

Carbide burs, router bits  
and bi-metal hole saws



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# Carbide burs, router bits and bi-metal hole saws

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PFERDMEDIA

**NEW**

See what's new since we printed this book, or visit [pferdusa.com/new](http://pferdusa.com/new)

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

### Technical customer support

Our sales consultants, customer service and technical support agents will be glad to assist you by phone or on-site to optimize your bur applications. Please contact us:

**Canada Phone: (905) 501-1555**

**Toll-Free: (866) 245-1555**

**USA Phone: (262) 255-3200**

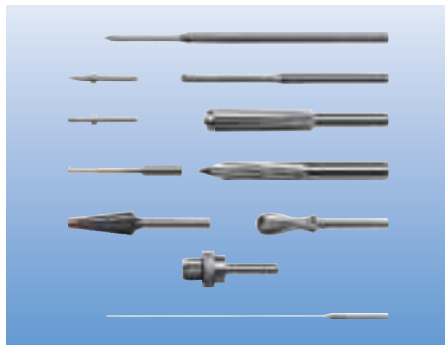
**Toll-Free: (800) 342-9015**

You will find our worldwide contact information at [www.pferd.com](http://www.pferd.com).

### Special products made to order

If our extensive stock range does not present the ideal solution for your particular application, we can produce burs specifically to meet your requirements.

We will take into account your machining tasks and requirements, drawings relating to cuts, shank diameters, special lengths, special shapes and coatings. Please contact us as listed above.



### Safety recommendations



= Wear eye protection!



= Use ear protection!



= Read the instructions!  
(Please observe the recommended RPM, in particular for burs with long shanks!)



= Read the Safety Data Sheets (SDS) before using any materials!

### Use of burs on automated equipment

Carbide burs from PFERD can be used on automated equipment such as robotics and CNC machine centres. Our technical sales force can assist you in selecting the best bur for your application. We will work with you to optimize the parameters of your machining equipment to achieve desired surface finish, product performance and cost efficiency.



### PFERD product packaging

All PFERD burs are easily identified by laser-imprinted EDP number, SCTI number and cut information on the shank. Each bur is packed individually in a sturdy reliable plastic box that protects the quality of the cutting edges. The packaging unit contains technical information, the EDP number and the production lot number. Enhanced labeling technology ensures that the imprinted label information will remain readable permanently.

#### Advantages

- Easy identification of bur
- Bur cutting edges are protected
- Package protects against impact
- Keeps bur protected from contaminants
- Package and label are abrasion, oil and dirt resistant

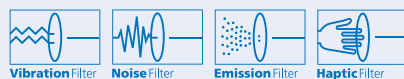


### PFERDVALUE® – Your added value with PFERD

Results from the PFERD test laboratories as well as from the product tests by independent testing institutes prove: PFERD products offer measurable added value.

Discover **PFERDERGONOMICS®** and **PFERDEFFICIENCY®**

As part of **PFERDERGONOMICS®**, PFERD offers ergonomically optimized products and power tools that contribute to greater safety and working comfort, and thus to health protection.



As part of **PFERDEFFICIENCY®**, PFERD offers innovative, high-performance solutions and power tools with outstanding added value.



#### PFERDMEDIA

For more information, a complete brochure is available. Please visit [pferdusa.com/pferdvalue](http://pferdusa.com/pferdvalue) to request a free copy or to download a pdf version.



#### PFERDMEDIA

For more information, please visit [pferdusa.com/carbideburs](http://pferdusa.com/carbideburs)

# Carbide burs, router bits and bi-metal hole saws



## Your quick product selection guide




Application	Workpiece material/colour code		
Deburring, chamfering, milling out for the preparation of build-up welding, machining of welded joints, machining of contours, cleaning cast material	Steel, cast steel	Non-hardened, non heat-treated steels up to 1,200 N/mm <sup>2</sup> (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel
		Hardened, heat-treated steels over 1,200 N/mm <sup>2</sup> (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel
	Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels
	Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Aluminum
			Brass, copper, zinc
		Hard non-ferrous metals	Aluminum alloys, brass, copper, zinc
			Bronze, titanium/titanium alloys hard aluminum alloys (high Si content)
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black cast iron	
Milling out, machining of contours	Plastics, other materials	Fibre-reinforced plastics (GRP/CRP) fibre content ≤ 40%, fibre-reinforced plastics (GRP/CRP) fibre content > 40%, thermoplastics	
Trimming, contour milling, cutting out holes			

### Special applications



#### Chamfering, bevelling or radiusing edges

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Fine stock removal	MICRO cut	31-34	Single cut	
Coarse stock removal	STEEL cut	8-11	Double cut	
	HICOAT® HC-FEP	36-37		
Fine stock removal	MICRO cut	31-34	-	
Coarse stock removal	INOX cut	12-16	Diamond cut	46-59
Fine stock removal	MICRO cut	31-34	-	
Coarse stock removal	HICOAT® HC-NFE	39-40	-	46-59
	ALU/NF cut	17-21		
Fine stock removal	HICOAT® HC-NFE	39-40	-	
	ALU/NF cut	17-21		
Coarse stock removal	ALU/NF cut	17-21	-	
Fine stock removal	ALU/NF cut	17-21	Single cut	
Coarse stock removal	HICOAT® HC-NFE	39-40	-	
	ALU/NF cut	17-21		
Fine stock removal	HICOAT® HC-NFE	39-40	-	
	ALU/NF cut	17-21		
Coarse stock removal	ALU/NF cut	17-21	Single cut Diamond cut	
Fine stock removal	ALU/NF cut	17-21	Single cut	
Coarse stock removal	HICOAT® HC-HT	38	Diamond cut	
Fine stock removal	MICRO cut	31-34	-	
Coarse stock removal	CAST cut	22-25	Double cut	46-58
Fine stock removal	MICRO cut	31-34	Single cut	
Coarse stock removal	ALU/NF cut	17-21	-	-
	HICOAT® HC-NFE	39-40		
Fine stock removal	ALU/NF cut	17-21	-	
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### Cutting out holes

Universal application	Page
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### Customer-specific carbide bur solutions

**PFERD support**

For applications with high impact loads and tooth chipping problems, our sales consultants, customer service and technical support agents will be glad to assist you by phone or on-site.

Please contact us.





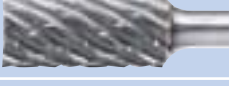

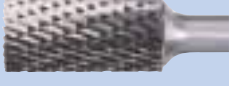



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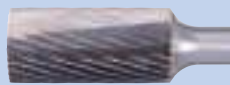











# Carbide burs

## PFERD-cuts and applications



High-performance line carbide bur cuts	
<b>STEEL cut</b> 	<ul style="list-style-type: none"> <li>Extremely high stock removal performance on steel and cast steel</li> <li>Smooth milling</li> <li>Reduced vibration and less noise</li> </ul>
<b>INOX cut</b> 	<ul style="list-style-type: none"> <li>Extremely high stock removal performance on all austenitic, rust- and acid-resistant steels, stainless steel (INOX)</li> <li>Substantially reduced vibration and less noise</li> <li>Prevents heat discolouration on workpiece due to the reduced heat generation</li> </ul>
<b>ALU/NF cut</b> 	<ul style="list-style-type: none"> <li>High stock removal performance on aluminum and aluminum alloys, light metals, non-ferrous metals and plastics</li> <li>Smooth milling</li> </ul>
<b>NON-FERROUS cut*</b> 	<ul style="list-style-type: none"> <li>High stock removal performance on non-ferrous metals, brass, copper, plastics and fibre-reinforced plastics</li> <li>Universally usable</li> </ul>
<b>CAST cut</b> 	<ul style="list-style-type: none"> <li>Extremely high stock removal performance on cast iron</li> <li>Smooth milling</li> <li>Reduced vibration and less noise</li> </ul>
<b>EDGE cut</b> 	<ul style="list-style-type: none"> <li>Creates exact edge shapes – with either 30°- or 45°-chamfering or a defined radius of 1/8" (3 mm)</li> <li>Safe and comfortable to guide</li> </ul>
<b>TOUGH cut</b> 	<ul style="list-style-type: none"> <li>High stock removal performance on cast iron, steel &lt; 55 HRC</li> <li>High stock removal</li> <li>Extreme impact resistance</li> <li>Also suitable for use with high surface contact angles &gt; 1/3 and under impact loads</li> </ul>
<b>TOUGH-S cut*</b> 	<ul style="list-style-type: none"> <li>High stock removal performance on cast iron, steel &lt; 55 HRC</li> <li>High stock removal. Similar to TOUGH cut, but with smoother milling and shorter chips</li> <li>Extreme impact resistance</li> <li>Also suitable for use with high surface contact angles &gt; 1/3 and under impact loads</li> </ul>
<b>MICRO cut</b> 	<ul style="list-style-type: none"> <li>Good stock removal on almost all materials &lt; 68 HRC</li> <li>High surface quality</li> <li>Reduced vibration and less noise</li> </ul>
Universal line carbide bur cuts	
<b>Coarse cut*</b> 	<ul style="list-style-type: none"> <li>Machining of light metals, non-ferrous metals, steel and cast iron</li> <li>High stock removal</li> </ul>

Universal line carbide bur cuts	
<b>Single cut</b> 	<ul style="list-style-type: none"> <li>Coarse machining of cast iron, steel &lt; 60 HRC, stainless steel (INOX), nickel-based alloys and titanium alloys</li> <li>High stock removal</li> <li>Good surface</li> </ul>
<b>Double cut</b> 	<ul style="list-style-type: none"> <li>Similar to single cut, but with cross cut</li> <li>Machining of cast iron, steel &lt; 60 HRC, stainless steel (INOX), nickel-based alloys and titanium alloys</li> <li>High stock removal</li> </ul>
<b>Diamond cut</b> 	<ul style="list-style-type: none"> <li>Machining of stainless steel (INOX), steel &lt; 60 HRC and high-temperature-resistant materials such as nickel-based and cobalt-based alloys</li> <li>High stock removal with short chips</li> <li>Good surface</li> </ul>
<b>Fine cut*</b> 	<ul style="list-style-type: none"> <li>Fine machining of cast iron, steel &lt; 60 HRC, stainless steel (INOX) and high-temperature-resistant materials such as nickel-based and cobalt-based alloys</li> <li>Good surface finish</li> </ul>
Carbide router bits for plastics/composites	
<b>PLAST cut</b> 	<ul style="list-style-type: none"> <li>Trimming and contour milling of workpieces from less hard glass- and carbon-fibre-reinforced duroplastics (GRP and CRP ≤ 40% fibre content) and fibre-reinforced thermoplastics</li> <li>Minimized delamination and fraying through straight cut</li> <li>Suitable for use on machines and on robots</li> <li>Router bits with special tip designs for a wide range of tasks</li> <li>Reduced vibration and less noise</li> </ul>
<b>FVK cut*</b> 	<ul style="list-style-type: none"> <li>Trimming and contour milling of workpieces from hard glass- and carbon-fibre-reinforced duroplastics (GRP and CRP &gt; 40%)</li> <li>Bits with end cut or with center drill tips allow combined drilling and cutting tasks</li> </ul>
<b>FVKS cut*</b> 	<ul style="list-style-type: none"> <li>Similar to FVK cut</li> <li>Suitable for use on machines and on robots with high feed rates</li> <li>Smooth milling</li> <li>Bits with end cut or with center drill tips allow combined drilling and cutting tasks</li> </ul>
HICOAT® coatings	
  	<ul style="list-style-type: none"> <li>In general, all PFERD tungsten carbide burs are also available with HICOAT® coatings</li> <li>Improved anti-adhesion characteristics</li> <li>Effective chip discharge</li> <li>Lower thermal loads</li> <li>Increased service life</li> <li>Coating types             <ul style="list-style-type: none"> <li>HC-FEP for iron and steel materials</li> <li>HC-HT for high-temperature-resistant materials</li> <li>HC-NFE for use on aluminum and non-ferrous metals</li> </ul> </li> </ul>

\*Note: Non-catalogue item. Please contact us for additional information and ordering requirements.

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

### Advantages

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

### Application examples

- Deburring
- Contouring
- Milling in preparation for build-up welding
- Weld dressing
- Milling of acute-angled surfaces
- Inner contour work, i.e. peripheral and face milling
- Chamfering, bevelling and radiusing edges

### Recommendations for use

Optimum power output and RPM of the power source (air-powered or electric machine, flexible shaft system) are necessary conditions for cost-effective use of carbide burs.

- Use highest recommended speeds. Please observe our recommendations for operating/cutting speed.
- For stationary use or when countersinking with 360° use of the bur, work in these instances at 3,000 RPM or less.
- Only use power tools with rigid clamping systems as impacts and chattering on the bur lead to premature wear.
- Always observe proper clamping depth. In general the minimum clamping depth is 2/3 of the shaft length.
- For the cost-effective use of burs with a diameter > 1/4" a power output of 300 - 500 watts is required when used at higher cutting speeds. When using burs with coarse cuts (e.g. ALU/NF cut), even higher power outputs of 500 - 1,500 watts are advantageous.
- For low stock removal (deburring, chamfering, surface finishing), the rotational speed can be substantially increased up to 100% (exception: carbide burs with long shanks).
- For materials which do not conduct heat well, such as stainless steel (INOX), titanium alloys, etc., follow the rotational speed



recommendations in order not to damage the bur. Avoid making the bur's shank turn blue.

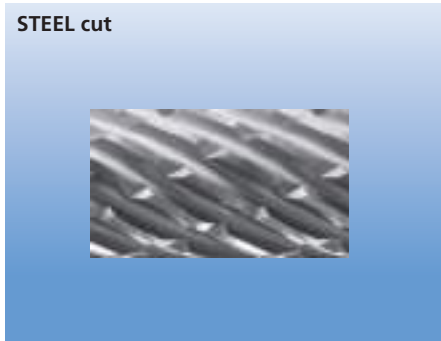
- The bur contact surface to the workpiece should not exceed more than 30% of the circumference. Failure to comply with this recommendation will result in rough milling behaviour and possibly in broken teeth. If this cannot be avoided, we recommend using TOUGH burs (see pages 26-30).
- Burs with a HICOAT® coating are particularly well suited to work with very greasy materials. Alternatively, the use of a lubricant, such as cutting oil, grease, kerosene or similar, is recommended to prevent the cut from clogging up. See pages 35-40 for HICOAT® burs.
- In general, burs are used counterrotationally or with a side to side motion. Pass the bur rapidly over the workpiece in the direction of rotation to achieve fine finishes.

### Overview applications and shapes



# Carbide burs – High-performance line

**NEW** for use on steel and cast steel




With its innovative STEEL cut, PFERD has developed unique burs for machining steel and cast steel, distinguished by **smooth but very aggressive operating action**, ensuring safe and precise work.

Extremely **high stock removal rates** improve productivity through **significant time savings** and **reduced labor costs**.



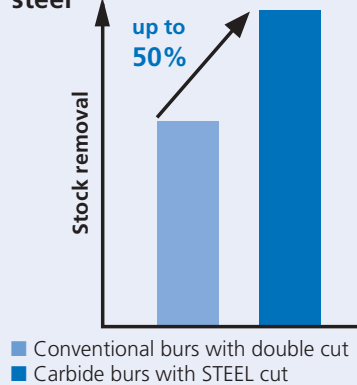
## Advantages

- Innovative tooth geometry delivers very aggressive operating action, generating large chips and very high removal rates
- Significant time savings through extremely high stock removal performance
- Protection of the workpiece and burr through much lower thermal loads
- Comfortable and ergonomic working through quieter operation with reduced vibration and less noise



**PFERDMEDIA**  
To see it in action, please visit [pferdusa.com/vsteelburs](http://pferdusa.com/vsteelburs)

## Performance values for application on steel and cast steel



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



**PFERDEFFICIENCY®** recommends burs with STEEL cut for long, fatigue-free and resource saving work, with perfect results in the shortest possible time.



## Recommended rotational speed range [RPM]

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

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

Workpiece material/colour code		Characteristics	Cut	① Cutting speed
Steel, cast steel	Non-hardened, non-heat treated steels up to 38 HRC (< 1,200 N/mm <sup>2</sup> )	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steels	STEEL	1,500 - 2,500 SFPM
	Hardened, heat-treated steels exceeding 38 HRC (> 1,200 N/mm <sup>2</sup> )	Tool steels, tempering steels, alloyed steels, cast steels		

## Example

Carbide bur, STEEL cut,  
bur diameter: 1/2".  
Cutting speed: 1,500 - 2,500 SFPM  
Rotational speed: **12,000 - 20,000 RPM**

② Bur dia. [Inches]	③ Cutting speed [SFPM]	
	1,500	2,500
	Rotational speed [RPM]	
1/4	24,000	40,000
3/8	14,000	24,000
1/2	12,000	20,000
5/8	9,000	15,000





Cylindrical bur with plain end (uncut).

**PFERD specification number**

ZYA

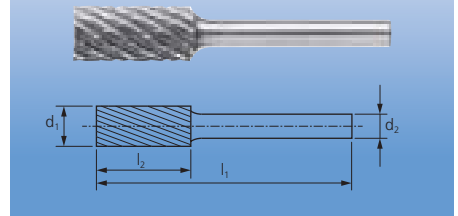
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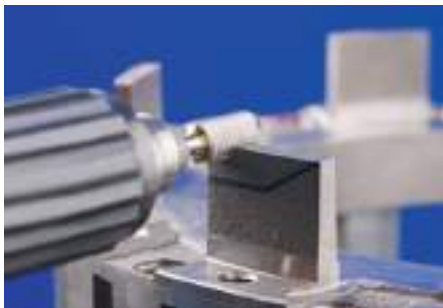
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**Cylindrical (plain end)  
Shape A**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>STEEL</b>	
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SA-1	1/4	1-15/16	24038	1
3/8 x 3/4	SA-3	1/4	2-1/2	24068	1
1/2 x 1	SA-5	1/4	2-3/4	24108	1
5/8 x 1	SA-6	1/4	2-3/4	24118	1



Cylindrical bur with radius end.

**PFERD specification number**

WRC

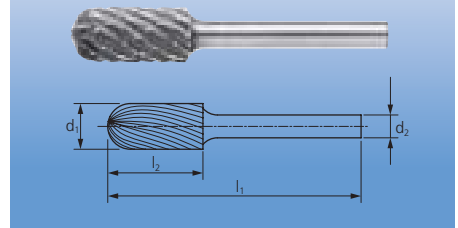
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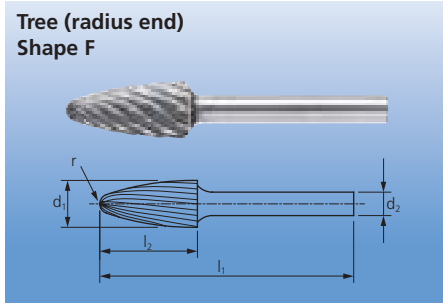
**Cylindrical (radius end)  
Shape C**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>STEEL</b>	
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SC-1	1/4	1-15/16	24398	1
3/8 x 3/4	SC-3	1/4	2-1/2	24428	1
1/2 x 1	SC-5	1/4	2-3/4	24468	1
5/8 x 1	SC-6	1/4	2-3/4	24478	1

# Carbide burs – High-performance line

**NEW** for use on steel and cast steel



Tree-shaped bur with radius end.


**PFERD specification number**  
RBF

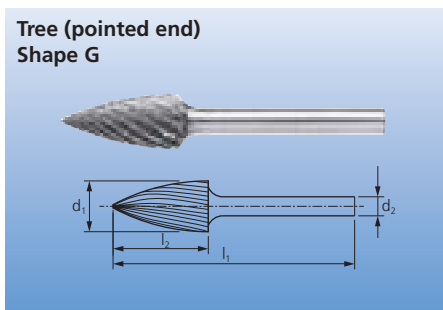
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Bur dia. x length $d_1$ x $l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>STEEL</b>	
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SF-1	1/4	1-15/16	24698	1
3/8 x 3/4	SF-3	1/4	2-1/2	24708	1
1/2 x 1	SF-5	1/4	2-3/4	24728	1
5/8 x 1	SF-6	1/4	2-3/4	24748	1



Tree-shaped bur with pointed end.


**PFERD specification number**  
SPG

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Bur dia. x length $d_1$ x $l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>STEEL</b>	
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SG-1	1/4	1-15/16	24788	1
3/8 x 3/4	SG-3	1/4	2-1/2	24808	1
1/2 x 1	SG-5	1/4	2-3/4	24818	1
5/8 x 1	SG-6	1/4	2-3/4	24838	1

Taper bur with radius end.

**PFERD specification number**

KEL

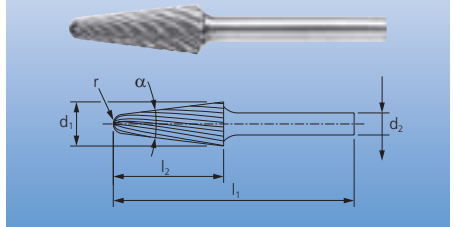
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**14° Taper (radius end)  
Shape L**





Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number <b>STEEL</b> 	
<b>Shank dia. 1/4"</b>						
1/4 x 5/8	SL-1	1/4	14°	1-15/16	25138	1
3/8 x 1-1/16	SL-3	1/4	14°	3	25158	1
1/2 x 1-1/8	SL-4	1/4	14°	3-1/16	25168	1
5/8 x 1-5/16	SL-6	1/4	14°	3-1/4	25188	1

**5 piece carbide bur set – STEEL cut  
1/4" shank (plastic case)**

Contains 5 pcs. burs with 1/4" shank dia. and STEEL cut.

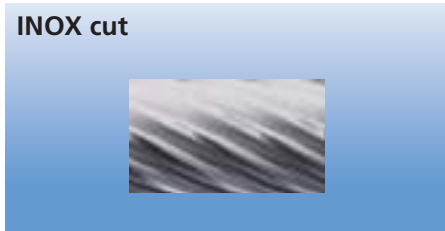
**5 piece carbide bur set  
STEEL cut**



Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		
			<b>STEEL</b> 	Individual bur EDP's in set	
Cylindrical (plain end)	1/2 x 1	SA-5	26553	24108	1
Cylindrical (radius end)	1/2 x 1	SC-5		24468	1
Tree (radius end)	1/2 x 1	SF-5		24728	1
Tree (pointed end)	1/2 x 1	SG-5		24818	1
14° Taper (radius end)	1/2 x 1-1/8	SL-4		25168	1

# Carbide burs – High-performance line

**NEW** for use on stainless steel (INOX)

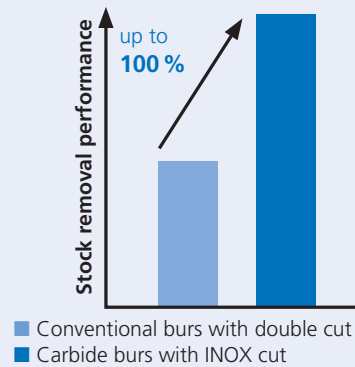


PFERD has developed innovative burs with INOX cut for work on stainless steel (INOX). The INOX cut is characterized by an extremely high stock removal performance on all austenitic as well as rust- and acid-resistant steels. It creates significantly less vibration than a comparable double cut.

## Advantages

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

## Performance values for applications on stainless steel (INOX)



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



**PFEREFFICIENCY®** recommends burs with INOX cut for long, fatigue-free and resource saving work, with perfect results in the shortest possible time.



## Recommended rotational speed range [RPM]

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

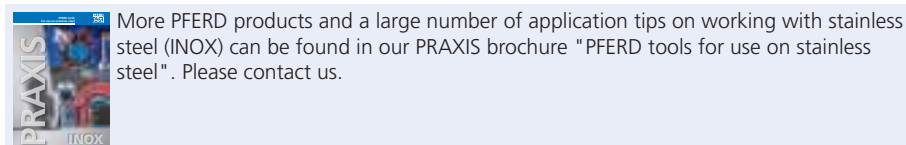
- 1 Refer to the table for the cutting speed range
- 2 Select the required burr diameter
- 3 The cutting speed range and the burr diameter determine the recommended rotational speed range [RPM]

Workpiece material/colour code			Characteristics	Cut	1 Cutting speed
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse stock removal	INOX	1,500 - 2,000 SFPM

## Example

Carbide burr, INOX cut,  
burr diameter: 1/2".  
Cutting speed: 1,500 - 2,000 SFPM  
**Rotational speed: 12,000 - 16,000 RPM**

2 Bur dia. [Inches]	3 Cutting speed [SFPM]	
	1,500	2,000
	Rotational speed [RPM]	
1/8	48,000	64,000
1/4	24,000	32,000
3/8	14,000	19,000
1/2	12,000	16,000



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



## PFERDMEDIA

To see it in action, please visit [pferdusa.com/vinoxburs](http://pferdusa.com/vinoxburs)





Cylindrical bur with plain end (uncut).

**PFERD specification number**

ZYA

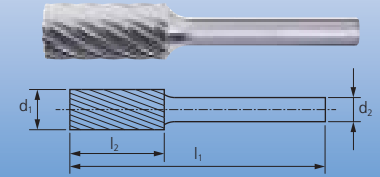
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**PFEREFFICIENCY®**



**Cylindrical (plain end)  
Shape A**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number INOX	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SA-43	1/8	1-1/2	23127	1
1/4 x 1/2	SA-51	1/8	1-11/16	23137	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SA-1	1/4	1-15/16	24037	1
3/8 x 3/4	SA-3	1/4	2-1/2	24067	1
1/2 x 1	SA-5	1/4	2-3/4	24107	1



Cylindrical bur with radius end.

**PFERD specification number**

WRC

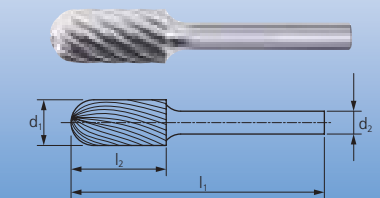
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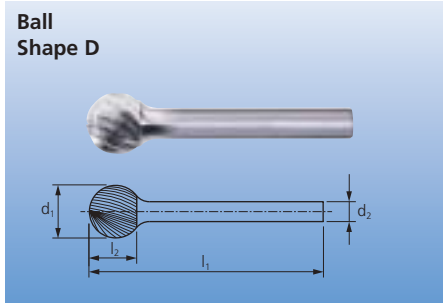
**Cylindrical (radius end)  
Shape C**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number INOX	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SC-42	1/8	1-1/2	23197	1
1/4 x 1/2	SC-51	1/8	1-11/16	23207	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SC-1	1/4	1-15/16	24397	1
3/8 x 3/4	SC-3	1/4	2-1/2	24427	1
1/2 x 1	SC-5	1/4	2-3/4	24467	1

# Carbide burs – High-performance line

**NEW** for use on stainless steel (INOX)



Ball-shaped bur.

**PFERD specification number**  
KUD

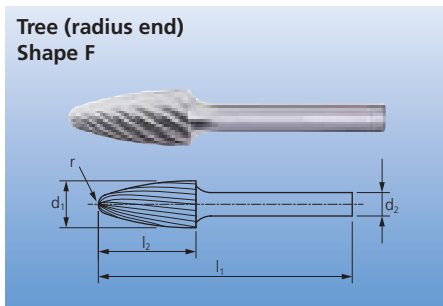
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**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>INOX</b>	
<b>Shank dia. 1/8"</b>					
1/8 x 3/32	SD-42	1/8	1-1/2	23247	1
1/4 x 3/16	SD-51	1/8	1-3/8	23257	1
<b>Shank dia. 1/4"</b>					
1/4 x 3/16	SD-1	1/4	1-15/16	24527	1
3/8 x 5/16	SD-3	1/4	2-1/16	24567	1
1/2 x 7/16	SD-5	1/4	2-3/16	24587	1



Tree-shaped bur with radius end.

**PFERD specification number**  
RBF

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Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>INOX</b>	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SF-42	1/8	1-1/2	23317	1
1/4 x 1/2	SF-51	1/8	1-11/16	23327	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SF-1	1/4	1-15/16	24697	1
3/8 x 3/4	SF-3	1/4	2-1/2	24707	1
1/2 x 1	SF-5	1/4	2-3/4	24727	1

Tree-shaped bur with pointed end.

**PFERD specification number**  
SPG

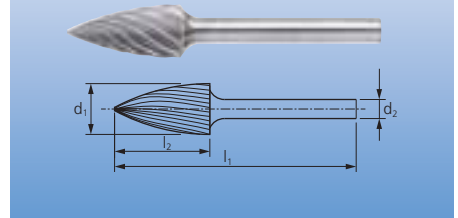
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**Tree (pointed end)**  
**Shape G**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>INOX</b>	
<b>Shank dia. 1/8"</b>					
1/8 x 1/4	SG-41	1/8	1-1/2	23357	1
1/4 x 1/2	SG-51	1/8	1-11/16	23387	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SG-1	1/4	1-15/16	24787	1
3/8 x 3/4	SG-3	1/4	2-1/2	24807	1
1/2 x 1	SG-5	1/4	2-3/4	24817	1



Taper bur with radius end.

**PFERD specification number**  
KEL

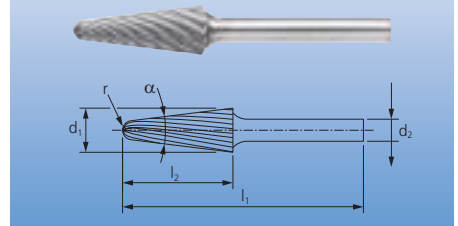
**PFERDERGONOMICS®**




**PFERDEFFICIENCY®**



**14° Taper (radius end)**  
**Shape L**





Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number <b>INOX</b>	
<b>Shank dia. 1/8"</b>						
1/8 x 1/2	SL-42	1/8	14°	1-1/2	23457	1
<b>Shank dia. 1/4"</b>						
1/4 x 5/8	SL-1	1/4	14°	1-15/16	25137	
3/8 x 1-1/16	SL-3	1/4	14°	3	25157	1
1/2 x 1-1/8	SL-4	1/4	14°	3-1/16	25167	1

# Carbide burs – High-performance line

**NEW** for use on stainless steel (INOX)



**5 piece carbide bur set – INOX cut**  
**1/4" shank (plastic case)**  
 Contains 5 pcs. burs with 1/4" shank dia. and INOX cut.

Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		
			INOX 	Individual bur EDP's in set	
Cylindrical (plain end)	1/2 x 1	SA-5	26554	24107	1
Cylindrical (radius end)	1/2 x 1	SC-5		24467	1
Tree (radius end)	1/2 x 1	SF-5		24727	1
Tree (pointed end)	1/2 x 1	SG-5		24817	1
14° Taper (radius end)	1/2 x 1-1/8	SL-4		25167	1





### ALU/NF cut



PFERD has optimized the ALU/NF cut especially for stock removal of aluminum. This cut is characterized by its high stock removal performance on all grades of aluminum.

### Note

You can find the coated tungsten carbide ALU/NF cut under carbide burs HICOAT®, coating HC-NFE, on pages 39-40.

Please request a copy of the PRAXIS “PFERD tools for use on aluminum” for instructions and further information on working with aluminum.

### Application examples

- Contouring
- Bore deburing
- Milling in preparation of build-up welding
- Recommended for milling work (deburing, weld dressing, contouring etc.). Also suitable for work on small and miniature components in mould, machine and model construction.

### Advantages of ALU/NF cut

- Reduces loading
- Long service life
- Large chip volume and high stock removal performance
- Can be used with cutting rates of up to 3,600 SFPM
- Smooth running
- Designed for maximum stock removal of non-ferrous metals, brass, copper, hard aluminum alloys, plastics, fibre-reinforced plastics and rubber



### Recommendations for use

The use of grinding oil prevents chips adhering during work on soft aluminum alloys. This increases the service life and improves the finish of the workpiece.

### Recommended rotational speed range [RPM]

To determine the recommended cutting speed [SFPM], please proceed as follows:

- ① Select the workpiece material to be machined
- ② Determine the characteristics of your application
- ③ Establish the cutting speed range

To determine the recommended rotational speed [RPM], please proceed as follows:

- ④ Select the required bur diameter
- ⑤ The cutting speed range and the bur diameter determine the recommended rotational speed range [RPM]

① Workpiece material/colour code		② Characteristics	Cut	③ Cutting speed
Non-ferrous metals	Soft non-ferrous metals	Aluminum alloys, brass, copper, zinc	ALU/NF	2,000 - 3,600 SFPM
			ALU/NF	3,000 - 3,600 SFPM
	Hard non-ferrous metals	Bronze, titanium, hard aluminum alloys (high Si content)	ALU/NF	2,000 - 3,600 SFPM
			ALU/NF	3,000 - 3,600 SFPM
Plastics and other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics, hard rubber	Coarse machining = high stock removal	ALU/NF	1,650 - 3,600 SFPM
		Fine machining = low stock removal	ALU/NF	1,650 - 3,600 SFPM

### Example

Carbide bur, ALU/NF cut, bur diameter: 1/2".

Coarse machining of hardened non-ferrous metals, e.g. bronze.

Cutting speed: 2,000 - 3,600 SFPM

**Rotational speed: 16,000 - 30,000 RPM**

④ Bur dia. [Inches]	⑤ Cutting speed [SFPM]			
	1,650	2,000	3,000	3,600
	Rotational speed [RPM]			
1/8	53,000	64,000	95,000	117,000
1/4	27,000	32,000	48,000	59,000
3/8	16,000	19,000	29,000	35,000
1/2	13,000	16,000	24,000	30,000
5/8	10,000	12,000	18,000	22,000

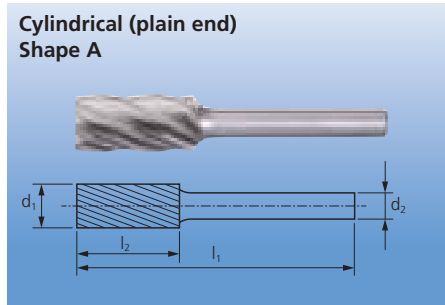


**PFERDMEDIA**

To see it in action, please visit [pferdusa.com/valuburs](http://pferdusa.com/valuburs)

# Carbide burs – High-performance line

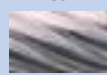

for use on aluminum and non-ferrous metals

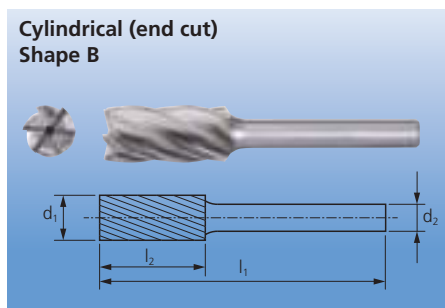


Cylindrical bur with plain end (uncut).

**PFERD specification number**  
ZYA

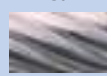



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number ALU/NF 	
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SA-1	1/4	1-15/16	24035	1
3/8 x 3/4	SA-3	1/4	2-1/2	24065	1
1/2 x 1	SA-5	1/4	2-3/4	24105	1
5/8 x 1	SA-6	1/4	2-3/4	24115	1



Cylindrical bur with end cut.

**PFERD specification number**  
ZYAS

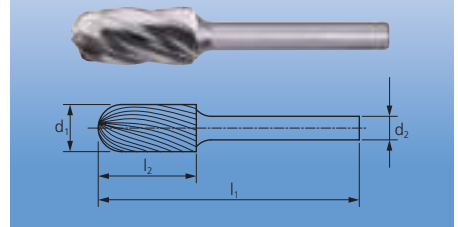
Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number ALU/NF 	
<b>Shank dia. 1/8"</b>					
1/8 x 9/16	SB-43	1/8	1-1/2	23165	1
1/4 x 1/2	SB-51	1/8	1-11/16	23175	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SB-1	1/4	1-15/16	24215	1
3/8 x 3/4	SB-3	1/4	2-1/2	24245	1
1/2 x 1	SB-5	1/4	2-3/4	24285	1
5/8 x 1	SB-6	1/4	2-3/4	24295	1





Cylindrical bur with radius end.

**PFERD specification number**  
WRC

**Cylindrical (radius end)**  
**Shape C**



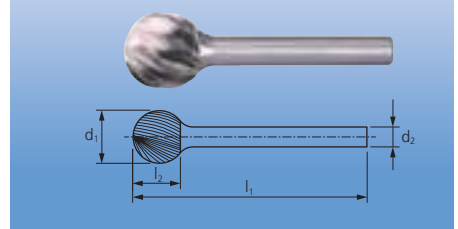
Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>ALU/NF</b> 	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SC-42	1/8	1-1/2	23195	1
1/4 x 1/2	SC-51	1/8	1-11/16	23205	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SC-1	1/4	1-15/16	24395	1
3/8 x 3/4	SC-3	1/4	2-1/2	24425	1
1/2 x 1	SC-5	1/4	2-3/4	24465	1
5/8 x 1	SC-6	1/4	2-3/4	24475	1





Ball-shaped bur.

**PFERD specification number**  
KUD

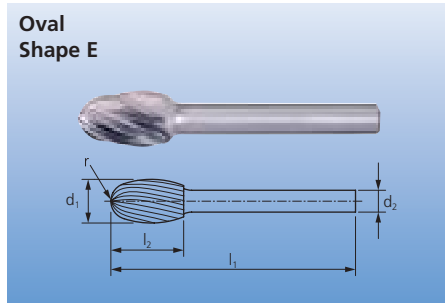
**Ball**  
**Shape D**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>ALU/NF</b> 	
<b>Shank dia. 1/8"</b>					
1/8 x 3/32	SD-42	1/8	1-1/2	23245	1
1/4 x 3/16	SD-51	1/8	1-3/8	23255	1
<b>Shank dia. 1/4"</b>					
1/4 x 3/16	SD-1	1/4	1-15/16	24545	1
3/8 x 5/16	SD-3	1/4	2-1/16	24565	1
1/2 x 7/16	SD-5	1/4	2-3/16	24585	1
5/8 x 9/16	SD-6	1/4	2-5/16	24595	1

# Carbide burs – High-performance line

for use on aluminum and non-ferrous metals

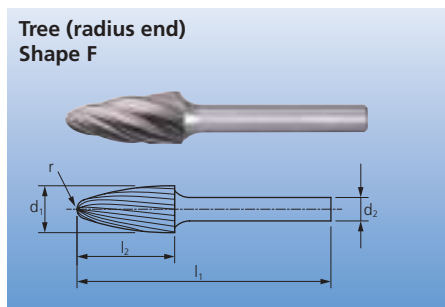


Oval  
Shape E

Oval-shaped bur.

**PFERD specification number**  
TRE

Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number ALU/NF 	
<b>Shank dia. 1/4"</b>					
3/8 x 5/8	SE-3	1/4	2-3/8	24645	1
1/2 x 7/8	SE-5	1/4	2-5/8	24655	1
5/8 x 1	SE-6	1/4	2-3/4	24665	1





Tree (radius end)  
Shape F

Tree-shaped bur with radius end.

**PFERD specification number**  
RBF



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number ALU/NF 	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SF-42	1/8	1-1/2	23315	1
1/4 x 1/2	SF-51	1/8	1-11/16	23325	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SF-1	1/4	1-15/16	24695	1
3/8 x 3/4	SF-3	1/4	2-1/2	24705	1
1/2 x 1	SF-5	1/4	2-3/4	24725	1
5/8 x 1	SF-6	1/4	2-3/4	24745	1

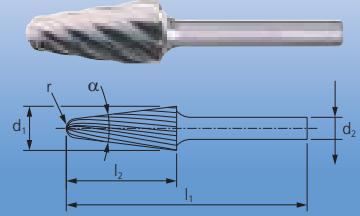






Tapered bur with radius end.

**PFERD specification number**  
KEL

**14° Taper (radius end)**  
**Shape L**





Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number <b>ALU/NF</b> 	
<b>Shank dia. 1/4"</b>						
3/8 x 1-1/8	SL-3	1/4	14°	3	25155	1
1/2 x 1-1/8	SL-4	1/4	14°	3-1/16	25165	1
5/8 x 1-5/16	SL-6	1/4	14°	3-1/4	25185	1

**5 piece carbide bur set 1/4" shank**  
**ALU/NF cut (plastic case)**  
Contains 5 pcs. burs with 1/4" shank dia. and ALU/NF cut.

**5 piece carbide bur set**  
**ALU/NF cut**



Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		
			ALU/NF 	Individual bur EDP's in set	
Cylindrical (plain end)	1/2 x 1	SA-5	26550	24105	1
Cylindrical (radius end)	1/2 x 1	SC-5		24465	1
Oval	1/2 x 7/8	SE-5		24655	1
Tree	1/2 x 1	SF-5		24725	1
14° Taper	1/2 x 1-1/8	SL-4		25165	1

# Carbide burs – High-performance line

**NEW** for use on cast iron

## CAST cut

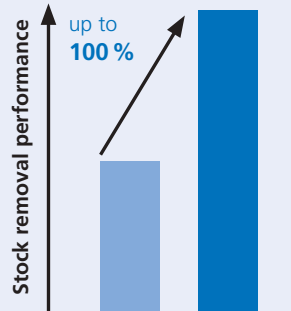


With the CAST cut, PFERD has developed innovative burs especially for work on cast iron. They are characterized by an extremely high stock removal performance on cast iron and impress through smooth milling with significantly reduced vibration and less noise.

## Advantages

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

## Performance values for applications on cast iron



- Conventional burs with double cut
- Carbide burs with CAST cut

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



**PFERDEFFICIENCY®** recommends burs with CAST cut for long, fatigue-free and resource saving work, with perfect results in the shortest possible time.



## Recommended rotational speed range [RPM]

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

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

Workpiece material/colour code		Characteristics	Cut	1 Cutting speed
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/nodular cast iron, white annealed cast iron, black cast iron	CAST	1,500 - 2,500 SFPM

## Example

Carbide bur, CAST cut, bur diameter: 1/2".

Coarse stock removal on cast iron.

Cutting speed: 1,500 - 2,500 SFPM

**Rotational speed: 12,000 - 20,000 RPM**

2 Bur dia. [Inches]	3 Cutting speed [SFPM]	
	1,500	2,500
Rotational speed [RPM]		
3/8	14,000	24,000
1/2	12,000	20,000



**PFERDMEDIA**

To see it in action, please visit [pferdusa.com/vcastburs](http://pferdusa.com/vcastburs)



Cylindrical bur with plain end (uncut).

**PFERD specification number**

ZYA

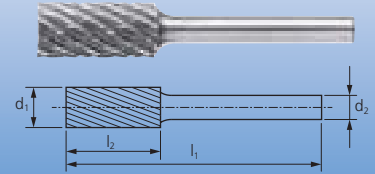
**PFERDERGONOMICS®**




**PFEREFFICIENCY®**



**Cylindrical (plain end)  
Shape A**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>CAST</b>	
<b>Shank dia. 1/4"</b>					
3/8 x 3/4	SA-3	1/4	2-1/2	24069	1
1/2 x 1	SA-5	1/4	2-3/4	24109	1



Cylindrical bur with radius end.

**PFERD specification number**

WRC

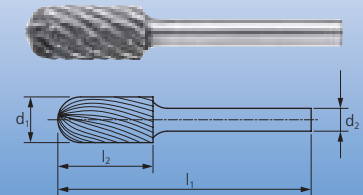
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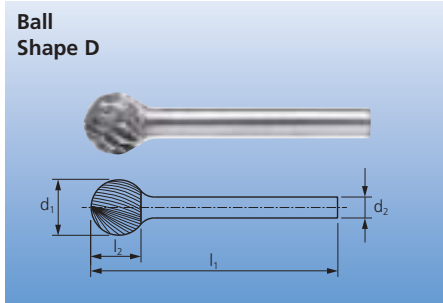
**Cylindrical (radius end)  
Shape C**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>CAST</b>	
<b>Shank dia. 1/4"</b>					
3/8 x 3/4	SC-3	1/4	2-1/2	24429	1
1/2 x 1	SC-5	1/4	2-3/4	24469	1

# Carbide burs – High-performance line

**NEW** for use on cast iron



Ball-shaped bur.



**PFERD specification number**  
KUD

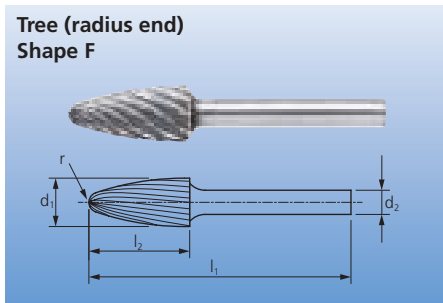
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**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number CAST 	
<b>Shank dia. 1/4"</b>					
3/8 x 5/16	SD-3	1/4	2-1/16	24569	1
1/2 x 7/16	SD-5	1/4	2-3/16	24589	1



Tree-shaped bur with radius end.



**PFERD specification number**  
RBF

**PFERDERGONOMICS®**



**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number CAST 	
<b>Shank dia. 1/4"</b>					
3/8 x 3/4	SF-3	1/4	2-1/2	24709	1
1/2 x 1	SF-5	1/4	2-3/4	24729	1





Tapered bur with radius end.

**PFERD specification number**  
KEL

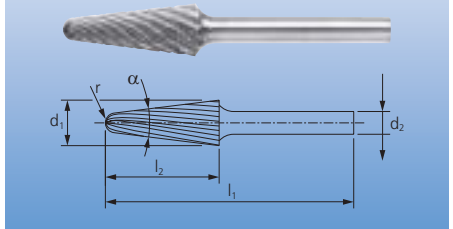
**PFERDERGONOMICS®**





**PFERDEFFICIENCY®**



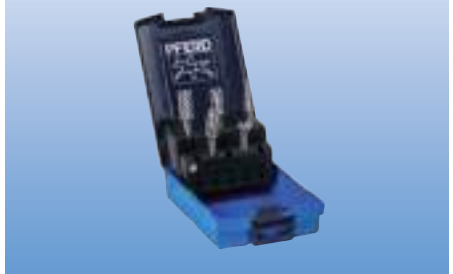
**14° Taper (radius end)**  
**Shape L**





Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number <b>CAST</b> 	
<b>Shank dia. 1/4"</b>						
3/8 x 1-1/8	SL-3	1/4	14°	3	25159	1
1/2 x 1-1/8	SL-4	1/4	14°	3-1/16	25169	1

**5 piece carbide bur set 1/4" shank CAST cut (plastic case)**  
Contains 5 pcs. burs with 1/4" shank dia. and CAST cut.

**5 piece carbide bur set CAST cut**



Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		
			<b>CAST</b> 	Individual bur EDP's in set	
Cylindrical (plain end)	1/2 x 1	SA-5	26555	24109	1
Cylindrical (radius end)	1/2 x 1	SC-5		24469	1
Ball	1/2 x 7/16	SD-5		24589	1
Tree (radius end)	1/2 x 1	SF-5		24729	1
14° Taper (radius end)	1/2 x 1-1/8	SL-4		25169	1

# Carbide burs – High-performance line

for tough applications

## TOUGH cut

Coarse, aggressive machining, with high stock removal.



TOUGH-Burs represent a PFERD product line developed for users whose required applications result in tooth breakage and bur failure, rather than normal wear. Designed especially for hand-held applications in tough operating conditions common to shipyards, foundries and on steel fabrication.

## Advantages

- Innovative, special cuts providing exceptional impact resistance
- These extremely durable, high-performance cut patterns minimize tooth chipping/breakage, splintering and bur head failures
- The TOUGH cut can be used on materials up to 55 HRC
- These products can also be used at low speeds
- Their extremely high impact resistance means that they are perfectly suited for use as long shank variants. Available in special shaft lengths



## Application examples

- High-impact applications due to long shank design
- Heavy-duty applications, due to angled working
- High angle of surface contact
- Milling of narrow contours

## Recommended rotational speed range [RPM]

To determine the recommended cutting speed [SFPM], please proceed as follows:

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

To determine the recommended rotational speed [RPM], please proceed as follows:

- 3 Select the required bur diameter
- 4 The cutting speed range and the bur diameter determine the recommended rotational speed range [RPM]

1 Workpiece material/colour code		Characteristics	Cut	2 Cutting speed
Steel, cast steel	Non-hardened, non-heat treated steels up to 38 HRC (< 1,200 N/mm <sup>2</sup> )	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steels	TOUGH	850 - 2,000 SFPM
	Hardened, heat-treated steels exceeding 38 HRC (> 1,200 N/mm <sup>2</sup> )	Tool steels, tempering steels, alloyed steels, cast steels		
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite cast iron, white annealed cast iron, black cast iron	TOUGH	850 - 2,000 SFPM

### Example

Carbide burr, TOUGH cut, bur diameter: 1/2".  
Coarse machining of non-hardened and non heat-treated steels.  
Cutting speed: 850 - 2,000 SFPM  
**Rotational speed: 7,000 - 16,000 RPM**

3 Bur dia. [Inches]	4 Cutting speed [SFPM]		
	850	1,150	2,000
Rotational speed [RPM]			
3/8	8,000	11,000	19,000
1/2	7,000	9,000	16,000
5/8	5,000	7,000	12,000



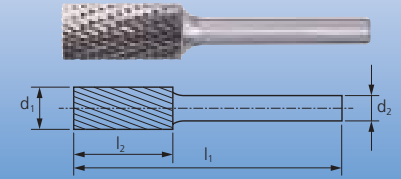
PFERDMEDIA

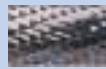

To see it in action, please visit [pferdusa.com/vtough](http://pferdusa.com/vtough)



Cylindrical bur with plain end (uncut).  
**PFERD specification number**  
 ZYA

**Cylindrical (plain end)**  
**Shape A**

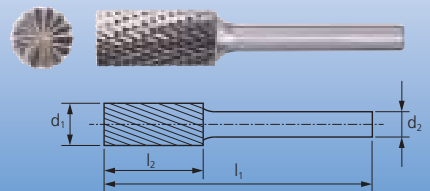




Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>					
3/8 x 3/4	SA-3	1/4	2-1/2	22152	1
1/2 x 1	SA-5	1/4	2-3/4	22156	1



Cylindrical bur with end cut.  
**PFERD specification number**  
 ZYAS

**Cylindrical (end cut)**  
**Shape B**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>					
3/8 x 3/4	SB-3	1/4	2-1/2	22182	1
1/2 x 1	SB-5	1/4	2-3/4	22186	1

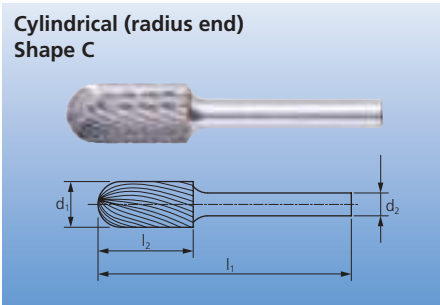


# Carbide burs – High-performance line

for tough applications





## Cylindrical (radius end) Shape C



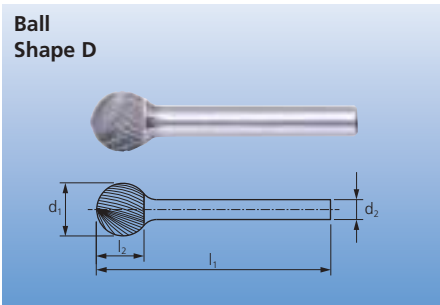
Cylindrical bur with radius end.

**PFERD specification number**  
WRC



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/8"</b>					
3/8 x 3/4	SC-3	1/4	2-1/2	22212	1
1/2 x 1	SC-5	1/4	2-3/4	22216	1
<b>Extended shank</b>					
3/8 x 3/4	SC-3L6	1/4	6-5/8	22734	1

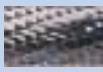

## Ball Shape D



Ball-shaped bur.

**PFERD specification number**  
KUD

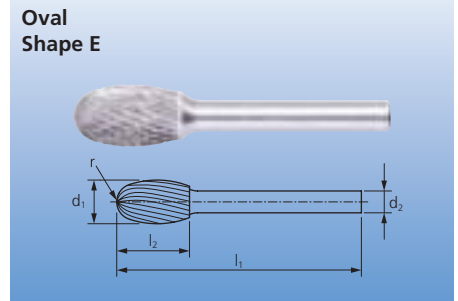




Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>					
1/2 x 7/16	SD-5	1/4	2-3/16	22244	1
5/8 x 9/16	SD-6	1/4	2-5/16	22246	1



Oval-shaped bur.

**PFERD specification number**  
TRE

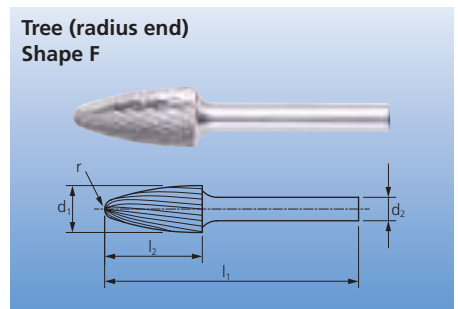




Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>					
3/8 x 5/8	SE-3	1/4	2-3/4	22260	1



Tree-shaped bur with radius end.

**PFERD specification number**  
RBF



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>					
1/2 x 1	SF-5	1/4	2-3/4	22276	1
5/8 x 1	SF-6	1/4	2-3/4	22278	1
<b>Extended shank</b>					
1/2 x 1	SF-5L6	1/4	6-7/8	22754	1

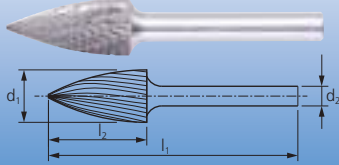


# Carbide burs – High-performance line

for tough applications



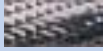

## Tree (pointed end) Shape G



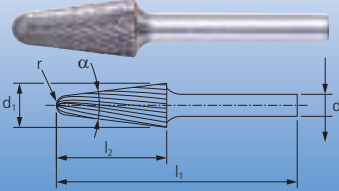
Tree-shaped bur with pointed end.

**PFERD specification number**  
SPG



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>					
3/8 x 3/4	SG-3	1/4	2-1/2	22294	1
1/2 x 1	SG-5	1/4	2-3/4	22296	1
5/8 x 1	SG-6	1/4	2-3/4	22298	1
<b>Extended shank</b>					
1/2 x 1	SG-5L6	1/4	6-7/8	22760	1

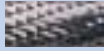

## 14° Taper (radius end) Shape L



Tapered bur with radius end.

**PFERD specification number**  
KEL




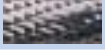
Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number <b>TOUGH</b> 	
<b>Shank dia. 1/4"</b>						
1/2 x 1-1/8	SL-4	1/4	14°	3-1/16	22346	1
<b>Extended shank</b>						
1/2 x 1-1/8	SL-4L6	1/4	14°	7-3/16	22774	1

## 5 piece tough bur set TOUGH cut



### 5 piece tough bur set 1/4" shank (plastic case)

Contains 5 pcs. burs with 1/4" shank dia. and TOUGH cut.

Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		
			<b>TOUGH</b> 	Individual bur EDP's in set	
Cylindrical (plain end)	1/2 x 1	SA-5	26551	22156	1
Cylindrical (radius end)	1/2 x 1	SC-5		22216	1
Ball	1/2 x 7/16	SD-5		22244	1
Tree (radius end)	1/2 x 1	SF-5		22276	1
Tree (pointed)	1/2 x 1	SG-5		22296	1



### MICRO cut



PFERD MICRO cut burs are ideal for both hand-held and automated machining tasks. They are a unique solution, combining good stock removal and high-quality finish. Almost all materials up to a hardness of 68 HRC can be machined. If higher stock removal is required, MICRO cut

burs can be used as support in areas where mounted points are usually used.

They run smoothly, with highly controlled removal rates and with very little vibration.

### Application examples

- Finishing
- Very fine plaster work
- Corrections in tooling and moulding construction
- Very fine cleaning work
- Sharpening of cutting tools

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



**PFERDEFFICIENCY®** recommends burs with MICRO cut for long, fatigue-free work, with perfect results in the shortest possible time.



### Recommended rotational speed range [RPM]

To determine the recommended cutting speed [SFPM], please proceed as follows:

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

To determine the recommended rotational speed [RPM], please proceed as follows:

- ③ Select the required bur diameter

- ④ The cutting speed range and bur diameter determine the recommended rotational speed range [RPM]

① Workpiece material/colour code			Characteristics	Cut	② Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 38 HRC (< 1,200 N/mm <sup>2</sup> )	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steels	Fine machining = low stock removal	MICRO	2,000 - 2,500 SFPM
	Hardened, heat-treated steels exceeding 38 HRC (> 1,200 N/mm <sup>2</sup> )	Tool steels, tempering steels, alloyed steels, cast steels			1,500 - 2,000 SFPM
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steel	Fine machining = low stock removal	MICRO	1,500 - 2,000 SFPM
Non-ferrous metals	Hard non-ferrous metals	Bronze, titanium, titanium alloys, hard aluminum alloys (high Si content)	Fine machining = low stock removal	MICRO	1,500 - 2,000 SFPM
	High-temperature resistant materials	Nickel based alloys, cobalt based alloys (aircraft engine and turbine construction)			
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/ductile graphite iron, white annealed cast iron, black cast iron	Fine machining = low stock removal	MICRO	2,000 - 2,500 SFPM

### Example

Micro bur, MICRO cut, bur diameter: 3/8".

Fine finish milling of non-hardened, non-tempered steels.

Cutting speed: 2,000 - 2,500 SFPM

**Rotational speed: 19,000 - 24,000 RPM**



③ Bur dia. [Inches]	④ Cutting speed [SFPM]		
	1,500	2,000	2,500
	Rotational speed [RPM]		
3/32	56,000	95,000	120,000
1/8	48,000	64,000	80,000
1/4	24,000	32,000	40,000
3/8	14,000	19,000	24,000



**PFERDMEDIA**

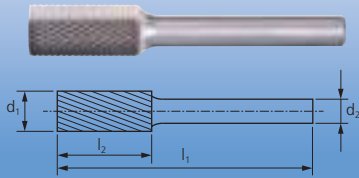
For more information, please visit [pferdusa.com/micro](http://pferdusa.com/micro)

# Carbide burs – High-performance line

for high surface finish



## Cylindrical (plain end) Shape A



Cylindrical bur with plain end (uncut).

**PFERD specification number**  
ZYA

**PFERDERGONOMICS®**





**PFERDEFFICIENCY®**



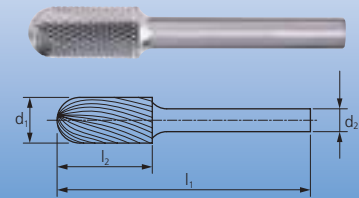
Time Saving



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>MICRO</b> 	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SA-43	1/8	1-1/2	27500	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SA-1	1/4	1-15/16	27512	1
3/8 x 3/4	SA-3	1/4	2-1/2	27516	1

## Cylindrical (radius end) Shape C

**NEW**



Cylindrical bur with radius end.

**PFERD specification number**  
WRC

**PFERDERGONOMICS®**





**PFERDEFFICIENCY®**



Time Saving



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>MICRO</b> 	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SC-42	1/8	1-1/2	27540	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SC-1	1/4	1-15/16	27541	1
3/8 x 3/4	SC-3	1/4	2-1/2	27542	1



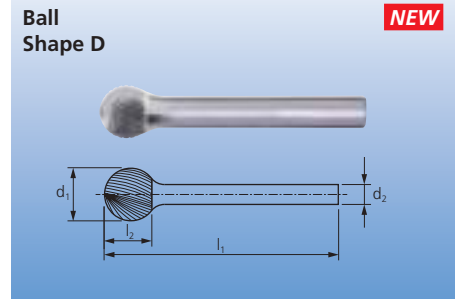
Ball-shaped bur.



**PFERD specification number**  
KUD

**PFERDERGONOMICS®**



**PFEREFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>MICRO</b> 	
<b>Shank dia. 1/8"</b>					
3/32 x 3/32	SD-41	1/8	1-1/2	27519	1
1/8 x 3/32	SD-42	1/8	1-1/2	27520	1
<b>Shank dia. 1/4"</b>					
1/4 x 3/16	SD-1	1/4	1-15/16	27521	1
3/8 x 5/16	SD-3	1/4	2-1/16	27522	1



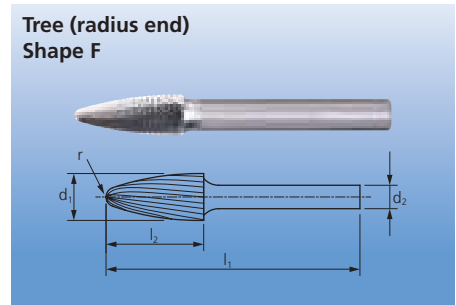
Tree-shaped bur with radius end.



**PFERD specification number**  
RBF

**PFERDERGONOMICS®**



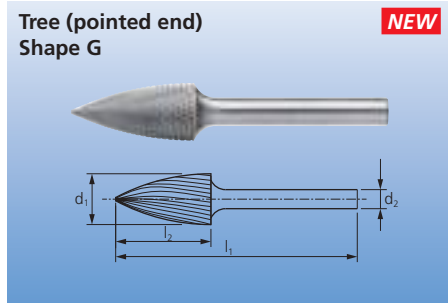
**PFEREFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>MICRO</b> 	
<b>Shank dia. 1/8"</b>					
1/8 x 1/2	SF-42	1/8	1-1/2	27524	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SF-1	1/4	1-15/16	27528	1
3/8 x 3/4	SF-3	1/4	2-1/2	27532	1

# Carbide burs – High-performance line

for high surface finish



Tree-shaped bur with pointed end.



**PFERD specification number**  
SPG

**PFERDERGONOMICS®**



**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>MICRO</b> 	
<b>Shank dia. 1/8"</b>					
1/8 x 1/4	SG-41	1/8	1-1/2	27546	1
<b>Shank dia. 1/4"</b>					
1/4 x 5/8	SG-1	1/4	1-15/16	27547	1
3/8 x 3/4	SG-3	1/4	2-1/2	27548	1



## HICOAT® coating HC-FEP for iron and steel materials



### Advantages

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

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



### Advantages

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

## HICOAT® coating HC-NFE for use on aluminum and non-ferrous metals



### Advantages

- Used for long-chipping and greasy non-ferrous metals
- Highest stock removal performance
- Effective chip removal through improved anti-adhesion characteristics
- Lower thermal loads
- Increased service life

## Recommended rotational speed range [RPM]

To determine the recommended cutting speed [SFPM], please proceed as follows:

- 1 Select the workpiece material to be machined
- 2 Determine the characteristics of your application

- 3 Select the cut
- 4 Establish the cutting speed range

To determine the recommended rotational speed [RPM], please proceed as follows:

- 5 Select the required bur diameter
- 6 The cutting speed range and the bur diameter determine the recommended rotational speed range [RPM]

1 Workpiece material/colour code		2 Characteristics	3 Cut	Coating	4 Cutting speed	
Steel, cast steel	Non-hardened, non-heat treated steels up to 38 HRC (< 1,200 N/mm <sup>2</sup> )	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steels	Coarse machining = high stock removal	Double	HC-FEP	1,500 - 2,000 SFPM
	Hardened, heat-treated steels exceeding 38 HRC (> 1,200 N/mm <sup>2</sup> )	Tool steels, tempering steels, alloyed steels, cast steels				850 - 1,150 SFPM
Non-ferrous metals	Soft non-ferrous metals, Hard non-ferrous metals	Aluminum alloys, brass, copper, zinc, bronze, titanium, hard aluminum alloys (high Si content)	Coarse machining = high stock removal Fine machining e.g., deburing	ALU/NF	HC-NFE	2,000 - 3,000 SFPM
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Coarse stock removal	Diamond	HC-HT	850 - 1,150 SFPM
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite cast iron, white annealed cast iron, black cast iron	Coarse machining = high stock removal	Double	HC-FEP	1,500 - 2,000 SFPM
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics		Coarse stock removal	ALU	HC-NFE	1,500 - 3,600 SFPM
			Fine stock removal			

### Example

Carbide bur, double cut, bur diameter: 1/2"

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

Cutting speed: 1,500 - 2,000 SFPM

**Rotational speed: 12,000 - 16,000 RPM**

5 Bur dia. [Inches]	6 Cutting speed [SFPM]					
	850	1,150	1,500	2,000	3,000	3,600
	Rotational speed [RPM]					
1/4	13,000	19,000	24,000	32,000	48,000	59,000
3/8	8,000	12,000	14,000	19,000	29,000	35,000
1/2	7,000	9,000	12,000	16,000	24,000	30,000

PFERDEFFICIENCY® recommends carbide burs with HICOAT® coatings for long, fatigue-free and resource saving work, with perfect results in the shortest possible time.



In general, all PFERD tungsten carbide burs are also available with HICOAT® coatings. Contact us. You will find the addresses of our worldwide sales offices at:

[www.pferd.com](http://www.pferd.com)

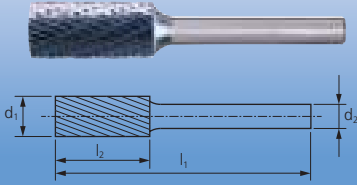


# Carbide burs – High-performance line

HICOAT® – coating HC-FEP



**Cylindrical (plain end)  
Shape A**





Cylindrical bur with plain end (uncut).

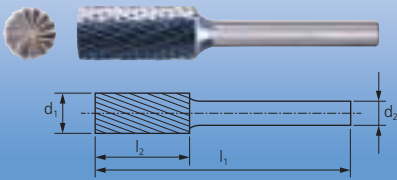
**PFERD specification number**  
ZYA

**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number Double 	
1/4 x 5/8	SA-1	1/4	1-15/16	HC-FEP	violet-grey	27040	1
3/8 x 3/4	SA-3	1/4	2-1/2	HC-FEP	violet-grey	27042	1
1/2 x 1	SA-5	1/4	2-3/4	HC-FEP	violet-grey	27052	1

**Cylindrical (end cut)  
Shape B**





Cylindrical bur with end cut.

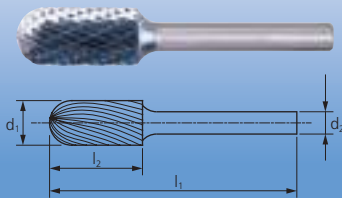
**PFERD specification number**  
ZYAS

**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number Double 	
3/8 x 3/4	SB-3	1/4	2-1/2	HC-FEP	violet-grey	27082	1

**Cylindrical (radius end)  
Shape C**





Cylindrical bur with radius end.

**PFERD specification number**  
WRC

**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number Double 	
3/8 x 3/4	SC-3	1/4	2-1/2	HC-FEP	violet-grey	27167	1
1/2 x 1	SC-5	1/4	2-3/4	HC-FEP	violet-grey	27177	1





Ball-shaped bur.

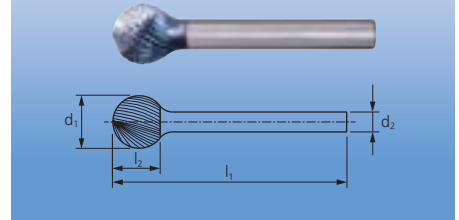
**PFERD specification number**



KUD

**PFERDEFFICIENCY®**



**Ball  
Shape D**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number <b>Double</b> 	
3/8 x 5/16	SD-3	1/4	2-1/16	HC-FEP	violet-grey	27217	1
1/2 x 7/16	SD-5	1/4	2-3/16	HC-FEP	violet-grey	27227	1



Tree-shaped bur with radius end.

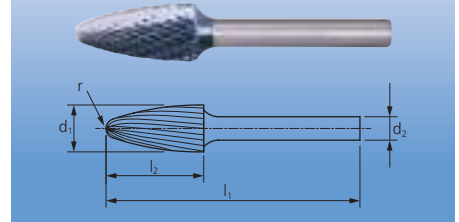
**PFERD specification number**



RBF

**PFERDEFFICIENCY®**



**Tree (radius end)  
Shape F**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number <b>Double</b> 	
3/8 x 3/4	SF-3	1/4	2-1/2	HC-FEP	violet-grey	27282	1
1/2 x 1	SF-5	1/4	2-3/4	HC-FEP	violet-grey	27292	1

Taper bur with radius end.

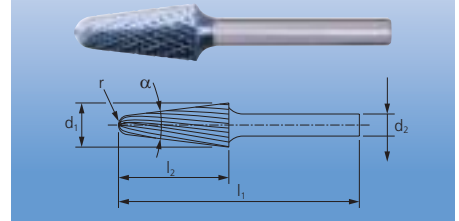
**PFERD specification number**



KEL

**PFERDEFFICIENCY®**



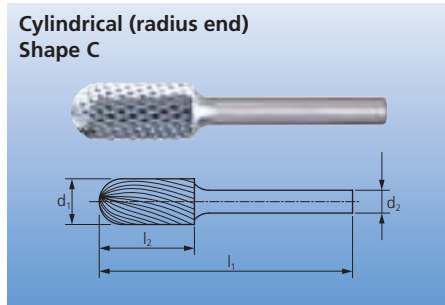
**14° Taper (radius end)  
Shape L**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number <b>Double</b> 	
3/8 x 1-1/8	SL-3	1/4	14°	2-13/16	HC-FEP	violet-grey	27457	1
1/2 x 1-1/8	SL-4	1/4	14°	2-7/8	HC-FEP	violet-grey	27462	1

# Carbide burs – High-performance line

HICOAT® – coating HC-HT





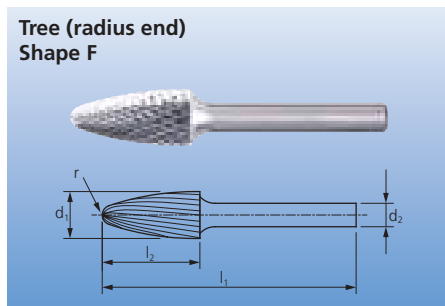
Cylindrical bur with radius end.

**PFERD specification number**  
WRC

**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number <b>Diamond</b> 	
1/2 x 1	SC-5	1/4	2-3/4	HC-HT	silver-grey	27163	1





Tree-shaped bur with radius end.

**PFERD specification number**  
RBF

**PFERDEFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number <b>Diamond</b> 	
1/2 x 1	SF-5	1/4	2-3/4	HC-HT	silver-grey	27278	1

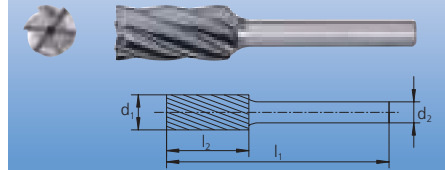
Cylindrical bur with end cut.

**PFERD specification number**  
ZYAS

**PFERDEFFICIENCY®**



**Cylindrical (end cut)**  
Shape B



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number ALU/NF 	
1/2 x 1	SB-5	1/4	2-3/4	HC-NFE	black-grey	27105	1



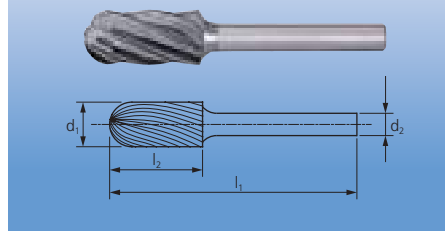
Cylindrical bur with radius end.

**PFERD specification number**  
WRC

**PFERDEFFICIENCY®**



**Cylindrical (radius end)**  
Shape C



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number ALU/NF 	
1/2 x 1	SC-5	1/4	2-3/4	HC-NFE	black-grey	27165	1

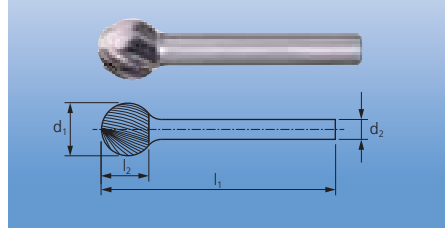
Ball-shaped bur.

**PFERD specification number**  
KUD

**PFERDEFFICIENCY®**



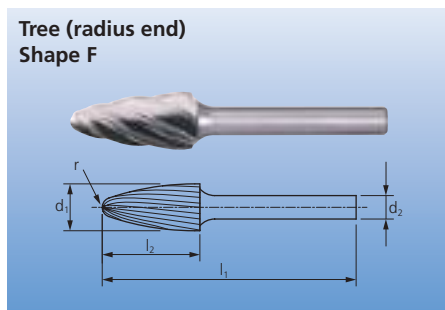
**Ball**  
Shape D



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number ALU/NF 	
1/2 x 7/16	SD-5	1/4	2-3/16	HC-NFE	black-grey	27235	1

# Carbide burs – High-performance line

HICOAT® – coating HC-NFE





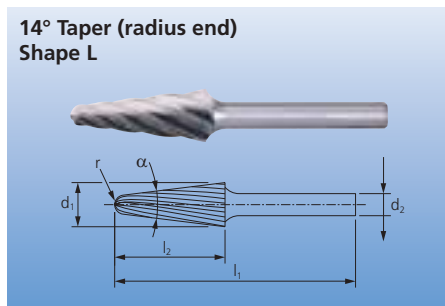
Tree-shaped bur with radius end.

**PFERD specification number**  
RBF

**PFEREFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number ALU/NF 	
1/2 x 1	SF-5	1/4	2-3/4	HC-NFE	black-grey	27280	1





Taper bur with radius end.

**PFERD specification number**  
KEL

**PFEREFFICIENCY®**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Coating	Coating colour	Cut type and EDP number ALU/NF 	
1/2 x 1-1/8	SL-4	1/4	14°	2-7/8	HC-NFE	black-grey	27450	1



## Bearing burs for edge profiling

Carbide burs with the EDGE cut have been developed specifically for precise, guided work on edges. They are excellent for chamfering, deburring and edge breaking and rounding, and are mainly used in steel and aluminum construction.

The special bearing design allows the bur to run directly along the edges, without damage to the workpiece. Thus, exact edge shapes can be created in a single-step operation – with either defined chamfers of 30° or 45°, or to a defined radius of 1/8" (3 mm).

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

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

## Advantages

- Special bearing design makes it easy to precisely guide the bur along the edge of the workpiece
- Safe and comfortable to guide
- Create an exact edge shape with either defined chamfers of 30° or 45°, or a defined radius of 1/8" in a single-step operation

## Application examples

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

## Recommendations for use

- Use the burs counter-rotationally. Pass the bur rapidly over the workpiece in the direction of rotation to achieve fine finishes.
- If possible, use EDGE cut burs with PFERD compressed-air straight grinder PG 3/210 with matching guide sleeve EFH PG 3/210 and guide plate EFP PG 3/210. This will improve the guidability of the burs even further and reduce the thermal load. For more information, see "Power tools" catalogue (section 209).



## Recommended rotational speed range [RPM]

To determine the recommended cutting speed range [SFPM], please proceed as follows:

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

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

- 3 Select the required bur diameter
- 4 The cutting speed range and the bur diameter determine the recommended rotational speed range [RPM]

PFERDEFFICIENCY® recommends burs with EDGE cut for long, fatigue-free and resource saving work, with perfect results in the shortest possible time.



1 Workpiece material/colour code			Characteristics	Cut	2 Cutting speed
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm² (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Work on edges	EDGE	2,000 - 3,000 SFPM
	Hardened, heat-treated steels over 1,200 N/mm² (> 38 HRC)	Tool steels, tempering steels, alloyed steel, cast steel			2,000 - 2,500 SFPM
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Work on edges	EDGE	850 - 1,500 SFPM
Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Aluminum alloys, brass, copper, zinc	Work on edges	EDGE	2,000 - 3,000 SFPM
	Hard non-ferrous metals	Bronze, hard aluminum alloys (high Si content), titanium/titanium alloys			850 - 1,500 SFPM
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)			
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/ductile graphite iron, white annealed cast iron, black cast iron	Work on edges	EDGE	2,000 - 3,000 SFPM
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), thermoplastics		Work on edges	EDGE	2,500 - 3,600 SFPM

### Example

Carbide bur, EDGE cut, bur diameter: 5/8". Stock removal on non-hardened, non-heat-treated steels. Cutting speed: 2,000 - 3,000 SFPM

**Rotational speed: 12,000 - 18,000 RPM**

3 Bur dia. [Inches]	4 Cutting speed [SFPM]					
	850	1,500	2,000	2,500	3,000	3,600
	Rotational speed [RPM]					
5/8	5,000	9,000	12,000	16,000	18,000	22,000



PFERDMEDIA

To see it in action, please visit [pferdusa.com/vedge](http://pferdusa.com/vedge)

# Carbide burs – High-performance line

## for edge profiling

### Burs for edge profiling

Carbide burs for edge profiling represent a new PFERD product line. They are used in steel and aluminum construction and have been specifically designed for chamfering, deburring and rounding of edges.

PFERD offers burs for edge profiling both with and without a guide bearing. For more information about bearing burs with EDGE cut, see page 41.

Carbide burs for edge profiling achieve almost exact chamfers or radii due to their special shapes. They can also be used in hard-to-reach areas.

### Advantages

- Perfect for general deburring and chamfering applications
- Convenient for use in hard-to-reach areas
- Creates almost exact chamfers and radii

### Recommendations for use

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

### Application examples

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



### Recommended rotational speed range [RPM]

To determine the recommended cutting speed range [SFPM], please proceed as follows:

- ❶ Select the workpiece material to be machined
- ❷ Select the cut

- ❸ Establish the cutting speed range

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

- ❹ Select the required bur diameter
- ❺ The cutting speed range and the bur diameter determine the recommended rotational speed range [RPM]

❶ Workpiece material/colour code			Characteristics		❷ Cut	❸ Cutting speed	
Steel, cast steel	Non-hardened, non-heat-treated steels up to 1,200 N/mm <sup>2</sup> (< 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel	Work on edges	Coarse machining = high stock removal	Double	1,500 - 2,000 SFPM	
				Fine machining = low stock removal	Single		
	Hardened, heat-treated steels over 1,200 N/mm <sup>2</sup> (> 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel		Coarse machining = high stock removal	Double		850 - 1,150 SFPM
				Fine machining = low stock removal	Single		
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Work on edges	Coarse machining = high stock removal	Diamond	850 - 1,150 SFPM	
				Fine machining = low stock removal	Single		
Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Brass, copper, zinc	Work on edges	Coarse machining = high stock removal	Double	2,000 - 3,000 SFPM	
				Fine machining = low stock removal	Single		
	Hard non-ferrous metals	Bronze, titanium/titanium alloys		Coarse machining = high stock removal	Double		850 - 1,500 SFPM
				Fine machining = low stock removal	Single		
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)		Coarse machining = high stock removal	Double		
				Fine machining = low stock removal	Single		
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite/ductile graphite iron, white annealed cast iron, black cast iron	Work on edges	Coarse machining = high stock removal	Double	1,500 - 2,000 SFPM	
				Fine machining = low stock removal	Single		

### Example

Carbide bur, single cut, bur diameter: 1/2".

Stock removal on non-hardened, non-heat-treated steels.

Cutting speed: 1,500 - 2,000 SFPM

**Rotational speed: 12,000 - 16,000 RPM**

❹ Bur dia. [Inches]	❺ Cutting speed [SFPM]				
	850	1,150	1,500	2,000	3,000
	Rotational speed [RPM]				
1/8	27,000	37,000	48,000	64,000	95,000
1/4	13,000	19,000	24,000	32,000	48,000
1/2	7,000	9,000	12,000	16,000	24,000
5/8	5,000	7,000	9,000	12,000	18,000
3/4	4,000	6,000	7,000	10,000	14,000
1	3,000	4,000	6,000	8,000	11,000





Conical counterbore bur for cutting precisely defined chamfers.

**Applications**

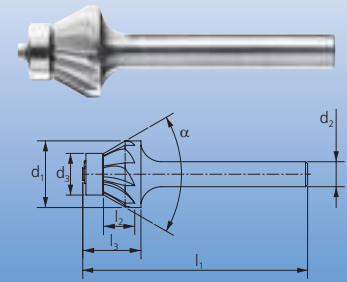
Sinking and chamfering of defined 30° chamfer angles



**PFERD specification number**  
K5J

**PFERDEFFICIENCY®**



**Bearing bur, EDGE 30°** NEW



Bur dia. x length $d_1 \times l_2$ [Inches]	Shank dia. $d_2$ [Inches]	Length $l_3$ [Inches]	Overall length $l_1$ [Inches]	Bearing diameter $d_3$ [Inches]	Angle $\alpha$	Cut type and EDP number <b>EDGE</b> 	
<b>Shank dia. 1/4"</b>							
5/8 x 3/16	1/4	9/16	2-1/4	3/8	60°	25045	1



Conical counterbore bur for the production of precisely defined chamfers.

**Applications**

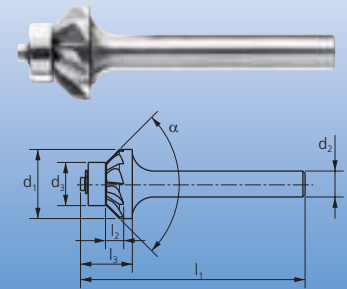
Sinking and chamfering of defined 45° chamfer angles



**PFERD specification number**  
K5K

**PFERDEFFICIENCY®**



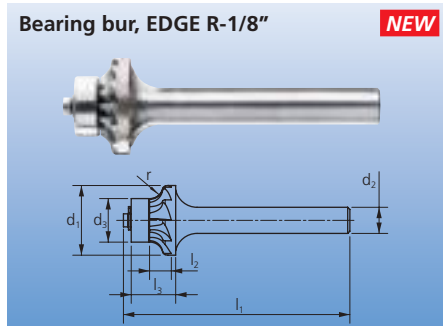
**Bearing bur, EDGE 45°** NEW



Bur dia. x length $d_1 \times l_2$ [Inches]	Shank dia. $d_2$ [Inches]	Length $l_3$ [Inches]	Overall length $l_1$ [Inches]	Bearing diameter $d_3$ [Inches]	Angle $\alpha$	Cut type and EDP number <b>EDGE</b> 	
<b>Shank dia. 1/4"</b>							
5/8 x 1/8	1/4	1/2	2	3/8	90°	25105	1

# Carbide burs – High-performance line

for edge profiling



Radius bur for the production of precise radii. Concave radius burs cannot be re-sharpened.

### Applications

Production and processing of 1/8" (3 mm) outer radii

### PFERD specification number

V

### PFERDEFFICIENCY®



Bur dia. x length $d_1 \times l_2$ [Inches]	Shank dia. $d_2$ [Inches]	Length $l_3$ [Inches]	Overall length $l_1$ [Inches]	Bearing diameter $d_3$ [Inches]	Radius $r$ [Inches]	Radius $r_1$ [Inches]	Cut type and EDP number <b>EDGE</b> 	
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### Shank dia. 1/4"

5/8 x 1/8	1/4	1/2	2	3/8	3/8	1/8	25150	1
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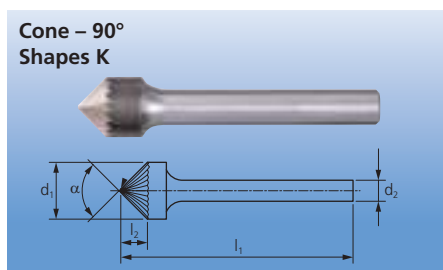


For enhanced results, PFERD recommends the use of EDGE cut burs with PFERD compressed-air straight grinder PG 3/210 (EDP 90036). The exhaust is deliberately discharged towards the front, so that chips are removed and the thermal load on the workpiece and the bur is reduced. This is a particular advantage when working with materials which do not conduct heat well, such as stainless steel (INOX). Use guide sleeve EFH PG 3/210 (EDP 95294), which was specially designed for this power tool. The additional contact surface of the guide sleeve further improves the guidability of the burs.

The use of guide sleeve also avoids the build-up of chip deposits when working on aluminum materials. Alternatively, you can use a grinding oil. The guide plate EFP PG 3/210 (EDP 95295) can be used in combination with guide sleeve EFH PG 3/210 to improve guidability even further. Ordering data for power tool and guide sleeve can be found in "Power tools" catalogue (section 209). Ordering data for PFERD grinding oil 412 can be found in "Fine grinding and finishing products" catalogue (section 204).

# Carbide burs – Universal line

for edge profiling



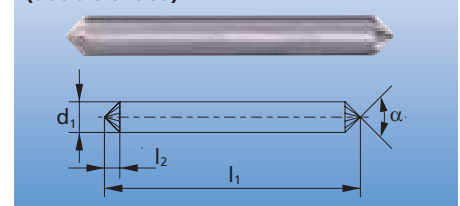
These burs are flatter and less acute-angled, 90° cone shape.

Suitable for counterboring and chamfering with defined chamfer angles.

EDP 23431 shape K SK-42 1/8" shank (double ended) design is cut and usable on both sides: see picture at right.

### PFERD specification number KSK 90°

### Conical counterbore shape K (double ended)



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number		
					Single 	Double 	

### Shank dia. 1/8" (Double Ended)

1/8 x 1/16	SK-42	1/8	90°	1-1/2	23431	-	1
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### Shank dia. 1/4"

1/2 x 1/4	SK-5	1/4	90°	2-9/64	25091	-	1
5/8 x 5/16	SK-6	1/4	90°	2-1/4	25101	-	1
1 x 1/2	SK-9	1/4	90°	2-13/32	-	25122	1

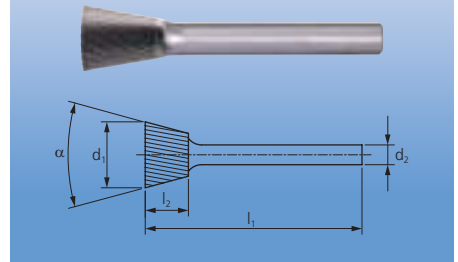




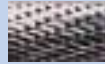

Inverted cone bur, tapering off towards the shank.

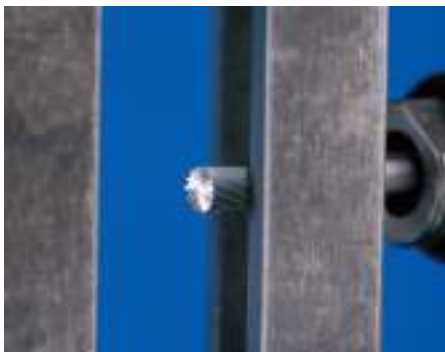
Suitable for working on hard-to-reach, rear-side edges.

**PFERD specification number**  
WKN

**Inverted cone (plain end)**  
Shape N



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number			
					Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>								
1/8 x 1/8	SN-42	1/8	14°	1-1/2	23531	23532	-	1
1/4 x 1/4	SN-51	1/8	10°	1-7/16	23541	23542	-	1
<b>Shank dia. 1/4"</b>								
1/2 x 1/2	SN-4	1/4	28°	2-17/64	25281	25282	-	1
3/4 x 5/8	SN-7	1/4	30°	2-13/32	-	-	25303	1

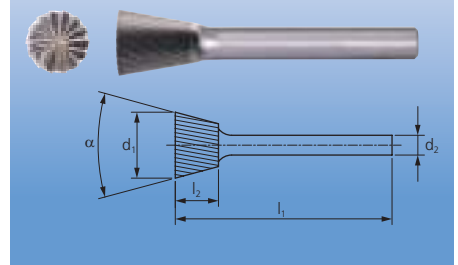




Inverted cone bur, tapering off towards the shank, with end cut.

Suitable for working on hard-to-reach, rear-side edges.

**PFERD specification number**  
WKN-S

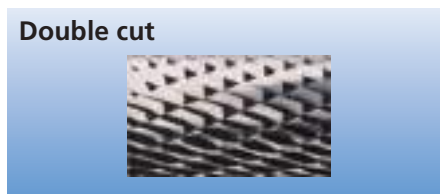
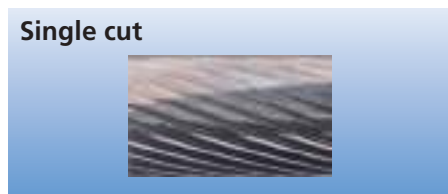
**Inverted cone (end cut)**  
Shape N



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number		
					Single 		
<b>Shank dia. 1/4"</b>							
1/2 x 1/2	SN-4E	1/4	28°	2-17/64	25321		1

# Carbide burs – Universal line

Standard shank lengths, extended shank length L2



## Recommended rotational speed range [RPM]

To determine the recommended cutting speed [SFPM], please proceed as follows:

- ❶ Select the workpiece material to be machined
- ❷ Determine the characteristics of your application

- ❸ Select the cut
- ❹ Establish the cutting speed range

To determine the recommended rotational speed [RPM], please proceed as follows:

- ❺ Select the required bur diameter
- ❻ The cutting speed range and the bur diameter determine the recommended rotational speed range [RPM]

❶ Workpiece material/colour code		❷ Characteristics	❸ Cut	❹ Cutting speed
Steel and steel castings	Non-hardened, nonheat treated steels up to 35 HRC (< 1,200 N/mm <sup>2</sup> )	Constructional steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, steel castings	Coarse machining = high stock removal	Single Double 2,000 - 3,000 SFPM
	Hardened, heat-treated steels exceeding 35 HRC (> 1,200 N/mm <sup>2</sup> )	Tool steels, tempering steels, alloyed steels, steel castings	Fine machining = low stock removal	Single 1,500 - 2,000 SFPM
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic high-grade steels	Coarse machining = high stock removal	Single Double Diamond 850 - 1,150 SFPM
			Fine machining = low stock removal	Single 1,150 - 1,500 SFPM
Non-ferrous metals	Hard non-ferrous metals	Bronze, titanium/titanium alloys, very hard aluminum alloys (high Si content)	Coarse machining = high stock removal	Single Diamond 850 - 1,150 SFPM
	Heat resistant alloys	Nickel based alloys, NiCo alloys (aircraft engine and turbine construction)	Fine machining = low stock removal	Single 1,150 - 1,500 SFPM
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite cast iron, white annealed cast iron, black cast iron	Coarse machining = high stock removal	Double Diamond 1,000 - 1,500 SFPM
			Fine machining = low stock removal	Single 1,500 - 2,000 SFPM

### Example

Carbide bur, double cut, bur diameter: 1/2".

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

Cutting speed: 2,000 - 3,000 SFPM

**Rotational speed: 16,000 - 24,000 RPM**

❺ Bur dia. [Inches]	❻ Cutting speed [SFPM]				
	850	1,150	1,500	2,000	3,000
	Rotational speed [RPM]				
3/32	35,000	56,000	72,000	95,000	120,000
1/8	27,000	37,000	48,000	64,000	95,000
3/16	16,000	22,000	29,000	38,000	57,000
1/4	13,000	19,000	24,000	32,000	48,000
5/16	10,000	14,000	18,000	24,000	36,000
3/8	8,000	11,000	14,000	19,000	29,000
7/16	7,500	10,000	13,000	17,500	26,500
1/2	7,000	9,000	12,000	16,000	24,000
5/8	5,000	7,000	9,000	12,000	18,000
3/4	4,000	6,000	7,000	10,000	14,000
1	3,000	4,000	6,000	8,000	11,000

### Double cut



### Carbide burs with long shank (L3 and L6)

Small carbide burs with long shanks **L3** (3") are perfect for work on small hard-to-reach components.

Carbide burs with long shanks **L6** (6") are ideal for cost-effective work in deep, hard-to-reach places.



### Safety note

Not suitable for robotic and stationary usage.  
**Risk of bending.** Only use power tools with rigid clamping systems.



Read the instructions!  
 = (Please observe the recommended RPM!)

### Safety information recommended RPM

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

If the continuous contact between the bur and the workpiece is not guaranteed, the **ⓐ idling speeds** stated in the table should **not be exceeded**.

For safety reasons, drive speeds **ⓑ with contact to workpiece** require a reduction in the recommended standard length bur speed from the speeds stated in the table below.

Proceed as follows:

- ① Select the workpiece material to be machined
- ② Select the required bur diameter
- ③ For the recommended reduced speed [RPM] with workpiece contact, please refer to the right-hand side of the table

① Workpiece material/colour code		Characteristics	Cut
Steel, cast steel	Non-hardened, non-heat treated steels up to 38 HRC (< 1,200 N/mm <sup>2</sup> )	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steels	Coarse machining = high stock removal
	Hardened, heat-treated steels exceeding 38 HRC (> 1,200 N/mm <sup>2</sup> )	Tool steels, tempering steels, alloyed steels, cast steels	
Stainless steel (INOX)	Rust and acid-resistant steels	Austenitic and ferritic stainless steel	Coarse machining = high stock removal
Non-ferrous metals	High-temperature resistant materials	Nickel based alloys, cobalt based alloys (aircraft engine and turbine construction)	Coarse machining = high stock removal
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite, with nodular graphite cast iron, white annealed cast iron, black cast iron	Coarse machining = high stock removal

### Example

Carbide bur, L6, double cut, bur diameter: 1/2".

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

**Recommended reduced speed with workpiece contact: 7,000 RPM**

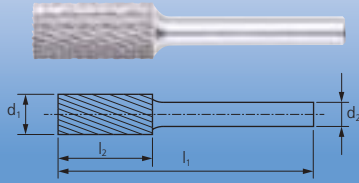
② Bur dia. [Inches]	ⓐ Maximum rotational free speed [RPM] (No contact to the workpiece)		ⓑ Recommended reduced rotational application speed [RPM] (With contact to the workpiece)	
	Shank length [Inches]			
	L3 (3")	L6 (6")	L3 (3")	L6 (6")
3/32	12,000	-	33,000	-
1/8	10,000	-	31,000	-
1/4	6,000	-	15,000	-
5/16	-	6,000	-	11,000
3/8	-	4,500	-	9,000
1/2	-	3,000	-	7,000

# Carbide burs – Universal line

1/8" - 1/4" shank





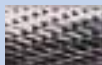

**Cylindrical (plain end)  
Shape A**



Cylindrical bur with plain end (uncut).

**PFERD specification number**  
ZYA



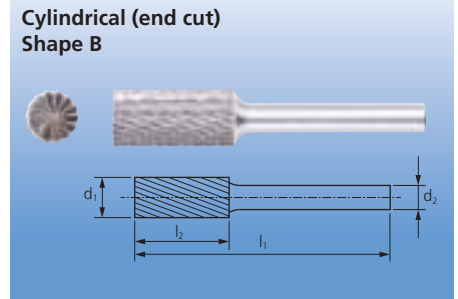
Bur dia. x length d <sub>1</sub> x l <sub>2</sub> [Inches]	SCTI no.	Shank dia. d <sub>2</sub> [Inches]	Overall length l <sub>1</sub> [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
3/32 x 1/2	SA-42	1/8	1-1/2	-	23112	-	1
1/8 x 1/2	SA-43	1/8	1-1/2	23121	23122	-	1
1/4 x 1/2	SA-51	1/8	1-11/16	23131	23132	-	1
<b>Shank dia. 1/4"</b>							
1/8 x 1/2	SA-11	1/4	1-15/16	24001	24002	-	1
3/16 x 5/8	SA-14	1/4	1-15/16	-	24022	-	1
1/4 x 5/8	SA-1	1/4	1-15/16	24031	24032	24033	1
5/16 x 3/4	SA-2	1/4	2-1/2	24051	24052	24053	1
3/8 x 3/4	SA-3	1/4	2-1/2	24061	24062	24063	1
7/16 x 1	SA-4	1/4	2-3/4	24091	24092	-	1
1/2 x 1	SA-5	1/4	2-3/4	24101	24102	24103	1
5/8 x 1	SA-6	1/4	2-3/4	-	24112	-	1
3/4 x 1/2	SA-15	1/4	2-1/4	-	24132	-	1
3/4 x 3/4	SA-16	1/4	2-1/2	-	24142	-	1
3/4 x 1	SA-7	1/4	2-3/4	-	24122	-	1
1 x 1	SA-9	1/4	2-3/4	-	24162	-	1
<b>Extended shank L2 (2")</b>							
3/32 x 1/2	SA-42L2	1/8	2	-	23617	-	1
1/8 x 1/2	SA-43L2	1/8	2	-	23621	-	1
<b>Extended shank L3 (3")</b>							
3/32 x 1/2	SA-42L3	1/8	3	-	23792	-	1
1/8 x 1/2	SA-43L3	1/8	3	-	23796	-	1
<b>Extended shank L6 (6")</b>							
1/4 x 5/8	SA-1L6	1/4	6-9/16	-	25802	-	1
3/8 x 3/4	SA-3L6	1/4	6-5/8	-	25812	-	1
1/2 x 1	SA-5L6	1/4	6-7/8	-	25822	-	1









Cylindrical bur with end cut.

**PFERD specification number**  
ZYAS



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
1/4 x 1/2	SB-51	1/8	1-11/16	23171	-	-	1
<b>Shank dia. 1/4"</b>							
3/16 x 5/8	SB-14	1/4	1-15/16	-	24202	-	1
1/4 x 5/8	SB-1	1/4	1-15/16	24211	24212	24213	1
5/16 x 3/4	SB-2	1/4	2-1/2	-	24232	24233	1
3/8 x 3/4	SB-3	1/4	2-1/2	24241	24242	-	1
7/16 x 1	SB-4	1/4	2-3/4	24271	24272	24273	1
1/2 x 1	SB-5	1/4	2-3/4	24281	24282	24283	1
5/8 x 1	SB-6	1/4	2-3/4	-	24292	-	1
3/4 x 1/2	SB-15	1/4	2-1/4	-	24312	-	1
3/4 x 3/4	SB-16	1/4	2-1/2	-	24322	-	1
3/4 x 1	SB-7	1/4	2-3/4	-	24302	-	1
1 x 1	SB-9	1/4	2-3/4	-	24342	-	1
<b>Extended shank L6 (6")</b>							
3/8 x 3/4	SB-3L6	1/4	6-5/8	-	25842	-	1
1/2 x 1	SB-5L6	1/4	6-7/8	-	25852	-	1

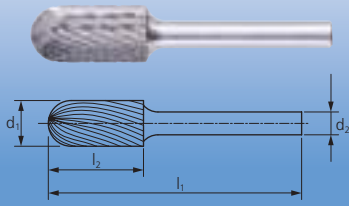


# Carbide burs – Universal line

1/8" - 1/4" shank







**Cylindrical (radius end)  
Shape C**



Cylindrical bur with radius end.

**PFERD specification number**  
WRC



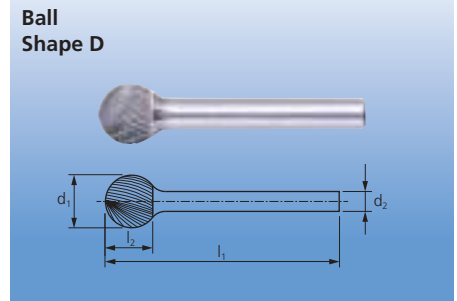
Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
3/32 x 1/2	SC-41	1/8	1-1/3	-	23182	-	1
1/8 x 1/2	SC-42	1/8	1-1/2	23191	23192	-	1
1/4 x 1/2	SC-51	1/8	1-11/16	23201	23202	-	1
<b>Shank dia. 1/4"</b>							
1/8 x 1/2	SC-11	1/4	1-15/16	-	24352	-	1
1/8 x 5/8	SC-12	1/4	1-15/16	-	24362	-	1
3/16 x 5/8	SC-14	1/4	1-15/16	-	24382	-	1
1/4 x 5/8	SC-1	1/4	1-15/16	24391	24392	24393	1
5/16 x 3/4	SC-2	1/4	2-1/2	-	24412	-	1
3/8 x 3/4	SC-3	1/4	2-1/2	24421	24422	24423	1
7/16 x 1	SC-4	1/4	2-3/4	-	24452	-	1
1/2 x 1	SC-5	1/4	2-3/4	24461	24462	24463	1
5/8 x 1	SC-6	1/4	2-3/4	-	24472	24473	1
3/4 x 1	SC-7	1/4	2-3/4	-	24482	24483	1
1 x 1	SC-9	1/4	2-3/4	-	24512	24513	1
<b>Extended shank L2 (2")</b>							
1/8 x 1/2	SC-42L2	1/8	2	-	23649	-	1
<b>Extended shank L3 (3")</b>							
1/8 x 1/2	SC-42L3	1/8	3	-	23824	-	1
<b>Extended shank L6 (6")</b>							
1/4 x 5/8	SC-1L6	1/4	6-9/16	-	25862	-	1
3/8 x 3/4	SC-3L6	1/4	6-5/8	-	25872	-	1
1/2 x 1	SC-5L6	1/4	6-7/8	-	25882	-	1









Ball-shaped bur.

**PFERD specification number**  
KUD



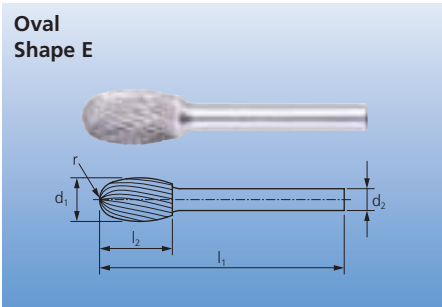
Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
3/32 x 3/32	SD-41	1/8	1-1/2	23231	23232	-	1
1/8 x 3/32	SD-42	1/8	1-1/2	23241	23242	-	1
3/16 x 1/8	SD-53	1/8	1-3/8	23261	23262	-	1
1/4 x 3/16	SD-51	1/8	1-3/8	23251	23252	-	1
<b>Shank dia. 1/4"</b>							
1/8 x 3/32	SD-11	1/4	1-15/16	-	24522	-	1
3/16 x 1/8	SD-14	1/4	1-15/16	24531	24532	-	1
1/4 x 3/16	SD-1	1/4	1-15/16	24541	24542	24543	1
5/16 x 1/4	SD-2	1/4	2-1/16	24551	24552	-	1
3/8 x 5/16	SD-3	1/4	2-1/16	24561	24562	24563	1
7/16 x 3/8	SD-4	1/4	2-1/8	-	24572	-	1
1/2 x 7/16	SD-5	1/4	2-3/16	24581	24582	-	1
5/8 x 9/16	SD-6	1/4	2-5/16	-	24592	24593	1
3/4 x 11/16	SD-7	1/4	2-13/16	-	24602	-	1
1 x 15/16	SD-9	1/4	2-1/16	24611	24612	-	1
<b>Extended shank L2 (2")</b>							
1/8 x 3/32	SD-42L2	1/8	2	-	23661	-	1
1/4 x 3/16	SD-51L2	1/8	2	-	23665	-	1
<b>Extended shank L3 (3")</b>							
1/8 x 3/32	SD-42L3	1/8	3	-	23836	-	1
1/4 x 3/16	SD-51L3	1/8	3-3/16	-	23840	-	1
<b>Extended shank L6 (6")</b>							
1/4 x 3/16	SD-1L6	1/4	6-1/8	-	25922	-	1
3/8 x 5/16	SD-3L6	1/4	6-1/4	-	25932	-	1
1/2 x 7/16	SD-5L6	1/4	6-5/16	-	25942	-	1

# Carbide burs – Universal line

1/8" - 1/4" shank





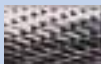

## Oval Shape E



Oval-shaped bur.

**PFERD specification number**  
TRE



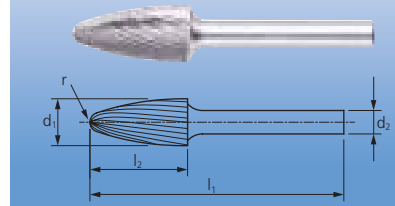
Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
1/8 x 7/32	SE-41	1/8	1-1/2	-	23272	-	1
1/4 x 3/8	SE-51	1/8	1-9/16	23281	23282	-	1
<b>Shank dia. 1/4"</b>							
1/4 x 3/8	SE-1	1/4	1-15/16	24631	24632	24633	1
3/8 x 5/8	SE-3	1/4	2-3/8	24641	24642	24643	1
1/2 x 7/8	SE-5	1/4	2-5/8	24651	24652	24653	1
5/8 x 1	SE-6	1/4	2-3/4	-	24662	-	1
<b>Extended shank L2 (2")</b>							
1/8 x 7/32	SE-41L2	1/8	2	-	23673	-	1
1/4 x 3/8	SE-51L2	1/8	2	-	23677	-	1
<b>Extended shank L3 (3")</b>							
1/8 x 7/32	SE-41L3	1/8	3	-	23848	-	1
1/4 x 3/8	SE-51L3	1/8	3-3/8	-	23852	-	1
<b>Extended shank L6 (6")</b>							
1/4 x 3/8	SE-1L6	1/4	6-3/8	-	25982	-	1
3/8 x 5/8	SE-3L6	1/4	6-1/2	-	25992	-	1
1/2 x 7/8	SE-5L6	1/4	6-3/4	-	26002	-	1







Tree-shaped bur with radius end.

**PFERD specification number**  
RBF

**Tree (radius end)**  
**Shape F**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
1/8 x 1/4	SF-41	1/8	1-1/2	23301	23302	-	1
1/8 x 1/2	SF-42	1/8	1-1/2	23311	23312	-	1
1/4 x 1/2	SF-51	1/8	1-11/16	23321	23322	-	1
<b>Shank dia. 1/4"</b>							
1/4 x 5/8	SF-1	1/4	1-15/16	24691	24692	24693	1
3/8 x 3/4	SF-3	1/4	2-1/2	24701	24702	24703	1
7/16 x 1	SF-4	1/4	2-3/4	-	24712	-	1
1/2 x 3/4	SF-13	1/4	2-1/2	-	24732	24733	1
1/2 x 1	SF-5	1/4	2-3/4	24721	24722	24723	1
5/8 x 1	SF-6	1/4	2-3/4	-	24742	-	1
3/4 x 1	SF-7	1/4	2-3/4	-	24752	24753	1
3/4 x 1-1/4	SF-14	1/4	3	-	24762	24763	1
3/4 x 1-1/2	SF-15	1/4	3-1/4	-	24772	-	1
<b>Extended shank L2 (2")</b>							
1/8 x 1/2	SF-42L2	1/8	2	-	23685	-	1
<b>Extended shank L3 (3")</b>							
1/8 x 1/2	SF-42L3	1/8	3	-	23860	-	1
<b>Extended shank L6 (6")</b>							
1/4 x 5/8	SF-1L6	1/4	6-9/16	-	26042	-	1
3/8 x 3/4	SF-3L6	1/4	6-3/4	-	26052	-	1
1/2 x 1	SF-5L6	1/4	6-7/8	-	26062	-	1

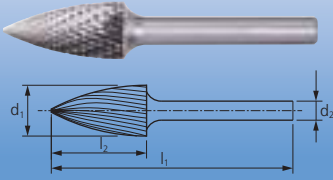


# Carbide burs – Universal line

1/8" - 1/4" shank







Tree (pointed end)  
Shape G



Tree-shaped bur with pointed end.

PFERD specification number  
SPG



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
1/8 x 1/4	SG-41	1/8	1-1/2	23341	23342	-	1
1/8 x 3/8	SG-43	1/8	1-1/2	23361	23362	-	1
3/16 x 1/2	SG-53	1/8	1-11/16	-	23392	-	1
1/4 x 1/2	SG-51	1/8	1-11/16	23381	23382	-	1
<b>Shank dia. 1/4"</b>							
1/4 x 5/8	SG-1	1/4	1-15/16	24781	24782	24783	1
5/16 x 3/4	SG-2	1/4	2-1/2	-	24792	24793	1
3/8 x 3/4	SG-3	1/4	2-1/2	24801	24802	24803	1
1/2 x 3/4	SG-13	1/4	2-1/2	-	24822	24823	1
1/2 x 1	SG-5	1/4	2-3/4	24811	24812	24813	1
5/8 x 1	SG-6	1/4	2-3/4	-	24832	24833	1
<b>Extended shank L2 (2")</b>							
1/8 x 1/4	SG-41L2	1/8	2	-	23693	-	1
<b>Extended shank L3 (3")</b>							
1/8 x 1/4	SG-41L3	1/8	3	-	23868	-	1
<b>Extended shank L6 (6")</b>							
1/4 x 5/8	SG-1L6	1/4	6-9/16	-	26102	-	1
3/8 x 3/4	SG-3L6	1/4	6-3/4	-	26112	-	1
1/2 x 1	SG-5L6	1/4	6-7/8	-	26122	-	1



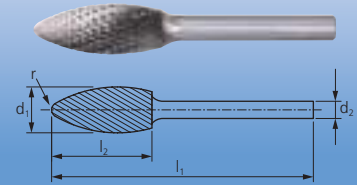




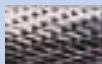



Flame-shaped bur.

**PFERD specification number**  
HM B

**Flame  
Shape H**



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number			
				Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>							
1/8 x 1/4	SH-41	1/8	1-1/2	23401	23402	-	1
<b>Shank dia. 1/4"</b>							
1/4 x 5/8	SH-1	1/4	1-15/16	-	24862	24863	1
5/16 x 3/4	SH-2	1/4	2-1/2	24871	24872	-	1
1/2 x 1-1/4	SH-5	1/4	3	24881	24882	24883	1
5/8 x 1-7/16	SH-6	1/4	3-3/16	-	24892	-	1
<b>Extended shank L2 (2")</b>							
1/8 x 1/4	SH-41L2	1/8	2	-	23713	-	1
<b>Extended shank L3 (3")</b>							
1/8 x 1/4	SH-41L3	1/8	3	-	23888	-	1
<b>Extended shank L6 (6")</b>							
5/16 x 3/4	SH-2L6	1/4	6-5/8	-	26162	-	1
1/2 x 1-1/4	SH-5L6	1/4	7-1/4	-	26172	-	1

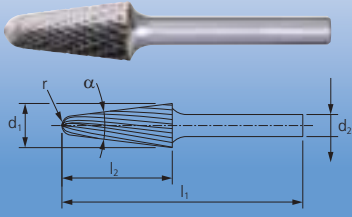


# Carbide burs – Universal line

1/8" - 1/4" shank



14° Taper (radius end)  
Shape L



Taper bur with radius end.

PFERD specification number  
KEL

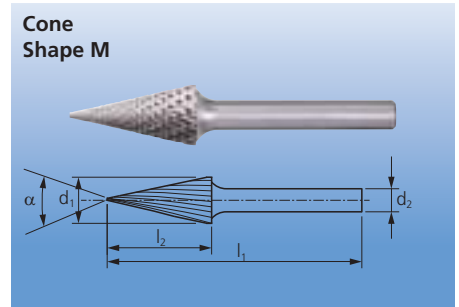






Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number			
					Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>								
1/8 x 1/2	SL-42	1/8	14°	1-1/2	23451	23452	-	1
<b>Shank dia. 1/4"</b>								
1/4 x 5/8	SL-1	1/4	14°	1-15/16	25131	25132	25133	1
5/16 x 1	SL-2	1/4	16°	2-13/16	-	25142	25143	1
3/8 x 1-1/16	SL-3	1/4	14°	3	-	25152	25153	1
1/2 x 1-1/8	SL-4	1/4	14°	3-1/16	25161	25162	25163	1
5/8 x 1-5/16	SL-6	1/4	14°	3-1/4	-	25182	25183	1
3/4 x 1-1/2	SL-7	1/4	14°	3-7/16	-	25192	-	1
<b>Extended shank L2 (2")</b>								
1/8 x 1/2	SL-42L2	1/8	14°	2	-	23725	-	1
<b>Extended shank L3 (3")</b>								
1/8 x 1/2	SL-42L3	1/8	14°	3	-	23900	-	1
<b>Extended shank L6 (6")</b>								
1/4 x 5/8	SL-1L6	1/4	14°	6-9/16	-	26212	-	1
3/8 x 1-1/16	SL-3L6	1/4	14°	7-1/8	-	26222	-	1
1/2 x 1-1/8	SL-4L6	1/4	14°	7-3/16	-	26232	-	1





Conical burr with pointed end.  
**PFERD specification number**  
 SKM



Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Shank dia. $d_2$ [Inches]	Angle $\alpha$	Overall length $l_1$ [Inches]	Cut type and EDP number			
					Single 	Double 	Diamond 	
<b>Shank dia. 1/8"</b>								
1/8 x 3/8	SM-41	1/8	14°	1-1/2	-	23472	-	1
1/8 x 1/2	SM-42	1/8	12°	1-1/2	23481	23482	-	1
1/8 x 5/8	SM-43	1/8	9°	1-1/2	-	23492	-	1
1/4 x 1/2	SM-51	1/8	22°	1-13/16	23501	23502	-	1
<b>Shank dia. 1/4"</b>								
1/4 x 1/2	SM-1	1/4	22°	1-15/16	25201	25202	-	1
1/4 x 3/4	SM-2	1/4	14°	1-15/16	-	25212	25213	1
1/4 x 1	SM-3	1/4	10°	1-15/16	-	25222	25223	1
3/8 x 3/4	SM-4	1/4	28°	2-1/2	25231	25232	-	1
1/2 x 1	SM-5	1/4	28°	2-3/4	-	25242	-	1
5/8 x 1-1/8	SM-6	1/4	31°	2-15/16	-	25252	25253	1
<b>Extended shank L2 (2")</b>								
1/8 x 1/2	SM-42L2	1/8	12°	2	-	23733	-	1
1/8 x 5/8	SM-43L2	1/8	9°	2	-	23737	-	1
<b>Extended shank L3 (3")</b>								
1/8 x 1/2	SM-42L3	1/8	12°	3	-	23908	-	1
1/8 x 5/8	SM-43L3	1/8	9°	3	-	23912	-	1



# Carbide burs – Universal line

## Sets



**12 piece carbide bur sets**  
Single cut, double cut



**EDP 26525**

**12 piece single cut carbide bur set**  
1/8" shank (plastic case)

Contains 12 pcs. burs with 1/8" shank dia. and single cut.

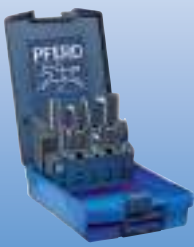
**EDP 26526**

**12 piece double cut carbide bur set**  
1/8" shank (plastic case)

Contains 12 pcs. burs with 1/8" shank dia. and double cut.

Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		Cut type and set EDP number		
			Single 	Individual bur EDP's in set	Double 	Individual bur EDP's in set	
Cylindrical (plain end)	1/8 x 1/2	SA-43	26525	23121	26526	23122	1
Cylindrical (radius end)	3/32 x 1/2	SC-51		23201		23202	1
Cylindrical (radius end)	1/8 x 1/2	SC-42		23191		23192	1
Ball	1/8 x 3/32	SD-42		23241		23242	1
Ball	3/16 x 1/8	SD-53		23261		23262	1
Tree (radius end)	1/8 x 1/4	SF-41		23301		23302	1
Tree (radius end)	1/8 x 1/2	SF-42		23311		23312	1
Tree (pointed end)	1/8 x 3/8	SG-43		23361		23362	1
Flame shape	1/8 x 1/4	SH-41		23401		23402	1
14° Taper	1/8 x 1/2	SL-42		23451		23452	1
Cone	1/8 x 1/2	SM-42		23481		23482	1
Inverted cone	1/8 x 1/8	SN-42		23531		23532	1

**8 piece carbide bur sets**  
Single cut, double cut



**EDP 26546**

**8 piece single cut carbide bur set 1/4" shank (plastic case)**

Contains 8 pcs. burs with 1/4" shank dia. and single cut.

**EDP 26547**

**8 piece double cut carbide bur set 1/4" shank (plastic case)**

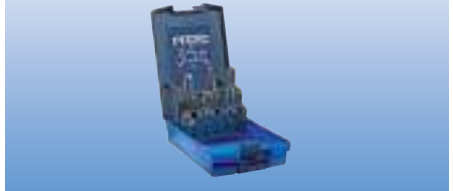
Contains 8 pcs. burs with 1/4" shank dia. and double cut.


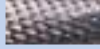
Set contents shape	Bur dia. x length $d_1 \times l_2$ [Inches]	SCTI no.	Cut type and set EDP number		Cut type and set EDP number		
			Single 	Individual bur EDP's in set	Double 	Individual bur EDP's in set	
Cylindrical (plain end)	3/8 x 3/4	SA-3	26546	24061	26547	24062	1
Cylindrical (plain end)	1/2 x 1	SA-5		24101		24102	1
Cylindrical (radius end)	3/8 x 3/4	SC-3		24421		24422	1
Cylindrical (radius end)	1/2 x 1	SC-5		24461		24462	1
Ball	3/8 x 5/16	SD-3		24561		24562	1
Tree (radius end)	3/8 x 3/4	SF-3		24701		24702	1
Tree (radius end)	1/2 x 1	SF-5		24721		24722	1
Tree (pointed end)	3/8 x 3/4	SG-3		24801		24802	1

### 5 piece carbide bur set 1/4" shank diamond cut (plastic case)

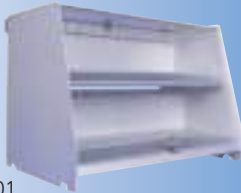
Contains 5 pcs. burs with 1/4" shank dia. and diamond cut.

### 5 piece carbide bur set, diamond cut



Set contents shape	Bur dia. x length d <sub>1</sub> x l <sub>2</sub> [Inches]	SCTI no.	Cut type and set EDP number		
			Diamond 	Individual bur EDP's in set	
Cylindrical (plain end)	1/2 x 1	SA-5	26552	24103	1
Cylindrical (radius end)	1/2 x 1	SC-5		24463	1
Oval	1/2 x 7/8	SE-5		24653	1
Tree (radius end)	1/2 x 1	SF-5		24723	1
14° Taper	1/2 x 1-1/8	SL-4		25163	1

### Showcase for carbide burs empty



EDP 26501

### 20 bur showcase

Showcase for carbide burs with lockable plexiglass cover. Features two levels, each with 12 positions for display burs and enough space above to hang up to 5 packaged burs from an integrated hang post. Depending on shank diameter (1/8" or 1/4"), suitable shank holders can be inserted at each bur position.

This showcase is free-standing and may also be used as a component in PFERD TOOL-CENTER merchandising system for distributor showrooms.

### Showcase for carbide burs



EDP 26511

Set contents shape	Bur dia. x length d <sub>1</sub> x l <sub>2</sub> [Inches]	SCTI no.	Cut type	EDP number	Individual bur EDP's in showcase	
Cylindrical (plain end)	3/8 x 3/4	SA-3	Single	26511	24061	1
Cylindrical (plain end)	3/8 x 3/4	SA-3	Double		24062	1
Cylindrical (plain end)	1/2 x 1	SA-5	Double		24102	1
Cylindrical (end cut)	1/4 x 5/8	SB-1	Double		24212	1
Cylindrical (end cut)	3/8 x 3/4	SB-3	Double		24242	1
Cylindrical (radius end)	1/4 x 5/8	SC-1	Double		24392	1
Cylindrical (radius end)	3/8 x 3/4	SC-3	Double		24422	1
Cylindrical (radius end)	1/2 x 1	SC-5	Double		24462	1
Ball shape	7/16 x 3/8	SD-4	Double		24572	1
Tree shape	1/4 x 5/8	SF-1	Double		24692	1
Tree shape	3/8 x 3/4	SF-3	Double		24702	1
Tree shape	1/2 x 1	SF-5	Double		24722	1
Tree shape	1/2 x 1	SF-5	Diamond		24723	1
Tree shape	1/2 x 1	SF-5	Aluminum		24725	1
Tree shape (pointed)	3/8 x 3/4	SG-3	Double		24802	1
Tree shape (pointed)	1/2 x 1	SG-5	Double		24812	1
14° Taper	3/8 x 1-1/16	SL-3	Double		25152	1
14° Taper	1/2 x 1-1/8	SL-4	Double		25162	1
14° Taper	1/2 x 1-1/8	SL-4	Diamond		25163	1
Cone (pointed)	1/4 x 1	SM-3	Double		25222	1
Showcase for tungsten carbide burs empty				26501	-	1



# Carbide bur accessories

## Spindle extensions



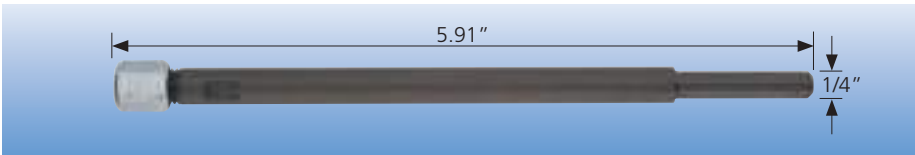
Burs (shank dia. 1/8" and 1/4") can be extended with spindle extensions, allowing access to hard-to-reach areas. The extension is mounted in the collet chuck of the machine (air-powered or electric), or in the handpiece of the flexible shaft. In some applications spindle extensions are efficient alternatives to customized burs with long shanks.

### Safety note

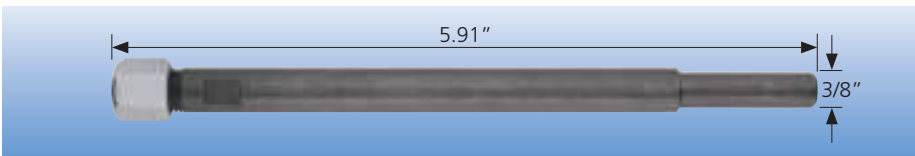
For safety reasons, it is not possible to use spindle extensions in combination with long shank burs. For more safety information, please refer to "Power tools" catalogue (section 209).



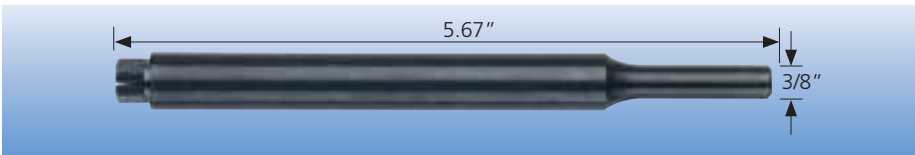
= Read the instructions!



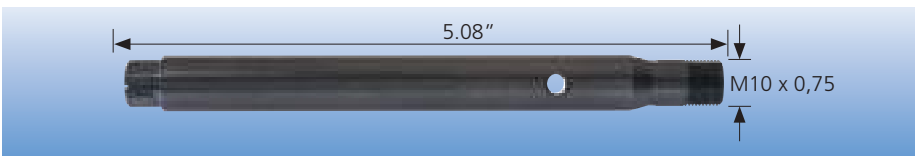
Extension SPV 150-1/8 S1/4  
for 1/8" shanks  
EDP 95825



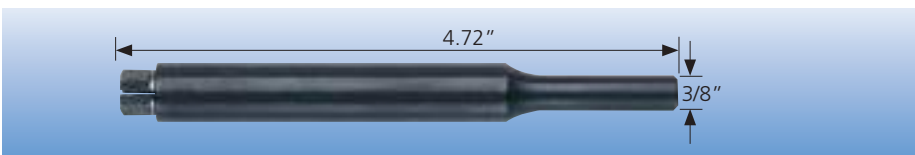
Extension SPV 150-1/4 S3/8  
for 1/4" shanks  
EDP 95826



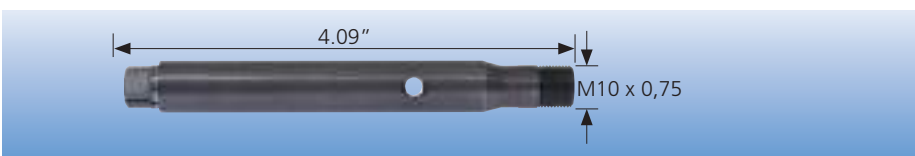
Extension SPV 100-1/4 S3/8  
for 1/4" shanks  
EDP 95824



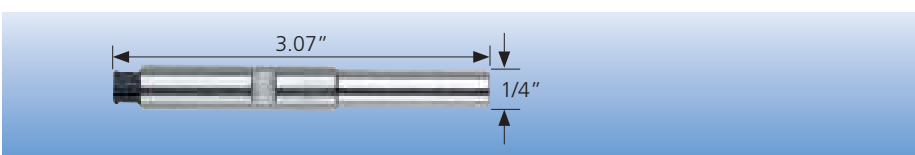
Extension SPV 100-1/4 SPG 6  
for 1/4" shanks  
EDP 95823



Extension SPV 75-1/4 S3/8  
for 1/4" shanks  
EDP 95822



Extension SPV 75-1/4 SPG 6  
for 1/4" shanks  
EDP 95821



Extension SPV 50-1/8 S1/4  
for 1/8" shanks  
EDP 95820

For detailed information and ordering data on spindle extensions please refer to "Power tools" catalogue (section 209).







Carbide router bits with PLAST cut are suitable for trimming and contour milling of a wide range of fibre-reinforced plastics (GRP/CRP).

Router bits with drill tip (BS) or with pilot tip (ZBS) allow combined drilling and cutting tasks.

Router bits with low-burr tip (STS) allow the drilling of holes with little burr formation. The version with flat end tip (FSTS) is used for milling grooves and pockets. Both versions are only for use on machines and on robots.

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

### Application examples

- Trimming
- Contour milling
- Creating cut-outs
- Deburring
- Milling of slots (with FSTS)
- Drilling of blind holes (with FSTS)
- Milling with little burr formation (with STS)

### Recommendations for use

- The design with drill tip (BS) is particularly suitable for machine and robot use, while the version with pilot tip (ZBS) is used for manual applications. It allows secure drilling on almost all surface conditions.
- The versions with low-burr tip (STS) and flat end tip (FSTS) are exclusively for use on machines and on robots.
- Select a burr diameter greater than the thickness of the material to be machined, to avoid impacts and chattering with the risk of damaging or breaking the router bit.
- Increase the rotational speed if the router bit tends to chatter.
- If necessary, reduce the rotational speed and contact pressure if melting occurs.

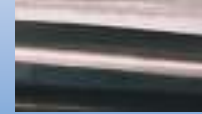
**PFERDERGONOMICS®** recommends router bits with PLAST cut as an innovative solution for comfortable working with significantly reduced vibration and lower noise.



**PFERDEFFICIENCY®** recommends router bits with PLAST cut for long, fatigue-free and resource saving work, with perfect results in the shortest possible time.



### PLAST cut



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

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

### Advantages

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

### Recommended rotational speed range [RPM]

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

- ① Refer to the table for the cutting speed range
- ② Select the required router bit diameter

- ③ The cutting speed range and the router bit diameter determine the recommended rotational speed range [RPM]

Workpiece material/colour code		Application	Cut	① Cutting speed
Plastics, other materials	Fibre-reinforced plastics (GRP/CRP), fibre content ≤ 40%, thermoplastics	Trimming, contour milling, creating cut-outs, deburring	PLAST	1,650 - 3,000 SFPM

### Example

Carbide router bit, PLAST cut, router bit diameter: 5/16".

Trimming of plastics.

Cutting speed: 1,650 - 3,000 SFPM

**Rotational speed: 18,000 - 36,000 RPM**

② Router bit dia. [Inches]	③ Cutting speed [SFPM]	
	1,650	3,000
Rotational speed [RPM]		
1/4	24,000	48,000
5/16	18,000	36,000



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

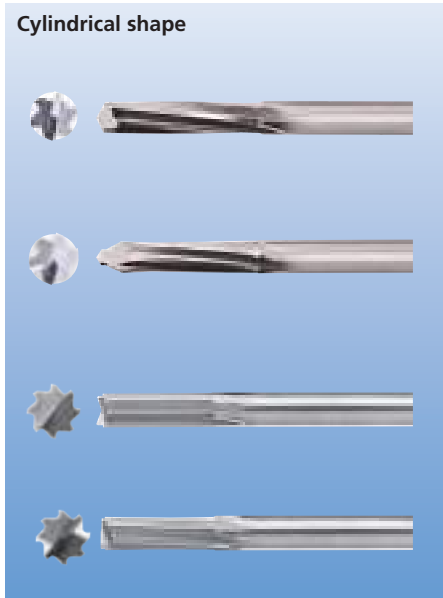


### PFERDMEDIA

For more information, please visit [pferdusa.com/plast](http://pferdusa.com/plast)

# Carbide router bits

**NEW** for use on plastics/composites



Cylindrical bur.

**PFERD specification number**  
ZYA

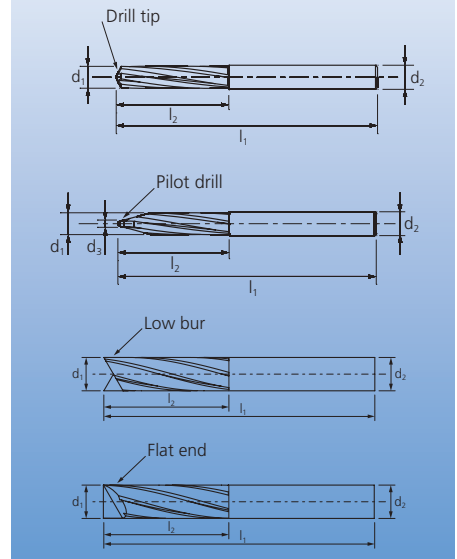
**PFERDERGONOMICS®**



**PFERDEFFICIENCY®**



Cylindrical shape



Bur dia. x length $d_1 \times l_2$ [Inches]	Tip type	Shank dia. $d_2$ [Inches]	Overall length $l_1$ [Inches]	Cut type and EDP number <b>PLAST</b> 	
<b>Shank dia. 1/4"</b>					
1/4 x 1	Drill tip (BS)	1/4	2-1/2	26430	1
1/4 x 1	Pilot tip (ZBS)	1/4	2-1/2	26420	1
1/4 x 1	Low-bur tip (STS)	1/4	2-1/2	26440	1
1/4 x 1	Flat end tip (FSTS)	1/4	2-1/2	26435	1
<b>Shank dia. 5/16"</b>					
5/16 x 1	Drill tip (BS)	5/16	2-1/2	26431	1
5/16 x 1	Pilot tip (ZBS)	5/16	2-1/2	26421	1
5/16 x 1	Low-bur tip (STS)	5/16	2-1/2	26441	1
5/16 x 1	Flat end tip (FSTS)	5/16	2-1/2	26436	1



Bi-metal hole saws are used on drill presses and hand-held drills. Bi-metal construction ensures a long service life and high impact resistance for tough working conditions.

### Advantages

- Cost-effective cutting of holes
- Can be used on diverse materials such as alloy and non-alloy steels, stainless steel (INOX) (please observe recommended use) cast iron, aluminum, copper, bronze, brass, wood, plastics etc.
- An alternating tooth pitch prevents chattering during cutting process
- PFERD offers a range of the most common bimetal hole saws in sets for trades people, fitters, electricians and mechanics
- Bi-metal hole saws are centred and guided via the HSS pilot drill (supplied with compression spring for improved ejection of the cut material)

PFERD bi-metal hole saws provide long service life, high concentricity and high cutting speed. The bi-metal construction prevents breakage of the hole saw at high loads. Highly-finished weld seams result in clean and precise holes, and easy handling. The knock-out slots allow quick and easy plug removal.

Bi-metal hole saws are used in drill presses, lathes and milling cutters as well as on handheld power drills.

Their high concentricity ensures reliable control. PFERD bi-metal hole saws cut perfectly round holes quickly and easily, whether in unalloyed or alloyed stainless steel (INOX), castings, aluminum, copper, bronze, brass, wood, plastics or similar materials.

Thread:

9/16 to 1-3/16" = 1/2"-20 UNF

1-1/4 to 6" = 5/8"-18 UNF

### Recommendations for use

- The pilot drill is clamped in the hole saw shank and should project at least 1/8" beyond the hole saw teeth.
- When cutting metal, use a high-quality cutting oil. The cutting oil facilitates smooth running and lengthens service life.  
**Exceptions:** Do not use cutting oil when working on cast iron. When working on aluminum add kerosene instead of cutting oil.
- Bi-metal hole saws are suitable for work on stainless steel (INOX).
- To avoid corrosion, particles resulting during work must be removed. We recommend either mechanical or chemical cleaning (etching/polishing etc.).
- All teeth should be applied evenly. Avoid swinging movements during sawing to avoid tooth breakage.
- Avoid overheating the hole saw.

These bi-metal hole saws come with an alternating 4/6" tooth pitch (i.e., alternately 4 and 6 teeth per inch, counted on the circumference) which helps prevent chatter.

Bi-metal hole saws range in overall height from 1-3/8" to 2-1/4", depending on type.

### Industry/target group

- Mechanical engineering
- Tank and pressure vessel construction
- Plumbing, electrical, aircraft construction and maintenance
- Metal cutting industries and automotive trades

### Ordering note

Please order arbors separately.

### PFERD specification number

LS

### Safety recommendations

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



= Wear eye protection!

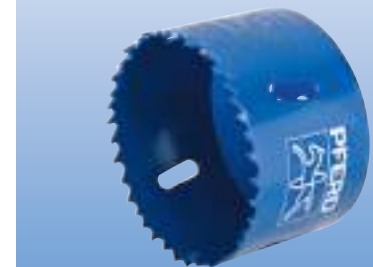



= Read the instructions!  
= (Please observe the recommended RPM!)



PFERD's quick-mount system allows for fast and easy replacement of hole saws with just the push of a button. See page 65 for more information.

### Bi-metal hole saws




Dia. [Inches]	Maximum cutting depth [Inches]	EDP number	Suitable arbors	Recommended rotational speed [RPM]				
				Non-alloyed steels	Tool steel and stainless steel (INOX)	Non-ferrous metals	Plastic	
9/16	1-5/16	29100	EDP 29033, EDP 29034	620	310	800	1,000	1
5/8	1-5/16	29101	EDP 29033, EDP 29034	550	275	730	880	1
11/16	1-7/16	29102	EDP 29033, EDP 29034	520	260	680	820	1
3/4	1-7/16	29103	EDP 29033, EDP 29034	460	230	600	740	1
13/16	1-7/16	29104	EDP 29033, EDP 29034	410	205	540	670	1
7/8	1-7/16	29105	EDP 29033, EDP 29034	390	195	520	640	1
15/16	1-7/16	29106	EDP 29033, EDP 29034	360	180	470	580	1
1	1-7/16	29107	EDP 29033, EDP 29034	350	175	470	560	1
1-1/16	1-7/16	29108	EDP 29033, EDP 29034	325	160	435	520	1
1-1/8	1-7/16	29109	EDP 29033, EDP 29034	300	150	400	480	1
1-3/16	1-7/16	29110	EDP 29033, EDP 29034	285	145	380	470	1
1-1/4	1-7/16	29111	EDP 29036	275	140	360	440	1

Continued on next page.

# Bi-metal hole saws and accessories

## Bi-metal hole saws

Dia. [Inches]	Maximum cutting depth [Inches]	EDP number	Suitable arbors	Recommended rotational speed [RPM]				
				Non-alloyed steels	Tool steel and stainless steel (INOX)	Non-ferrous metals	Plastic	
1-5/16	1-7/16	29112	EDP 29036	260	135	345	420	1
1-3/8	1-7/16	29113	EDP 29036	250	125	330	400	1
1-7/16	1-7/16	29114	EDP 29036	235	115	310	370	1
1-1/2	1-7/16	29115	EDP 29036	230	115	300	370	1
1-9/16	1-7/16	29116	EDP 29036	215	110	280	350	1
1-5/8	1-7/16	29117	EDP 29036	210	105	280	340	1
1-11/16	1-1/4	29118	EDP 29036	200	100	260	330	1
1-3/4	1-1/4	29119	EDP 29036	195	95	260	320	1
1-13/16	1-1/4	29120	EDP 29036	185	90	250	300	1
1-7/8	1-1/4	29121	EDP 29036	180	90	240	290	1
2	1-1/4	29122	EDP 29036	170	85	230	270	1
2-1/16	1-1/4	29123	EDP 29036	165	80	220	270	1
2-1/8	1-1/4	29124	EDP 29036	160	80	210	260	1
2-1/4	1-1/4	29125	EDP 29036	150	75	200	250	1
2-5/16	1-1/4	29126	EDP 29036	145	70	190	240	1
2-3/8	1-1/4	29127	EDP 29036	140	70	190	230	1
2-1/2	1-1/4	29128	EDP 29036	135	65	180	220	1
2-9/16	1-1/4	29129	EDP 29036	135	60	180	220	1
2-5/8	1-1/4	29130	EDP 29036	130	65	170	210	1
2-3/4	1-1/4	29131	EDP 29036	125	60	160	200	1
2-7/8	1-1/4	29132	EDP 29036	120	60	160	190	1
3	1-1/4	29133	EDP 29036	115	55	150	180	1
3-1/8	1-1/4	29134	EDP 29036	110	55	140	180	1
3-1/4	1-1/4	29135	EDP 29036	105	50	140	170	1
3-3/8	1-1/4	29136	EDP 29036	100	50	130	160	1
3-1/2	1-1/4	29137	EDP 29036	95	45	130	160	1
3-5/8	1-1/4	29138	EDP 29036	95	45	120	150	1
3-3/4	1-1/4	29139	EDP 29036	90	45	120	150	1
3-7/8	1-1/4	29140	EDP 29036	90	45	120	140	1
4	1-1/4	29141	EDP 29036	85	40	110	140	1
4-1/8	1-1/4	29142	EDP 29036	80	40	110	130	1
4-3/8	1-1/4	29144	EDP 29036	75	35	100	130	1
4-1/2	1-1/4	29145	EDP 29036	75	35	100	120	1
4-3/4	1-1/4	29146	EDP 29036	70	35	90	120	1
5	1-1/4	29147	EDP 29036	65	30	80	110	1
5-1/2	1-1/4	29148	EDP 29036	60	30	75	100	1
6	1-1/4	29149	EDP 29036	55	25	70	90	1

PFERD offers a new quick-change mounting system for hole saws. This quick-change system and the two three-part adapter sets matched to the hole saw diameters ensure that hole saws can be used easily and conveniently with all standard power drills.

### Recommendations for use

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



### Adapter sets




### Ordering note

Adapter set EDP 29043 is available for hole saw diameter 9/16" - 1-3/16", and adapter set EDP 29044 for hole saw diameter 1-1/4" - 6". Both adapter sets contain three adapters with the same dimensions.

### Quick-mounting system for hole saws



Description	For hole saw threads	Suitable for hole saw diameters [Inches]	EDP number	
Quick-mounting system for hole saws	-	9/16 - 6	29042	1
3-piece quick-mounting adapter set	1/2-20	9/16 - 1-3/16	29043	1
3-piece quick-mounting adapter set	5/8-18	1-1/4 - 6	29044	1

### Combination example

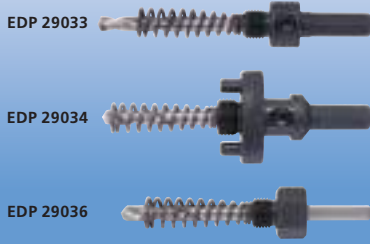




# Bi-metal hole saws and accessories

## Hole saw arbors

### Hole saw arbors LSS



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

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

#### Purpose of the compression spring

This prevents "jamming" of the cut-out material between the inner walls of the hole saw and the drill. The spring force ejects the material. Should this effect not be required for a particular


application, e.g. ready-installed pipes, the spring can easily be removed without tools.

#### Ordering note

Hole saw arbors EDP 29033 and EDP 29034 are delivered with the HSS pilot drill EDP 29040 and one ejection spring.






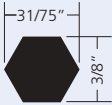

Hole saw arbor EDP 29036 is delivered with the HSS pilot drill EDP 29039 and one ejection spring.

**PFERD specification number**  
LSS

Shank dia. [Inches]	Shank dia. [mm]	Thread	Shank type	Suitable for hole saw diameters [Inches]	EDP number	
3/8	9.53	1/2"-20	Hexagonal	9/16 to 1-3/16	29033	1
3/8	9.53	5/8"-18	Hexagonal	1-1/4 to 6	29034	1
1/4	6.35	1/2"-20	Round	9/16 to 1-3/16	29036	1

### Arbor shapes

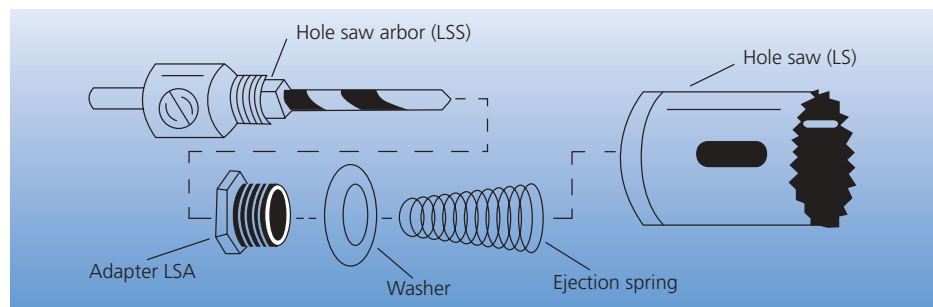
The adjacent table shows information on shank forms, LSS dimensions and LSB pilot drills. The appropriate PFERD hole saws have been shown.

PFERD-hole saw arbors EDP	Shank dia. [Inches]	Shank dia. [mm]	Shank shape	for PFERD hole saw dia. [Inches]
<b>29033</b>	3/8	9.53		9/16 to 1-3/16
<b>29034</b>	3/8	9.53		1-1/4 to 6
<b>29036</b>	1/4	6.35		9/16 to 1-3/16
<b>Pilot drill</b>				for hole saw arbors EDP 29033, 29034, 29036
<b>29040</b>	1/4	6.35		
<b>29039</b>	1/4	6.35		
<b>Shank dimensions [Inches]</b>				

### Compression spring

All hole saw arbors are delivered with a compression spring for better ejection of the waste material.

Before application, this compression spring can be installed/uninstalled if required. Screw on the compression spring from the side with the smaller diameter up to its limit. It is also possible to use the compression spring with the LSA adapter (see diagram).





The bi-metal hole saw arbors EDP 29033 and 29034 can be extended using the 12" arbor extension.

### Advantages


- Suitable for work on hard-to-reach components
- Particularly suitable for work on hollow walls. Deep holes can be cut with ease

- Achieves the required distance between the power source and the work area
- Avoids damage to workpiece and machine
- Dust is not drawn into the power source during cutting process

**PFERD specification number**  
SVL-300

### Hole saw arbor extension 12"



Hexagonal socket (sw) [Inches]	Hexagonal socket (sw) [mm]	Overall length [Inches]	Overall length [mm]	Shank type	Width across flats [Inches]	Width across flats [mm]	Suitable for arbors	EDP number	
3/8	9.53	12	300	hexagonal	7/16	11	EDP 29033, 29034	29071	1

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


### Contents

- 2 compression springs
- 2 hexagon socket head screws
- 1 hexagon socket wrench

**PFERD specification number**  
RSL-5

### Hole saw arbor repair kit RSL-5



EDP number	
29072	1

This thread adapter and washer allows the use of 1-1/4" to 1-1/2" hole saws with an 1/4" shank arbor.


**PFERD specification number**  
LSA

### Adapter LSA



### Recommendation for use

The use of this adapter for hole saws exceeding 1-1/8" dia. is not recommended.

Suitable for hole saw diameters [Inches]	Suitable for arbors	EDP number	
1-1/4 – 1-1/2	EDP 29033, EDP 29036	29070	1


## HSS pilot drill for bi-metal hole saws

Replacement pilot drills are available for use with PFERD drive arbors.

**PFERD specification number**  
LSB

### HSS pilot drill LSB



Shank dia. [Inches]	Shank dia. [mm]	Shank type	Suitable for hole saw diameters [Inches]	Suitable for arbors	EDP number	
1/4	6.35	Round	9/16 to 6	EDP 29033, EDP 29034	29040	1
1/4	6.35	Round	9/16 to 6	EDP 29036	29039	1

# Bi-metal hole saws and accessories

## Hole saw sets

### 7 piece bi-metal hole saw set



The hole saws are supplied neatly arranged in a strong plastic box, with instructions for use included.

#### EDP 29179

#### 7 piece bi-metal hole saw set

The set contains hole saws in the most common diameters used to install air conditioner hoses, door locks, antennas, etc.

#### EDP 29183

#### 9 piece bi-metal hole saw set for plumbers/fitters


The set contains hole saws in the most common diameters for use in the plumber's and pipe fitter's trade.

#### PFERD specification number

LS-SO 7 H, LS-SO 9 I

### 9 piece bi-metal hole saw set for plumbers/fitters



Number of pieces	Dimension [Inches]	Contents	Industry/target group	EDP number	
7	6-1/2 x 4-1/2 x 2-1/4	5 bi-metal hole saws: 7/8", 1", 1-1/8", 1-1/4", 1-1/2" 1 hole saw arbor EDP 29036 1 thread adapter EDP 29070 1 allen wrench 1/16"	Professional trades and DIY	29179	1
9	8-1/2 x 6 x 2-1/4	6 bi-metal hole saws: 3/4", 7/8", 1-1/8", 1-1/2", 1-3/4", 2-1/4" 2 hole saw arbors 1/4" and 3/8" shank 1 thread adapter EDP 29070 1 allen wrench 1/16"	Plumber and fitter trades	29183	1

### 9 piece bi-metal hole saw set for electricians



The hole saws are supplied neatly arranged in a strong plastic box, with instructions for use included.

#### EDP 29184

#### 9 piece bi-metal hole saw set for electricians

The set contains hole saws in the most common diameters for electricians.

#### EDP 29180

#### 13 piece bi-metal hole saw set for assembly mechanics

The set contains hole saws in the most common diameters for mechanics and equipment fitters.

#### PFERD specification number

LS-SO 9 E-1, LS-SO 13 M

### 13 piece bi-metal hole saw set for assembly mechanics



Number of pieces	Dimension [Inches]	Contents	Industry/target group	EDP number	
9	8-1/2 x 6 x 2-1/4	6 bi-metal hole saws: 7/8", 1-1/8", 1-3/8", 1-3/4", 2", 2-1/2" 2 hole saw arbors 1/4" and 3/8" shank 1 thread adapter EDP 29070 1 allen wrench 1/16"	Electrician's trade	29184	1
13	8-1/2 x 7 x 2-1/2	9 bi-metal hole saws: 3/4", 7/8", 1-1/8", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2" 2 hole saw arbors 1/4", 3/8" shank 1 pilot drill EDP 29039 1 thread adapter EDP 29070 1 allen wrench 1/16"	Process equipment construction, tank and pressure vessel construction, pipeline construction	29180	1