle α	Radius r [mm]	
	ALU 								
	EAN 4007220								

Shank dia. 6 mm

KEL 1230/6	533093	HC-NFE	black-grey	6	12 x 30	70	14°	2.5	1
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Tungsten carbide burrs

TC burrs for work on edges



Tungsten carbide burrs for work on edges represent a new PFERD product line. They are mainly used in steel and aluminium construction and have been specifically designed for chamfering, deburring and rounding of edges.

PFERD offers tools for both flexible as well as for defined work on edges. For more information about tungsten carbide burrs with EDGE cut for defined work on edges, see page 57.

Flexible work on edges

Tungsten carbide burrs for flexible work on edges achieve almost exact chamfers or radii due to their special shapes. They can also be used flexibly in hard-to-reach areas.

Advantages:

- Freely guidable
- Extremely flexible for use in hard-to-reach areas
- Creates almost exact chamfers and radii

Recommendations for use:

- In exceptional cases, it is possible to work at less than 3,000 RPM. This is preferable for stationary use or when countersinking with 360° use of the burr surface.
- The rotational speed can be substantially increased up to 100 % for low stock removal (deburring, chamfering, surface finishing).
- In general, burrs are used counter-rotationally or with a swinging motion. Pass the tool rapidly over the workpiece in the direction of rotation to achieve fine finishes or to achieve very smooth chamfers.

Application examples:

- Producing/working on outer radii
- Rounding edges
- Sinking and chamfering
- Work on hard-to-reach, reverse side edges



Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- ① Select the material group to be machined
- ② Select the cut
- ③ Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- ④ Select the required burr diameter
- ⑤ The cutting speed range and the burr diameter determine the recommended rotational speed range

❶ Material group			Application	❷ Cut	❸ Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Work on edges	3	450–600 m/min
				SP	
	Hardened, heat-treated steels over 1,200 N/mm² (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel		3	250–350 m/min
				SP	
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Work on edges	3	250–350 m/min
				SP	
Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Brass, copper, zinc	Work on edges	3	600–900 m/min
				SP	
	Hard non-ferrous metals	Bronze, titanium/titanium alloys		3	250–450 m/min
				SP	
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)		5	350–600 m/min
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Work on edges	3	450–600 m/min
				SP	

Example:

TC burr,
Cut SP,
Burr dia. 12 mm.
Stock removal on non-hardened, non-heat-treated steels.
Cutting speed: 450–900 m/min
Rotational speed: 12,000–24,000 RPM

④ Burr dia. [mm]	⑤ Cutting speed [m/min]				
	250	350	450	600	900
	Rotational speed [RPM]				
3	27,000	37,000	48,000	64,000	95,000
6	13,000	19,000	24,000	32,000	48,000
8	10,000	14,000	18,000	24,000	36,000
10	8,000	11,000	14,000	19,000	29,000
12	7,000	9,000	12,000	16,000	24,000
13	6,000	9,000	11,000	15,000	22,000
16	5,000	7,000	9,000	12,000	18,000

Defined work on edges

Tungsten carbide burrs with the EDGE cut have been developed specifically for defined work on edges. They are suitable for chamfering, deburring and edge breaking and rounding, and are mainly used in steel and aluminium construction.

The special design allows the burr to run directly along the edges, without damage to the workpiece. Thus, exact edge shapes can be created in a single-step operation – with either defined chamfers of 30° or 45°, or to a defined radius of 3.0 mm.

Among other things, rounding edges is a precautionary measure for anti-corrosion protection according to:

- ISO 12944-3
- ISO 8501-3
- SOLAS XII/6.3 (Ref. T4/3.01 MSC.1/Circ.1198)

Advantages:

- Special design for precise guidance
- Safe and comfortable to guide
- Create an exact edge shape with either defined chamfers of 30° or 45°, or a defined radius of 3.0 mm in a single-step operation

Application examples:

- Rounding edges in preparation for the application of anti-corrosion coatings in shipbuilding, on crane systems and other steel constructions which are exposed to corrosion loading
- Chamfering in weld seam preparation for V-shaped seams (60°, ISO 9692-1)
- Chamfering for edge breaking (45°)

Recommendations for use:

- Use the burrs counter-rotationally. In order to produce a fine surface, finally pass them over the edges in the direction of the rotation.
- If possible, use EDGE cut burrs with PFERD compressed-air straight grinder PG 3/210 with matching guide sleeve EFH PG 3/210. This will improve the guidability of the burrs even further and reduce the thermal load. For more information, see page 58 and Catalogue 209.



Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- ① Select the material group to be machined
- ② Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- ③ Select the required burr diameter

- ④ The cutting speed range and the burr diameter determine the recommended rotational speed range

① Material group			Cut	③ Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	EDGE	600–900 m/min
	Hardened, heat-treated steels over 1,200 N/mm ² (> 38 HRC)	Tool steels, tempering steels, alloyed steel, cast steel		600–750 m/min
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	EDGE	250–450 m/min
Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Aluminium alloys, brass, copper, zinc	EDGE	600–900 m/min
	Hard non-ferrous metals	Bronze, hard aluminium alloys (high Si content), titanium/titanium alloys		600–900 m/min 250–450 m/min
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)		250–450 m/min
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	EDGE	600–900 m/min
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics		EDGE	750–1,100 m/min

Example:

TC burr,
Cut EDGE,
Burr dia. 16 mm.
Stock removal on non-hardened, non-heat-treated steels up to 1,200 N/mm².
Cutting speed: 600–900 m/min
Rotational speed: 12,000–18,000 RPM

③ Burr dia. [mm]	④ Cutting speed [m/min]					
	250	450	600	750	900	1,100
	Rotational speed [RPM]					
16	5,000	9,000	12,000	16,000	18,000	22,000



PFERDVIDEO

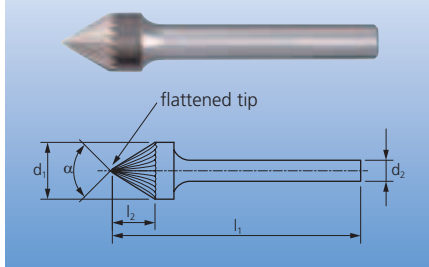
You will receive more information here or at www.pferd.com

Tungsten carbide burrs

TC burrs for work on edges



Conical counterbore shape KSJ



Conical counterbore burr according to DIN 8032 with cut conforming to DIN 8033, with point angle (60°). The KSJ 0605/6 (double-ended) design is cut and usable on both sides, see picture.

Applications:

- Flexible sinking and chamfering

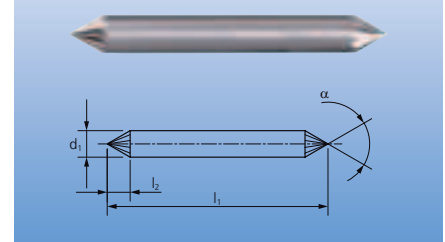
Ordering example:

EAN 4007220**047552**

KSJ 0605/6 Z3

Please complete the description with the desired cut.

Conical counterbore shape KSJ (double-ended)

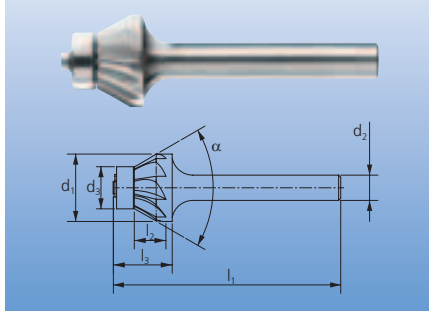


Description	Cut		Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Angle α	
	3	5					
	EAN 4007220						

Shank dia. 6 mm

KSJ 0605/6	047552	-	6	6 x 5	50	60°	1
KSJ 1008/6	047576	-	6	10 x 8	53	60°	1
KSJ 1613/6	047491	047507	6	16 x 13	56	60°	1

Conical counterbore shape KSJ (EDGE)



Conical counterbore burr for cutting precisely defined chamfers.

Applications:



- Sinking and chamfering of defined 30° chamfer angles

Ordering example:

EAN 4007220**952443**

KSJ 1605/6 EDGE 30°



Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Length l ₃ [mm]	Overall length l ₁ [mm]	Dia. d ₃ [mm]	Angle α	
	EDGE							
								
EAN 4007220								
KSJ 1605/6 30°	952443	6	16 x 5	14	54	10	60°	1



As far as possible, use EDGE cut burrs with PFERD compressed-air straight grinder PG 3/210.

Use guide sleeve EFH PG 3/210, which was specially designed for this drive. The additional contact surface of the guide sleeve further improves the guidability of the burrs.

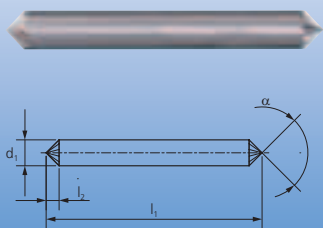
Additionally, the exhaust is deliberately discharged towards the front, so that chips are removed and the thermal load on the workpiece and the tool is reduced. This is a particular advantage when working with

materials which do not conduct heat well, such as stainless steel (INOX).

The use of guide sleeve EFH PG 3/210 also avoids the build-up of chip deposits when working on aluminium materials. Alternatively, you can use a grinding oil.

Ordering data for drive and guide sleeve can be found in Catalogue 209. Ordering data for PFERD grinding oil 412 can be found in Catalogue 204.

Conical counterbore shape KSK (double-ended)



Conical counterbore burr according to DIN 8032 with cut conforming to DIN 8033, with angle (90°). The KSK 0603/6 (double-ended) design is cut and usable on both sides, see picture.

Applications:

- Flexible sinking and chamfering

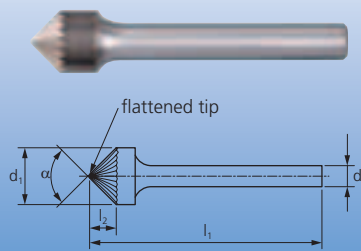
Ordering example:




EAN 4007220**047521**

KSK 1608/6 Z3

Please complete the description with the desired cut.

Conical counterbore shape KSK



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	
	3	5					
							
EAN 4007220							

Shank dia. 6 mm

KSK 0603/6	047569	-	6	6 x 3	50	90°	1
KSK 1005/6	047583	-	6	10 x 5	50	90°	1
KSK 1608/6	047521	047545	6	16 x 8	53	90°	1



Conical counterbore burr for the production of precisely defined chamfers.

Applications:

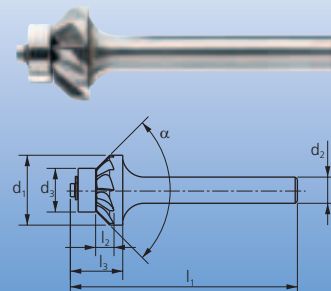
- Sinking and chamfering of defined 45° chamfer angles



Ordering example:

EAN 4007220**952436**

KSK 1603/6 EDGE 45°

Conical counterbore shape KSK (EDGE)



Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Length l ₃ [mm]	Overall length l ₁ [mm]	Dia. d ₃ [mm]	Angle α	
	EDGE							
								
EAN 4007220								

Shank dia. 6 mm

KSK 1603/6 45°	952436		6	16 x 3	12	52	10	90°	1
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Tungsten carbide burrs

TC burrs for work on edges



Concave radius burrs V

V1015/6



V1215/6



V1315/6



Radius burr with concave end shape, cut conforming to DIN 8033.
Concave radius burrs cannot be re-sharpened.

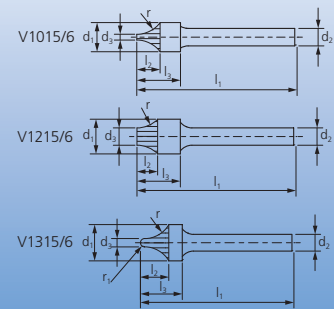
Applications:



- Production and processing of outer radii and rounded edges

Ordering example:

EAN 4007220**049174**
V 1015/6 Z3

Concave radius burrs V

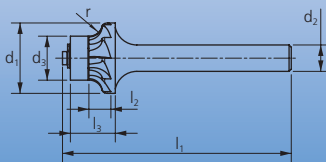


Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Length l_3 [mm]	Overall length l_1 [mm]	Dia. d_3 [mm]	Radius r [mm]	Radius r_1 [mm]	
	3								
									
EAN 4007220									

Shank dia. 6 mm

V 1015/6	049174	6	10 x 8	15	55	2	10.0	-	1
V 1215/6	049204	6	12 x 7	15	55	6	10.0	-	1
V 1315/6	049198	6	13 x 10	15	55	3	10.0	1.5	1

Concave radius burrs V (EDGE)



Radius burr for the production of precise radii.
Concave radius burrs cannot be re-sharpened



Applications:

- Production and processing of 3 mm outer radii

Ordering example:

EAN 4007220**952412**
V 1612/6 EDGE R3.0



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Length l_3 [mm]	Overall length l_1 [mm]	Dia. d_3 [mm]	Radius r [mm]	Radius r_1 [mm]	
	EDGE								
									
EAN 4007220									

Shank dia. 6 mm

V 1612/6 R3,0	952412	6	16 x 3	12	52	10	10.0	3.0	1
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Radius burr with concave shape and special cut, available in two designs:

- Cylindrical with triple concave contour
- With concave shape, tapered towards shank

Radius burrs cannot be re-sharpened.

Applications:

- Production and processing of outer radii and rounded edges

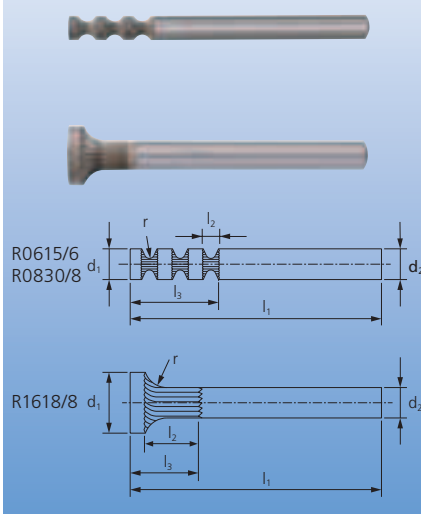
Recommendations for use:


The rotational speed recommendations for tungsten carbide burrs of cut 3 are valid for radius burrs with special cut.

Ordering example:

EAN 4007220049150
R 0830/8 SP

Radius burrs R



Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Length l ₃ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	Special cut						
	EAN 4007220						
Shank dia. 6 mm							
R 0625/6	952016	6	6 x 5	25	65	3.0	1
Shank dia. 8 mm							
R 0830/8	049150	8	8 x 5	27	65	3.0	1
R 1618/8	049167	8	16 x 12	18	118	6.0	1



Inverted cone-shaped burr, tapered towards the shank according to DIN 8032 with cut conforming to DIN 8033. Shape WKNS with end cut.

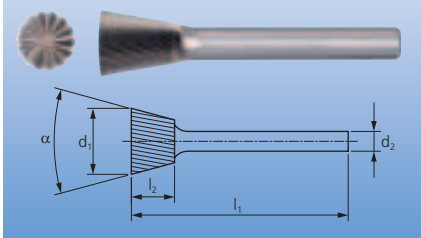
Applications:





- Work on hard-to-reach, reverse side edges

Ordering example:

EAN 4007220049730
WKNS 0607/3 Z3 PLUS
Please complete the description with the desired cut.

Inverted cone WKN Inverted cone WKN with end cut



Description	Cut			Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Angle α	
	3	3 PLUS	5					
								
EAN 4007220								
Shank dia. 3 mm without end cut								
WKN 0307/3	-	233863	233870	3	3 x 7	37	4°	1
WKN 0607/3	-	233887	233894	3	6 x 7	37	10°	1
Shank dia. 3 mm with end cut								
WKNS 0307/3	-	049716	049709	3	3 x 7	37	4°	1
WKNS 0607/3	-	049730	049723	3	6 x 7	37	10°	1
Shank dia. 6 mm without end cut								
WKN 1013/6	049211	-	-	6	10 x 13	53	10°	1
WKN 1213/6	049235	-	-	6	12 x 13	53	20°	1
WKN 1613/6	049242	-	-	6	16 x 13	53	20°	1

HSS rotary cutters

PFERD cuts and their applications

HSS rotary cutters are particularly suitable for deburring, chamfering, cleaning cast material and work on aluminium due to their special tooth geometry and high production quality. They also provide cost-effective benefits on low-power machines in the low rotational speed range.

Advantages:

- Highly aggressive
- Can be used in the low rotational speed range
- Very stable teeth, due to toughness of the high speed steel (HSS)

Application examples:

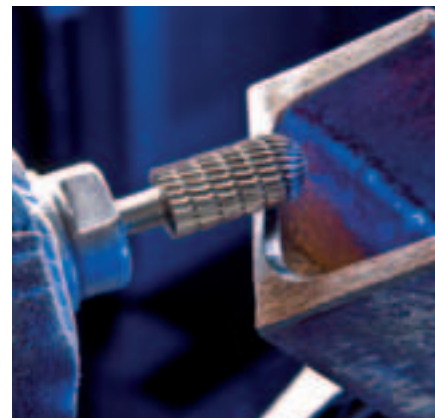
- Deburring
- Contouring
- Edge chamfering/rounding
- Milling out in preparation for build-up welding
- Preparation of weld seams, weld dressing
- Cleaning cast material
- Modification of workpiece geometry

Recommendations for use:

- Use HSS rotary cutters if your drive does not have high rotational speed. Unlike tungsten carbide burrs, HSS rotary cutters must be used at lower rotational speed.
- HSS rotary cutters can provide an economic alternative to tungsten carbide burrs for use on soft materials.

Recommended rotational speed:

- The recommended rotational speed and cutting speed of cut 5 can be used for HSS rotary cutters with special cut.
- Antennae and light metal cutters are an exception. The rotational speed and cutting speed specially adapted for these tools can be found on pages 68–69.
- If only a small part of the rotary cutter diameter is used, then the recommended rotational speed can be increased accordingly.



Safety notes:






= Wear eye protection!





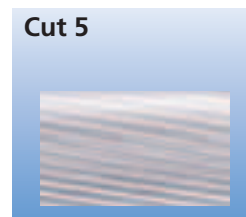
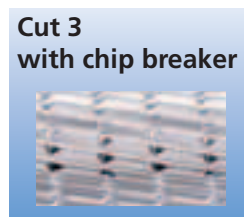
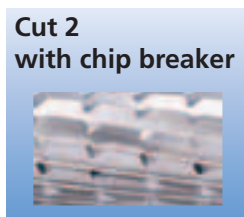
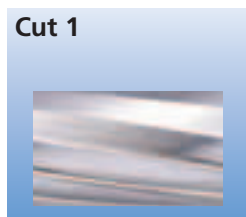
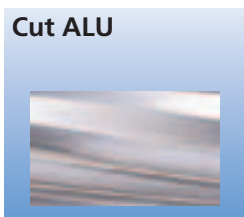
= Wear hearing protection!



= Observe the recommended rotational speed!

Cut ALU 	<ul style="list-style-type: none"> ■ Stock removal on soft non-ferrous metals, brass, copper, aluminium alloys, plastics, fibre-reinforced plastics and rubber ■ Rotational speed range, depending on the rotary cutter diameter, 3,900 to 5,900 RPM
Cut 1 	<ul style="list-style-type: none"> ■ Stock removal on steel, cast steel and stainless steel (INOX) ■ Rotational speed range, depending on the rotary cutter diameter, 1,200 to 6,300 RPM
Cut 2 with chip breaker 	<ul style="list-style-type: none"> ■ Stock removal on steel, cast steel and cast iron ■ Stock removal, e.g. deburring of steel, cast steel and cast iron, non-ferrous metals and plastics ■ Rotational speed range, depending on the rotary cutter diameter, 1,200 to 13,200 RPM

Cut 3 with chip breaker 	<ul style="list-style-type: none"> ■ Stock removal on steel, cast steel and cast iron ■ Fine machining, e.g. deburring of steel, cast steel and cast iron ■ Rotational speed range, depending on the rotary cutter diameter, 1,200 to 7,900 RPM
Cut 5 	<ul style="list-style-type: none"> ■ Stock removal, e.g. deburring of steel, cast steel and cast iron ■ Rotational speed range, depending on the rotary cutter diameter, 1,600 to 5,300 RPM



Recommended rotational speed range

To determine the recommended cutting speed range [m/min], please proceed as follows:

- ❶ Select the material group to be machined
- ❷ Determine the type of application
- ❸ Select the cut
- ❹ Establish the cutting speed range

To determine the recommended rotational speed range, please proceed as follows:

- ❺ Select the required rotary cutter diameter
- ❻ The cutting speed range and the rotary cutter diameter determine the recommended rotational speed range



❶ Material groups			❷ Application	❸ Cut	❹ Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm ² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Coarse stock removal	2	60–80 m/min
				3	
			Fine stock removal	3	80–100 m/min
				5	60–80 m/min
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	1	60–80 m/min
			Fine stock removal	1	80–100 m/min
				2	60–80 m/min
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys, brass, copper, zinc	Coarse stock removal	ALU	200–300 m/min
				1	
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/ nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	Coarse stock removal	2	60–80 m/min
				3	
			Fine stock removal	3	80–100 m/min
				5	
Plastics, other materials	Fibre-reinforced thermoplastics and duroplastics, hard rubber, wood		Coarse stock removal	ALU	200–300 m/min
				1	
			Fine stock removal	1	250–300 m/min
				2	200–250 m/min

Example:

HSS rotary cutter,
Cut 2,

Rotary cutter dia. 12 mm.

Coarse machining of non-hardened, non-heat-treated steels.

Cutting speed: 60–80 m/min

Rotational speed range: 1,600–2,200 RPM

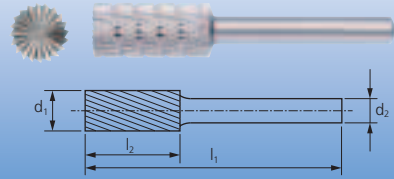
❺ Rotary cutter dia. [mm]	❻ Cutting speed [m/min]					
	60	80	100	200	250	300
	Rotational speed [RPM]					
1.6	12,000	16,000	19,900	39,800	49,800	59,700
2.3	8,400	11,100	13,900	27,700	34,600	41,600
3.2	6,000	8,000	10,000	19,900	24,900	29,900
4.0	4,800	6,400	8,000	16,000	19,900	23,900
5.0	3,900	5,100	6,400	12,800	16,000	19,100
6.0	3,200	4,300	5,400	10,700	13,300	16,000
7.0	2,800	3,700	4,600	9,100	11,400	13,700
8.0	2,400	3,200	4,000	8,000	10,000	12,000
10.0	2,000	2,600	3,200	6,400	8,000	9,600
12.0	1,600	2,200	2,700	5,400	6,700	8,000
14.0	1,400	1,900	2,300	4,600	5,700	6,900
16.0	1,200	1,600	2,000	4,000	5,000	6,000

HSS rotary cutters

HSS rotary cutters



Cylindrical shape with end cut A-ST



Cylindrical rotary cutter with end cut.

Ordering example:

EAN 4007220**058596**

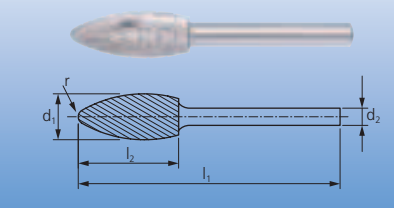
HSS A 0413ST/6 Z3

Please complete the description with the desired cut.



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU	1	2	3	5				
	EAN 4007220								
HSS A 0413ST/6	-	-	-	058596	-	6	4 x 13	60	5
HSS A 0616ST/6	-	058602	058619	058626	058633	6	6 x 16	60	5
HSS A 0820ST/6	-	-	-	058640	-	6	8 x 20	60	5
HSS A 1013ST/6	-	058657	058664	058671	-	6	10 x 13	53	5
HSS A 1020ST/6	-	-	-	058695	-	6	10 x 20	60	5
HSS A 1225ST/6	-	058701	058718	058725	058732	6	12 x 25	65	5
HSS A 1625ST/6	801345	-	058756	058763	-	6	16 x 25	65	5

Flame shape B





Flame-shaped rotary cutter.

Ordering example:

EAN 4007220**058787**

HSS B 0820/6 Z3

Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	3					
						
	EAN 4007220					
HSS B 0820/6	058787	6	8 x 20	60	1.5	5
HSS B 1230/6	058794	6	12 x 30	70	2.0	5
HSS B 1635/6	058800	6	16 x 35	75	2.6	5



Cylindrical rotary cutter with radius end.

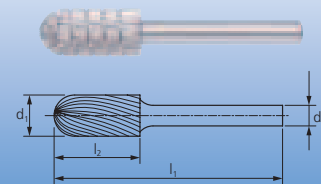
Ordering example:






EAN 4007220**058824**

HSS C 0616/6 Z1

Please complete the description with the desired cut.

Cylindrical shape with radius end C



Description	Cut				Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU	1	2	3				
								
	EAN 4007220							
HSS C 0616/6	-	058824	058831	058848	6	6 x 16	60	5
HSS C 0820/6	-	-	-	058879	6	8 x 20	60	5
HSS C 1020/6	-	-	-	058893	6	10 x 20	60	5
HSS C 1225/6	-	058909	058916	058923	6	12 x 25	65	5
HSS C 1625/6	058947	-	-	058961	6	16 x 25	65	5

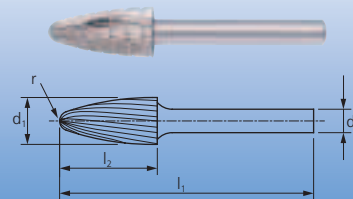
Tree-shaped rotary cutter with radius end.



Ordering example:

EAN 4007220**059319**

HSS H 0618/6 Z3

Tree shape with radius end H



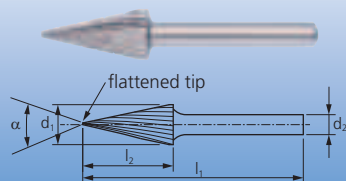
Description	Cut	Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	Radius r [mm]	
	3					
						
	EAN 4007220					
HSS H 0618/6	059319	6	6 x 18	60	1.5	5
HSS H 0820/6	059326	6	8 x 20	60	1.2	5
HSS H 1020/6	059333	6	10 x 20	60	2.5	5
HSS H 1225/6	059357	6	12 x 25	65	2.5	5
HSS H 1630/6	059364	6	16 x 30	70	3.6	5

HSS rotary cutters

HSS rotary cutters



Conical pointed shape G



Conical pointed rotary cutter.





Ordering example:

EAN 4007220**059197**

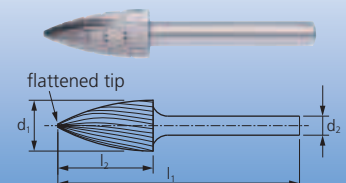
HSS G 0618/6 Z1

Please complete the description with the desired cut.



Description	Cut			Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	
	1 	2 	3 					
	EAN 4007220							
HSS G 0618/6	059197	-	059210	6	6 x 18	60	14°	5
HSS G 1020/6	059234	059241	059258	6	10 x 20	60	28°	5
HSS G 1225/6	059272	059289	059296	6	12 x 25	65	27°	5

Pointed tree shape K



Pointed tree-shaped rotary cutter.







Ordering example:

EAN 4007220**059371**

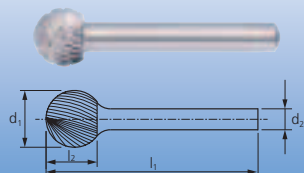
HSS K 0618/6 Z1

Please complete the description with the desired cut.



Description	Cut					Shank dia. d ₂ [mm]	Burr dia. x length d ₁ x l ₂ [mm]	Overall length l ₁ [mm]	
	ALU 	1 	2 	3 	5 				
	EAN 4007220								
HSS K 0618/6	-	059371	059388	059395	059401	6	6 x 18	60	5
HSS K 1020/6	-	-	-	059425	-	6	10 x 20	60	5
HSS K 1225/6	-	059432	-	059456	-	6	12 x 25	65	5
HSS K 1230/6	-	059470	059487	059494	-	6	12 x 30	70	5
HSS K 1630/6	059517	-	059524	059531	-	6	16 x 30	70	5

Ball shape F







Ball-shaped rotary cutter.

Ordering example:

EAN 4007220**058978**

HSS F 0403/6 Z1

Please complete the description with the desired cut.

Description	Cut			Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	
	1 	2 	3 				
	EAN 4007220						
HSS F 0403/6	058978	-	058992	6	4 x 3	55	5
HSS F 0605/6	-	-	059029	6	6 x 5	55	5
HSS F 0807/6	059043	059050	059067	6	8 x 7	55	5
HSS F 1009/6	-	-	059098	6	10 x 9	49	5
HSS F 1210/6	059111	-	059135	6	12 x 10	51	5
HSS F 1614/6	059159	059166	059173	6	16 x 14	54	5

Conical rotary cutter with radius end.

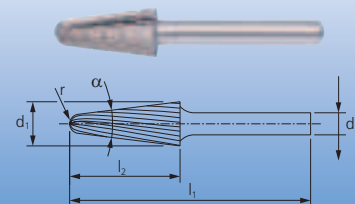
Ordering example:




EAN 4007220**059579**

HSS L 1020/6 Z3

Please complete the description with the desired cut.

Conical shape with radius end L



Description	Cut		Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Angle α	Radius r [mm]	
	ALU 	3 						
	EAN 4007220							
HSS L 1020/6	-	059579	6	10 x 20	60	14°	2.9	5
HSS L 1225/6	-	059593	6	12 x 25	65	14°	3.3	5
HSS L 1230/6	-	059609	6	12 x 30	70	14°	2.6	5
HSS L 1630/6	059616	059630	6	16 x 30	70	14°	4.8	5

Oval rotary cutter.

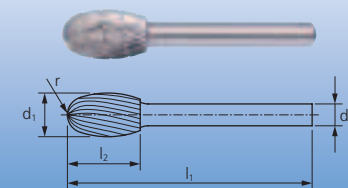
Ordering example:





EAN 4007220**059678**

HSS O 0610/6 Z3

Please complete the description with the desired cut.

Oval shape O



Description	Cut			Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Radius r [mm]	
	ALU 	1 	3 					
	EAN 4007220							
HSS O 0610/6	-	-	059678	6	6 x 10	55	2.8	5
HSS O 1016/6	-	-	059692	6	10 x 16	56	4.0	5
HSS O 1220/6	-	059708	059722	6	12 x 20	60	5.0	5
HSS O 1625/6	059746	-	059760	6	16 x 25	65	6.5	5

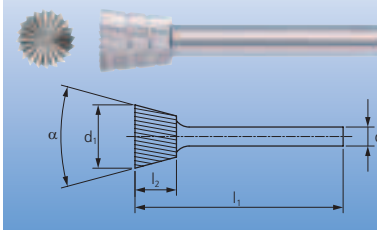
Inverted cone-shaped rotary cutter, tapered towards the shank, with end cut.


Ordering example:

EAN 4007220**059784**

HSS W 1213/6 Z3

Inverted cone shape W with end cut



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length d_1 x l_2 [mm]	Overall length l_1 [mm]	Angle α	
	3					
	EAN 4007220					
HSS W 1213ST/6	059784	6	12 x 13	53	20°	5

HSS rotary cutters

HSS rotary cutter sets



Set 81 HSS



Set 81 HSS contains ten HSS rotary cutters in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage.


The rotary cutters are secured at the shanks, facilitating the selection and withdrawal of the tools.

Contents:

10 HSS rotary cutters,
shank diameter 6 mm, cut 3

1 piece each:

HSS A 0616 ST/6 Z3	HSS K 0618/6 Z3
HSS A 1013 ST/6 Z3	HSS K 1230/6 Z3
HSS A 1225/6 Z3	HSS K 1630/6 Z3
HSS C 0616/6 Z3	HSS F 1210/6 Z3
HSS C 1225/6 Z3	HSS L 1630/6 Z3

Description	Cut	Shank dia. [mm]	
	3		
	 EAN 4007220		
81 HSS	060957	6	1

Set 82 HSS



Set 82 HSS contains ten HSS rotary cutters in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage.



The rotary cutters are secured at the shanks, facilitating the selection and withdrawal of the tools.

Contents:

10 HSS rotary cutters,
shank diameter 6 mm, cut 3

1 piece each:

HSS A 1013 ST/6 Z3	HSS L 1020/6 Z3
HSS A 1625 ST/6 Z3	HSS L 1630/6 Z3
HSS K 1630/6 Z3	HSS O 1625/6 Z3
HSS F 1614/6 Z3	HSS W 1220/6 Z3
HSS G 1020/6 Z3	HSS 45/6 Z3

Description	Cut	Shank dia. [mm]	
	3		
	 EAN 4007220		
82 HSS	060988	6	1

Set 83 HSS





Set 83 HSS contains 18 HSS rotary cutters in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage.

Contents:

18 HSS rotary cutters,
shank diameter 6 mm, cut 3

1 piece each:

HSS A 0616 ST/6 Z3	HSS F 1614/6 Z3
HSS A 1225/6 Z3	HSS G 0618/6 Z3
HSS C 0616/6 Z3	HSS G 1225/6 Z3
HSS C 1225/6 Z3	HSS O 0610/6 Z3
HSS K 0618/6 Z3	HSS O 1220/6 Z3
HSS K 1225/6 Z3	HSS 55/6 Z3
HSS K 1230/6 Z3	HSS 63/6 Z3
HSS F 0403/6 Z3	HSS 0807/6 Z3
HSS F 1210/6 Z3	HSS 64/6 Z3

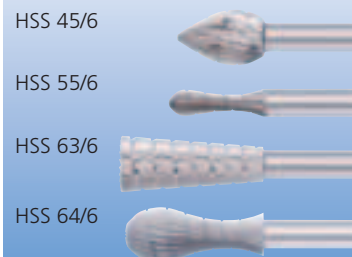
Description	Cut	Shank dia. [mm]	
	3		
	 EAN 4007220		
83 HSS	060995	6	1





Rotary cutters in four special shapes with shank diameter 6 mm. Perfectly suited for diverse milling work due to their different shapes.

Ordering example:
EAN 4007220056776
HSS 64/6 Z3

Special shapes shank dia. 6 mm



Description	Cut	Shank dia. [mm]	Burr dia. x length [mm]	Overall length [mm]	Largest burr dia. [mm]	Smallest burr dia. [mm]	Angle α	
	3  EAN 4007220							
HSS 45/6	056035	6	12 x 18	58	12	-	-	5
HSS 55/6	056424	6	6 x 20	60	6	-	-	5
HSS 63/6	056738	6	12 x 30	70	12	8	7°	5
HSS 64/6	056776	6	12 x 30	70	12	-	-	5

Conical cutter in special cut with shank diameter 8 mm.

Applications:

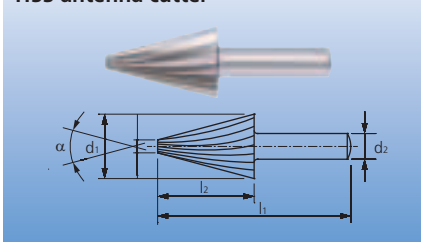
- Stepless milling
- Enlarging bores and holes, e.g. antenna mounting holes in a car body


Recommendations for use:

- Rotational speed range 200–500 RPM
- When used on the smallest rotary cutter diameter, e.g. sheet edge work, max. 9,000 RPM

Ordering example:
EAN 4007220057902
HSS 104/8 SP

HSS antenna cutter



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Largest burr dia. [mm]	Smallest burr dia. [mm]	Angle α	
	Special cut EAN 4007220							
HSS 104/8	057902	8	20 x 30	60	20	4	31°	1

Due to their three identical cutting areas, this HSS edge trimming cutter provides three milling areas.

Cylindrical rotary cutter with triple, concave contour in special cut, with shank diameter 6 mm.

Applications:

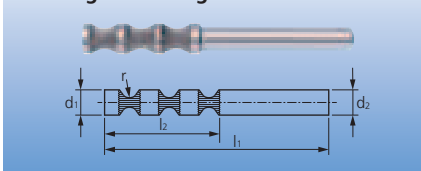
- Edge breaking to a defined radius


Recommendations for use:

- Cutting speed range 60–80 m/min, rotational speed range 3,100–4,200 RPM
- When using smallest rotary cutter diameters, e.g. sheet edge work, max. 9,000 RPM

Ordering example:
EAN 4007220057964
HSS 156/6 SP

HSS edge trimming cutter



Description	Cut	Shank dia. d_2 [mm]	Burr dia. x length $d_1 \times l_2$ [mm]	Overall length l_1 [mm]	Largest burr dia. [mm]	Smallest burr dia. [mm]	Radius r [mm]	
	Special cut EAN 4007220							
HSS 156/6	057964	6	8 x 30	70	8	5.5	5.0	1

HSS rotary cutters

HSS rotary cutters, special shapes

HSS aluminium cutters with female thread

HSS 119



HSS 120



Multipurpose rotary cutters for use on light metals, similar to tree shape.

Available in two different special cuts, with female thread M10.

Recommendations for use:

- For work on soft non-ferrous metals: Cutting speed range 200-300 m/min, rotational speed range 3,100-4,700 RPM
- For work on aluminium, up to 9,000 RPM


Ordering note:

HSS 120 is supplied with chip breaker.

Ordering example:

EAN 4007220**057919**

HSS 119 M10 SP

Description	Cut	Largest burr dia. [mm]	Burr length [mm]	Overall length [mm]	Female thread DIN	Matching arbors	
	Special cut						
	EAN 4007220						
HSS 119 M10	057919	20	53	62	M10	BO 6/10, BO 8/10	1
HSS 120 M10	057926	20	45	54	M10	BO 6/10, BO 8/10	1

Arbor

Arbor for tools with female thread




Suitable for tools with female thread M10.

Ordering example:

EAN 4007220**062111**

BO 6/10



Description	EAN 4007220	Shank dia. [mm]	Shank length [mm]	Thread	
BO 6/10	062111	6	40	M10	1
BO 8/10	062128	8	40	M10	1

HSS engraving cutters

HSS engraving cutters

301/6



305/6



306/6



311/6




For fine machining in small and hard-to-reach places.

Available in special cut, various shapes and dimensions.

Ordering example:

EAN 4007220**057971**

301/6 SP

Description	Cut	Shank dia. [mm]	Shank length [mm]	Burr dia. x length [mm]	Angle α	
	Special cut					
	EAN 4007220					
301/6	057971	6	40	3 x 2.7	-	5
305/6	058015	6	40	3 x 4.5	-	5
306/6	058022	6	40	3 x 4.5	34°	5
311/6	058077	6	40	6 x 5.6	-	5


906-928



For fine machining in small and hard-to-reach places.
Available with special cut, in nine different rotary cutter shapes and a wide range of


dimensions, shank diameter 3 mm, shank length 30 mm.

Ordering example:
EAN 4007220**058190**
906/3 SP

Description	Cut	Shank dia. [mm]	Burr dia. x length [mm]	Overall length [mm]	Angle α	
	Special cut					
	EAN 4007220					
906/3	058190	3	6 x 4.2	34.2	70°	5
908/3	058213	3	8 x 5.5	35.5	70°	5
911/3	058244	3	1.6 x 2.8	32.8	32°	5
922/3	058251	3	2.3 x 4	34	32°	5
923/3	058268	3	3.2 x 5.6	35.6	32°	5
924/3	058275	3	4 x 7	37	32°	5
925/3	058282	3	5 x 8.7	38.7	32°	5
926/3	058299	3	6 x 10.5	40.5	32°	5
928/3	058312	3	8 x 14	44	32°	5

941-954



Description	Cut	Shank dia. [mm]	Burr dia. x length [mm]	Overall length [mm]	Radius r [mm]	
	Special cut					
	EAN 4007220					
941/3	058329	3	1.6	31.6	-	5
942/3	058336	3	2.3	32.3	-	5
943/3	058343	3	3.2	33.2	-	5
944/3	058350	3	4	34	-	5
945/3	058367	3	5	35	-	5
946/3	058374	3	6	36	-	5
947/3	058381	3	7	37	-	5
948/3	058398	3	8	38	-	5
951/3	058404	3	8 x 2	32	9.5	5
952/3	058411	3	10 x 2.5	32.5	11.5	5
953/3	058428	3	12 x 3	33	14.0	5
954/3	058435	3	14 x 3.5	33.5	15.5	5

HSS rotary cutters

HSS finishing cutters



961-987



For fine machining in small and hard-to-reach places.

dimensions, shank diameter 3 mm, shank length 30 mm.

Ordering example:
EAN 4007220058442
961/3 SP

Available with special cut, in nine different rotary cutter shapes and a wide range of

Ordering note:
HSS finishing cutters 985 and 987 are supplied with chip breakers.

Description	Cut	Shank dia. [mm]	Burr dia. x length [mm]	Overall length [mm]	Radius r [mm]	Angle α	
	Special cut						
	EAN 4007220						
961/3	058442	3	8 x 2	32	1.1	-	5
962/3	058459	3	10 x 2.3	32.3	1.25	-	5
963/3	058466	3	12 x 2.6	32.6	1.4	-	5
964/3	058473	3	14 x 3	33	1.6	-	5
971/3	058480	3	6 x 1	31	-	-	5
972/3	058497	3	8 x 1	31	-	-	5
973/3	058503	3	10 x 1	31	-	-	5
979/3	058534	3	7 x 10	40	2.0	22°	5
985/3	058565	3	7 x 10	40	-	-	5
986/3	058572	3	6 x 10	40	-	-	5
987/3	058589	3	7 x 12	42	-	-	5

Set 84 HSS



Set 84 HSS contains 15 HSS finishing cutters for fine machining in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage.

Contents:
15 HSS finishing cutters,
shank diameter 3 mm, special cut
1 piece each:

923	947
928	954
943	926
946	942
952	945
924	951
941	973
944	

Applications:

■ Fine machining in small and hard-to-reach places

Description	Cut	Shank dia. [mm]	
	Special cut		
	EAN 4007220		
84 HSS	061008	3	1

Robust high-performance tool for burr-free drilling and deburring of sheets, pipes and profiles. Materials up to a material thickness of 4 mm can be drilled and deburred in a labour-saving manner in one procedure. The high-quality coating is resistant against wear and suitable for diverse applications with steel, stainless steel (INOX), non-ferrous metals, thermoplastics and duroplastics.

Advantages:

- The deep-cut chip flute provides completely smooth running and high cutting performance
- The high-quality drill tip ensures effortless centring and drilling

- The tool taper facilitates pulling back from drilled plates
- Chips which do not break are cleanly removed as with a spiral drill
- Built-up edges and cold welding on the blades are prevented

Recommendations for use:

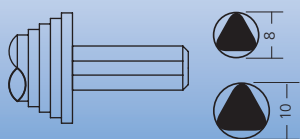
- Use the HSS step drill with HICOAT® coating on sheets, pipes and profiles with a maximum material thickness of 4 mm
- Use cutting oil or compressed air as a coolant and lubricant
- Please refer to the table for the recommended rotational speed



Step dia. [mm]	Steel	Stainless steel (INOX)	Non-ferrous metals	Plastics
	Recommended rotational speed [RPM]			
4	2,390	1,590	2,390	1,590
6	1,590	1,060	1,590	1,060
8	1,190	800	1,190	800
10	950	640	950	640
12	800	530	800	530
14	680	450	680	450
16	600	400	600	400
18	530	350	530	350
20	480	320	480	320
22	430	290	430	290
24	400	270	400	270
26	370	240	370	240
28	340	230	340	230
30	320	210	320	210

HSS step drill with HICOAT® coating


Shank dimension [mm]



Ordering example:
EAN 4007220**802755**
STB HSS 04-20/8 HC-FE

HSS step drill with HICOAT® coating



Description	EAN 4007220	No. of drill steps	Drill bit dia. range [mm]	Shank dia. [mm]	Shank length [mm]	Overall length [mm]	
STB HSS 04-20/8 HC-FE	802755	9	4-20	8	21	75	1
STB HSS 04-30/10 HC-FE	802762	14	4-30	10	21	100	1

HSS hole saws, sets and accessories

Application examples and recommendations

HSS hole saws made of shatter-proof and tough HSS bimetal are used on drilling machines and hand-held drills.

Advantages:

- Cost-effective sawing of round cut-outs
- Can be used on diverse materials such as alloyed and non-alloyed steels, stainless steel (INOX), aluminium, copper, bronze, brass, wood, plastics etc. (please observe the recommendations for use on stainless steel)
- Chattering during sawing is prevented by an alternating tooth pitch of the hole saw
- A selection of the most common HSS hole saws in sets for tradesmen, fitters, electricians and mechanics
- The hole saws are centred and guided via the HSS pilot drill (supplied with compression spring for improved ejection of the sawn material)

Recommendations for use:

- Clamp the pilot drill in the hole saw arbor and make sure that it projects at least 3 mm (1/8") over the teeth of the hole saw.
- When cutting metals, use a high-quality cutting oil, if possible. This facilitates smooth running and lengthens the hole saw life.
Exceptions: When working on aluminium, use kerosene instead of cutting oil.
- HSS hole saws are suitable for work on stainless steel (INOX). Remove any particles which develop during use from the workpiece in order to avoid corrosion. Clean the workpiece chemically or mechanically (etching/polishing, etc.).
- Make sure that all the teeth are applied evenly. Avoid swinging movements during sawing to prevent tooth breakage.
- Avoid overheating.



Safety notes:

When using shank extensions, the recommended hole saw rotational speed must not be exceeded. Risk of accidents!



= Wear eye protection!



= Observe the recommended rotational speed!

Application examples for HSS hole saws and TC hole cutters

Dia. [mm]	Application examples
25.0	Plumbing and heating pipes
30.0	Plumbing and heating pipes
32.0	Sink fittings dia. 32 mm
35.0	Plumbing and heating pipes, hollow wall junction boxes, halogen spots
40.0	Plumbing and waste pipes
45.0	Water and heating pipes
50.0	Water and heating pipes with insulation
55.0	Built-in lights dia. 55 mm

Dia. [mm]	Application examples
60.0	Built-in lights dia. 60 mm
68.0	Pattress boxes dia. 68 mm
70.0	Hollow wall junction boxes dia. 70 mm
74.0	Hollow wall junction boxes dia. 74 mm
80.0	Distribution boxes, built-in lights, cable opening covers dia. 80 mm
90.0	Built-in lights dia. 90 mm
105.0	Waste air pipes



Please refer to table below for maximum cutting depth.

Thread:

LS 14–LS 30 = 1/2–20
LS 32–LS 152 = 5/8–18

Suitable arbors:

LS 14–LS 30 = LSS 1, LSS 4
S 32–LS 152 = LSS 2

Ordering note:


Please order hole saw arbors separately. More detailed information and ordering data for hole saw arbors can be found on page 78.

Ordering example:

EAN 4007220319086
LS 14

HSS hole saws




Description	EAN 4007220	Dia. d [mm]	Dia. d [inch]	Max. cutting depth [mm]	Max. cutting depth [inch]	Rec. [RPM] Steel	Rec. [RPM] Stainless steel (INOX)	Rec. [RPM] Non-ferrous metals	Rec. [RPM] Plastic	
LS 14	319086	14	9/16	34	1 5/16	620	310	800	1,000	1
LS 16	062319	16	5/8	34	1 5/16	550	275	730	880	1
LS 17	319093	17	11/16	36	1 7/16	520	260	680	820	1
LS 19	062326	19	3/4	36	1 7/16	460	230	600	740	1
LS 20	062333	20	-	36	1 7/16	425	210	560	700	1
LS 21	319109	21	13/16	36	1 7/16	410	205	540	670	1
LS 22	062340	22	7/8	36	1 7/16	390	195	520	640	1
LS 24	319116	24	15/16	36	1 7/16	360	180	470	580	1
LS 25	062357	25	1	36	1 7/16	350	175	470	560	1
LS 27	062364	27	1 1/16	36	1 7/16	325	160	435	520	1
LS 29	062371	29	1 1/8	36	1 7/16	300	150	400	480	1
LS 30	062388	30	1 3/16	36	1 7/16	285	145	380	470	1
LS 32	062395	32	1 1/4	36	1 7/16	275	140	360	440	1
LS 33	062401	33	1 5/16	36	1 7/16	260	135	345	420	1
LS 35	062418	35	1 3/8	36	1 7/16	250	125	330	400	1
LS 37	319123	37	1 7/16	36	1 7/16	235	115	310	370	1
LS 38	062425	38	1 1/2	36	1 7/16	230	115	300	370	1
LS 40	319130	40	1 9/16	36	1 7/16	215	110	280	350	1
LS 41	062432	41	1 5/8	36	1 7/16	210	105	280	340	1
LS 43	319147	43	1 11/16	31	1 1/4	200	100	260	330	1
LS 44	062449	44	1 3/4	31	1 1/4	195	95	260	320	1
LS 46	319154	46	1 13/16	31	1 1/4	185	90	250	300	1
LS 48	062456	48	1 7/8	31	1 1/4	180	90	240	290	1
LS 51	062463	51	2	31	1 1/4	170	85	230	270	1
LS 52	319161	52	2 1/16	31	1 1/4	165	80	220	270	1
LS 54	062470	54	2 1/8	31	1 1/4	160	80	210	260	1
LS 57	062487	57	2 1/4	31	1 1/4	150	75	200	250	1
LS 59	319178	59	2 5/16	31	1 1/4	145	70	190	240	1
LS 60	062494	60	2 3/8	31	1 1/4	140	70	190	230	1
LS 64	062500	64	2 1/2	31	1 1/4	135	65	180	220	1
LS 65	319185	65	2 9/16	31	1 1/4	135	60	180	220	1
LS 67	062517	67	2 5/8	31	1 1/4	130	65	170	210	1
LS 68	500811	68	2 11/16	31	1 1/4	130	65	170	210	1
LS 70	062524	70	2 3/4	31	1 1/4	125	60	160	200	1
LS 73	062531	73	2 7/8	31	1 1/4	120	60	160	190	1
LS 76	062548	76	3	31	1 1/4	115	55	150	180	1
LS 79	062555	79	3 1/8	31	1 1/4	110	55	140	180	1
LS 83	062562	83	3 1/4	31	1 1/4	105	50	140	170	1
LS 86	319192	86	3 3/8	31	1 1/4	100	50	130	160	1
LS 89	062579	89	3 1/2	31	1 1/4	95	45	130	160	1
LS 92	062586	92	3 5/8	31	1 1/4	95	45	120	150	1
LS 95	062593	95	3 3/4	31	1 1/4	90	45	120	150	1
LS 98	319208	98	3 7/8	31	1 1/4	90	45	120	140	1
LS 102	062609	102	4	31	1 1/4	85	40	110	140	1

Continued on next page

HSS hole saws, sets and accessories

HSS hole saws



Description	EAN 4007220	Dia. d [mm]	Dia. d [inch]	Max. cutting depth [mm]	Max. cutting depth [inch]	Rec. [RPM] Steel	Rec. [RPM] Stainless steel (INOX)	Rec. [RPM] Non- ferrous metals	Rec. [RPM] Plastic	
LS 105	062616	105	4 1/8	31	1 1/4	80	40	110	130	1
LS 111	319222	111	4 3/8	31	1 1/4	75	35	100	130	1
LS 114	062623	114	4 1/2	31	1 1/4	75	35	100	120	1
LS 121	319239	121	4 3/4	31	1 1/4	70	35	90	120	1
LS 127	319246	127	5	31	1 1/4	65	30	80	110	1
LS 140	319253	140	5 1/2	31	1 1/4	60	30	75	100	1
LS 152	319260	152	6	31	1 1/4	55	25	70	90	1

HSS hole saw sets


Set for craftsmen



The set contains five HSS hole saws in the most common diameters, including accessories, for use in crafts. The set is supplied in a clearly structured plastic box which protects against dirt and damage. The operating instructions are included. It is possible to use the LS 32 and LS 38 hole saws with the LSA adapter and washer.

Contents:

5 HSS hole saws LS 22, LS 25, LS 29, LS 32 and LS 38
1 hole saw arbor LSS 4
1 LSA adapter for hole saw arbor LSS 4
1 allen key, 4 mm
1 ejection spring

Description	EAN 4007220	Dimensions [mm]	
LS-SO 7 H	319314	168 x 116 x 57	1


Set for plumbers



The set contains six HSS hole saws in the most common diameters, including accessories, for plumbers and sanitary engineers. It is supplied in a clearly structured plastic box which protects against dirt and damage. The operating instructions are included. It is possible to use hole saw LS 38 with the LSA adapter and washer.

Contents:

6 HSS hole saws LS 19, LS 22, LS 29, LS 38, LS 44 and LS 57
2 hole saw arbors LSS 2 and LSS 4
1 LSA adapter for hole saw arbor LSS 4
1 allen key, 4 mm
1 ejection spring

Description	EAN 4007220	Dimensions [mm]	
LS-SO 9 I	319338	219 x 156 x 60	1


Set for electricians (International standard sizes)



The set contains six HSS hole saws in the most common international diameters, including accessories, for electricians. It is supplied in a clearly structured plastic box which protects against dirt and damage. The operating instructions are included. It is possible to use hole saw LS 35 with the LSA adapter and washer.

Contents:

6 HSS hole saws LS 22, LS 29, LS 35, LS 44, LS 51 and LS 64
2 hole saw arbors LSS 2 and LSS 4
1 LSA adapter for hole saw arbor LSS 4
1 allen key, 4 mm
1 ejection spring

Description	EAN 4007220	Dimensions [mm]	
LS-SO 9 E-1	319321	219 x 156 x 60	1


The set contains nine HSS hole saws in the most common diameters, including accessories for electricians in Germany. It is supplied in a clearly structured plastic box which protects against dirt and damage. The operating instructions are included. It is possible to use hole saws LS 32 and LS 38 with the LSA adapter and washer.

Contents:

9 HSS hole saws LS 19, LS 22, LS 25, LS 32, LS 38, LS 44, LS 51, LS 60 and LS 68
2 hole saw arbors LSS 2 and LSS 4
1 LSA adapter for hole saw arbor LSS 4
1 pilot drill LSB 6/90
1 allen key, 4 mm
1 ejection spring

Set for electricians (German standard sizes)



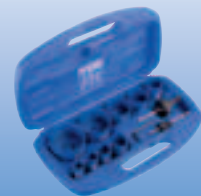
Description	EAN 4007220	Dimensions [mm]	
LS-SO 13 E-2	319369	219 x 156 x 60	1


The set contains nine HSS hole saws in the most common diameters, including accessories, for engineers in the construction, container and pipeline industries. It is supplied in a clearly structured plastic box which protects against dirt and damage. The operating instructions are included. It is possible to use hole saws LS 35 and LS 38 with the LSA adapter and washer.

Contents:

9 HSS hole saws LS 19, LS 22, LS 29, LS 35, LS 38, LS 44, LS 51, LS 57 and LS 64
2 hole saw arbors LSS 2 and LSS 4
1 pilot drill LSB 6/90
1 LSA adapter for hole saw arbor LSS 4
1 allen key, 4 mm
1 ejection spring

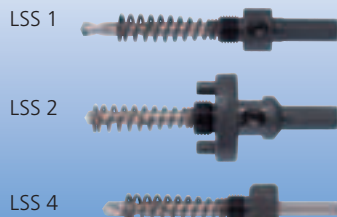
Set for engineers



Description	EAN 4007220	Dimensions [mm]	
LS-SO 13 M	319352	219 x 180 x 66	1



Hole saw arbors LSS



Hole saw arbors are designed for mounting the hole saw and the pilot drill.

The PFERD range includes three different sizes. Select the appropriate arbor, taking into account the hole saw diameter and available drive system.

Purpose of the ejection spring


This prevents jamming of the sawn-out material between the inner walls of the hole saw and the drill. The spring force ejects the

material. Should this effect not be required for a particular application, e.g. already installed pipes, the spring can easily be removed manually without the help of tools.

Ordering note:

Hole saw arbors LSS 1 and LSS 2 are supplied with the HSS pilot drill LSB 6/60 and an ejection spring.

Hole saw arbors LSS 4 are supplied with the HSS pilot drill LSB 6/90 and an ejection spring.




Description	EAN 4007220	Shank dia. [mm]	Shank dia. [inch]	Thread	Shank type	Suitable for hole saws	
LSS 1	062630	9.53	3/8	1/2 - 20 UNF	hexagonal	LS 14–30	1
LSS 2	062647	9.53	3/8	5/8 - 18 UNF	hexagonal	LS 32–152	1
LSS 4	062661	6.35	1/4	1/2 - 20 UNF	round	LS 14–30	1



Shank shapes

The adjacent tables show information on shank shapes and dimensions for the hole saw arbors LSS and pilot drills LSB. The matching hole saws and hole saw arbors are indicated.

Shank dimensions [mm]



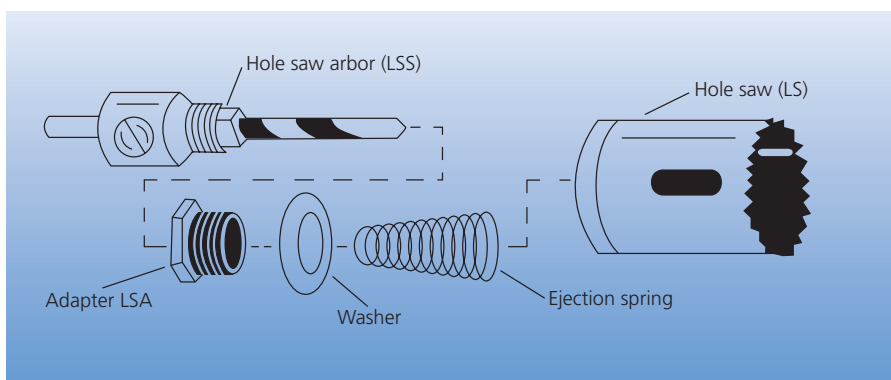
PFERD hole saw arbor	Shank dia. [mm]	Shank dia. [inch]	Shank shape	For PFERD hole saws
LSS 1	9.53	3/8		LS 14 to LS 30
LSS 2	9.53	3/8		LS 32 to LS 152
LSS 4	6.35	1/4		LS 14 to LS 30

PFERD pilot drill	Shank dia. [mm]	Shank dia. [inch]	Shank shape	For PFERD hole saw arbor
LSB 6/60	6.35	1/4		LSS 1, LSS 2
LSB 6/90	6.35	1/4		LSS 4

Ejection spring

All hole saw arbors are delivered with an ejection spring for better ejection of the sawn material.

Before application, this compression spring can be installed/removed without additional tools if required. Screw on the ejection spring from the side with the smaller diameter up to its limit. It is also possible to use the ejection spring with the adapter LSA and washer (see diagram).



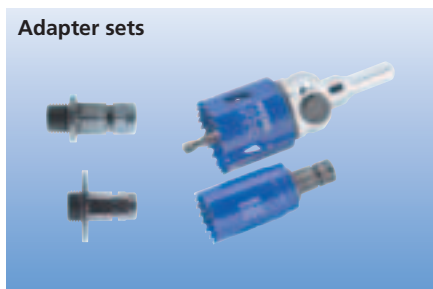
PFERD offers a mounting system for easy and rapid use of HSS hole saws. The quick-mounting system and the two three-part kits matching the diameter of the hole saws allow easy and comfortable use of PFERD HSS hole saws on all common drive systems.

Recommendations for use:

- Screw the adapters quickly and easily into the desired hole saw and clamp them in the quick-mounting system.
- After the application is completed, the hole saw and quick-mounting system can be separated without the use of additional tools by simply pressing a button.



Adapter sets



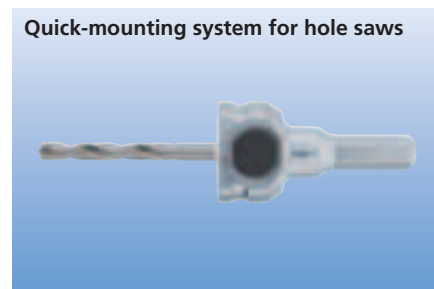
Ordering note:


Adapter set AS-PSL 14-30 is available for hole saw diameter 14-30 mm, and adapter set AS- PSL 32-152 for hole saw diameter 32-152 mm. Both adapter sets contain three adapters with the same dimensions.

Ordering example:

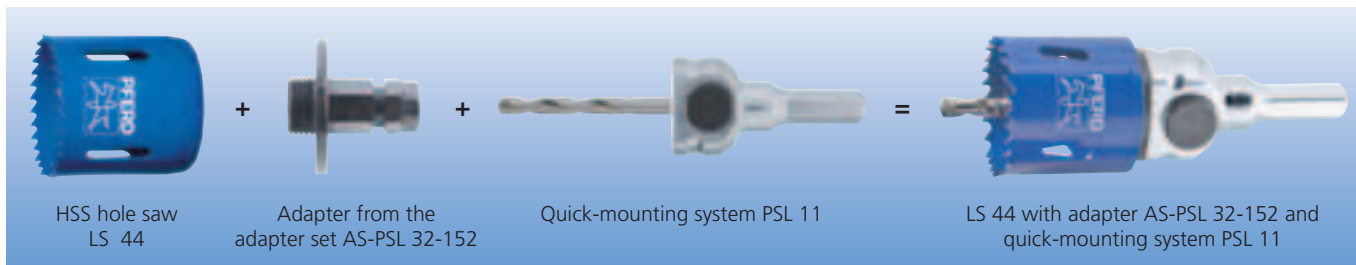
EAN 4007220900185
PSL 11

Quick-mounting system for hole saws



Description	EAN 4007220	Suitable for hole saws	
PSL 11	900185	LS 14–152	1
AS-PSL 14-30	900215	LS 14–30	1
AS-PSL 32-152	900192	LS 32–152	1

Combination example



Hole saw arbors LSS 1 and LSS 2 are delivered with HSS pilot drill LSB 6/60.

Hole saw arbor LSS 4 is delivered with HSS pilot drill LSB 6/90.

The hole saw arbor LSB 6/90 can be used for the quick-mounting system PSL 11.

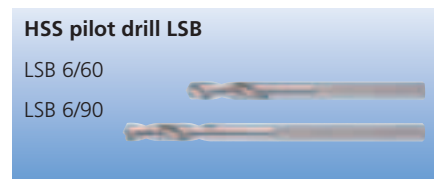
Ordering example:


EAN 4007220319284
LSB 6/60

HSS pilot drill LSB

LSB 6/60

LSB 6/90



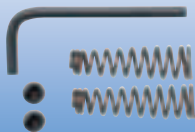
Description	EAN 4007220	Shank dia. [mm]	Shank dia. [inch]	Shank type	Suitable for hole saws	Suitable arbors	
LSB 6/60	319284	6.35	1/4	round	LS 14–152	LSS 1, LSS 2	1
LSB 6/90	062708	6.35	1/4	round	LS 14–152	LSS 4	1

HSS hole saws, sets and accessories

Accessories



Repair set for hole saw arbors



With the repair set for hole saw arbors, the most common parts can be replaced in case of loss or damage.

Contents:

- 2 ejection springs
- 2 hexagon socket head screws
- 1 hexagon socket wrench SW 4

Description	EAN 4007220	
RSL-5	758953	1

LSA adapter



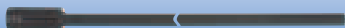
Hole saws LS 32 to LS 38 can be used with the LSA adapter, a washer and the hole saw arbors LSS 1 and LSS 4.

Recommendations for use:

We do not recommend using the adapter for hole saws with a diameter of more than 38 mm.

Description	EAN 4007220	Suitable for hole saws	Suitable arbors	
LSA	319291	LS 32–38	LSS 1, LSS 4	1

Arbor extension for hole saws




The HSS hole saw arbors LSS 1 and LSS 2 can be extended using the arbor extension SVL-300.

Advantages:

- Suitable for work on hard-to-reach components

- Particularly suitable for work on hollow walls
- Deep holes can be sawn easily
- Achieves the required distance between the drive system and the work area
- Avoids damage to workpiece and machine
- Dust is not drawn into the drive system during sawing

Description	EAN 4007220	Hexagon socket (SW) [mm]	Hexagon socket (SW) [inch]	Overall length [mm]	Overall length [inch]	Shank type	Width across flats [mm]	Suitable arbors	
SVL-300	798447	9.53	3/8	300	12	hexagonal	11	LSS 1, LSS 2	1

Tungsten carbide hole cutters are professional tools for quick, precise hole-cutting (cut-outs) with a diameter of between 16 and 105 mm. They are suitable for working on alloyed and non-alloyed steels, stainless steel (INOX), non-ferrous metals and plastics (including GRP). Tungsten carbide hole cutters are used on hand-held drills or on stationary machines.

PFERD offers two types of tungsten carbide hole cutters:

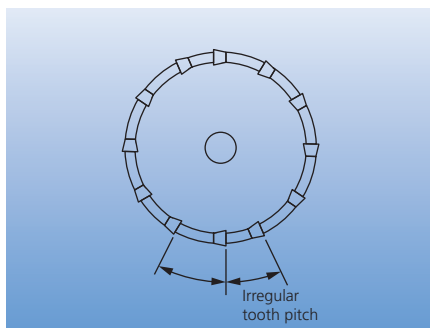
- 8 mm tool height (flat type) for work on sheets and flat materials, available in different diameters from 16 to 105 mm
- 35 mm tool height (long type) for work on pipes and curved surfaces, available in different diameters from 16 to 60 mm

Recommendations for use:

- The stated reference rotational speed (see "Rec. [RPM]") apply to machines capable of providing constant rotational speed under load. For low-power machines where speeds drop under load, the rotational speed should be increased by about 30 %. If the teeth of the cutter are not continuously engaged (e.g. on pipes or curved surfaces), the recommended rotational speed levels may be increased by up to 100 %. This will help to prevent chatter and tooth breakage when using the cutter in a hand-held power tool.
- TC hole cutters are suitable for work on stainless steel (INOX).
- Remove any particles which develop during work from the workpiece in order to avoid corrosion. Clean the workpiece chemically or mechanically (etching/ polishing, etc.).

Tooth pitch

PFERD hole cutters have an irregular tooth pitch (distance between teeth) to prevent tool chatter.



Advantages:

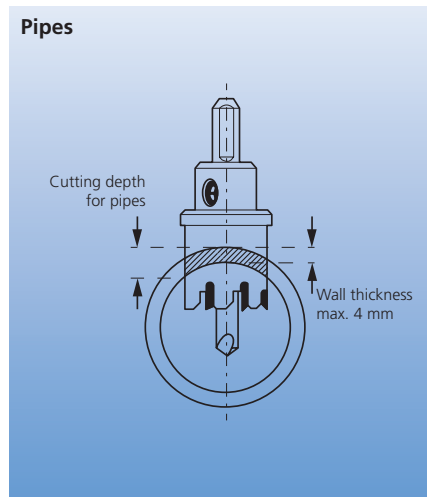
- High concentricity, as the cutting head and shank are produced in one piece
- Optimum cutting performance due to sharp teeth made of high-quality tungsten carbide
- Replaceable HSS pilot drill

Note:

PFERD tungsten carbide hole cutters can be resharpened. Timely and professional sharpening substantially lengthens the tool life. Please call your local sharpening service.

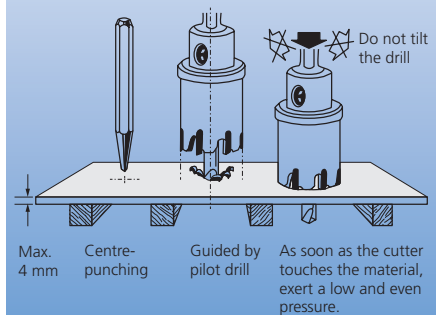


Pipes




Flat materials

When working on sheets, leave **unobstructed exit** for the hole cutter. Place supports **outside** the cutting area.



Shank shape and dimensions

The table below shows information about the shank shape and the dimensions of the PFERD LOS hole cutter.

PFERD hole cutter	Hole cutter diameter	Shank diameter [mm]	Shank shape
LOS HM 1608 to LOS HM 2208	16 to 22 mm diameter	7	
LOS HM 2308 to LOS HM 5508	23 to 55 mm diameter	10	
LOS HM 6008 to LOS HM 10508	60 to 105 mm diameter	12	

Safety notes:



= Wear eye protection!



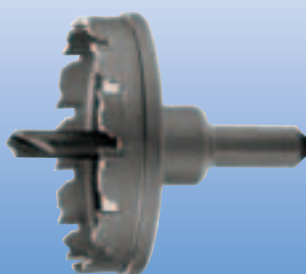
= Observe the recommended rotational speed!

TC hole cutters and accessories

TC hole cutters




**Flat type
tool height 8 mm**



The flat type (tool height 8 mm) is suitable for work on flat materials up to 4 mm in thickness.

Ordering example:
EAN 4007220**062913**
LOS HM 1608

Description	EAN 4007220	Shank dia. [mm]	Dia. d [mm]	Rec. [RPM] Steel	Rec. [RPM] Stainless steel (INOX)	Rec. [RPM] Non-ferrous metals	Rec. [RPM] Plastic	Matching drill	
LOS HM 1608	062913	7	16	790–1,200	400–1,000	880–1,310	880–1,310	LOSB 6/48	1
LOS HM 1808	062937	7	18	710–1,060	350–880	780–1,170	780–1,170	LOSB 6/48	1
LOS HM 1908	062944	7	19	670–1,000	330–840	740–1,110	740–1,110	LOSB 6/48	1
LOS HM 2008	062951	7	20	630–950	320–800	700–1,050	700–1,050	LOSB 6/48	1
LOS HM 2108	062968	7	21	600–910	300–760	670–1,000	670–1,000	LOSB 6/48	1
LOS HM 2208	062975	7	22	580–870	290–720	640–950	640–950	LOSB 6/48	1
LOS HM 2308	062982	10	23	550–830	280–690	610–910	610–910	LOSB 6/48	1
LOS HM 2408	062999	10	24	530–800	270–660	580–880	580–880	LOSB 6/48	1
LOS HM 2508	063002	10	25	510–760	260–640	560–840	560–840	LOSB 6/48	1
LOS HM 2708	063026	10	27	470–710	240–590	520–780	520–780	LOSB 6/48	1
LOS HM 2808	063033	10	28	455–680	230–570	500–750	500–750	LOSB 6/48	1
LOS HM 3008	063057	10	30	425–635	210–530	470–700	470–700	LOSB 6/48	1
LOS HM 3208	063071	10	32	400–600	200–500	440–660	440–660	LOSB 6/48	1
LOS HM 3408	063095	10	34	375–560	185–470	410–620	410–620	LOSB 6/48	1
LOS HM 3508	063101	10	35	365–545	180–450	400–600	400–600	LOSB 6/48	1
LOS HM 3808	063132	10	38	335–505	170–420	370–550	370–550	LOSB 6/48	1
LOS HM 4008	063156	10	40	320–480	160–400	350–530	350–530	LOSB 6/48	1
LOS HM 4208	063170	10	42	305–455	150–380	330–500	330–500	LOSB 6/48	1
LOS HM 4308	063187	10	43	295–445	150–370	330–490	330–490	LOSB 6/48	1
LOS HM 4508	063200	10	45	285–425	140–355	310–470	310–470	LOSB 6/48	1
LOS HM 4808	063231	10	48	265–400	135–330	290–440	290–440	LOSB 6/48	1
LOS HM 5008	063255	10	50	255–380	125–320	280–420	280–420	LOSB 6/48	1
LOS HM 5108	063262	10	51	250–375	125–310	270–410	270–410	LOSB 6/48	1
LOS HM 5208	063279	10	52	245–370	120–305	270–400	270–400	LOSB 6/48	1
LOS HM 5408	063293	10	54	235–355	120–295	260–390	260–390	LOSB 6/48	1
LOS HM 5508	063309	10	55	230–350	115–290	250–380	250–380	LOSB 6/48	1
LOS HM 6008	063354	12	60	210–320	105–265	230–350	230–350	LOSB 8/48	1
LOS HM 6508	063361	12	65	195–295	100–245	220–320	220–320	LOSB 8/48	1
LOS HM 6808	063378	12	68	190–280	95–235	210–310	210–310	LOSB 8/48	1
LOS HM 7008	063385	12	70	180–270	90–230	200–300	200–300	LOSB 8/48	1
LOS HM 7508	063392	12	75	170–255	85–215	190–280	190–280	LOSB 8/48	1
LOS HM 8008	063408	12	80	160–240	80–200	180–260	180–260	LOSB 8/48	1
LOS HM 9008	063422	12	90	140–210	70–180	160–230	160–230	LOSB 8/48	1
LOS HM 10008	063446	12	100	125–190	65–160	140–210	140–210	LOSB 8/48	1
LOS HM 10508	063453	12	105	120–180	60–150	130–200	130–200	LOSB 8/48	1



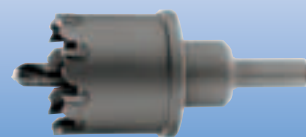
The long type (tool height 35 mm) is suitable for use on curved surfaces and pipe materials. The maximum cut depth is 32 mm.


Exception: LOS HM 6060:
maximum cut depth 57 mm

Ordering note:
LOS HM 6060: Tool height 60 mm

Ordering example:
EAN 4007220**063491**
LOS HM 1635

**Long type
tool height 35 mm**



Description	EAN 4007220	Shank dia. [mm]	Dia. d [mm]	Rec. [RPM] Steel	Rec. [RPM] Stainless steel (INOX)	Rec. [RPM] Non-ferrous metals	Rec. [RPM] Plastic	Matching drill	
LOS HM 1635	063491	7	16	790–1,200	400–1,000	880–1,310	880–1,310	LOSB 6/69	1
LOS HM 1735	063507	7	17	750–1,130	370–930	820–1,240	820–1,240	LOSB 6/69	1
LOS HM 1835	063514	7	18	710–1,060	350–880	780–1,170	780–1,170	LOSB 6/69	1
LOS HM 1935	063521	7	19	670–1,000	330–840	740–1,110	740–1,110	LOSB 6/69	1
LOS HM 2035	063538	7	20	630–950	320–800	700–1,050	700–1,050	LOSB 6/69	1
LOS HM 2135	063545	7	21	600–910	300–760	670–1,000	670–1,000	LOSB 6/69	1
LOS HM 2235	063552	7	22	580–870	290–720	640–950	640–950	LOSB 6/69	1
LOS HM 2435	063576	10	24	530–800	270–660	580–880	580–880	LOSB 8/69	1
LOS HM 2535	063583	10	25	510–760	260–640	560–840	560–840	LOSB 8/69	1
LOS HM 2635	063590	10	26	490–740	250–610	540–810	540–810	LOSB 8/69	1
LOS HM 2735	063606	10	27	470–710	240–590	520–780	520–780	LOSB 8/69	1
LOS HM 2835	063613	10	28	455–680	230–570	500–750	500–750	LOSB 8/69	1
LOS HM 3035	063637	10	30	425–635	210–530	470–700	470–700	LOSB 8/69	1
LOS HM 3235	063651	10	32	400–600	200–500	440–660	440–660	LOSB 8/69	1
LOS HM 3535	063682	10	35	365–545	180–450	400–600	400–600	LOSB 8/69	1
LOS HM 3835	063712	10	38	335–505	170–420	370–550	370–550	LOSB 8/69	1
LOS HM 4035	063736	10	40	320–480	160–400	350–530	350–530	LOSB 8/69	1
LOS HM 4235	063750	10	42	305–455	150–380	330–500	330–500	LOSB 8/69	1
LOS HM 4335	063767	10	43	295–445	150–370	330–490	330–490	LOSB 8/69	1
LOS HM 4535	063781	10	45	285–425	140–355	310–470	310–470	LOSB 8/69	1
LOS HM 4835	063811	10	48	265–400	135–330	290–440	290–440	LOSB 8/69	1
LOS HM 5035	063835	10	50	255–380	125–320	280–420	280–420	LOSB 8/69	1
LOS HM 5235	063842	10	52	245–370	120–305	270–400	270–400	LOSB 8/69	1
LOS HM 5535	063859	10	55	230–350	115–290	250–380	250–380	LOSB 8/69	1
LOS HM 6060	063866	12	60	210–320	105–265	230–350	230–350	LOSB 8/94	1


HSS pilot drills for TC hole cutters

The HSS pilot drill is replaceable.

Ordering example:
EAN 4007220**063873**
LOSB 6/48

HSS pilot drill LOSB



Description	EAN 4007220	Tool height [mm]	Suitable for carbide tipped hole cutter dia. [mm]	
LOSB 6/48	063873	8	16–55	1
LOSB 6/69	063880	35	16–22	1
LOSB 8/69	063903	35	24–55	1
LOSB 8/94	063910	60	60	1
LOSB 8/48	063897	8	60–105	1

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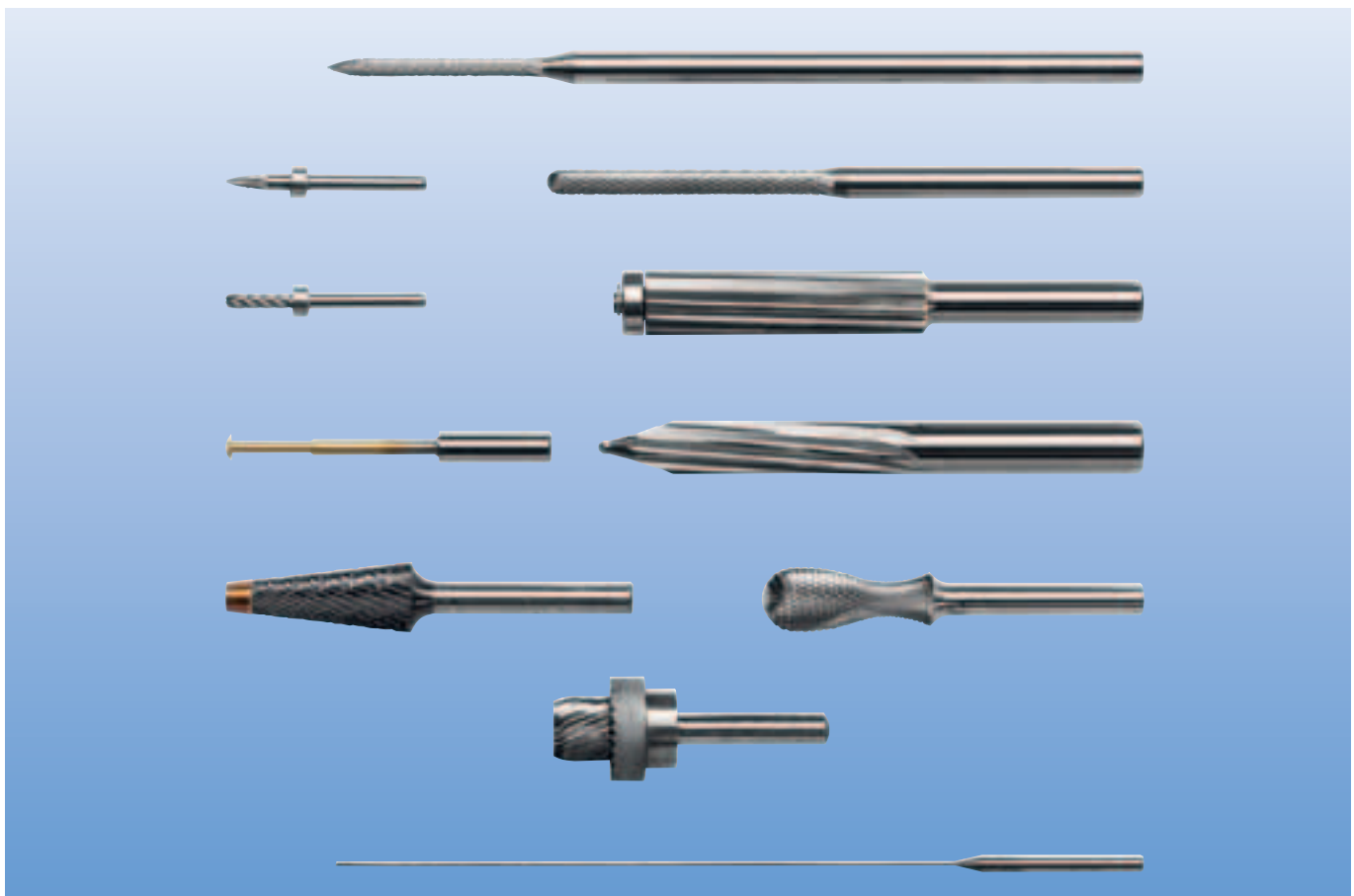
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