PFERD

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2

Milling, holemaking and deburring products

Milling, holemaking and deburring products
Table of contents

Milling, holemaking and deburring products

Carbide burs, universal line

Carbide burs, high performance line

Milling tools with cutting inserts

Drilling products

Bi-metal hole saws, sets and accessories

Milling, holemaking and deburring products
Highlights from the PFERD range

Tungsten carbide burs, high-performance line

Tungsten carbide burs from the high-performance line provide fast and efficient solutions. The innovative and sophisticated system for work on surfaces includes a wide range of high-performance cuts for a variety of materials and applications.

Scan the QR code to find out more about the PFERD cuts for specific materials and applications.

Advantages:
- Optimum stock removal rate, high aggressiveness and good guidance.
- Highly cost-effective when compared with conventional burs.
- The highly accurate concentricity enables impact-free working without creating chatter marks.
- Significant time savings.
- Also available with a top-grade HICOAT® coating.

Tungsten carbide burs for robot applications

PFERD has developed tungsten carbide burs that are ideal for robot applications. Available on special request, our KZW special shape bur is a combination of various bur shapes that enables optimum deburring and chamfering results in just one operation. PFERD offers tungsten carbide burs in the special shape KZW with the universal single cut and with the high-performance cut MICRO.

Advantages:
- Less programming needed due to fewer product changes.
- High-quality HICOAT® coating for a longer tool life and improved performance.

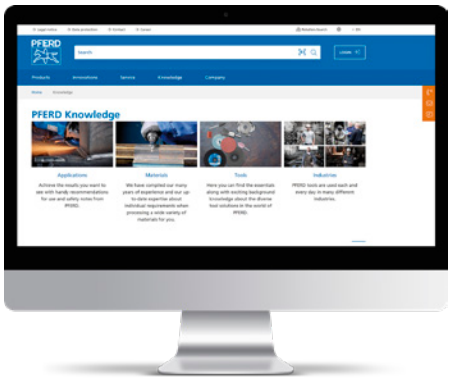
HICOAT® coating

PFERD offers products with HICOAT® coatings to tackle particularly demanding applications. Two different coatings are available. The HICOAT® coating HC-FEP is specifically designed for iron and steel materials.The HICOAT® coating HC-NFE is mainly used for removing material in long chips and lubricating aluminum alloys and non-ferrous metals. In general, all PFERD tungsten carbide burs are also available with HICOAT® coatings upon special request. Scan the QR code to find out more about PFERD's HICOAT® coatings.

Advantages:
- Improved anti-adhesion characteristics.
- Effective chip discharge.
- Lower thermal loads.
- Increased service life.
- Burs with the HICOAT® coating HC-FEP achieve a much longer tool life than uncoated burs.

Find additional in-depth information online

Scan the QR code to find out a wide range of tool and application knowledge relating to PFERD's high-quality tools and their huge variety of materials.



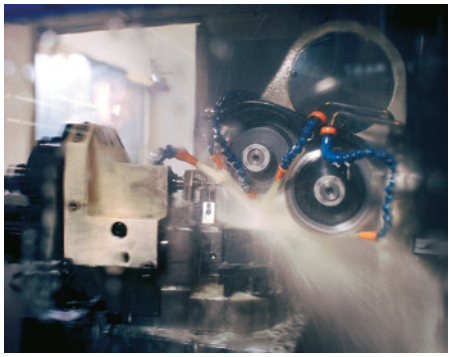
Milling, holemaking and deburring products
General information

Custom-made products

If you cannot find the solution for your particular application in our comprehensive catalog range, we are happy to produce milling tools to meet your requirements. Our sales representatives and technical advisers will be help analyze your task. Your specifications, drawings relating to cuts, shank diameters, special lengths, special shapes and coatings can all be taken into account.

Resharpening

For information on resharpening, please contact your PFERD customer service representative.



Milling products for robot applications

PFERD's impressive milling tools for robot applications meet the highest quality standards during production and offer high performance and wear resistance, leading to significantly lower process costs and optimized process chains. We are also happy to develop custom products for your robot applications. PFERD has a long tradition of developing tools for robot applications. Our in-house research and development, along with our experienced application engineers, have successfully optimized numerous robotics applications around the world.

Safety notes

- For safety reasons, the maximum permitted rotational speed indicated must never be exceeded.

Wear eye protection!

Wear hearing protection!

Wear dust respirators!

Wearing protective gloves is recommended. Operate the power tool using both hands.

Observe the recommended rotational speed, especially when using burs with 6" extended shanks!

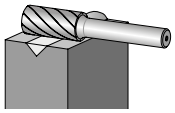
Observe the contact angle of 5–60° (Example)!

Tighten the bolts!

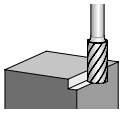
Do not use if damaged!

Do not use for cutting!

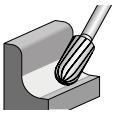
CE-marked



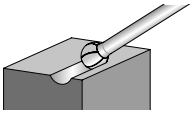
Shape A
Cylindrical shape



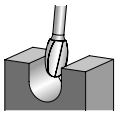
Shape B
Cylindrical shape with end cut



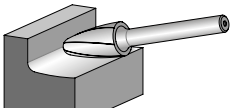
Shape C
Cylindrical shape with radius end



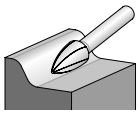
Shape D
Ball shape



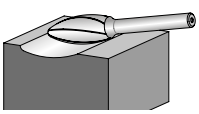
Shape E
Oval shape



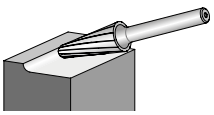
Shape F
Tree shape with radius end



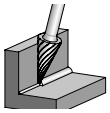
Shape G
Pointed tree shape



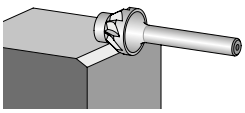
Shape H
Flame shape



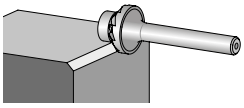
Shape L
14° Taper bur with radius end



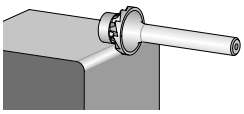
Shape M
Conical pointed shape



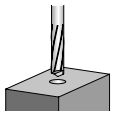
EDGE 30°
EDGE 30° shape



EDGE 45°
EDGE 45° shape

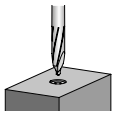


EDGE R-1/8”
EDGE R-1/8 shape



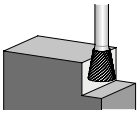
ZYA BS
Cylindrical shape with drill cut

Available on special request.



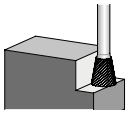
ZYA ZBS
Cylindrical shape with center drill

Available on special request.



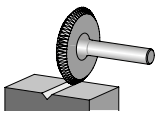
WKN
Inverted cones

Available on special request.



WKNS/HSS W-ST
Inverted cones with end cut

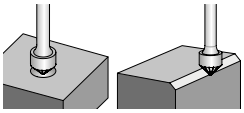
Available on special request.



N
Disc shape

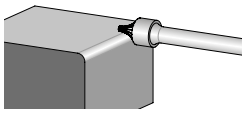
Available on special request.

Carbide burs
Bur shapes



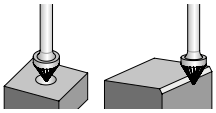
KSK
Conical counterbore shape 90°

Available on special request.



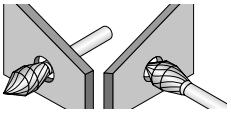
V
Concave radius burs

Available on special request.



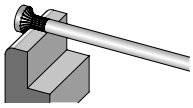
KSJ
Conical counterbore shape 60°

Available on special request.



KZW
Special shape

Available on special request.



R
Radius burs

Available on special request.

Application	Material group			Used for	High-performance application	Universal application
Deburring, chamfering, milling out for the preparation of build-up welding, machining weld seams, machining contours, cleaning cast material	Steel, cast steel	Steels up to 370 HV (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel, tempering steels	Coarse stock removal	STEEL	Double cut
					OMNI	
				Fine stock removal	MICRO	-
		Hardened, heat-treated steels over 370 HV (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel	Coarse stock removal	STEEL	Double cut
					OMNI	
				Fine stock removal	MICRO	-
	Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	INOX	Diamond cut
					OMNI	
				Fine stock removal	MICRO	-
	Non-ferrous metals	Soft non-ferrous metals	Aluminum alloys	Coarse stock removal	ALU	-
				Fine stock removal		
			Brass, copper, zinc	Coarse stock removal	ALU	-
					OMNI	
				Fine stock removal	ALU	Single cut
		Hard non-ferrous metals	Bronze, titanium/ titanium alloys, hard aluminum alloys (high Si content)	Coarse stock removal	TITANIUM	Diamond cut
					ALU	
					INOX	
					OMNI	
				Fine stock removal	MICRO	-
		High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal	On request	Diamond cut
				Fine stock removal	MICRO	-
	Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black annealed cast iron	Coarse stock removal	CAST	Double cut
					OMNI	
				Fine stock removal	MICRO	Single cut
Milling out, machining contours	Plastics, other materials	Thermoplastics, fibre-reinforced plastics (GRP/CRP) with a fibre content ≤ 40%		Coarse stock removal	On request	-
Trimming, contour milling, cutting out holes		Thermoplastics, fibre-reinforced plastics (GRP/CRP) with a fibre content > 40%			ALU	

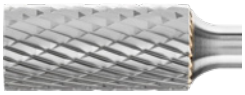
Special applications

Application	High-performance application	Universal application
Work on edges	Carbide burs for work on edges	-
Applications resulting in broken teeth	Carbide burs – TOUGH cut	-
Cutting out round holes	-	Bi-metal hole saws
Machining butt welds and fillet welds, work on edges/ chamfering using an angle grinder	**ALU**MASTER® High Speed Disc	-

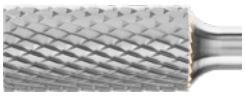
Carbide burs
PFERD cuts

Universal line PFERD cuts

Single cut
- Machining of steel, cast iron, stainless steel (INOX), nickel-based alloys and titanium alloys.
- High stock removal.
- Ideal surface finish.



Double cut
- Similar to the single cut, but with additional cross cut.
- Machining of steel, cast iron, stainless steel (INOX), nickel-based alloys and titanium alloys.
- High stock removal.
- Burs with the HICOAT® coating HC-FEP achieve a much longer tool life than uncoated burs.



Diamond cut
- Machining of stainless steel (INOX), steel and high-temperature-resistant materials such as nickel-based and cobalt-based alloys.
- High stock removal with short chips.
- Ideal surface finish.

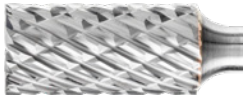
Cut 1 (C according to DIN 8033)
- Machining of non-ferrous metals, steel and cast iron.
- High stock removal.

Available on special request.

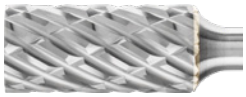
Cut 5 (F according to DIN 8033)
- Fine machining of steel, cast iron, stainless steel (INOX) and high-temperature-resistant materials such as nickel-based and cobalt-based alloys.
- Ideal surface finish.

Available on special request.

High-performance line PFERD cuts



OMNI cut
- High stock removal rate on key materials such as steel, cast steel, stainless steel (INOX), non-ferrous metals and cast iron.
- Visually similar to the double cut bur but with a significantly higher stock removal rate.
- Burs with the HICOAT® coating HC-FEP achieve a much longer tool life than uncoated burs.



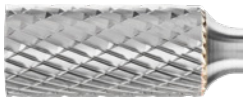
STEEL cut
- Extremely high stock removal rate on steel and cast steel.
- Smooth milling.
- Reduced vibration and less noise.
- Burs with the HICOAT® coating HC-FEP achieve a much longer tool life than uncoated burs.

INOX cut
- Extremely high stock removal rate on all austenitic, rust and acid-resistant steels, stainless steel (INOX) and soft titanium alloys (tensile strength < 500 N/mm²).
- Significantly reduced vibration and less noise.
- Burs with the HICOAT® coating HC-FEP achieve a much longer tool life than uncoated burs.

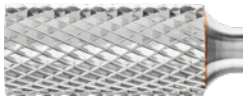
ALU cut
- High stock removal rate on aluminum and aluminum alloys, non-ferrous metals and plastics.
- Smooth milling.
- HICOAT® coating HC-NFE for removing material in long chips and preventing loading on aluminum alloys and non-ferrous metals.
- Can be used with peripheral speeds of up to 3,600 SFPM.

CAST cut
- Extremely high stock removal rate on cast iron.
- Smooth milling.
- Reduced vibration and less noise.

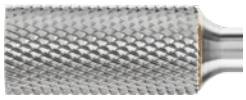
EDGE cut
- Creates exact edge shapes with either 30° or 45° chamfering or to a defined radius of 1/8".
- Safe and comfortable use.



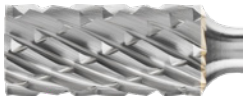
TOUGH cut
- High stock removal rate on cast iron, steel up to 580 HV (54 HRC).
- Extremely resistant to impact.
- Also designed for use with high surface contact angles > 1/3 and under impact loads.



TOUGH-S cut
- High stock removal rate on cast iron, steel up to 580 HV (54 HRC).
- Similar to the TOUGH cut, but with smoother milling and shorter chips.
- Extremely resistant to impact.
- Also designed for use with high surface contact angles > 1/3 and under impact loads.

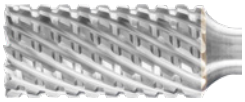


MICRO cut
- Good stock removal on almost all materials up to 940 HV (68 HRC).
- High surface quality.
- Reduced vibration and less noise.



NON-FERROUS cut
- High stock removal rate on non-ferrous metals, brass, copper, plastics and fibre-reinforced plastics.
- Designed for universal use.

Available on special request.



TITANIUM cut
- Outstanding stock removal rate and service life on hard titanium alloys.
- Significantly increased aggressiveness, creates large chips, and has very good chip removal.
- Reduced vibration and less noise.
- For soft titanium alloys (tensile strength < 500 N/mm²), PFERD recommends the INOX cut.

Available on special request.

PLAST cut
- Trimming and contour milling of workpieces made from less hard glass and carbon-fibre-reinforced duroplastics (GRP and CRP with ≤ 40 % fibre content) and fibre-reinforced thermoplastics.
- Minimized delamination and fraying through straight cut.
- Ideal for use on machines and on robots.
- Reduced vibration and less noise.

Available on special request.

FVK cut
- Trimming and contour milling of workpieces made from hard glass and carbon-fibre-reinforced duroplastics (also GRP and CRP > 40 %).

Available on special request.

FVKS cut
- Similar to the FVK cut.
- Smooth milling.
- Generates smooth cut edges.
- For use on machines and robots with high feed rates.

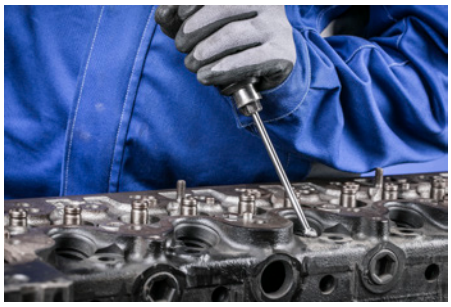
Available on special request.

Note
- On high-performance tungsten carbide burs designed for multiple applications, blue discoloration cannot be avoided due to the very high stock removal rate. This does not constitute a safety risk.

Tungsten carbide burs with an extended shank

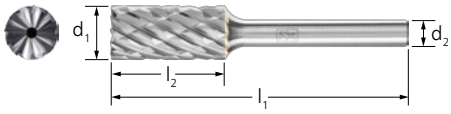
Extended shank tungsten carbide burs are ideal for working in hard-to-reach areas. Long-shank versions are available with the Double, OMNI, STEEL, and TOUGH cut burs. Additional variants can be custom-made on request. Extended shank tungsten carbide burs should only be used with rigid clamping systems and drives. Long-shank versions are not designed for robotic or stationary applications due to risk of breakage. In some applications, spindle extensions are an economic alternative to customized extended shank burs.

For more information please see catalog section 9.



Code system explanation

d_1 = Bur diameter
l_2 = Cut length
d_2 = Shank diameter
l_1 = Total length



Recommendations for use

An optimum rotational speed and power output for the power tool (air-powered or electric grinder, flexible shaft drive) are required for cost-effective use of tungsten carbide burs. If possible, mount burs on high-powered drives with elastically mounted spindles to avoid vibration, prolong service life, and improve comfort when working.

Scan the QR code with your mobile device for more useful recommendations about milling work.

Recommended rotational speed range [RPM]

To determine the recommended peripheral speed range [SFPM], 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 peripheral speed range.

To determine the recommended rotational speed range [RPM], please proceed as follows:
⑤ Select the required bur diameter.
⑥ The peripheral speed range and the bur diameter determine the recommended rotational speed range.

① Material group			② Used for	③ Cut	④ Peripheral speed
Steel, cast steel	Steels up to 370 HV (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel, tempering steels	Coarse stock removal	Double cut	2,000–3,000 SFPM
				HICOAT® HC-FEP Double cut	1,500–2,500 SFPM
			Fine stock removal	Single cut	1,500–2,000 SFPM
	Hardened, heat-treated steels over 370 HV (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel	Coarse stock removal	Single Cut	850–1,150 SFPM
				Double cut	
				Diamond cut	
				HICOAT® HC-FEP Double cut	850–1,500 SFPM
			Fine stock removal	Single cut	1,150–1,500 SFPM
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	Single cut	850–1,150 SFPM
				Double cut	
				Diamond cut	
			Fine stock removal	Single cut	1,150–1,500 SFPM
Non-ferrous metals	Soft non-ferrous metals	Aluminum alloys	Coarse stock removal	Single cut	2,000–3,000 SFPM
		Brass, copper, zinc	Coarse stock removal	Single cut	1,150–1,500 SFPM
			Fine stock removal		
	Hard non-ferrous metals	Bronze, titanium/titanium alloys, hard aluminum alloys (high Si content)	Coarse stock removal	Single cut	850–1,150 SFPM
				Diamond cut	
			Fine stock removal	Single cut	1,150–1,500 SFPM
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal	Double cut	850–1,500 SFPM
				Diamond cut	
			Fine stock removal	Single cut	1,150–2,000 SFPM
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black annealed cast iron	Coarse stock removal	Double cut	1,500–2,000 SFPM
			Fine stock removal	Single cut	

Carbide burs

Peripheral speeds – burs for material-specific applications

① Material group			② Used for	③ Cut	④ Peripheral speed
Steel, cast steel	Steels up to 370 HV (below 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel, tempering steels	Coarse stock removal	OMNI	1,500–2,500 SFPM
				STEEL	1,500–2,500 SFPM
	Hardened, heat-treated steels over 370 HV (over 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel	Coarse stock removal	OMNI	850–1,500 SFPM
				STEEL	1,500–2,500 SFPM
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	OMNI	1,500–2,000 SFPM
				INOX	1,500–2,000 SFPM
			Fine stock removal	On request	-
Non-ferrous metals	Soft non-ferrous metals	Aluminum alloys	Coarse stock removal	ALU	2,000–3,600 SFPM
				HICOAT® ALU HC-NFE	2,000–4,200 SFPM
			Fine stock removal	ALU	3,000–3,600 SFPM
				HICOAT® ALU HC-NFE	3,000–4,200 SFPM
		Brass, copper, zinc	Coarse stock removal	OMNI	1,500–2,500 SFPM
				ALU	2,000–3,600 SFPM
				HICOAT® ALU HC-NFE	2,000–4,200 SFPM
			Fine stock removal	ALU	3,000–3,600 SFPM
				HICOAT® ALU HC-NFE	3,000–4,200 SFPM
	Hard non-ferrous metals	Titanium/titanium alloys, hard aluminum alloys (high Si content)	Coarse stock removal	OMNI	1,500–2,000 SFPM
				INOX	850–1,500 SFPM
		Hard titanium alloys	Coarse stock removal	On request	-
		Bronze	Coarse stock removal	OMNI	1,500–2,000 SFPM
				ALU	2,000–3,000 SFPM
				HICOAT® ALU HC-NFE	2,000–4,200 SFPM
			Fine stock removal	ALU	3,000–3,600 SFPM
				HICOAT® ALU HC-NFE	3,000–4,200 SFPM
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black annealed cast iron	Coarse stock removal	OMNI	1,500–3,000 SFPM
				CAST	1,500–2,500 SFPM
Plastics, other materials	Thermoplastics, Fibre-reinforced plastics (GRP/CRP)		Coarse stock removal	ALU	2,000–3,600 SFPM
				HICOAT® ALU HC-NFE	2,000–4,200 SFPM
			Fine stock removal	ALU	2,000–3,600 SFPM
				HICOAT® ALU HC-NFE	2,000–4,200 SFPM

① Material group			② Used for	③ Cut	④ Peripheral speed
Steel, cast steel	Steels up to 370 HV (below 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel, tempering steels	Coarse stock removal with impact load	TOUGH	850–2,000 SFPM
			Work on edges	Single cut	850–1,150 SFPM
				Double cut	
				EDGE	2,000–3,000 SFPM
			Fine stock removal	MICRO	2,000–2,500 SFPM
	Hardened, heat-treated steels over 370 HV (over 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel	Coarse stock removal with impact load	TOUGH	850–1,150 SFPM
			Work on edges	Single cut	850–1,150 SFPM
				Double cut	
				EDGE	2,000–2,500 SFPM
			Fine stock removal	MICRO	1,500–2,000 SFPM
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steels	Work on edges	Single cut	850–1,150 SFPM
				Double cut	
			Fine stock removal	MICRO	1,500–2,000 SFPM
Non-ferrous metals	Soft non-ferrous metals	Soft aluminum alloys	Work on edges	EDGE ALU	3,000–3,600 SFPM
		Brass, copper, zinc	Work on edges	Single cut	2,000–3,000 SFPM
				Double cut	
				EDGE ALU	3,000–3,600 SFPM
				EDGE	2,000–3,000 SFPM
	Hard non-ferrous metals	Bronze, hard aluminum alloys (high Si content)	Work on edges	Single cut	850–1,500 SFPM
				Double cut	
				EDGE ALU	3,000–3,600 SFPM
				EDGE	850–1,500 SFPM
			Fine stock removal	MICRO	1,500–2,000 SFPM
		Titanium/titanium alloys	Work on edges	EDGE	850–1,500 SFPM
			Fine stock removal	MICRO	1,500–2,000 SFPM
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Work on edges	EDGE	850–1,500 SFPM
			Fine stock removal	MICRO	1,500–2,000 SFPM
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black annealed cast iron	Coarse stock removal with impact load	TOUGH	850–2,000 SFPM
			Work on edges	Single cut	1,500–2,000 SFPM
				Double cut	
			Fine stock removal	MICRO	2,000–2,500 SFPM
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics		Work on edges	EDGE ALU	2,500–3,600 SFPM

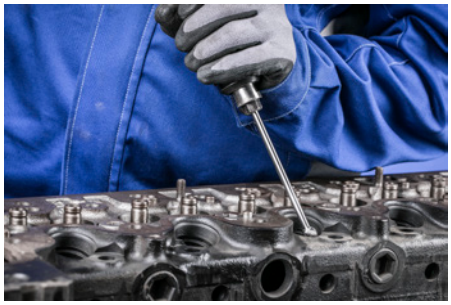
Carbide burs
Rotational speeds

Example:
Carbide bur,
OMNI cut,
Bur diameter 1/2".
Coarse stock removal on steels up to 370 HV.
Peripheral speed: 1,500–2,500 SFPM
Rotational speed range:
12,000–20,000 RPM

⑤ Bur dia. [Inches]	⑥ Peripheral speed [SFPM]							
	850	1,150	1,500	2,000	2,500	3,000	3,600	4,200
	Rotational speeds [RPM]							
3/32	35,000	47,000	62,000	82,000	102,000	120,000	146,000	172,000
1/8	27,000	37,000	48,000	64,000	80,000	95,000	117,000	138,000
3/16	16,000	22,000	29,000	38,000	48,000	57,000	73,000	86,000
1/4	13,000	19,000	24,000	32,000	40,000	48,000	59,000	70,000
5/16	10,000	14,000	18,000	24,000	30,000	36,000	44,000	52,000
3/8	8,000	11,000	14,000	19,000	24,000	29,000	35,000	41,000
7/16	7,500	10,000	13,000	17,500	22,000	26,500	32,500	37,500
1/2	7,000	9,000	12,000	16,000	20,000	24,000	30,000	34,000
5/8	5,000	7,000	9,000	12,000	15,000	18,000	22,000	26,000
3/4	4,000	6,000	7,000	10,000	13,000	14,000	17,000	20,000
1	3,000	4,000	6,000	8,000	10,000	11,000	13,000	16,000

Tungsten carbide burs with extended shanks

Extended shank tungsten carbide burs are ideal for working in hard-to-reach areas. Long-shank versions are available with the Double, OMNI, STEEL, and TOUGH cut burs. Extended shank burs can be shortened if required. Tungsten carbide burs with the designation "SL 6" or L6" are made from solid tungsten carbide, which means they can only be shortened by cutting with diamond tools. Additional variants can be custom-made on request. In some applications, spindle extensions are an economical alternative to customized extended shank burs. For more information please see catalog section 9.



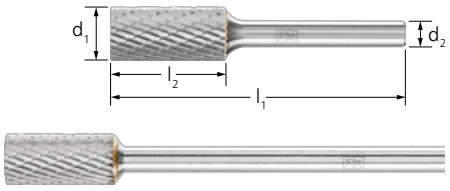
Safety notes:

- Extended shank tungsten carbide burs are not designed for robotic or stationary applications due to risk of breakage. Use only rigid clamping systems/drives.
- When working with extended shank burs, it is crucial that the bur is in contact with the workpiece (or inserted in the bore or slot to be machined) before the power tool 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 (bending) and increased risk of accidents. If continuous contact between the tool and the workpiece is not guaranteed, the ⑧ maximum idling speeds stated in the table below must not be exceeded.
- For safety reasons, the maximum application speeds ⑦ with contact with the workpiece require a reduction in the recommended speed of tungsten carbide burs with standard shanks. The reduced speeds are stated in the table below.

To determine the recommended rotational speed range [RPM], please proceed as follows:
① Select the required bur diameter.
⑦ For the maximum application speed [RPM] with contact with the workpiece, please refer to the right-hand side of the table.

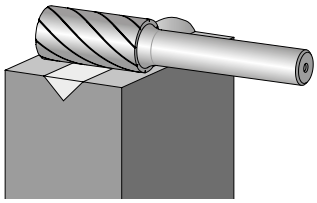
Example:
Carbide bur, L6,
Double cut,
Bur diameter 1/2"
Coarse stock removal on steels up to 370 HV.
Recommended reduced speed with workpiece contact: 7,000 RPM

	⑧ Maximum rotational free speed [RPM] (No contact to the workpiece)	⑦ Recommended reduced rotational application speed [RPM] (With contact to the workpiece)
	Shank length [Inches]	
① Bur dia. [Inches]	L6 (6")	L6 (6")
1/4	8,000	15,000
5/16	6,000	11,000
3/8	4,000	9,000
1/2	3,000	7,000



Cylindrical bur with plain end (uncut) – Shape A

Cylindrical burs with plain end (uncut) for general use on all materials. A good stock removal rate is achieved due to high quality tungsten carbide, bur shape, cut and optional coating.

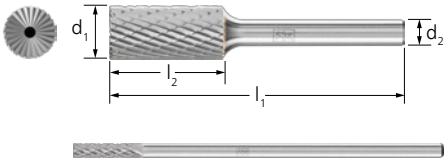


Special features:

- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

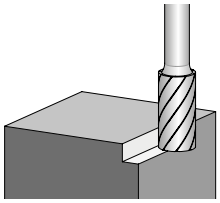
d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”								
3/32	1/2	SA-42	1/8	1-1/2	Double	1	21823112	23112
1/8	1/2	SA-43	1/8	1-1/2	Single	1	21823121	23121
					Double	1	21823122	23122
1/4	1/2	SA-51	1/8	1-11/16	Single	1	21823131	23131
					Double	1	21823132	23132
Shank diameter 1/4”								
1/8	1/2	SA-11	1/4	1-15/16	Single	1	21724001	24001
					Double	1	21724002	24002
3/16	5/8	SA-14	1/4	1-15/16	Double	1	21724022	24022
1/4	5/8	SA-1	1/4	1-15/16	Single	1	21724031	24031
					Double	1	21724032	24032
					Double HC-FEP	1	21727040	27040
					Diamond	1	21724033	24033
5/16	3/4	SA-2	1/4	2-1/2	Single	1	21724051	24051
					Double	1	21724052	24052
					Diamond	1	21724053	24053
3/8	3/4	SA-3	1/4	2-1/2	Single	1	21724061	24061
					Double	1	21724062	24062
					Double HC-FEP	1	21727042	27042
					Diamond	1	21724063	24063
7/16	1	SA-4	1/4	2-3/4	Single	1	21724091	24091
					Double	1	21724092	24092
1/2	1	SA-5	1/4	2-3/4	Single	1	21724101	24101
					Double	1	21724102	24102
					Double HC-FEP	1	21727052	27052
					Diamond	1	21724103	24103
5/8	1	SA-6	1/4	2-3/4	Double	1	21724112	24112
3/4	1/2	SA-15	1/4	2-1/4	Double	1	21724132	24132
	3/4	SA-16	1/4	2-1/2	Double	1	21724142	24142
	1	SA-7	1/4	2-3/4	Double	1	21724122	24122
1	1	SA-9	1/4	2-3/4	Double	1	21724162	24162
Extended shank diameter 1/4”, SL 6”								
1/4	5/8	SA-1 L6	1/4	6-9/16	Double	1	21725802	25802
3/8	3/4	SA-3 L6	1/4	6-5/8	Double	1	21725812	25812
1/2	1	SA-5 L6	1/4	6-7/8	Double	1	21725822	25822

Carbide burs, universal line
For fine and coarse stock removal



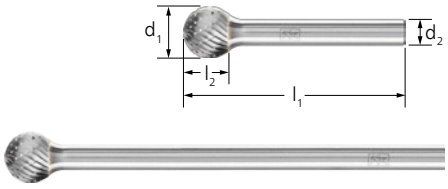
Cylindrical bur with end cut – Shape B

Cylindrical bur with end cut for general use on all materials. Good stock removal rate due to high quality tungsten carbide, bur shape, cut and optional coating.



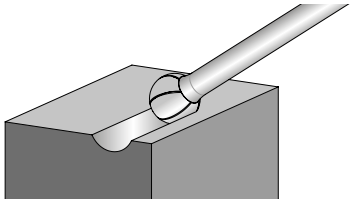
Special features:
- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/4	1/2	SB-51	1/8	1-11/16	Single	1	21823171	23171
Shank diameter 1/4"								
3/16	5/8	SB-14	1/4	1-15/16	Double	1	21724202	24202
1/4	5/8	SB-1	1/4	1-15/16	Single	1	21724211	24211
					Double	1	21724212	24212
					Diamond	1	21724213	24213
5/16	3/4	SB-2	1/4	2-1/2	Double	1	21724232	24232
					Diamond	1	21724233	24233
3/8	3/4	SB-3	1/4	2-1/2	Single	1	21724241	24241
					Double	1	21724242	24242
					Double HC-FEP	1	21727082	27082
7/16	1	SB-4	1/4	2-3/4	Single	1	21724271	24271
					Double	1	21724272	24272
					Diamond	1	21724273	24273
1/2	1	SB-5	1/4	2-3/4	Single	1	21724281	24281
					Double	1	21724282	24282
					Diamond	1	21724283	24283
5/8	1	SB-6	1/4	2-3/4	Double	1	21724292	24292
3/4	1/2	SB-15	1/4	2-1/4	Double	1	21724312	24312
	3/4	SB-16	1/4	2-1/2	Double	1	21724322	24322
	1	SB-7	1/4	2-3/4	Double	1	21724302	24302
1	1	SB-9	1/4	2-3/4	Double	1	21724342	24342
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SB-3L6	1/4	6-5/8	Double	1	21725842	25842
1/2	1	SB-5L6	1/4	6-7/8	Double	1	21725852	25852



Ball bur – Shape D

Ball-shaped bur according for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.

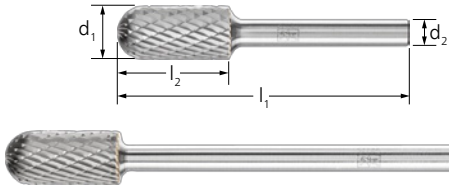


Special features:

- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

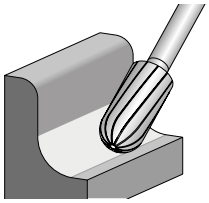
d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”								
3/32	3/32	SD-41	1/8	1-1/2	Single	1	21823231	23231
					Double	1	21823232	23232
1/8	3/32	SD-42	1/8	1-1/2	Single	1	21823241	23241
					Double	1	21823242	23242
3/16	1/8	SD-53	1/8	1-3/8	Single	1	21823261	23261
					Double	1	21823262	23262
1/4	3/16	SD-51	1/8	1-3/8	Single	1	21823251	23251
					Double	1	21823252	23252
Shank diameter 1/4”								
1/8	3/32	SD-11	1/4	1-15/16	Double	1	21724522	24522
3/16	1/8	SD-14	1/4	1-15/16	Single	1	21724531	24531
					Double	1	21724532	24532
1/4	3/16	SD-1	1/4	1-15/16	Single	1	21724541	24541
					Double	1	21724542	24542
					Diamond	1	21724543	24543
5/16	1	SD-2	1/4	2-1/16	Single	1	21724551	24551
	1/4	SD-2	1/4	2-1/16	Double	1	21724552	24552
3/8	5/16	SD-3	1/4	2-1/16	Single	1	21724561	24561
					Double	1	21724562	24562
					Double HC-FEP	1	21727217	27217
					Diamond	1	21724563	24563
7/16	3/8	SD-4	1/4	2-1/8	Double	1	21724572	24572
1/2	7/16	SD-5	1/4	2-3/16	Single	1	21724581	24581
					Double	1	21724582	24582
					Double HC-FEP	1	21727227	27227
5/8	9/16	SD-6	1/4	2-5/16	Double	1	21724592	24592
					Diamond	1	21724593	24593
3/4	11/16	SD-7	1/4	2-13/16	Double	1	21724602	24602
1	15/16	SD-9	1/4	2-1/16	Single	1	21724611	24611
					Double	1	21724612	24612
Extended shank diameter 1/4”, SL 6”								
1/4	3/16	SD-1L6	1/4	6-1/8	Double	1	21725922	25922
3/8	5/16	SD-3L6	1/4	6-1/4	Double	1	21725932	25932
1/2	7/16	SD-5L6	1/4	6-5/16	Double	1	21725942	25942

Carbide burs, universal line
For fine and coarse stock removal



Cylindrical bur with radius end – Shape C

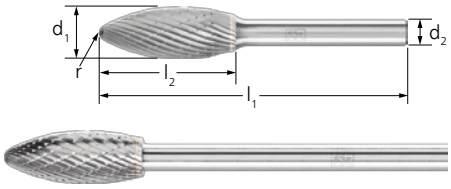
Cylindrical bur with radius end for general use on all materials. A good stock removal rate is achieved due to high quality tungsten carbide, bur shape, cut and optional coating.



Special features:

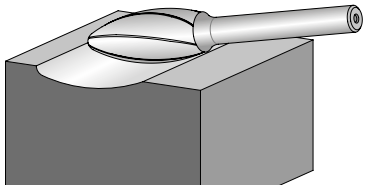
- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
3/32	1/2	SC-41	1/8	1-1/3	Double	1	21823182	23182
1/8	1/2	SC-42	1/8	1-1/2	Single	1	21823191	23191
					Double	1	21823192	23192
1/4	1/2	SC-51	1/8	1-11/16	Single	1	21823201	23201
					Double	1	21823202	23202
Shank diameter 1/4"								
1/8	1/2	SC-11	1/4	1-15/16	Double	1	21724352	24352
	5/8	SC-12	1/4	1-15/16	Double	1	21724362	24362
3/16	5/8	SC-14	1/4	1-15/16	Double	1	21724382	24382
1/4	5/8	SC-1	1/4	1-15/16	Single	1	21724391	24391
					Double	1	21724392	24392
					Diamond	1	21724393	24393
5/16	3/4	SC-2	1/4	2-1/2	Double	1	21724412	24412
3/8	3/4	SC-3	1/4	2-1/2	Single	1	21724421	24421
					Double	1	21724422	24422
					Double HC-FEP	1	21727167	27167
					Diamond	1	21724423	24423
7/16	1	SC-4	1/4	2-3/4	Double	1	21724452	24452
1/2	1	SC-5	1/4	2-3/4	Single	1	21724461	24461
					Double	1	21724462	24462
					Double HC-FEP	1	21727177	27177
					Diamond	1	21724463	24463
5/8	1	SC-6	1/4	2-3/4	Double	1	21724472	24472
					Diamond	1	21724473	24473
3/4	1	SC-7	1/4	2-3/4	Double	1	21724482	24482
					Diamond	1	21724483	24483
1	1	SC-9	1/4	2-3/4	Double	1	21724512	24512
					Diamond	1	21724513	24513
Extended shank diameter 1/4", SL 6"								
1/4	5/8	SC-1L6	1/4	6-9/16	Double	1	21725862	25862
3/8	3/4	SC-3L6	1/4	6-5/8	Double	1	21725872	25872
1/2	1	SC-5L6	1/4	6-7/8	Double	1	21725882	25882



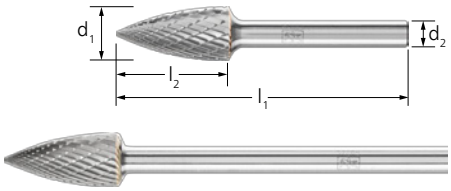
Flame bur – Shape H

Flame-shaped bur for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.



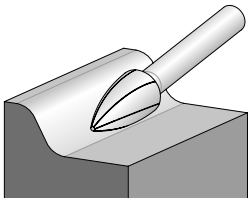
Special features:
- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”									
1/8	1/4	SH-41	1/8	1-1/2	0.031	Single	1	21823401	23401
						Double	1	21823402	23402
Shank diameter 1/4”									
1/4	5/8	SH-1	1/4	1-15/16	0.039	Double	1	21724862	24862
						Diamond	1	21724863	24863
5/16	3/4	SH-2	1/4	2-1/2	0.059	Single	1	21724871	24871
						Double	1	21724872	24872
1/2	1-1/4	SH-5	1/4	3	0.082	Single	1	21724881	24881
						Double	1	21724882	24882
						Diamond	1	21724883	24883
5/8	1-7/16	SH-6	1/4	3-3/16	0.102	Double	1	21724892	24892
Extended shank diameter 1/4”, SL 6”									
5/16	3/4	SH-2L6	1/4	6-5/8	0.059	Double	1	21726162	26162
1/2	1-1/4	SH-5L6	1/4	7-1/4	0.082	Double	1	21726172	26172



Tree bur with pointed end – Shape G

Pointed tree-shaped bur with pointed tip for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.



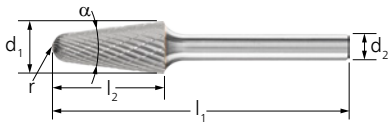
Special features:
- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”								
1/8	1/4	SG-41	1/8	1-1/2	Single	1	21823341	23341
					Double	1	21823342	23342
	3/8	SG-43	1/8	1-1/2	Single	1	21823361	23361
					Double	1	21823362	23362
3/16	1/2	SG-53	1/8	1-11/16	Double	1	21823392	23392
1/4	1/2	SG-51	1/8	1-11/16	Single	1	21823381	23381

Continued on next page

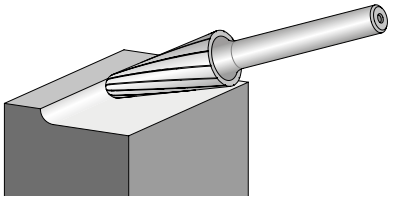
Carbide burs, universal line
For fine and coarse stock removal

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
1/4	1/2	SG-51	1/8	1-11/16	Double	1	21823382	23382
Shank diameter 1/4"								
1/4	5/8	SG-1	1/4	1-15/16	Single	1	21724781	24781
					Double	1	21724782	24782
					Diamond	1	21724783	24783
5/16	3/4	SG-2	1/4	2-1/2	Double	1	21724792	24792
					Diamond	1	21724793	24793
3/8	3/4	SG-3	1/4	2-1/2	Single	1	21724801	24801
					Double	1	21724802	24802
					Diamond	1	21724803	24803
1/2	3/4	SG-13	1/4	2-1/2	Double	1	21724822	24822
					Diamond	1	21724823	24823
	1	SG-5	1/4	2-3/4	Single	1	21724811	24811
					Double	1	21724812	24812
					Diamond	1	21724813	24813
5/8	1	SG-6	1/4	2-3/4	Double	1	21724832	24832
					Diamond	1	21724833	24833
Extended shank diameter 1/4", SL 6"								
1/4	5/8	SG-1L6	1/4	6-9/16	Double	1	21726102	26102
3/8	3/4	SG-3L6	1/4	6-3/4	Double	1	21726112	26112
1/2	1	SG-5L6	1/4	6-7/8	Double	1	21726122	26122



14° Taper bur with radius end – Shape L

Conical bur with round radius end for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.



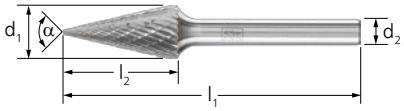
Special features:

- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"										
1/8	1/2	SL-42	1/8	1-1/2	14	0.035	Single	1	21823451	23451
							Double	1	21823452	23452
Shank diameter 1/4"										
1/4	5/8	SL-1	1/4	1-15/16	14	0.055	Single	1	21725131	25131
							Double	1	21725132	25132
							Diamond	1	21725133	25133
5/16	1	SL-2	1/4	2-13/16	16	0.049	Double	1	21725142	25142
							Diamond	1	21725143	25143
3/8	1-1/16	SL-3	1/4	3	14	0.114	Double	1	21725152	25152
							Double HC-FEP	1	21727457	27457
							Diamond	1	21725153	25153
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	Single	1	21725161	25161

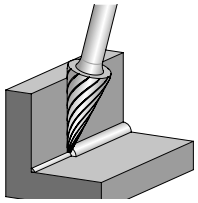
Continued on next page

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	Double	1	21725162	25162
							Diamond	1	21725163	25163
							Double HC-FEP	1	21727462	27462
5/8	1-5/16	SL-6	1/4	3-1/4	14	0.189	Double	1	21725182	25182
							Diamond	1	21725183	25183
3/4	1-1/2	SL-7	1/4	3-7/16	14	0.212	Double	1	21725192	25192
Extended shank diameter 1/4", SL 6"										
1/4	5/8	SL-1L6	1/4	6-9/16	14	0.055	Double	1	21726212	26212
3/8	1-1/16	SL-3L6	1/4	7-1/8	14	0.114	Double	1	21726222	26222
1/2	1-1/8	SL-4L6	1/4	7-3/16	14	0.13	Double	1	21726232	26232



Cone bur with pointed end – Shape M

Conical pointed bur with pointed tip for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.

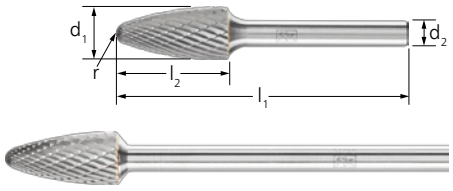


Special features:

- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

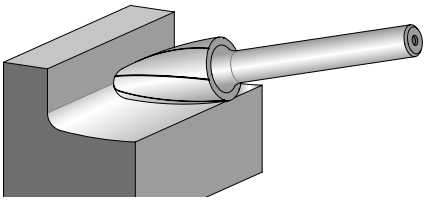
d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	Cut		Item no.	EDP no.
Shank diameter 1/8"									
1/8	3/8	SM-41	1/8	1-1/2	14	Double	1	21823472	23472
	1/2	SM-42	1/8	1-1/2	12	Single	1	21823481	23481
						Double	1	21823482	23482
	5/8	SM-43	1/8	1-1/2	9	Double	1	21823492	23492
1/4	1/2	SM-51	1/8	1-13/16	22	Single	1	21823501	23501
						Double	1	21823502	23502
Shank diameter 1/4"									
1/4	1/2	SM-1	1/4	1-15/16	22	Single	1	21725201	25201
						Double	1	21725202	25202
	3/4	SM-2	1/4	1-15/16	14	Double	1	21725212	25212
						Diamond	1	21725213	25213
	1	SM-3	1/4	1-15/16	10	Double	1	21725222	25222
						Diamond	1	21725223	25223
3/8	3/4	SM-4	1/4	2-1/2	28	Single	1	21725231	25231
						Double	1	21725232	25232
1/2	1	SM-5	1/4	2-3/4	28	Double	1	21725242	25242
5/8	1-1/8	SM-6	1/4	2-15/16	31	Double	1	21725252	25252
						Diamond	1	21725253	25253

Carbide burs, universal line
For fine and coarse stock removal



Tree bur with radius end – Shape F

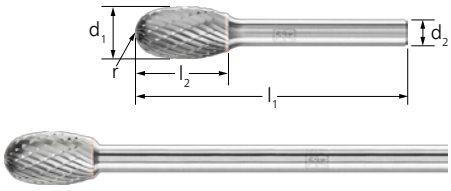
Tree-shaped bur with radius end for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.



Special features:

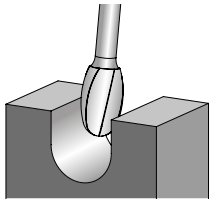
- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"									
1/8	1/4	SF-41	1/8	1-1/2	0.029	Single	1	21823301	23301
						Double	1	21823302	23302
	1/2	SF-42	1/8	1-1/2	0.029	Single	1	21823311	23311
						Double	1	21823312	23312
1/4	1/2	SF-51	1/8	1-11/16	0.059	Single	1	21823321	23321
						Double	1	21823322	23322
Shank diameter 1/4"									
1/4	5/8	SF-1	1/4	1-15/16	0.059	Single	1	21724691	24691
						Double	1	21724692	24692
						Diamond	1	21724693	24693
3/8	3/4	SF-3	1/4	2-1/2	0.098	Single	1	21724701	24701
						Double	1	21724702	24702
						Double HC-FEP	1	21727282	27282
						Diamond	1	21724703	24703
7/16	1	SF-4	1/4	2-3/4	0.012	Double	1	21724712	24712
1/2	3/4	SF-13	1/4	2-1/2	0.098	Double	1	21724732	24732
						Diamond	1	21724733	24733
	1	SF-5	1/4	2-3/4	0.018	Single	1	21724721	24721
						Double	1	21724722	24722
						Double HC-FEP	1	21727292	27292
						Diamond	1	21724723	24723
5/8	1	SF-6	1/4	2-3/4	0.141	Double	1	21724742	24742
3/4	1	SF-7	1/4	2-3/4	0.196	Double	1	21724752	24752
						Diamond	1	21724753	24753
	1-1/4	SF-14	1/4	3	0.196	Double	1	21724762	24762
						Diamond	1	21724763	24763
	1-1/2	SF-15	1/4	3-1/4	0.196	Double	1	21724772	24772
Extended shank diameter 1/4", SL 6"									
1/4	5/8	SF-1L6	1/4	6-9/16	0.059	Double	1	21726042	26042
3/8	3/4	SF-3L6	1/4	6-3/4	0.098	Double	1	21726052	26052
1/2	1	SF-5L6	1/4	6-7/8	0.098	Double	1	21726062	26062



Oval bur – Shape E

Oval bur for general use on all materials. A good stock removal rate is achieved through high quality tungsten carbide, bur shape, cut and optional coating.



Special features:
- Long service life and exceptional surface quality.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.
- Double cut burs are also available with the high-quality HICOAT® coating for a much longer tool life.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”									
1/8	7/32	SE-41	1/8	1-1/2	0.047	Double	1	21823272	23272
1/4	3/8	SE-51	1/8	1-9/16	0.11	Single	1	21823281	23281
						Double	1	21823282	23282
Shank diameter 1/4”									
1/4	3/8	SE-1	1/4	1-15/16	0.11	Single	1	21724631	24631
						Double	1	21724632	24632
						Diamond	1	21724633	24633
3/8	5/8	SE-3	1/4	2-3/8	0.157	Single	1	21724641	24641
						Double	1	21724642	24642
						Diamond	1	21724643	24643
1/2	7/8	SE-5	1/4	2-5/8	0.196	Single	1	21724651	24651
						Double	1	21724652	24652
						Diamond	1	21724653	24653
5/8	1	SE-6	1/4	2-3/4	0.256	Double	1	21724662	24662
Extended shank diameter 1/4”, SL 6”									
1/4	3/8	SE-1L6	1/4	6-3/8	0.11	Double	1	21725982	25982
3/8	5/8	SE-3L6	1/4	6-1/2	0.157	Double	1	21725992	25992
1/2	7/8	SE-5L6	1/4	6-3/4	0.196	Double	1	21726002	26002

12 piece carbide bur sets – Single cut

The set contains 12 tungsten carbide burs in the shapes and dimensions most commonly used in the workshop.

Contents:
The set includes one each of the following single cut burs with a 1/8” shank diameter: Cylindrical (plain end) 1/8” x 1/2” x 1/8”, Cylindrical (radius end) 1/4” x 1/2” x 1/8”, Cylindrical (radius end) 1/8” x 1/2” x 1/8”, Ball 1/8” x 3/32” x 1/8”, Ball 3/16” x 1/8”x 1/8”, Oval 1/4” x 3/8” x 1/8”, Tree (radius end) 1/8” x 1/4” x 1/8”, Tree (radius end) 1/8” x 1/2” x 1/8”, Tree (pointed end) 1/8” x 3/8” x 1/8”, Flame 1/8” x 1/4” x 1/8”, 14° Taper (radius end) 1/8” x 1/2” x 1/8” and Cone 1/8” x 1/2” x 1/8”.

Special features:
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/8”			
Single	1	21826525	26525

Carbide burs, universal line
For fine and coarse stock removal

12 piece carbide bur sets – Double cut

The set contains 12 tungsten carbide burs in the shapes and dimensions most commonly used in the workshop.

Contents:
The set includes one each of the following double cut burs with a 1/8″ shank diameter: Cylindrical (plain end) 1/8″ x 1/2″ x 1/8″, Cylindrical (radius end) 1/4″ x 1/2″ x 1/8″, Cylindrical (radius end) 1/8″ x 1/2″ x 1/8″, Ball 1/8″ x 3/32″ x 1/8″, Ball 3/16″ x 1/8″ x 1/8″, Oval 1/4″ x 3/8″ x 1/8″, Tree (radius end) 1/8″ x 1/4″ x 1/8″, Tree (radius end) 1/8″ x 1/2″ x 1/8″, Tree (pointed end) 1/8″ x 3/8″ x 1/8″, Flame 1/8″ x 1/4″ x 1/8″, 14° Taper (radius end) 1/8″ x 1/2″ x 1/8″, Cone 1/8″ x 1/2″ x 1/8″.

Special features:
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/8″			
Double	1	21826526	26526

8 piece carbide bur sets – Single cut

The set contains 8 tungsten carbide burs in the shapes and dimensions most commonly used in the workshop.

Contents:
The set includes one each of the following single cut burs with a 1/4″ shank diameter: Cylindrical (plain end) 3/8″ x 3/4″ x 1/4″, Cylindrical (plain end) 1/2″ x 1″ x 1/4″, Cylindrical (radius end) 3/8″ x 3/4″ x 1/4″, Cylindrical (radius end) 1/2″ x 1″ x 1/4″, Ball 3/8″ x 5/16″ x 1/4″, Tree (radius end) 3/8″ x 3/4″ x 1/4″, Tree (radius end) 1/2″ x 1″ x 1/4″, Tree (pointed end) 3/8″ x 3/4″ x 1/4″.

Special features:
- Two additional unused slots are available for other burs.
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/4″			
Single	1	21726546	26546

8 piece carbide bur sets – Double cut

The set contains 8 tungsten carbide burs in the shapes and dimensions most commonly used in the workshop.

Contents:
The set includes one each of the following double cut burs with a 1/4" shank diameter: Cylindrical (plain end) 3/8" x 3/4" x 1/4", Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 3/8" x 3/4" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Ball 3/8" x 5/16" x 1/4", Tree (radius end) 3/8" x 3/4" x 1/4", Tree (radius end) 1/2" x 1" x 1/4", Tree (pointed end) 3/8" x 3/4" x 1/4".

Special features:
- Two additional unused slots are available for other burs.
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
Double	1	21726547	26547

5 piece carbide bur set – diamond cut

The set contains five tungsten carbide burs in the shapes and dimensions most commonly used in the workshop.

Contents:
The set includes one each of the following diamond cut burs with a 1/4" shank diameter:
Cylindrical (plain end) 1/2" x 1" x 1/4",
Cylindrical (radius end) 1/2" x 1 x 1/4",
Oval 1/2" x 7/8" x 1/4",
Tree (radius end) 1/2" x 1" x 1/4", 14°
Taper (radius end) 1/2" x 1-1/8" x 1/4".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
Diamond	1	21726552	26552

3-piece carbide bur set – Double cut

The set contains three tungsten carbide burs in the shapes and dimensions most commonly used in the workshop.

Contents:
The set includes one each of the following double cut burs with a 1/4″ shank diameter: Cylindrical (plain end) 1/2″ x 1″ x 1/4″, Cylindrical (radius end) 1/2″ x 1 x 1/4″, Tree (radius end) 1/2″ x 1″ x 1/4″.

Special features:
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/4″			
Double	1	21726548	26548

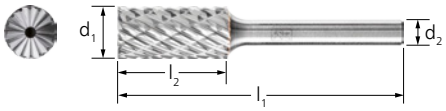
5-piece carbide bur set – Multi-material

The set contains five tungsten carbide burs with different high-performance cuts for use on important materials such as steel, stainless steel (INOX), aluminum and cast iron.

Contents:
The set includes one each of the following high performance burs with a 1/4″ shank diameter: Tree (radius end) 1/2″ x 1″ x 1/4″ STEEL, Tree (radius end) 1/2″ x 1″ x 1/4″ INOX, Tree (radius end) 1/2″ x 1″ x 1/4″ ALU, Tree (radius end) 1/2″ x 1″ x 1/4″ CAST, Tree (radius end) 1/2″ x 1″ x 1/4″ OMNI.

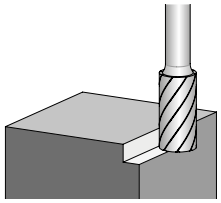
Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

	Item no.	EDP no.
Shank diameter 1/4″		
1	21726557	26557



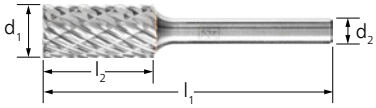
Cylindrical bur with end cut – Shape B

Cylindrical burs with end cut for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



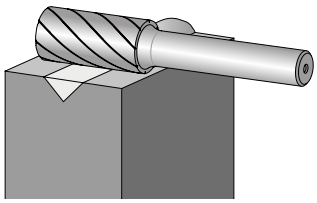
Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SB-1	1/4	1-15/16	OMNI	1	21728029	28029
3/8	3/4	SB-3	1/4	2-1/2	OMNI	1	21728019	28019
1/2	1	SB-5	1/4	2-3/4	OMNI	1	21728010	28010
5/8	1	SB-6	1/4	2-3/4	OMNI	1	21728032	28032



Cylindrical bur with plain end (uncut) – Shape A

Cylindrical burs with plain end (uncut) for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

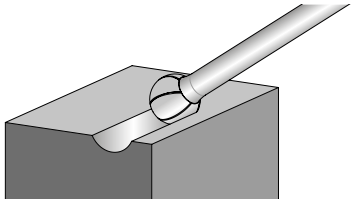
d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SA-1	1/4	1-15/16	OMNI	1	21728026	28026
3/8	3/4	SA-3	1/4	2-1/2	OMNI	1	21728018	28018
1/2	1	SA-5	1/4	2-3/4	OMNI	1	21728005	28005

Carbide burs, high performance line

OMNI cut for versatile use

Ball bur – Shape D

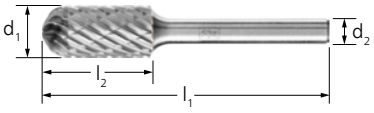
Ball-shaped bur for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



Special features:

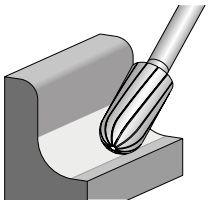
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	3/16	SD-1	1/4	1-15/16	OMNI	1	21728034	28034
3/8	5/16	SD-3	1/4	2-1/16	OMNI	1	21728021	28021
1/2	7/16	SD-5	1/4	2-3/16	OMNI	1	21728028	28028



Cylindrical bur with radius end – Shape C

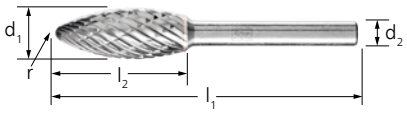
Cylindrical bur with radius end for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



Special features:

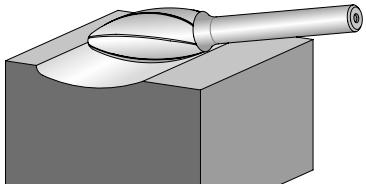
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SC-1	1/4	1-15/16	OMNI	1	21728024	28024
3/8	3/4	SC-3	1/4	2-1/2	OMNI	1	21728006	28006
1/2	1	SC-5	1/4	2-3/4	OMNI	1	21728001	28001
5/8	1	SC-6	1/4	2-3/4	OMNI	1	21728030	28030
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SC-3L6	1/4	6-5/8	OMNI	1	21728020	28020
1/2	1	SC-5L6	1/4	6-7/8	OMNI	1	21728017	28017



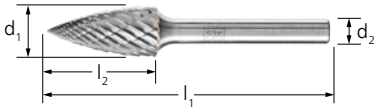
Flame bur – Shape H

Flame-shaped bur for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



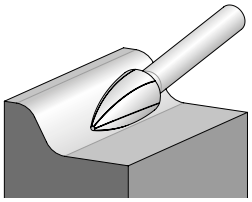
Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/2	1-1/4	SH-5	1/4	3	0.082	OMNI	1	21728004	28004



Tree bur with pointed end – Shape G

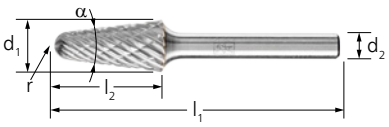
Pointed tree-shaped bur with flattened tip for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

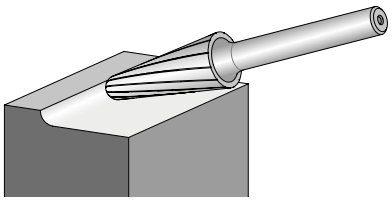
d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SG-3	1/4	2-1/2	OMNI	1	21728015	28015
1/2	1	SG-5	1/4	2-3/4	OMNI	1	21728009	28009
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SG-3L6	1/4	6-3/4	OMNI	1	21728031	28031
1/2	1	SG-5L6	1/4	6-7/8	OMNI	1	21728023	28023

Carbide burs, high performance line
OMNI cut for versatile use



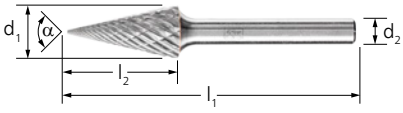
14° Taper bur with radius end – Shape L

14° taper bur with round radius end for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



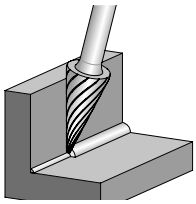
Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"										
3/8	1-1/16	SL-3	1/4	3	16	0.114	OMNI	1	21728003	28003
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	OMNI	1	21728014	28014
5/8	1-5/16	SL-6	1/4	3-1/4	14	0.189	OMNI	1	21728013	28013



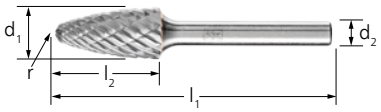
Cone bur with pointed end – Shape M

Conical pointed bur with flattened tip for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



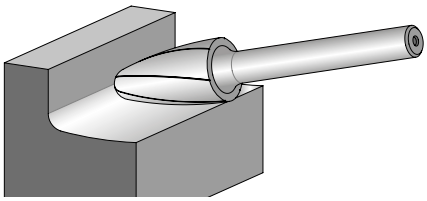
Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/4	1	SM-3	1/4	1-15/16	10	OMNI	1	21728036	28036
1/2	1	SM-5	1/4	2-3/4	28	OMNI	1	21728016	28016



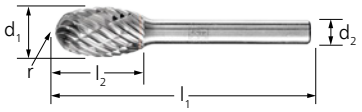
Tree bur with radius end – Shape F

Tree-shaped bur with radius end for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



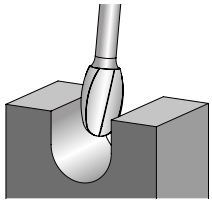
Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/4	5/8	SF-1	1/4	1-15/16	0.059	OMNI	1	21728012	28012
3/8	3/4	SF-3	1/4	2-1/2	0.098	OMNI	1	21728007	28007
7/16	1	SF-4	1/4	2-3/4	0.012	OMNI	1	21728002	28002
1/2	1	SF-5	1/4	2-3/4	0.098	OMNI	1	21728000	28000
5/8	1	SF-6	1/4	2-3/4	0.141	OMNI	1	21728033	28033
Extended shank diameter 1/4", SL 6"									
3/8	3/4	SF-3L6	1/4	6-3/4	0.098	OMNI	1	21728027	28027
1/2	1	SF-5L6	1/4	6-7/8	0.098	OMNI	1	21728008	28008



Oval bur – Shape E

Oval bur for versatile, economical and time-saving use on steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron. Also available with wear-resistant HICOAT® coating upon special request.



Special features:
- 30% higher stock removal rate on steel than conventional double cut burs.
- Comfortable working due to reduced vibration and noise.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
3/8	5/8	SE-3	1/4	2-3/8	0.157	OMNI	1	21728035	28035
1/2	7/8	SE-5	1/4	2-5/8	0.196	OMNI	1	21728025	28025
Extended shank diameter 1/4", SL 6"									
1/2	7/8	SE-5L6	1/4	6-3/4	0.196	OMNI	1	21728022	28022

Carbide burs, high performance line
OMNI cut for versatile use

8 piece carbide bur sets – OMNI cut

The set contains eight versatile tungsten carbide burs for use on important materials such as steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron in the most common shapes and dimensions for workshop applications.

Contents:
The set includes one each of the following OMNI cut burs with a 1/4" shank diameter: Cylindrical (plain end) 3/8" x 3/4" x 1/4", Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 3/8" x 3/4" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Ball 3/8" x 5/16" x 1/4", Tree (radius end) 3/8" x 3/4" x 1/4", Tree (radius end) 1/2" x 1" x 1/4", Tree (pointed end) 3/8" x 3/4" x 1/4".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Two additional unused slots are available for other burs.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
OMNI	1	21728011	28011

5 piece carbide bur sets – OMNI cut

The set contains five versatile tungsten carbide burs for use on important materials such as steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron in the most common shapes and dimensions for workshop applications.

Contents:
The set includes one each of the following OMNI cut burs with a 1/4" shank diameter: Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Oval 1/2" x 7/8" x 1/4", Tree (radius end) 1/2" x 1" x 1/4", 14° Taper (radius end) 1/2" x 1-1/8" x 1/4".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
OMNI	1	21728037	28037

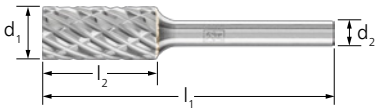
3 piece carbide bur sets – OMNI cut

The set contains three versatile tungsten carbide burs for use on important materials such as steel and cast steel, stainless steel (INOX), non-ferrous metals and cast iron in the most common shapes and dimensions for workshop applications.

Contents:
The set includes one each of the following OMNI cut burs with a 1/4" shank diameter: Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 1/2" x 1 x 1/4", Tree (radius end) 1/2" x 1" x 1/4".

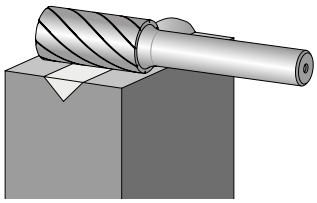
Special features:
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
OMNI	1	21728038	28038



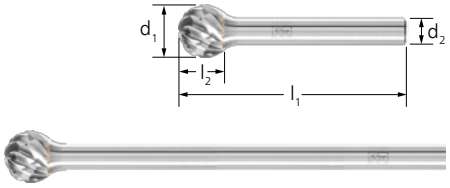
Cylindrical bur with plain end (uncut) – Shape A

Cylindrical burs for machining steel and cast steel. Tangibly more aggressive combined with good guidance, allowing for safe and precise work. Also available with wear-resistant HICOAT® coating upon special request.



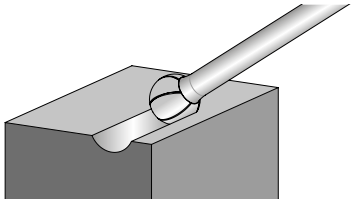
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional double cut burs.
- Workpieces are protected due to significantly lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SA-1	1/4	1-15/16	STEEL	1	21724038	24038
3/8	3/4	SA-3	1/4	2-1/2	STEEL	1	21724068	24068
1/2	1	SA-5	1/4	2-3/4	STEEL	1	21724108	24108
5/8	1	SA-6	1/4	2-3/4	STEEL	1	21724118	24118
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SA-3L6	1/4	6-5/8	STEEL	1	21725640	25640
1/2	1	SA-5L6	1/4	6-7/8	STEEL	1	21725642	25642



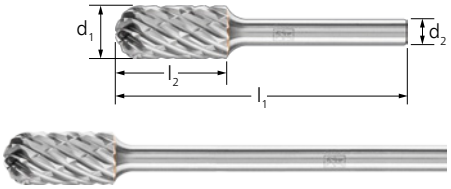
Ball bur – Shape D

Ball-shaped bur for machining steel and cast steel. Tangibly more aggressive combined with good guidance, allowing for safe and precise work. Also available with wear-resistant HICOAT® coating upon special request.



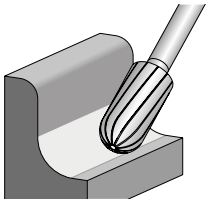
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional double cut burs.
- Workpieces are protected due to significantly lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	3/16	SD-1	1/4	1-15/16	STEEL	1	21724546	24546
3/8	5/16	SD-3	1/4	2-1/16	STEEL	1	21724568	24568
1/2	7/16	SD-5	1/4	2-3/16	STEEL	1	21724588	24588
5/8	9/16	SD-6	1/4	2-5/16	STEEL	1	21724599	24599
Extended shank diameter 1/4", SL 6"								
3/8	5/16	SD-3L6	1/4	6-1/4	STEEL	1	21725650	25650
1/2	7/16	SD-5L6	1/4	6-5/16	STEEL	1	21725651	25651



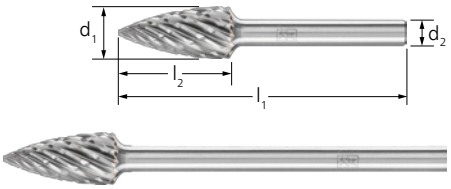
Cylindrical bur with radius end – Shape C

Cylindrical bur radius end for machining steel and cast steel. Tangibly more aggressive combined with good guidance, allowing for safe and precise work. Also available with wear-resistant HICOAT® coating upon special request.



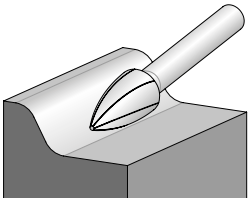
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional double cut burs.
- Workpieces are protected due to significantly lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SC-1	1/4	1-15/16	STEEL	1	21724398	24398
3/8	3/4	SC-3	1/4	2-1/2	STEEL	1	21724428	24428
1/2	1	SC-5	1/4	2-3/4	STEEL	1	21724468	24468
5/8	1	SC-6	1/4	2-3/4	STEEL	1	21724478	24478
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SC-3L6	1/4	6-5/8	STEEL	1	21725641	25641
1/2	1	SC-5L6	1/4	6-7/8	STEEL	1	21725643	25643



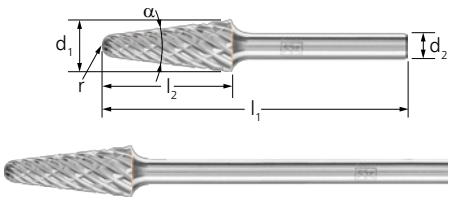
Tree bur with pointed end – Shape G

Pointed tree-shaped bur with flattened tip for machining steel and cast steel. Tangibly more aggressive combined with good guidance, allowing for safe and precise work. Also available with wear-resistant HICOAT® coating upon special request.



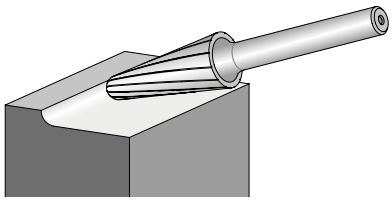
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional double cut burs.
- Workpieces are protected due to significantly lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SG-1	1/4	1-15/16	STEEL	1	21724788	24788
3/8	3/4	SG-3	1/4	2-1/2	STEEL	1	21724808	24808
1/2	1	SG-5	1/4	2-3/4	STEEL	1	21724818	24818
5/8	1	SG-6	1/4	2-3/4	STEEL	1	21724838	24838
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SG-3L6	1/4	6-3/4	STEEL	1	21725644	25644
1/2	1	SG-5L6	1/4	6-7/8	STEEL	1	21725646	25646



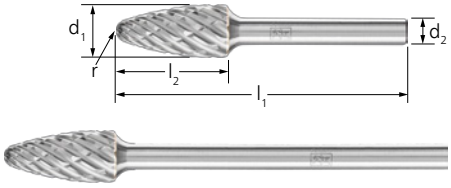
14° Taper bur with radius end – Shape L

14° taper bur with round radius end for machining steel and cast steel. Tangibly more aggressive combined with good guidance, allowing for safe and precise work. Also available with wear-resistant HICOAT® coating upon special request.



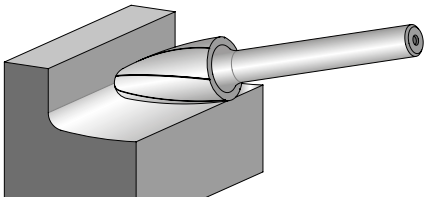
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional double cut burs.
- Workpieces are protected due to significantly lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"										
1/4	5/8	SL-1	1/4	1-15/16	14	0.055	STEEL	1	21725138	25138
3/8	1-1/16	SL-3	1/4	3	14	0.114	STEEL	1	21725158	25158
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	STEEL	1	21725168	25168
5/8	1-5/16	SL-6	1/4	3-1/4	14	0.189	STEEL	1	21725188	25188
Extended shank diameter 1/4", SL 6"										
3/8	1-1/16	SL-3L6	1/4	7-1/8	14	0.114	STEEL	1	21725648	25648
1/2	1-1/8	SL-4L6	1/4	7-3/16	14	0.13	STEEL	1	21725649	25649



Tree bur with radius end – Shape F

Tree-shaped bur with radius end for machining steel and cast steel. Tangibly more aggressive combined with good guidance, allowing for safe and precise work. Also available with wear-resistant HICOAT® coating upon special request.



Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional double cut burs.
- Workpieces are protected due to significantly lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/4	5/8	SF-1	1/4	1-15/16	0.059	STEEL	1	21724698	24698
3/8	3/4	SF-3	1/4	2-1/2	0.098	STEEL	1	21724708	24708
1/2	1	SF-5	1/4	2-3/4	0.098	STEEL	1	21724728	24728
5/8	1	SF-6	1/4	2-3/4	0.141	STEEL	1	21724748	24748
Extended shank diameter 1/4", SL 6"									
3/8	3/4	SF-3L6	1/4	6-3/4	0.098	STEEL	1	21725645	25645
1/2	1	SF-5L6	1/4	6-7/8	0.098	STEEL	1	21725647	25647

Carbide burs, high performance line

STEEL cut for steel and cast steel

5 piece carbide bur sets – STEEL cut

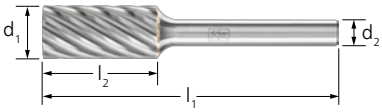
The set contains five tungsten carbide burs for processing steel and cast steel in the most common shapes and dimensions.

Contents:
The set includes one each of the following STEEL cut burs with a 1/4" shank:
Cylindrical (plain end) 1/2" x 1 x 1/4",
Cylindrical (radius end) 1/2 x 1" x 1/4",
Tree (radius end) 1/2" x 1" x 1/4",
Tree (pointed end) 1/2" x 1" x 1/4", 14° Taper
(radius end) 1/2 x 1-1/8" x 1/4".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

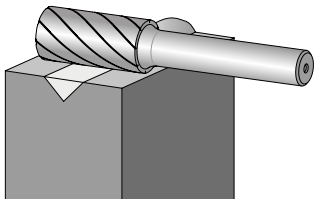
d_2 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"				
1/4	STEEL	1	26000013	26553

INOX cut for stainless steel (INOX)



Cylindrical bur with plain end (uncut) – Shape A

Cylindrical bur for machining stainless steel (INOX). The cut is characterized by an extremely high stock removal rate and long service life as well as much lower vibration than comparable double cut burs. Also available with wear-resistant HICOAT® coating upon special request.

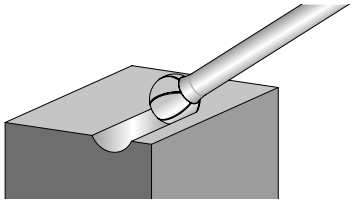


Special features:
- Creates high quality surface finish and the optimum material chip formation.
- Workpiece is protected through much lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	1/2	SA-43	1/8	1-1/2	INOX	1	21823127	23127
1/4	1/2	SA-51	1/8	1-11/16	INOX	1	21823137	23137
Shank diameter 1/4"								
1/4	5/8	SA-1	1/4	1-15/16	INOX	1	21724037	24037
3/8	3/4	SA-3	1/4	2-1/2	INOX	1	21724067	24067
1/2	1	SA-5	1/4	2-3/4	INOX	1	21724107	24107

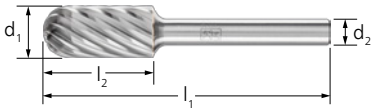
Ball bur – Shape D

Ball-shaped bur for machining stainless steel (INOX). The cut is characterized by an extremely high stock removal rate and long service life as well as much lower vibration than comparable double cut burs. Also available with wear-resistant HICOAT® coating upon special request.



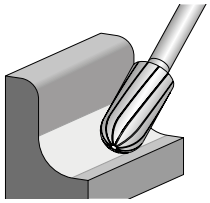
Special features:
- Creates high quality surface finish and the optimum material chip formation.
- Workpiece is protected through much lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	3/32	SD-42	1/8	1-1/2	INOX	1	21823247	23247
1/4	3/16	SD-51	1/8	1-3/8	INOX	1	21823257	23257
Shank diameter 1/4"								
1/4	3/16	SD-1	1/4	1-15/16	INOX	1	21724527	24527
3/8	5/16	SD-3	1/4	2-1/16	INOX	1	21724567	24567
1/2	7/16	SD-5	1/4	2-3/16	INOX	1	21724587	24587



Cylindrical bur with radius end – Shape C

Cylindrical bur with round radius end for machining stainless steel (INOX). The cut is characterized by an extremely high stock removal rate and long service life as well as much lower vibration than comparable double cut burs. Also available with wear-resistant HICOAT® coating upon special request.



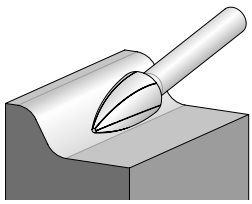
Special features:
- Creates high quality surface finish and the optimum material chip formation.
- Workpiece is protected through much lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	1/2	SC-42	1/8	1-1/2	INOX	1	21823197	23197
1/4	1/2	SC-51	1/8	1-11/16	INOX	1	21823207	23207
Shank diameter 1/4"								
1/4	5/8	SC-1	1/4	1-15/16	INOX	1	21724397	24397
3/8	3/4	SC-3	1/4	2-1/2	INOX	1	21724427	24427
1/2	1	SC-5	1/4	2-3/4	INOX	1	21724467	24467

Carbide burs, high performance line
INOX cut for stainless steel (INOX)

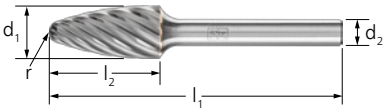
Tree bur with pointed end – Shape G

Pointed tree-shaped bur with flattened tip for machining stainless steel (INOX). The cut is characterized by an extremely high stock removal rate and long service life as well as much lower vibration than comparable double cut burs. Also available with wear-resistant HICOAT® coating upon special request.



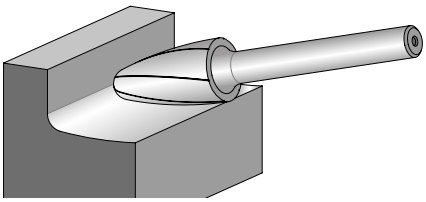
Special features:
- Creates high quality surface finish and the optimum material chip formation.
- Workpiece is protected through much lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	1/4	SG-41	1/8	1-1/2	INOX	1	21823357	23357
1/4	1/2	SG-51	1/8	1-11/16	INOX	1	21823387	23387
Shank diameter 1/4"								
1/4	5/8	SG-1	1/4	1-15/16	INOX	1	21724787	24787
3/8	3/4	SG-3	1/4	2-1/2	INOX	1	21724807	24807
1/2	1	SG-5	1/4	2-3/4	INOX	1	21724817	24817



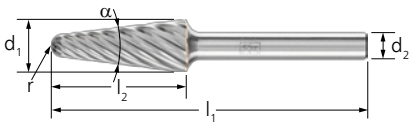
Tree bur with radius end – Shape F

Tree-shaped bur with radius end for machining stainless steel (INOX). The cut is characterized by an extremely high stock removal rate and long service life as well as much lower vibration than comparable double cut burs. Also available with wear-resistant HICOAT® coating upon special request.



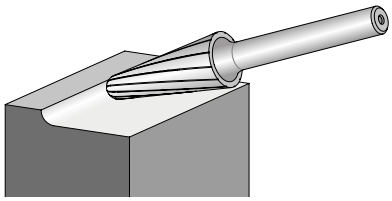
Special features:
- Creates high quality surface finish and the optimum material chip formation.
- Workpiece is protected through much lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"									
1/8	1/2	SF-42	1/8	1-1/2	0.029	INOX	1	21823317	23317
1/4	1/2	SF-51	1/8	1-11/16	0.059	INOX	1	21823327	23327
Shank diameter 1/4"									
1/4	5/8	SF-1	1/4	1-15/16	0.059	INOX	1	21724697	24697
3/8	3/4	SF-3	1/4	2-1/2	0.098	INOX	1	21724707	24707
1/2	1	SF-5	1/4	2-3/4	0.098	INOX	1	21724727	24727



14° Taper bur with radius end – Shape L

14° taper bur with round radius end for machining stainless steel (INOX). The cut is characterized by an extremely high stock removal rate and long service life as well as much lower vibration than comparable double cut burs. Also available with wear-resistant HICOAT® coating upon special request.



Special features:
- Creates high quality surface finish and the optimum material chip formation.
- Workpiece is protected through much lower thermal load.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"										
1/8	1/2	SL-42	1/8	1-1/2	14	0.035	INOX	1	21823457	23457
Shank diameter 1/4"										
1/4	5/8	SL-1	1/4	1-15/16	14	0.055	INOX	1	21725137	25137
3/8	1-1/16	SL-3	1/4	3	14	0.114	INOX	1	21725157	25157
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	INOX	1	21725167	25167

5 piece carbide bur sets – INOX cut

The set contains five tungsten carbide burs for processing stainless steel (INOX) in the most common shapes and dimensions.

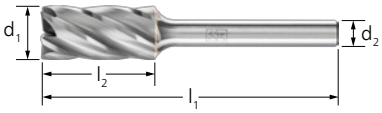
Contents:
The set includes one each of the following INOX cut burs with a 1/4" shank diameter: Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Tree (radius end) 1/2" x 1" x 1/4", Tree (pointed end) 1/2" x 1" x 1/4", 14° Taper (radius end) 1/2" x 1-1/8" x 1/4".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

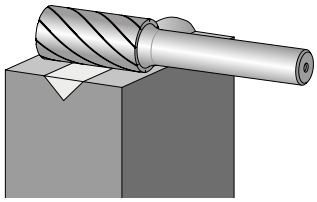
Cut		Item no.	EDP no.
Shank diameter 1/4"			
INOX	1	26000014	26554

Carbide burs, high performance line

ALU cut for aluminum/non-ferrous metals

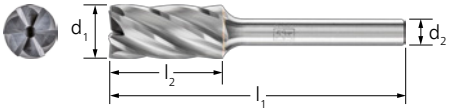


Cylindrical bur with plain end (uncut) – Shape A



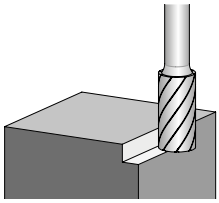
Special features:
- Large chips and reduced material adhesion.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SA-1	1/4	1-15/16	ALU	1	21724035	24035
3/8	3/4	SA-3	1/4	2-1/2	ALU	1	21724065	24065
1/2	1	SA-5	1/4	2-3/4	ALU	1	21724105	24105
5/8	1	SA-6	1/4	2-3/4	ALU	1	21724115	24115



Cylindrical bur with end cut – Shape B

Cylindrical bur with end cut for an extremely high stock removal rate, long tool service and smooth operation when machining aluminum.

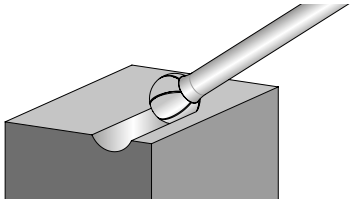


Special features:
- Large chips and reduced material adhesion.
- HC-NFE coating helps remove material in long chips and prevents loading of non-ferrous metals by creating a barrier between the bur and the workpiece.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	9/16	SB-43	1/8	1-1/2	ALU	1	21823165	23165
1/4	1/2	SB-51	1/8	1-11/16	ALU	1	21823175	23175
Shank diameter 1/4"								
1/4	5/8	SB-1	1/4	1-15/16	ALU	1	21724215	24215
3/8	3/4	SB-3	1/4	2-1/2	ALU	1	21724245	24245
					ALU HC-NFE	1	21724250	24250
1/2	1	SB-5	1/4	2-3/4	ALU	1	21724285	24285
					ALU HC-NFE	1	21727105	27105
5/8	1	SB-6	1/4	2-3/4	ALU	1	21724295	24295

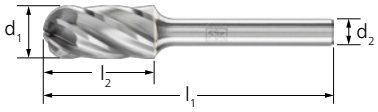
Ball bur – Shape D

Ball-shaped bur with extremely high stock removal rate, long service life and smooth operation when machining aluminum.



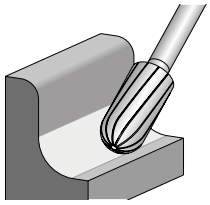
Special features:
- Large chips and reduced material adhesion.
- HC-NFE coating helps remove material in long chips and prevents loading of non-ferrous metals by creating a barrier between the bur and the workpiece.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	3/32	SD-42	1/8	1-1/2	ALU	1	21823245	23245
1/4	3/16	SD-51	1/8	1-3/8	ALU	1	21823255	23255
Shank diameter 1/4"								
1/4	3/16	SD-1	1/4	1-15/16	ALU	1	21724545	24545
3/8	5/16	SD-3	1/4	2-1/16	ALU	1	21724565	24565
					ALU HC-NFE	1	21724570	24570
1/2	7/16	SD-5	1/4	2-3/16	ALU	1	21724585	24585
					ALU HC-NFE	1	21727235	27235
5/8	9/16	SD-6	1/4	2-5/16	ALU	1	21724595	24595



Cylindrical bur with radius end – Shape C

Cylindrical bur with radius end for an extremely high stock removal rate, long service life and smooth operation when machining aluminum.

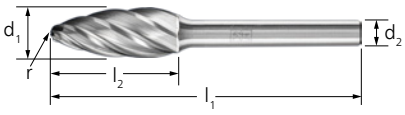


Special features:
- Large chips and reduced material adhesion.
- HC-NFE coating helps remove material in long chips and prevents loading of non-ferrous metals by creating a barrier between the bur and the workpiece.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	1/2	SC-42	1/8	1-1/2	ALU	1	21823195	23195
1/4	1/2	SC-51	1/8	1-11/16	ALU	1	21823205	23205
Shank diameter 1/4"								
1/4	5/8	SC-1	1/4	1-15/16	ALU	1	21724395	24395
3/8	3/4	SC-3	1/4	2-1/2	ALU	1	21724425	24425
					ALU HC-NFE	1	21724433	24433
1/2	1	SC-5	1/4	2-3/4	ALU	1	21724465	24465
					ALU HC-NFE	1	21727165	27165
5/8	1	SC-6	1/4	2-3/4	ALU	1	21724475	24475

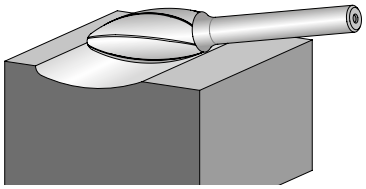
Carbide burs, high performance line

ALU cut for aluminum/non-ferrous metals



Flame bur – Shape H

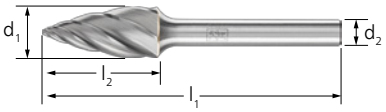
Flame-shaped bur for an extremely high stock removal rate, long tool life and smooth operation when machining aluminium.



Special features:

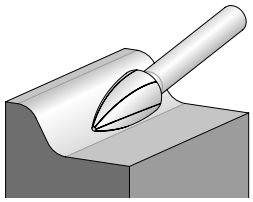
- Large chips and reduced material adhesion.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/4	5/8	SH-1	1/4	1-15/16	0.039	ALU	1	21725657	25657
5/16	3/4	SH-2	1/4	2-1/2	0.059	ALU	1	21725658	25658
1/2	1-1/4	SH-5	1/4	3	0.082	ALU	1	21725659	25659



Tree bur with pointed end – Shape G

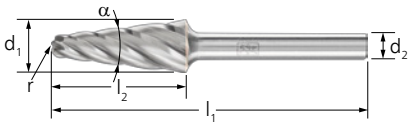
Pointed tree-shaped bur with pointed tip for an extremely high stock removal rate, long service life and smooth operation when machining aluminum.



Special features:

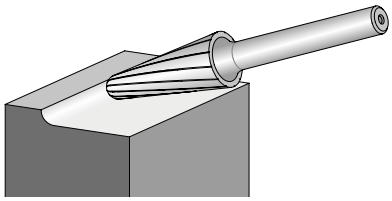
- Large chips and reduced material adhesion.
- HC-NFE coating helps remove material in long chips and prevents loading of non-ferrous metals by creating a barrier between the bur and the workpiece.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/4	5/8	SG-1	1/4	1-15/16	ALU	1	21725653	25653
3/8	3/4	SG-3	1/4	2-1/2	ALU	1	21725654	25654
1/2	1	SG-5	1/4	2-3/4	ALU	1	21725655	25655
5/8	1	SG-6	1/4	2-3/4	ALU	1	21725656	25656



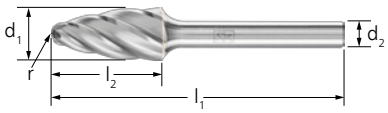
14° Taper bur with radius end – Shape L

Conical bur with round radius end for an extremely high stock removal rate, long service life and smooth operation when machining aluminum.



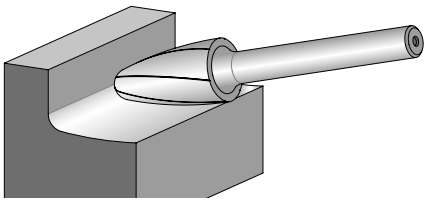
Special features:
- Large chips and reduced material adhesion.
- HC-NFE coating helps remove material in long chips and prevents loading of non-ferrous metals by creating a barrier between the bur and the workpiece.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"										
3/8	1-1/16	SL-3	1/4	3	14	0.114	ALU	1	21725155	25155
							ALU HC-NFE	1	21725160	25160
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	ALU	1	21725165	25165
							ALU HC-NFE	1	21727450	27450
5/8	1-5/16	SL-6	1/4	3-1/4	14	0.189	ALU	1	21725185	25185



Tree bur with radius end – Shape F

Tree-shaped bur with radius end for an extremely high stock removal rate, long service life and smooth operation when machining aluminum.



Special features:
- Large chips and reduced material adhesion.
- HC-NFE coating helps remove material in long chips and prevents loading of non-ferrous metals by creating a barrier between the bur and the workpiece.

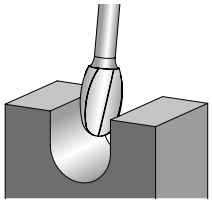
d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"									
1/8	1/2	SF-42	1/8	1-1/2	0.029	ALU	1	21823315	23315
1/4	1/2	SF-51	1/8	1-11/16	0.059	ALU	1	21823325	23325
Shank diameter 1/4"									
1/4	5/8	SF-1	1/4	1-15/16	0.059	ALU	1	21724695	24695
3/8	3/4	SF-3	1/4	2-1/2	0.098	ALU	1	21724705	24705
						ALU HC-NFE	1	21724710	24710
1/2	1	SF-5	1/4	2-3/4	0.098	ALU	1	21724725	24725
								21727280	27280
5/8	1	SF-6	1/4	2-3/4	0.141	ALU	1	21724745	24745

Carbide burs, high performance line

ALU cut for aluminum/non-ferrous metals

Oval bur – Shape E

Oval bur for an extremely high stock removal rate, long tool life and smooth operation when machining aluminium.



Special features:
- Large chips and reduced material adhesion.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/4	3/8	SE-1	1/4	1-15/16	0.11	ALU	1	21725652	25652
3/8	5/8	SE-3	1/4	2-3/8	0.157	ALU	1	21724645	24645
1/2	7/8	SE-5	1/4	2-5/8	0.196	ALU	1	21724655	24655
5/8	1	SE-6	1/4	2-3/4	0.256	ALU	1	21724665	24665

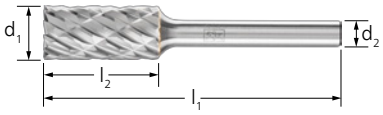
5-piece carbide bur set – ALU cut

The set contains five tungsten carbide burs for processing aluminum in the most common shapes and dimensions.

Contents:
The set includes one each of the following ALU cut burs with a 1/4" shank diameter: Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Oval 1/2" x 7/8" x 1/4", Tree (radius end) 1/2" x 1" x 1/4", and 14° Taper (radius end) 1/2" x 1-1/8" x 1/4".

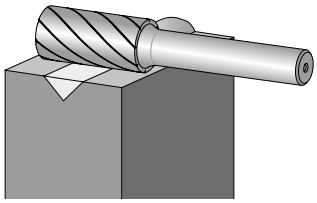
Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
ALU	1	21726550	26550



Cylindrical bur with plain end (uncut) – Shape A

Cylindrical bur for machining cast iron. The cut is characterized by its smooth milling performance with considerably reduced vibration and less noise.

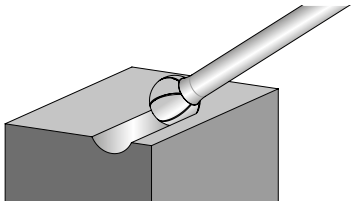


Special features:
- Up to 100% higher stock removal rate on cast iron when compared to conventional double cut burs.
- Significantly increased aggressiveness, creates large chips, and has very good chip removal.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SA-3	1/4	2-1/2	CAST	1	21724069	24069
1/2	1	SA-5	1/4	2-3/4	CAST	1	21724109	24109

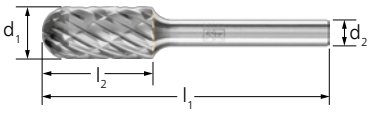
Ball bur – Shape D

Ball-shaped bur for machining cast iron. The cut impresses with its smooth milling performance with considerably reduced vibration and less noise.



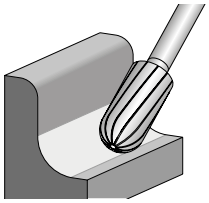
Special features:
- Up to 100% higher stock removal rate on cast iron when compared to conventional double cut burs.
- Significantly increased aggressiveness, creates large chips, and has very good chip removal.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	5/16	SD-3	1/4	2-1/16	CAST	1	21724569	24569
1/2	7/16	SD-5	1/4	2-3/16	CAST	1	21724589	24589



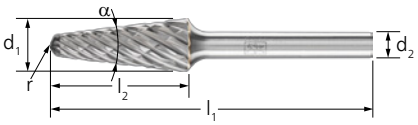
Cylindrical bur with radius end – Shape C

Cylindrical bur with radius end for machining cast iron. The cut is characterized by its smooth milling performance with considerably reduced vibration and less noise.



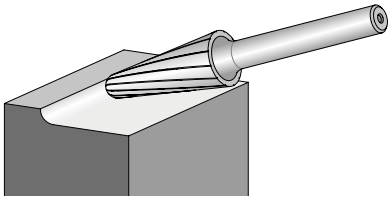
Special features:
- Up to 100% higher stock removal rate on cast iron when compared to conventional double cut burs.
- Significantly increased aggressiveness, creates large chips, and has very good chip removal.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SC-3	1/4	2-1/2	CAST	1	21724429	24429
1/2	1	SC-5	1/4	2-3/4	CAST	1	21724469	24469



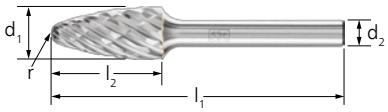
14° Taper bur with radius end – Shape L

Conical bur with round radius end for machining cast iron. The cut is characterized by its smooth milling performance with considerably reduced vibration and less noise.



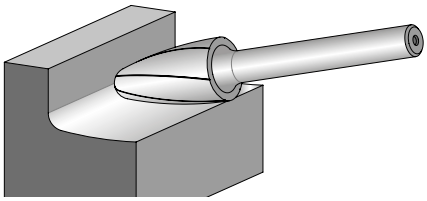
Special features:
- Up to 100% higher stock removal rate on cast iron when compared to conventional double cut burs.
- Significantly increased aggressiveness, creates large chips, and has very good chip removal.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"										
3/8	1-1/16	SL-3	1/4	3	14	0.114	CAST	1	21725159	25159
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	CAST	1	21725169	25169



Tree bur with radius end – Shape F

Tree-shaped bur with radius end for machining cast iron. The cut is characterized by its smooth milling performance with considerably reduced vibration and less noise.



Special features:
- Up to 100% higher stock removal rate on cast iron when compared to conventional double cut burs.
- Significantly increased aggressiveness, creates large chips, and has very good chip removal.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
3/8	3/4	SF-3	1/4	2-1/2	0.098	CAST	1	21724709	24709
1/2	1	SF-5	1/4	2-3/4	0.098	CAST	1	21724729	24729

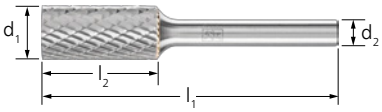
5-piece carbide bur set – CAST cut

The set contains five tungsten carbide burs for processing cast iron in the most common shapes and dimensions.

Contents:
The set includes one each of the following CAST cut burs with a 1/4" shank diameter: Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Ball 1/2" x 7/16" 1/4", Tree (radius end) 1/2" x 1" x 1/4", 14° Taper (radius end) 1/2" x 1-1/8" x 1/4".

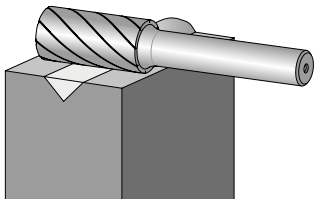
Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

Cut		Item no.	EDP no.
Shank diameter 1/4"			
CAST	1	26000016	26555



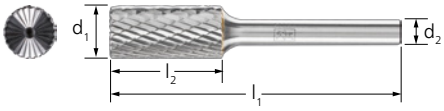
Cylindrical bur with plain end (uncut) – Shape A

Cylindrical bur for tough applications in dockyards, foundries and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage, splintering and bur failure. Ideal for use as long-shank variants.



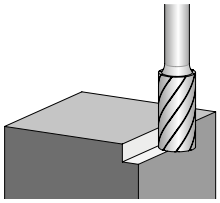
Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SA-3	1/4	2-1/2	TOUGH	1	21722152	22152
1/2	1	SA-5	1/4	2-3/4	TOUGH	1	21722156	22156



Cylindrical bur with end cut – Shape B

Cylindrical bur with end cut for tough applications in shipyards, foundries, and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage, splintering, and bur failure. Also available with extended shanks.

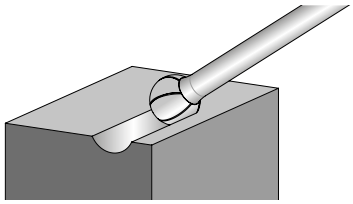


Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SB-3	1/4	2-1/2	TOUGH	1	21722182	22182
1/2	1	SB-5	1/4	2-3/4	TOUGH	1	21722186	22186

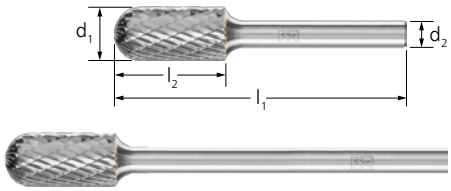
Ball bur – Shape D

Ball-shaped bur for tough applications in dockyards, foundries and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage, splintering and bur failure. Ideal for use as long-shank variants.



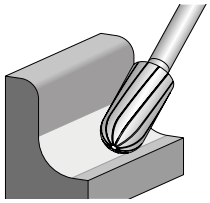
Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
1/2	7/16	SD-5	1/4	2-3/16	TOUGH	1	21722244	22244
5/8	9/16	SD-6	1/4	2-5/16	TOUGH	1	21722246	22246



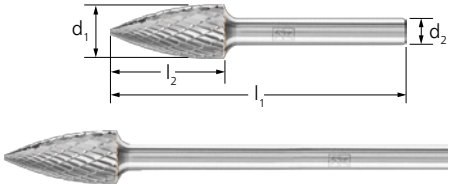
Cylindrical bur with radius end – Shape C

Cylindrical bur with radius end for tough applications in shipyards, foundries and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage, splintering, and bur failure. Also available with extended shanks.



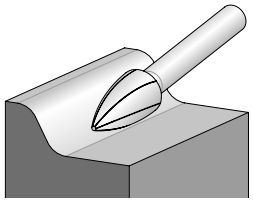
Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SC-3	1/4	2-1/2	TOUGH	1	21722212	22212
1/2	1	SC-5	1/4	2-3/4	TOUGH	1	21722216	22216
Extended shank diameter 1/4", SL 6"								
3/8	3/4	SC-3L6	1/4	6-5/8	TOUGH	1	21722734	22734



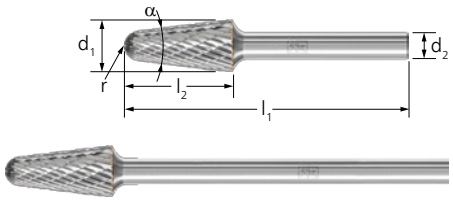
Tree bur with pointed end – Shape G

Pointed tree-shaped bur for the most demanding applications in shipyards, foundries, and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage and bur failure. Ideal for use with spindle extensions.



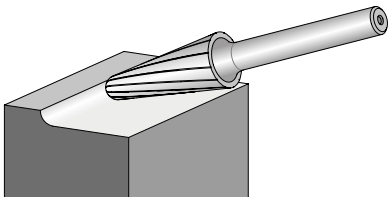
Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"								
3/8	3/4	SG-3	1/4	2-1/2	TOUGH	1	21722294	22294
1/2	1	SG-5	1/4	2-3/4	TOUGH	1	21722296	22296
5/8	1	SG-6	1/4	2-3/4	TOUGH	1	21722298	22298
Extended shank diameter 1/4", SL 6"								
1/2	1	SG-5L6	1/4	6-7/8	TOUGH	1	21722760	22760



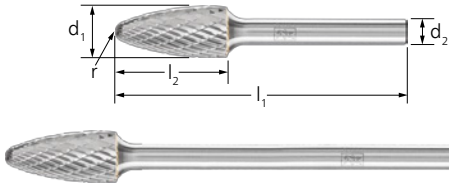
14° Taper bur with radius end – Shape L

14° taper bur with round radius end for tough operating conditions in dockyards, foundries and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage, splintering and bur failure. Ideal for use as long-shank variants.



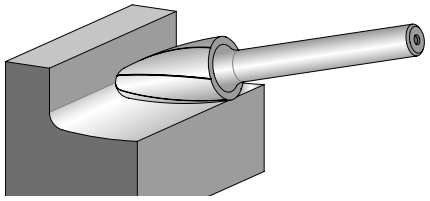
Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	α [°]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"										
1/2	1-1/8	SL-4	1/4	3-1/16	14	0.13	TOUGH	1	21722346	22346
Extended shank diameter 1/4", SL 6"										
1/2	1-1/8	SL-4L6	1/4	7-3/16	14	0.13	TOUGH	1	21722774	22774



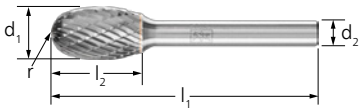
Tree bur with radius end – Shape F

Tree-shaped bur with radius end for the most demanding applications in shipyards, foundries, and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage and bur failure. Ideal for use with spindle extensions.



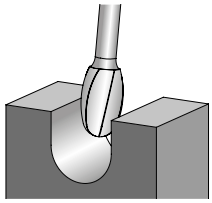
Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
1/2	1	SF-5	1/4	2-3/4	0.098	TOUGH	1	21722276	22276
5/8	1	SF-6	1/4	2-3/4	0.141	TOUGH	1	21722278	22278
Extended shank diameter 1/4", SL 6"									
1/2	1	SF-5L6	1/4	6-7/8	0.098	TOUGH	1	21722754	22754



Oval bur – Shape E

Oval bur for tough applications in dockyards, foundries and steel construction. The extremely impact-resistant cut minimizes tooth chipping/breakage, splintering and bur failure. Ideal for use as long-shank variants.



Special features:
- Can also be used at a lower rotational speed.
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"									
3/8	5/8	SE-3	1/4	2-3/8	0.157	TOUGH	1	21722260	22260

5-piece carbide bur set – TOUGH cut

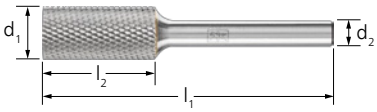
The set contains five tungsten carbide burs for tough applications in the most common shapes and dimensions.

Contents:
The set includes one each of the following TOUGH cut burs with a 1/4" shank diameter: Cylindrical (plain end) 1/2" x 1" x 1/4", Cylindrical (radius end) 1/2" x 1" x 1/4", Ball 1/2" x 7/16" x 1/4", Tree (radius end) 1/2" x 1" x 1/4", and Tree (pointed end) 1/2" x 1" x 1/4".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The burs are secured at the shanks, facilitating their easy selection and withdrawal.
- Five empty slots are available for additional burs.

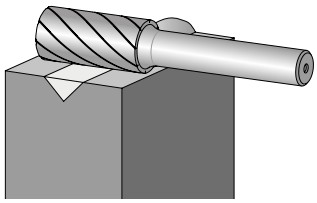
Cut		Item no.	EDP no.
Shank diameter 1/4"			
TOUGH	1	21726551	26551

Carbide burs, high performance line
MICRO cut for finishing work



Cylindrical bur with plain end (uncut) – Shape A

Cylindrical bur for fine stock removal. MICRO cut burs offer a higher stock removal rate and produce a high surface quality, particularly when compared to conventional double cut burs. They also operate with low vibration and little noise.

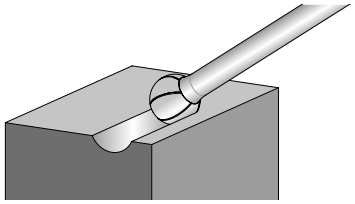


Special features:
- In comparison to abrasive mounted points, there is no change in geometry due to wear and tear.
- Work on almost all materials up to 940 HV (68 HRC).
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
1/8	1/2	SA-43	1/8	1-1/2	MICRO	1	21827500	27500
Shank diameter 1/4"								
1/4	5/8	SA-1	1/4	1-15/16	MICRO	1	21727512	27512
3/8	3/4	SA-3	1/4	2-1/2	MICRO	1	21727516	27516

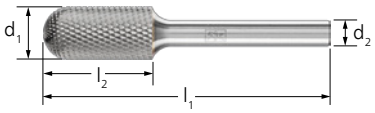
Ball bur – Shape D

Ball-shaped bur for fine stock removal. MICRO cut burs offer a higher stock removal rate and produce a high surface quality, particularly when compared to conventional double cut burs. They also operate with low vibration and little noise.



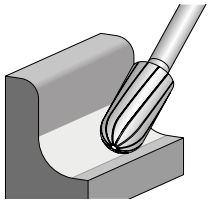
Special features:
- In comparison to abrasive mounted points, there is no change in geometry due to wear and tear.
- Work on almost all materials up to 940 HV (68 HRC).
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8"								
3/32	3/32	SD-41	1/8	1-1/2	MICRO	1	21827519	27519
1/8	3/32	SD-42	1/8	1-1/2	MICRO	1	21827520	27520
Shank diameter 1/4"								
1/4	3/16	SD-1	1/4	1-15/16	MICRO	1	21727521	27521
3/8	5/16	SD-3	1/4	2-1/16	MICRO	1	21727522	27522



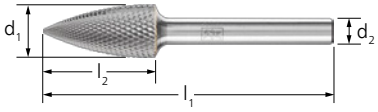
Cylindrical bur with radius end – Shape C

Cylindrical bur with radius end for fine stock removal. MICRO cut burs offer a higher stock removal rate and produce a high surface quality, particularly when compared to conventional double cut burs. They also operate with low vibration and little noise.



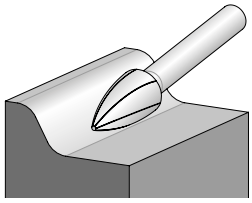
Special features:
- In comparison to abrasive mounted points, there is no change in geometry due to wear and tear.
- Work on almost all materials up to 940 HV (68 HRC).
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”								
1/8	1/2	SC-42	1/8	1-1/2	MICRO	1	21827540	27540
Shank diameter 1/4”								
1/4	5/8	SC-1	1/4	1-15/16	MICRO	1	21727541	27541
3/8	3/4	SC-3	1/4	2-1/2	MICRO	1	21727542	27542



Tree bur with pointed end – Shape G

Pointed tree-shaped bur with pointed tip for fine stock removal. MICRO cut burs offer a higher stock removal rate and produce a high surface quality, particularly when compared to conventional double cut burs. They also operate with low vibration and little noise.

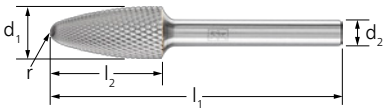


Special features:
- In comparison to abrasive mounted points, there is no change in geometry due to wear and tear.
- Work on almost all materials up to 940 HV (68 HRC).
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”								
1/8	1/4	SG-41	1/8	1-1/2	MICRO	1	21827546	27546
Shank diameter 1/4”								
1/4	5/8	SG-1	1/4	1-15/16	MICRO	1	21727547	27547
3/8	3/4	SG-3	1/4	2-1/2	MICRO	1	21727548	27548

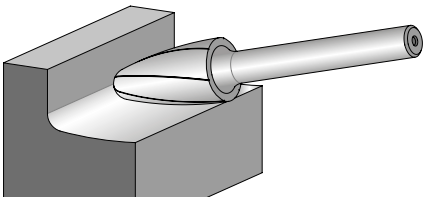
Carbide burs, high performance line

MICRO cut for finishing work



Tree bur with radius end – Shape F

Tree-shaped bur with radius end for fine stock removal. MICRO cut burs offer a higher stock removal rate and produce a high surface quality, particularly when compared to conventional double cut burs. They also operate with low vibration and little noise.



Special features:

- In comparison to abrasive mounted points, there is no change in geometry due to wear and tear.
- Work on almost all materials up to 940 HV (68 HRC).
- High concentricity allows for impact-free work that does not create chatter marks, also reducing wear on the power tool or drive.

d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/8”									
1/8	1/2	SF-42	1/8	1-1/2	0.029	MICRO	1	21827524	27524
Shank diameter 1/4”									
1/4	5/8	SF-1	1/4	1-15/16	0.059	MICRO	1	21727528	27528
3/8	3/4	SF-3	1/4	2-1/2	0.141	MICRO	1	21727532	27532

3-piece carbide bur set – MICRO cut

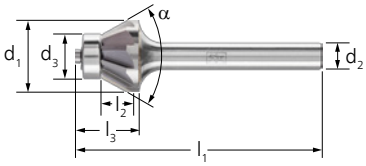
The set contains three small tungsten carbide burs for finishing work in the most common shapes and dimensions.

Contents:
The set includes one each of the following MICRO cut burs with a 1/8” shank diameter:
Tree (radius end) 1/8” x 1/2” x 1/8”,
Ball 1/8” x 3/32” x 1/8”, and
Cylindrical (radius end) 1/8” x 1/2” x 1/8”.

Special features:

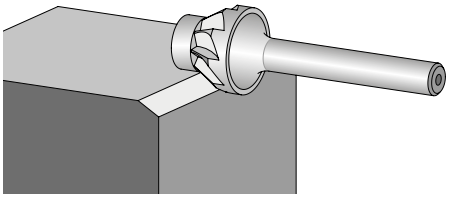
- The sturdy plastic case protects the products against dirt and damage.

Cut		Item no.	EDP no.
Shank diameter 1/8”			
MICRO	1	21827550	27550



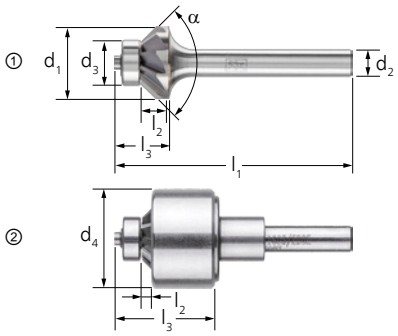
Cone counterbore EDGE 30°

Cone counterbore bur for producing precisely defined 30° chamfer angles.



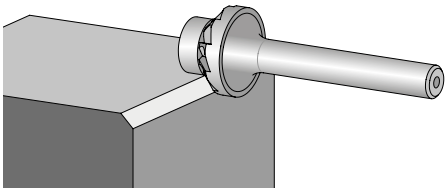
Special features:
- Special design for precise guidance, without damaging the workpiece.
- Safe and comfortable to guide due to ball bearings design.
- Exact edge shapes can be created in a single step.

d_1 [Inch]	l_2 [Inch]	d_2 [Inch]	l_1 [Inch]	d_3 [Inch]	l_3 [Inch]	d_4 [Inch]	α [°]	Cut		Item no.	EDP no.
Shank diameter 1/4"											
5/8	3	1/4	2-1/8	0.394	9/16	-	60	EDGE	1	21725045	25045
	5	1/4	2-1/8	3/8	9/16	-	60	EDGE ALU	1	21725175	25175
	3	1/4	2-3/64	3/8	1/2	-	90	EDGE ALU	1	21725176	25176
	1	1/4	2-3/64	3/8	9/16	1	90	EDGE	1	21725106	25106
								EDGE ALU	1	21725177	25177



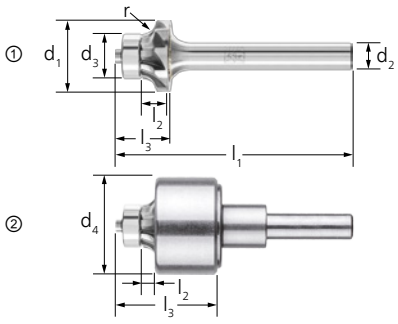
Cone counterbore EDGE 45°

Cone counterbore bur for producing precisely defined 45° chamfer angles. The EDGE Cutting System (ECS) allows for chamfers that are .047" wide (+/- .007"). The ECS bur can be reordered and replaced. Matching burs: EDP 25105 (EDGE) and EDP 25176 (EDGE ALU).



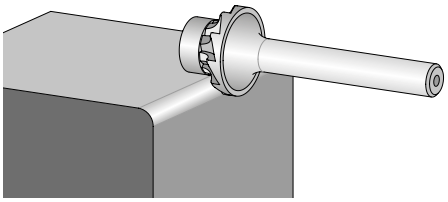
Special features:
- Special design for precise guidance, without damaging the workpiece.
- Safe and comfortable to guide due to ball bearings design.
- Exact edge shapes can be created in a single step.

Image	d_1 [Inch]	l_2 [Inch]	SCTI-No.	d_2 [Inch]	l_1 [Inch]	d_3 [Inch]	l_3 [Inch]	α [°]	Cut		Item no.	EDP no.
Shank diameter 1/4"												
(1)	5/8	1/8	SK-6	1/4	2-3/64	0.394	1/2	90	EDGE	1	21725105	25105



Concave radius bur EDGE R-1/8

Concave radius burs for the production of precise radii. Designed for the production and processing of 3 mm outer radii. The ECS bur can be reordered and replaced. Matching bur: V 1612/6 EDGE R3,0.



Special features:
- Special design for precise guidance, without damaging the workpiece.
- Safe and comfortable to guide due to ball bearings design.
- Exact edge shapes can be created in a single step.

d_1 [Inch]	l_2 [Inch]	d_2 [Inch]	l_1 [Inch]	d_3 [Inch]	l_3 [Inch]	d_4 [Inch]	r [Inch]	Cut		Item no.	EDP no.
Shank diameter 1/4"											
5/8	1/8	1/4	2-3/64	0.394	5/16	-	0.118	EDGE	1	21725150	25150
						1	0.118	EDGE	1	21725149	25149

Milling tools with cutting inserts
Quick product selection guide

High Speed Disc ALUMASTER®
HSD-R 4-1/2”/5”
Type HSD-R 4-1/2”/5” is designed for applications such as peripheral milling and milling out root welds.

Matching power tools:
Compressed-air angle grinder
Electric angle grinder

Applications:
- Milling out
- Work on weld seams
- Work on fillet welds
- Work on edges/chamfering
- Surface work
- Milling out root welds
- Peripheral milling

High Speed Disc ALUMASTER®
HSD-R 2”
Due to its small design, type HSD-R 2” is excellent for working in hard-to-reach places and on delicate components. Due to the specially developed arbor, the High Speed Disc **ALU**MASTER® HSD-R 2” can also be used on straight grinders and flexible shafts as well as angle grinders (mount dia. 3/8”).

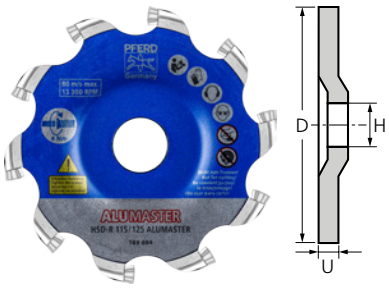
Matching power tools:
Flexible shaft drive Mammoth Electronic ME 22/240
Compressed-air straight grinder
Compressed-air angle grinder

Applications:
- Milling out
- Work on weld seams
- Work on fillet welds
- Work on edges/chamfering
- Surface work
- Milling out root welds
- Peripheral milling

Selecting the correct cutting inserts

- Uncoated cutting inserts are designed for general use on soft non-ferrous metals (aluminum alloys, brass, copper, zinc).
- PFERD recommends cutting inserts with the high-quality HICOAT® coating for high-performance applications on soft non-ferrous metals (aluminum alloys, brass, copper, zinc), hard non-ferrous metals (hard aluminum alloys with high Si content, bronze) as well as fibre-reinforced plastics (GRP/CRP) and thermoplastics.

ALUMASTER® High Speed Disc



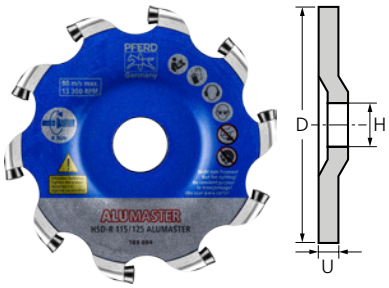
ALUMASTER® High Speed Disc HSD-R 4-1/2"/5"

High-performance disc for processing aluminum alloys using an angle grinder. Also designed for peripheral milling and milling out root welds. The specially developed, turnable and replaceable tungsten carbide cutting inserts enable an extremely high stock removal rate.

Contents:
Includes the High Speed Disc **ALU**MASTER® HSD-R 4-1/2"/5" incl. pre-mounted tungsten carbide cutting inserts, a hexalobular socket key and a plastic box.

Special features:
- An extraction system is not required as no hazardous or explosive dust is generated.
- Innovative and powerful milling tool designed for maximum safety, extreme durability, and ease of use.

D [Inch]	H [Inch]	U [Inch]	Max. RPM		Item no.	EDP no.
4-1/2	7/8	5/16	13,300	1	22000019	20100



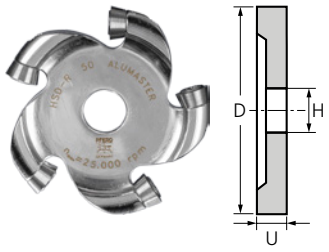
ALUMASTER® High Speed Disc HSD-R 4-1/2"/5" HICOAT®

High-performance disc for processing aluminum alloys using an angle grinder. Also designed for peripheral milling and milling out root welds. The specially developed, turnable and replaceable tungsten carbide cutting inserts enable an extremely high stock removal rate.

Contents:
Includes the High Speed Disc **ALU**MASTER® HSD-R 4-1/2"/5" HICOAT® incl. pre-mounted tungsten carbide cutting inserts, a hexalobular socket key and a plastic box."

Special features:
- Cutting inserts with HICOAT® coating for reduced material adhesion and a longer service life.
- An extraction system is not required as no hazardous or explosive dust is generated.
- Innovative and powerful milling tool designed for maximum safety, extreme durability, and ease of use.

D [Inch]	H [Inch]	U [Inch]	Max. RPM		Item no.	EDP no.
4-1/2	7/8	5/16	13,300	1	22000021	20110



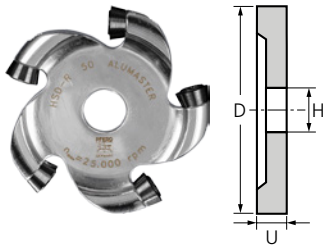
High Speed Disc ALUMASTER® HSD-R 2”

High-performance disc for processing aluminum alloys in hard-to-reach areas and delicate components. The specially developed, turnable and replaceable tungsten carbide cutting inserts enable an extremely high stock removal rate. Per safety standards, a tool guard is not required as the disc diameter is ≤ 2”.

Contents:
Includes the High Speed Disc **ALU**MASTER® HSD-R 2” incl. pre-mounted tungsten carbide cutting inserts, a hexalobular socket key and a plastic box.

Special features:
- Can be used on angle grinders (mounting dia. 3/8”), straight grinders and flexible shafts using specially developed arbor.
- An extraction system is not required as no hazardous or explosive dust is generated.

D [Inch]	H [Inch]	U [Inch]	Max. RPM		Item no.	EDP no.
2	0.394	3/8	25,000	1	22000025	20120



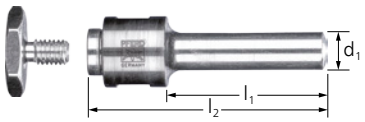
High Speed Disc ALUMASTER® HSD-R 2” HICOAT®

High-performance disc for processing very challenging aluminum alloys in hard-to-reach areas and delicate components. The specially developed, turnable and replaceable tungsten carbide cutting inserts enable an extremely high stock removal rate. Per safety standards, a tool guard is not required as the disc diameter is ≤ 2”.

Contents:
Includes the High Speed Disc **ALU**MASTER® HSD-R 2” HICOAT® incl. pre-mounted tungsten carbide cutting inserts, a hexalobular socket key and a plastic box.

Special features:
- Cutting inserts with HICOAT® coating for reduced material adhesion and a longer service life.
- Can be used on angle grinders (mounting dia. 3/8”), straight grinders and flexible shafts using specially developed arbor.
- An extraction system is not required as no hazardous or explosive dust is generated.

D [Inch]	H [Inch]	U [Inch]	Max. RPM		Item no.	EDP no.
2	0.394	3/8	25,000	1	22000027	20126



Arbor for High Speed Disc ALUMASTER® HSD-R 2”

For use on flexible shaft drives and straight grinders.

d_1 [Inch]	l_1 [Inch]	l_2 [Inch]	Suitable for		Item no.	EDP no.
5/16	1.299	1.968	22000025, 22000027	1	22000031	20123

HICOAT

HICOAT

Cutting insert sets, HICOAT® cutting insert sets

Cutting insert set for **ALU**MASTER® High Speed Disc. Each set is available with or without the HICOAT® coating.

D [Inch]	Contents [Piece]	Suitable for		Item no.	EDP no.
5/16	5	22000025, 22000027	1	22000026	20121
				22000028	20127
	10	22000019, 22000021	1	22000020	20101
				22000022	20111

Screw set for cutting inserts

Screw set for PFERD cutting inserts.

Contents [Piece]		Item no.	EDP no.
5	1	22000007	20137

HICOAT

ALUMASTER® service sets

For replacing individual cutting inserts on the **ALU**MASTER® High Speed Disc. Each set is available with or without the HICOAT® coating.

Contents:
Includes two cutting inserts, two bolts and a hexalobular socket key.

Suitable for		Item no.	EDP no.
22000025, 22000027	1	22000029	20122
		22000030	20128
22000019, 22000021	1	22000023	20102
		22000024	20112

Torque spanner and spare blade

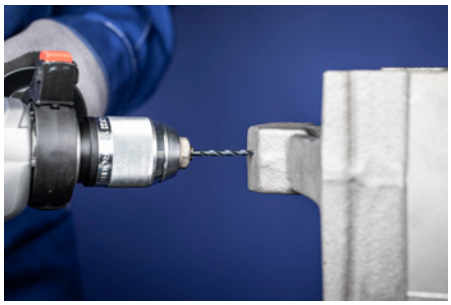
WIHA torque wrench with a tightening torque of 35.4 in-lbs (4 Nm) for optimally and securely mounting cutting inserts on the **ALU**MASTER® High Speed Disc.

	Item no.	EDP no.
Torque wrench		
1	22000017	20135
Spare blade for torque spanner		
1	22000018	20136

Recommended rotational speed range [RPM]

To determine the recommended peripheral speed range [SFPM], please proceed as follows:
① Select the material group to be machined.
② Select the type.
③ Establish the peripheral speed range.

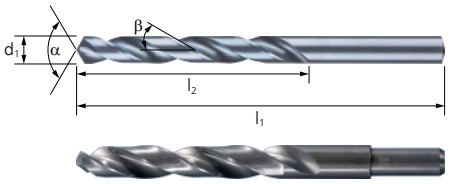
To determine the recommended rotational speed range [RPM], please proceed as follows:
④ Select the required diameter.
⑤ The peripheral speed range and the diameter determine the recommended rotational speed range.



① Material group			② Design	③ Peripheral speed
Steel, cast steel	Steels up to 700 N/mm² (< 220 HB)	Construction steels, carbon steels, tool steels, alloyed and non-alloyed steels, case-hardened steels, cast steel, tempering steels	STEEL	1,500–2,500 SFPM
	Steels over 700 N/mm² (> 220 HB)		STEEL	850–1,500 SFPM
			INOX	
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steels	INOX	850–1,500 SFPM
Non-ferrous metals	Soft non-ferrous metals	Aluminum alloys, brass, copper, zinc	STEEL	1,500–2,500 SFPM
			INOX	
	Hard non-ferrous metals	Bronze, titanium/titanium alloys, hard aluminum alloys (high Si content)	STEEL	1,500–2,000 SFPM
			INOX	
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black annealed cast iron	STEEL	1,500–2,500 SFPM
			INOX	
Plastics, other materials	Fibre-reinforced thermoplastics and duroplastics, hard rubber, wood		STEEL	2,000–3,500 SFPM
			INOX	

Example:
Twist drill,
SPB M2 1/64" STEEL,
Drill dia. 1/64".
Steels up to 700 N/mm².
Peripheral speed: 80 – 115 SFPM
Rotational speed range: 19,000 – 27,870 RPM

④ Drill dia. [Inches]	⑤ Peripheral speeds [SFPM]								
	30	50	65	80	100	115	130	165	200
	Rotational speeds [RPM]								
1/64	7,960	11,940	15,920	19,900	23,890	27,870	31,850	39,810	47,770
1/32	3,980	5,970	7,960	9,950	11,940	13,930	15,920	19,900	23,890
3/64	2,650	3,980	5,310	6,630	7,960	9,290	10,620	13,270	15,920
1/16	1,990	2,990	3,980	4,980	5,970	6,970	7,960	9,950	11,940
5/64	1,590	2,390	3,180	3,980	4,780	5,570	6,370	7,960	9,550
3/32	1,330	1,990	2,650	3,320	3,980	4,640	5,310	6,630	7,960
7/64	1,140	1,710	2,270	2,840	3,410	3,980	4,550	5,690	6,820
1/8	1,000	1,490	1,990	2,490	2,990	3,480	3,980	4,980	5,970
9/64	880	1,330	1,770	2,210	2,650	3,100	3,540	4,420	5,310
5/32	800	1,190	1,590	1,990	2,390	2,790	3,180	3,980	4,780
11/64	720	1,090	1,450	1,810	2,170	2,530	2,900	3,620	4,340
3/16	660	1,000	1,330	1,660	1,990	2,320	2,650	3,320	3,980
13/64	610	920	1,220	1,530	1,840	2,140	2,450	3,060	3,670
7/32	570	850	1,140	1,420	1,710	1,990	2,270	2,840	3,410
15/64	530	800	1,060	1,330	1,590	1,860	2,120	2,650	3,180
1/4	500	750	1,000	1,240	1,490	1,740	1,990	2,490	2,990
17/64	470	700	940	1,170	1,140	1,640	1,870	2,340	2,810
9/32	440	660	880	1,110	1,330	1,590	1,770	2,210	2,650
19/64	420	640	850	1.060	1,270	1,490	1,700	2,120	2,650
5/16	400	600	810	1,010	1,210	1,410	1,610	2,020	2,420
21/64	380	580	770	960	1,150	1,340	1,530	1,920	2,300
11/32	370	550	730	920	1,100	1,280	1,460	1,830	2,200
23/64	350	520	700	870	1,050	1,220	1,400	1,750	2,100
3/8	340	500	670	840	1,010	1,170	1,340	1,680	2,010
25/64	320	480	640	800	970	1,130	1,290	1,610	1,930
13/32	310	460	620	770	930	1,080	1,240	1,550	1,860
27/64	300	450	600	740	890	1,040	1,190	1,490	1,790
7/16	290	430	570	720	860	1,000	1,150	1,430	1,720
29/64	280	420	550	690	830	970	1,110	1,380	1,660
15/32	270	400	540	670	800	940	1,070	1,340	1,610
31/64	260	390	520	650	780	910	1,040	1,290	1,550
1/2	250	380	500	630	750	880	1,000	1,250	1,500
5/8	200	300	400	500	600	700	800	1,000	1,200
3/4	170	250	340	420	500	590	670	840	1,010



HSS STEEL twist drill

High-performance HSS STEEL drill bits for industrial use on steel, aluminum, brass, bronze, cast material and plastics. Fully ground right-hand turning design with cross grinding. Drill bits 5/8" diameter or larger will feature a reduced shank diameter of 13/32" and shank length of 1-3/16". Drill bits 3/4" diameter or larger will feature a reduced shank diameter of 1/2" and shank length of 1-3/8".

Special features:

- Long service life and easy centering.
- Good chip removal and high concentricity.

d_1 [Inch]	l_2 [Inch]	l_1 [Inch]	α [°]	Spiral angle β [°]	Version		Item no.	EDP no.
1/64	1/5	3/4	118	25 – 30	STEEL	10	25204000	20000
1/32	1/2	1-3/8	118	25 – 30	STEEL	10	25204001	20001
3/64	3/4	1-3/4	118	25 – 30	STEEL	10	25204002	20002
1/16	6/7	1-8/9	118	25 – 30	STEEL	10	25204003	20003
5/64	1	2	118	25 – 30	STEEL	10	25204004	20004
3/32	1-1/4	2-1/4	118	25 – 30	STEEL	10	25204005	20005
7/64	1-1/2	2-2/3	118	25 – 30	STEEL	10	25204006	20006
1/8	1-3/5	2-3/4	118	25 – 30	STEEL	10	25204007	20007
9/64	1-3/4	2-7/8	118	25 – 30	STEEL	10	25204008	20008
5/32	2	3-1/9	118	25 – 30	STEEL	10	25204009	20009
11/64	2-1/8	3-1/4	118	25 – 30	STEEL	10	25204010	20010
3/16	2-1/3	3-1/2	118	25 – 30	STEEL	10	25204011	20011
13/64	2-4/9	3-5/8	118	25 – 30	STEEL	10	25204012	20012
7/32	2-1/2	3-3/4	118	25 – 30	STEEL	10	25204013	20013
15/64	2-2/3	3-6/7	118	25 – 30	STEEL	10	25204014	20014
1/4	2-3/4	4	118	25 – 30	STEEL	10	25204015	20015
17/64	2-7/8	4-1/7	118	25 – 30	STEEL	10	25204016	20016
9/32	3	4-1/4	118	25 – 30	STEEL	10	25204017	20017
19/64	3	4-3/8	118	25 – 30	STEEL	10	25204018	20018
5/16	3-1/5	4-1/2	118	25 – 30	STEEL	10	25204019	20019
21/64	3-1/3	4-3/5	118	25 – 30	STEEL	10	25204020	20020
11/32	3-3/7	4-3/4	118	25 – 30	STEEL	10	25204021	20021
23/64	3-1/2	4-7/8	118	25 – 30	STEEL	10	25204022	20022
3/8	3-5/8	5	118	25 – 30	STEEL	10	25204023	20023
25/64	3-3/4	5-1/8	118	25 – 30	STEEL	10	25204024	20024
13/32	3-6/7	5-1/4	118	25 – 30	STEEL	5	25204025	20025
27/64	4	5-2/5	118	25 – 30	STEEL	5	25204026	20026
7/16	4	5-1/2	118	25 – 30	STEEL	5	25204027	20027
29/64	4-1/6	5-5/8	118	25 – 30	STEEL	5	25204028	20028
15/32	4-1/3	5-3/4	118	25 – 30	STEEL	5	25204029	20029
	4-3/8	5-6/7	118	25 – 30	STEEL	5	25204030	20030
1/2	4-1/2	6	118	25 – 30	STEEL	5	25204031	20031
5/8	5-1/5	7-1/8	118	25 – 30	STEEL	5	25204032	20032
3/4	5-5/8	7-2/3	118	25 – 30	STEEL	1	25204033	20033

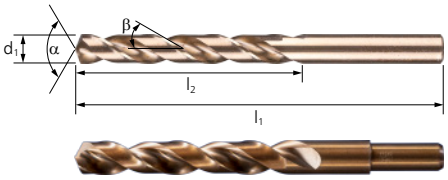
HSS STEEL twist drills, 29-piece set

This set contains 29 HSS STEEL drill bits, excellent for industrial use on steel.

Contents:
The set consists of 29 HSS STEEL drill bits from diameter 1/16" to 1/2".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The securing of the HSS drill bits facilitates their easy selection and withdrawal.

Contents [Piece]	Version		Item no.	EDP no.
29	STEEL	1	25204035	20035



HSS INOX twist drill

High-performance HSS INOX drill bits for industrial use on tough and hard materials such as alloyed and high-strength steel and stainless steel (INOX). Fully ground right-hand turning design with cross grinding. Drill bits 5/8" diameter or larger will feature a reduced shank diameter of 13/32" and shank length of 1-3/16". Drill bits 3/4" diameter or larger will feature a reduced shank diameter of 1/2" and shank length of 1-3/8".

Special features:
- Highly temperature resistant due to Cobalt content. Robust tip profile.
- Very long service life and easy centering.
- Good chip removal and high concentricity.

d_1 [Inch]	l_2 [Inch]	l_1 [Inch]	α [°]	Spiral angle β [°]	Version		Item no.	EDP no.
1/64	1/5	3/4	135	36	INOX	10	25204036	20041
1/32	1/2	1-3/8	135	36	INOX	10	25204071	20042
3/64	3/4	1-3/4	135	36	INOX	10	25204037	20043
1/16	6/7	1-8/9	135	36	INOX	10	25204038	20044
5/64	1	2	135	36	INOX	10	25204039	20045
3/32	1-1/4	2-1/4	135	36	INOX	10	25204040	20046
7/64	1-1/2	2-2/3	135	36	INOX	10	25204041	20047
1/8	1-3/5	2-3/4	135	36	INOX	10	25204042	20048
9/64	1-3/4	2-7/8	135	36	INOX	10	25204043	20049
5/32	2	3-1/9	135	36	INOX	10	25204044	20050
11/64	2-1/8	3-1/4	135	36	INOX	10	25204045	20051
3/16	2-1/3	3-1/2	135	36	INOX	10	25204046	20052
13/64	2-4/9	3-5/8	135	36	INOX	10	25204047	20053
7/32	2-1/2	3-3/4	135	36	INOX	10	25204048	20054
15/64	2-2/3	3-6/7	135	36	INOX	10	25204049	20055
1/4	2-3/4	4	135	36	INOX	10	25204050	20056
17/64	2-7/8	4-1/7	135	36	INOX	10	25204051	20057

Continued on next page

d_1 [Inch]	l_2 [Inch]	l_1 [Inch]	α [°]	Spiral angle β [°]	Version		Item no.	EDP no.
9/32	3	4-1/4	135	36	INOX	10	25204052	20058
19/64	3	4-3/8	135	36	INOX	10	25204053	20059
5/16	3-1/5	4-1/2	135	36	INOX	10	25204054	20060
21/64	3-1/3	4-3/5	135	36	INOX	10	25204055	20061
11/32	3-3/7	4-3/4	135	36	INOX	10	25204056	20062
23/64	3-1/2	4-7/8	135	36	INOX	10	25204057	20063
3/8	3-5/8	5	135	36	INOX	10	25204058	20064
25/64	3-3/4	5-1/8	135	36	INOX	10	25204059	20065
13/32	3-6/7	5-1/4	135	36	INOX	5	25204060	20066
27/64	4	5-2/5	135	36	INOX	5	25204061	20067
7/16	4	5-1/2	135	36	INOX	5	25204062	20068
29/64	4-1/6	5-5/8	135	36	INOX	5	25204063	20069
15/32	4-1/3	5-3/4	135	36	INOX	5	25204064	20070
	4-3/8	5-6/7	135	36	INOX	5	25204065	20071
1/2	4-1/2	6	135	36	INOX	5	25204066	20072
5/8	5-1/5	7-1/8	135	36	INOX	5	25204067	20073
3/4	5-5/8	7-2/3	135	36	INOX	1	25204068	20074

HSS INOX twist drills, 21-piece set

This set contains 21 HSS INOX drill bits, excellent for industrial use on stainless steel (INOX) and other non-ferrous metals.

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The securing of the HSS drill bits facilitates their easy selection and withdrawal.

Contents [Piece]	Version		Item no.	EDP no.
21	INOX	1	25204069	20075

HSS STEEL twist drills, 21-piece set

This set contains 21 HSS STEEL drill bits, excellent for industrial use on steel.

Contents:
The set consists of 21 HSS STEEL drill bits from diameter 1/16" to 3/8".

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The securing of the HSS drill bits facilitates their easy selection and withdrawal.

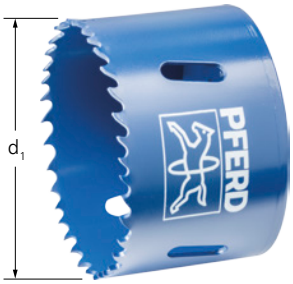
Contents [Piece]	Version		Item no.	EDP no.
21	STEEL	1	25204034	20034

HSS INOX twist drills, 29-piece set

This set contains 29 HSS INOX drill bits, excellent for industrial use on stainless steel (INOX) and other non-ferrous metals.

Special features:
- The sturdy plastic case protects the products against dirt and damage.
- The securing of the HSS drill bits facilitates their easy selection and withdrawal.

Contents [Piece]	Version		Item no.	EDP no.
29	INOX	1	25204070	20076



Bi-metal hole saws

Hole saws made of tough, shatter-proof, sturdy HSS bi-metal for cost-effectively cutting out holes. The saw teeth are made of high-quality M42 (Co8) material.

Special features:

- High concentricity. Chattering during sawing is prevented by the alternating tooth pitch.
- Good chip removal.
- The hole saw is conveniently centered and guided via the replaceable bi-metal pilot drill.

d_1 [Inch]	Max. cutting depth [Inch]	Opt. RPM steel	Opt. RPM stainless steel (INOX)	Opt. RPM non-ferrous metals	Opt. RPM plastics		Item no.	EDP no.
Thread version 1/2-20 UNF, compatible arbors EDP 29033, 29036 or quick-mounting system EDP 29042								
9/16	1-5/16	620	310	1,000	1,000	1	25100114	29100
5/8	1-5/16	550	275	880	880	1	25100116	29101
11/16	1-7/16	520	260	820	820	1	25100117	29102
3/4	1-7/16	460	230	740	740	1	25100119	29103
13/16	1-7/16	410	205	670	670	1	25100221	29104
7/8	1-7/16	390	195	640	640	1	25100322	29105
15/16	1-7/16	360	180	580	580	1	25100424	29106
1	1-7/16	350	175	560	560	1	25100425	29107
1-1/16	1-7/16	325	160	520	520	1	25100527	29108
1-1/8	1-7/16	300	150	480	480	1	25100629	29109
1-3/16	1-7/16	285	145	470	470	1	25100730	29110
Thread version 5/8-18 UNF, compatible arbor EDP 29034 or quick-mounting system EDP 29042								
1-1/4	1-7/16	275	140	440	440	1	25100832	29111
1-5/16	1-7/16	260	135	420	420	1	25100933	29112
1-3/8	1-7/16	250	125	400	400	1	25101035	29113
1-7/16	1-7/16	235	115	370	370	1	25101137	29114
1-1/2	1-7/16	230	115	370	370	1	25101138	29115
1-9/16	1-7/16	215	110	350	350	1	25101240	29116
1-5/8	1-7/16	210	105	340	340	1	25101241	29117
1-11/16	1-1/4	200	100	330	330	1	25101343	29118
1-3/4	1-1/4	195	95	320	320	1	25101344	29119
1-13/16	1-1/4	185	90	300	300	1	25101346	29120
1-7/8	1-1/4	180	90	290	290	1	25101448	29121
2	1-1/4	170	85	270	270	1	25101551	29122
2-1/16	1-1/4	165	80	270	270	1	25101552	29123
2-1/8	1-1/4	160	80	260	260	1	25101654	29124
2-1/4	1-1/4	150	75	250	250	1	25101757	29125
2-5/16	1-1/4	145	70	240	240	1	25101859	29126
2-3/8	1-1/4	140	70	230	230	1	25101860	29127
2-1/2	1-1/4	135	65	220	220	1	25101963	29128
2-9/16	1-1/4	135	65	220	220	1	25101965	29129
2-5/8	1-1/4	130	65	210	210	1	25102067	29130
2-3/4	1-1/4	125	60	200	200	1	25102170	29131
2-7/8	1-1/4	120	60	190	190	1	25102273	29132
3	1-1/4	115	55	180	180	1	25102376	29133

Continued on next page

Bi-metal hole saws, sets and accessories

Bi-metal hole saws

d_1 [Inch]	Max. cutting depth [Inch]	Opt. RPM steel	Opt. RPM stainless steel (INOX)	Opt. RPM non-ferrous metals	Opt. RPM plastics		Item no.	EDP no.
3-1/8	1-1/4	110	55	180	180	1	25102479	29134
3-1/4	1-1/4	105	50	170	170	1	25102583	29135
3-3/8	1-1/4	100	50	160	160	1	25102586	29136
3-1/2	1-1/4	95	45	160	160	1	25102689	29137
3-5/8	1-1/4	95	45	150	150	1	25102792	29138
3-3/4	1-1/4	90	45	150	150	1	25102895	29139
3-7/8	1-1/4	90	45	140	140	1	25102898	29140
4	1-1/4	85	40	140	140	1	25102912	29141
4-1/8	1-1/4	80	40	130	130	1	25103015	29142
4-3/8	1-1/4	75	35	130	130	1	25103111	29144
4-1/2	1-1/4	75	35	120	120	1	25103114	29145
4-3/4	1-1/4	70	35	120	120	1	25103221	29146
5	1-1/4	65	30	110	110	1	25103227	29147
5-1/2	1-1/4	60	30	100	100	1	25103440	29148
6	1-1/4	55	25	90	90	1	25103552	29149

Bi-metal hole saw sets

Hole saw set for mechanics

The set contains nine bi-metal hole saws in the most common diameters, including accessories, for mechanics in the construction, container and pipeline industries. Operating instructions are included.

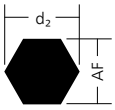
Contents:
The set consists of nine bi-metal hole saws ranging from 3/4" to 2-1/2" in diameter, two hole saw arbors, a pilot drill, an LSA adapter, an Allen key, and an ejection spring.

Special features:
- It is possible to use hole saws LS 35 and LS 38 with the LSA adapter and washer.
- Supplied in well-arranged plastic case which protects against dirt and damage.

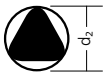
L [Inch]	B [Inch]	H [Inch]		Item no.	EDP no.
12-13/64	10-1/4	3-5/32	1	25901300	29180

Shank dimensions [in]

Hexagonal



Round



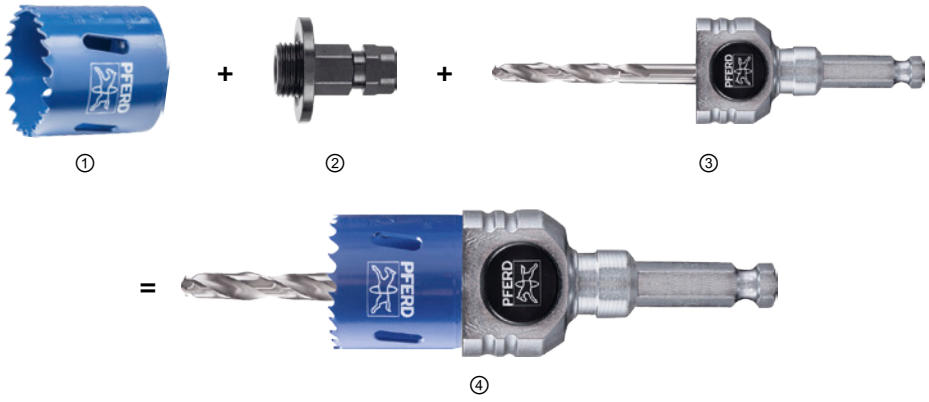
Example combination

① HSS hole saw

② Adapter

③ Quick-mounting system

④ HSS hole saw with adapter and quick-mounting system



Hole saw arbors

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

Special features:
- The spring can easily be removed manually without requiring additional tools.

Image	Suitable for hole saw diameters [Inch]	Suitable pilot drill	d_2 [Inch]	Width across flats (SW) [Inch]	Shank type	Thread		Item no.	EDP no.
(1)	9/16 to 1-3/16	25202005	13/32	3/8	hexagonal	1/2–20 UNF	1	25200111	29033
(2)	1-1/4 to 6	25202005	13/32	3/8	hexagonal	5/8–18 UNF	1	25200211	29034
(3)	9/16 to 1-3/16	25202007	1/4	-	round	1/2–20 UNF	1	25200407	29036

Quick-mounting system for hole saws, adapters

Clamping system for easily and quickly using and changing HSS hole saws on conventional power drills. Adapter set EDP 29043 is available for hole saw diameter 9/16" to 1-3/16", and adapter set EDP 29044 for hole saw diameter 1-1/4" to 6".

Special features:
- 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.
- Quick-mounting system bi-metal hole saw drill.

Suitable for hole saw diameters [Inch]	Shank type	d_2 [Inch]	Width across flats (SW) [Inch]		Item no.	EDP no.
9/16 to 6	hexagonal	7/16	7/16	1	25200900	29042

Adapter for hole saws

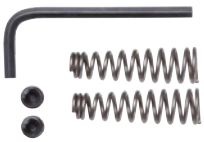
Adapters tailored to the hole saw diameters.

Image	Suitable for hole saw diameters [Inch]		Item no.	EDP no.
(1)	9/16 to 1-3/16	1	25200910	29043
(2)	1-1/4 to 6	1	25200920	29044

Bi-metal pilot drill

Bi-metal pilot drills for use with bi-metal hole saw arbors and quick-mounting systems.

Image	Suitable for hole saw diameters [Inch]	Suitable shanks	Suitable for quick-mounting system	d_2 [Inch]	l_1 [Inch]	Shank type		Item no.	EDP no.
(1)	9/16 to 6	25200111, 25200211	-	1/4	3-5/32	round	1	25202005	29040
(2)	9/16 to 6	25200407	25200900	1/4	3-15/16	round	1	25202007	29039



Repair set for hole saw arbors

Using this replacement set, the most common hole saw parts are replaceable in case of loss or damage.

Contents:
The repair set contains two ejection springs, two hexagon socket head screws and a hexagon socket wrench.

	Item no.	EDP no.
1	25200515	29072

LSA adapter

Hole saws 29111 through 29115 can be used with the arbor adapter EDP 29070, a washer, and the hole saw arbor 29033 or 29036.

Suitable for hole saw diameters [Inch]	Suitable shanks		Item no.	EDP no.
1-1/4 to 1-1/2	25200111, 25200407	1	25203001	29070

Arbor extension for hole saws

Arbor extension for extending bi-metal hole saw arbors EDP 29033 and 29034 to provide the necessary distance between the power tool and work area.

Special features:
- Designed for working on components that are difficult to access and for work on hollow walls.
- Reduces damage to the workpiece and power tool.
- Keeps dust out of the power tool during use.

Suitable shanks	Shank type	Hexagon socket d_1 [Inch]	Width across flats (SW) [Inch]		Item no.	EDP no.
25200111, 25200211	hexagonal	3/8	7/16	1	25200516	29071

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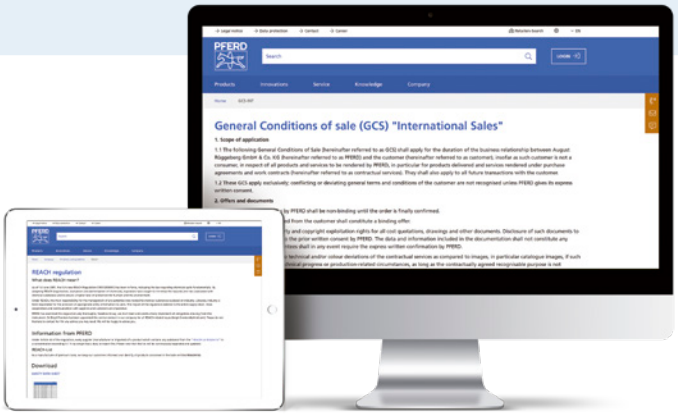

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Our highly experienced team at our Marienheide plant in Germany ensures that repairs are carried out quickly and looks after the provision of spare parts. Please send any queries to: **pferd.power.tools@pferd.com**

Subject to technical modifications.

01/2025