Tungsten carbide burrs with STEEL cut

Maximum stock removal on steel and cast steel

- Up to 50 % higher stock removal performance when used on steel and cast steel in comparison to conventional cross cut burrs
- Significantly increased aggressiveness, large chips and very good chip removal through the innovative tooth geometry
- Comfortable working with reduced vibration and lower noise

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel

With the innovative STEEL cut, PFERD has developed unique burrs for working with steel and cast steel. They are characterized by significantly increased aggressiveness and good guidance. Thus they ensure safe and precise work. The extremely high stock removal rate makes burrs with the STEEL cut impressive, with significant time savings and a high economic value. PFERD also offers tungsten carbide burrs with STEEL cut with a high-quality HICOAT coating.

Advantages:
- The highly accurate concentricity enables impact-free working without creating chatter marks.

Materials that can be worked:
- Steel
- Cast steel

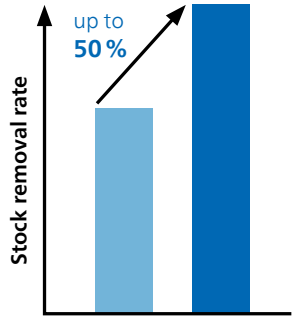
Applications:
- Milling out
- Levelling
- Deburring
- Cutting out holes
- Surface work
- Work on weld seams

Recommendations for use:
- If possible, use the tools on powerful drives with elastically mounted spindles to avoid vibration.
- For the cost-effective use of burrs, work with higher rotational/cutting speeds. Power recommendation for tool drives: from 300 watts.
- Please observe the rotational speed recommendations.

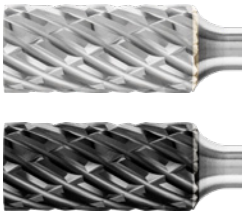
Matching tool drives:
- Flexible shaft drive
- Straight grinder
- Robot
- Machine tools

Find out more about the advantages of using tungsten carbide burrs with STEEL cut.

Performance values for applications on steel and cast steel



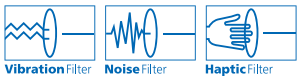
- Conventional burrs with cross cut
- Tungsten carbide burrs, STEEL cut



STEEL cut
- Extremely high stock removal rate on steel and cast steel.
- Smooth milling.
- Reduced vibration and less noise.
- Burrs with the HICOAT coating HC-FEP achieve a much higher stock removal rate than uncoated burrs.

PFERDVALUE

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



PFERDEFFICIENCY recommends burrs with STEEL cut for long fatigue-free and resource-saving work with perfect results in a very short period of time.

Find out more about **PFERD**VALUE – Your added value with PFERD.

Safety notes

- On tungsten carbide burrs designed for high-performance applications, blue discolouration cannot be avoided on account of the very high stock removal rate. However, this does not constitute a safety risk.
- For safety reasons, the maximum permitted rotational speed indicated must never be exceeded.


Wear eye protection!


Wear hearing protection!


Wearing protective gloves is recommended. Handle the tool drive with both hands.


Observe the recommended rotational speed, especially when using burrs with long shanks!

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel

HICOAT coating

PFERD offers tools with HICOAT coatings to tackle particularly demanding applications. Two different coatings are available. The HICOAT coating HC-FEP is specifically designed for iron and steel materials.

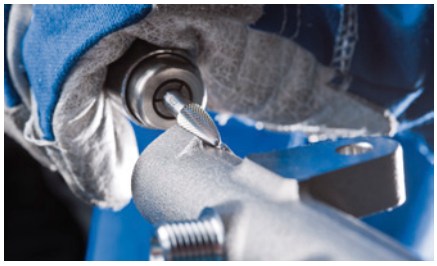
The HICOAT coating HC-NFE is mainly used for long-chipping and lubricating aluminium alloys and non-ferrous metals, as it prevents material adhesion. In general, all PFERD tungsten carbide burrs are also available with HICOAT coatings.

Scan the QR code to find out more about PFERD's HICOAT coatings.

Advantages:
- Improved anti-adhesion characteristics.
- Effective chip discharge.
- Lower thermal loads.
- Increased tool life.
- Burrs with the HICOAT coating HC-FEP achieve a much higher stock removal rate than uncoated burrs.

Recommendations for use

An optimum rotational speed and power output for the tool drive are required for cost-effective use of tungsten carbide burrs. Using tungsten carbide burrs on drives with an elastically mounted spindle significantly improves comfort when working. What's more, the grinder's elastically mounted spindle guarantees a longer tool life, especially when using tungsten carbide burrs. Scan the QR code with your mobile device to obtain more handy recommendations for use relating to milling work.



Recommended rotational speed range [RPM]

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

① Select the material group to be machined.
② Select the required burr diameter.
③ The cutting speed range and the burr diameter determine the recommended rotational speed range.

Safety note

- Use tungsten carbide burrs with long shanks SL only with rigid clamping systems/drives. Risk of bending.

Please observe the reduced rotational speeds for burrs with a long shank. They can be found on page 4.

Material group			Used for	Cut	① Cutting speed
Steel, cast steel	Steels up to 1,200 N/mm² (below 38 HRC)	Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steel, tempering steels	Coarse stock removal	STEEL	450–750 m/min
				HICOAT HC-FEP	450–900 m/min
	Hardened, heat-treated steels over 1,200 N/mm² (over 38 HRC)	Tool steels, tempering steels, alloyed steels, cast steel		STEEL	450–750 m/min
				HICOAT HC-FEP	450–900 m/min

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

② Burr dia. [mm]	③ Cutting speed [m/min]		
	450	750	900
	Rotational speed [RPM]		
6	24,000	40,000	48,000
8	18,000	30,000	36,000
10	14,000	24,000	29,000
12	12,000	20,000	24,000
16	9,000	15,000	18,000

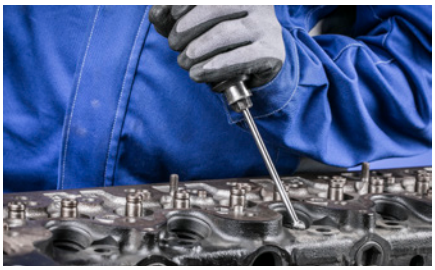
Tungsten carbide burrs with STEEL cut
for use on steel and cast steel

Tungsten carbide burrs with long shanks

Tungsten carbide burrs with long shanks are particularly well suited to working in hard-to-reach areas. PFERD holds long-shank versions in stock for the respective product groups. Long-shank versions are available with the 3 PLUS, STEEL, Z5 and TOUGH cuts. All long shanks can be individually shortened. Tungsten carbide burrs with the designation GL 75 mm are made from solid tungsten carbide, which means they can only be shortened using diamond tools. Additional variants can be custom-made on request. In some applications, drive spindle extensions are an economic alternative to customized burrs with long shanks.

Safety notes:

- Tungsten carbide burrs with a long steel shank SL should only be used with rigid clamping systems and drives. There is a risk that they may break off.
- When working with long shank lengths, it is crucial that the tool is in contact with the workpiece (or inserted in the bore or slot to be machined) before the drive system is turned on. As a rule, the tool must remain in contact with the workpiece for as long as the machine is running. Failure to observe this procedure may result in burr failure (bending) and hence an increased risk of accidents. If continuous contact between the tool and the workpiece is not guaranteed, the ⑧ maximum idling speeds stated in the table must not be exceeded.



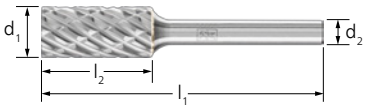
- For safety reasons, the maximum application speeds ⑦ with contact with the workpiece require a reduction in the recommended rotational speed of tungsten carbide burrs with standard shanks. The reduced rotational speeds are stated in the table below.

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

Example:
TC burr, SL 150 mm,
Cut 3 PLUS,
Burr dia. 12 mm.
Coarse stock removal on steels up to 1,200 N/mm².
Maximum application speed with contact with the workpiece: 7.000 RPM

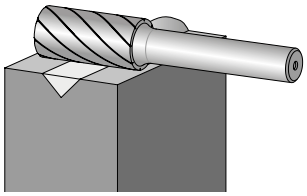
	⑧ Maximum idling speed [RPM] without contact with the workpiece		⑦ Maximum application speed [RPM] with contact with the workpiece	
	Shank length [mm]			
① Burr dia. [mm]	75	150	75	150
3	10,000	-	31,000	-
6	6,000	8,000	15,000	15,000
8	-	6,000	-	11,000
10	-	4,000	-	9,000
12	-	3,000	-	7,000

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel



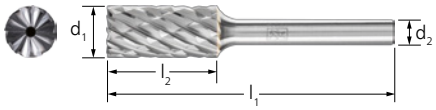
Cylindrical shape ZYA without end cut

Cylindrical burrs according to DIN 8032 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



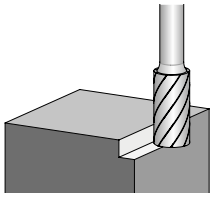
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	Cut		Item no.	Designation
Shank diameter 6 mm							
6	16	6	55	STEEL	1	21101687	ZYA 0616/6 STEEL
8	20	6	60	STEEL	1	21101787	ZYA 0820/6 STEEL
10	20	6	60	STEEL	1	21102187	ZYA 1020/6 STEEL
				STEEL HC-FEP	1	21102190	ZYA 1020/6 STEEL HC-FEP
12	25	6	65	STEEL	1	21101987	ZYA 1225/6 STEEL
				STEEL HC-FEP	1	21101990	ZYA 1225/6 STEEL HC-FEP
16	25	6	65	STEEL	1	21102037	ZYA 1625/6 STEEL



Cylindrical shape ZYAS with end cut

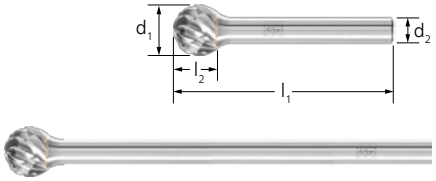
Cylindrical burr according to DIN 8032 with circumferential and end cut for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

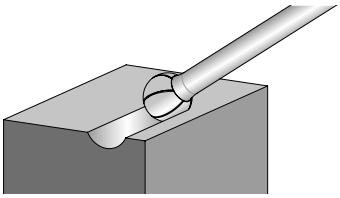
d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	Cut		Item no.	Designation
Shank diameter 6 mm							
10	20	6	60	STEEL HC-FEP	1	21100490	ZYAS 1020/6 STEEL HC-FEP
6	16	6	55	STEEL	1	21100287	ZYAS 0616/6 STEEL
8	20	6	60	STEEL	1	21100387	ZYAS 0820/6 STEEL
10	20	6	60	STEEL	1	21100487	ZYAS 1020/6 STEEL
12	25	6	65	STEEL	1	21100587	ZYAS 1225/6 STEEL
				STEEL HC-FEP	1	21100590	ZYAS 1225/6 STEEL HC-FEP
16	25	6	65	STEEL	1	21100687	ZYAS 1625/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)							
8	20	6	170	STEEL	1	21100327	ZYAS 0820/6 STEEL SL 150
10	20	6	170	STEEL	1	21100727	ZYAS 1020/6 STEEL SL 150
12	25	6	175	STEEL	1	21100527	ZYAS 1225/6 STEEL SL 150

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel



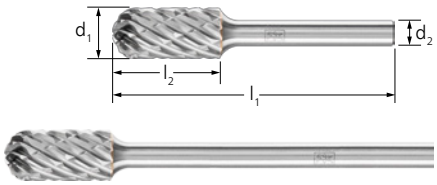
Ball shape KUD

Ball-shaped burr according to DIN 8032 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



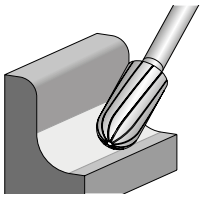
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	Cut		Item no.	Designation
Shank diameter 6 mm							
6	5	6	45	STEEL	1	21112587	KUD 0605/6 STEEL
8	7	6	47	STEEL	1	21112687	KUD 0807/6 STEEL
10	9	6	49	STEEL	1	21112787	KUD 1009/6 STEEL
				STEEL HC-FEP	1	21112790	KUD 1009/6 STEEL HC-FEP
12	10	6	51	STEEL	1	21112887	KUD 1210/6 STEEL
	10	6	51	STEEL HC-FEP	1	21112890	KUD 1210/6 STEEL HC-FEP
16	14	6	54	STEEL	1	21112987	KUD 1614/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)							
10	9	6	159	STEEL	1	21112789	KUD 1009/6 STEEL SL 150
12	10	6	160	STEEL	1	21112889	KUD 1210/6 STEEL SL 150



Cylindrical shape with radius end WRC

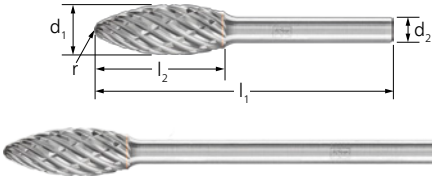
Cylindrical burr with radius end according to DIN 8032 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

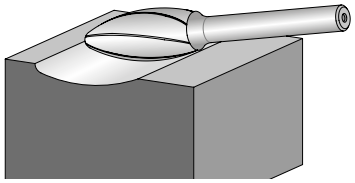
d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	Cut		Item no.	Designation
Shank diameter 6 mm							
6	16	6	55	STEEL	1	21105087	WRC 0616/6 STEEL
8	20	6	60	STEEL	1	21105187	WRC 0820/6 STEEL
10	20	6	60	STEEL	1	21105287	WRC 1020/6 STEEL
				STEEL HC-FEP	1	21105290	WRC 1020/6 STEEL HC-FEP
12	25	6	65	STEEL	1	21105387	WRC 1225/6 STEEL
				STEEL HC-FEP	1	21105390	WRC 1225/6 STEEL HC-FEP
16	25	6	65	STEEL	1	21105487	WRC 1625/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)							
8	20	6	170	STEEL	1	21105186	WRC 0820/6 STEEL SL 150
10	20	6	170	STEEL	1	21105286	WRC 1020/6 STEEL SL 150
12	25	6	175	STEEL	1	21105389	WRC 1225/6 STEEL SL 150

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel



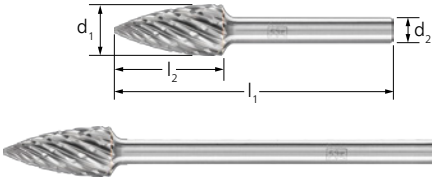
Flame-shaped B

Flame-shaped burr according to ISO 7755/8 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



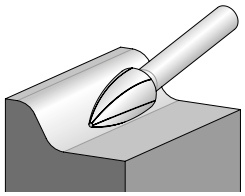
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	r [mm]	Cut		Item no.	Designation
Shank diameter 6 mm								
8	20	6	60	1.5	STEEL	1	21103187	B 0820/6 STEEL
10	25	6	65	1.7	STEEL	1	21103286	B 1025/6 STEEL
					STEEL HC-FEP	1	21103290	B 1025/6 STEEL HC-FEP
12	30	6	70	2.1	STEEL	1	21103387	B 1230/6 STEEL
					STEEL HC-FEP	1	21103390	B 1230/6 STEEL HC-FEP
16	35	6	75	2.6	STEEL	1	21103436	B 1635/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)								
10	25	6	175	1.7	STEEL	1	21103227	B 1025/6 STEEL SL 150
12	30	6	180	2.1	STEEL	1	21103386	B 1230/6 STEEL SL 150



Pointed tree shape SPG

Pointed tree-shaped burr according to DIN 8032 with flattened tip for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.

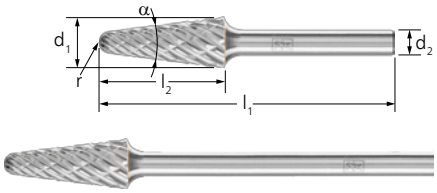


Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	Cut		Item no.	Designation
Shank diameter 6 mm							
6	18	6	55	STEEL	1	21122587	SPG 0618/6 STEEL
8	20	6	60	STEEL	1	21122588	SPG 0820/6 STEEL
10	20	6	60	STEEL	1	21122687	SPG 1020/6 STEEL
				STEEL HC-FEP	1	21122690	SPG 1020/6 STEEL HC-FEP
12	25	6	65	STEEL	1	21122787	SPG 1225/6 STEEL
				STEEL HC-FEP	1	21122790	SPG 1225/6 STEEL HC-FEP
16	30	6	70	STEEL	1	21122887	SPG 1630/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)							
8	20	6	170	STEEL	1	*21122586*	SPG 0820/6 STEEL SL 150
12	25	6	175	STEEL	1	*21122788*	SPG 1225/6 STEEL SL 150

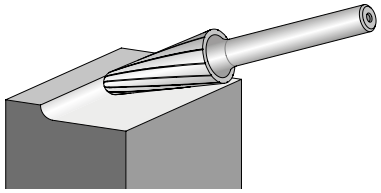
Discontinued product

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel



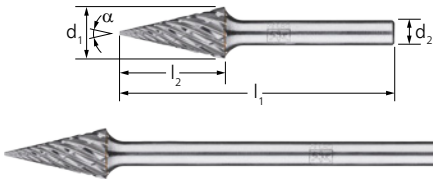
Conical shape with radius end KEL

Conical burr with round radius end according to DIN 8032 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



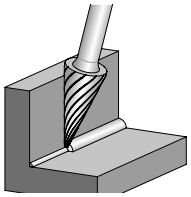
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	α [°]	r [mm]	Cut		Item no.	Designation
Shank diameter 6 mm									
10	20	6	60	14	2.9	STEEL	1	21125087	KEL 1020/6 STEEL
						STEEL HC-FEP	1	21125090	KEL 1020/6 STEEL HC-FEP
12	30	6	70	14	2.6	STEEL	1	21125287	KEL 1230/6 STEEL
	30	6	70	14	2.6	STEEL HC-FEP	1	21125290	KEL 1230/6 STEEL HC-FEP
16	30	6	70	14	4.8	STEEL	1	21125387	KEL 1630/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)									
10	20	6	170	14	2.9	STEEL	1	21125089	KEL 1020/6 STEEL SL 150
12	30	6	180	14	2.6	STEEL	1	21125289	KEL 1230/6 STEEL SL 150



Conical pointed shape SKM

Conical pointed burr according to DIN 8032 with flattened tip for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.

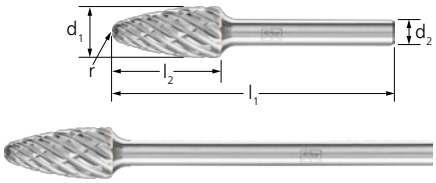


Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	α [°]	Cut		Item no.	Designation
Shank diameter 6 mm								
6	18	6	55	18	STEEL	1	21115077	SKM 0618/6 STEEL
8	20	6	60	22	STEEL	1	21115087	SKM 0820/6 STEEL
10	20	6	60	28	STEEL	1	21115187	SKM 1020/6 STEEL
					STEEL HC-FEP	1	21115190	SKM 1020/6 STEEL HC-FEP
12	25	6	65	26	STEEL	1	21115287	SKM 1225/6 STEEL
					STEEL HC-FEP	1	21115290	SKM 1225/6 STEEL HC-FEP
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)								
12	25	6	175	26	STEEL	1	*21115289*	SKM 1225/6 STEEL SL 150

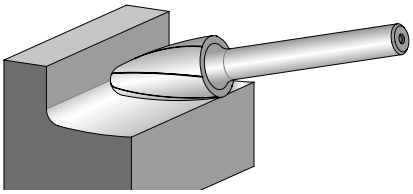
Discontinued product

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel



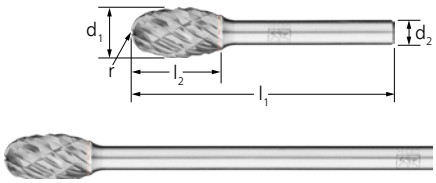
Tree shape with radius end RBF

Tree-shaped burr with radius end according to DIN 8032 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



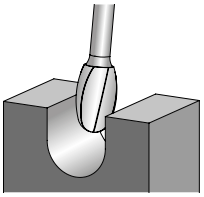
Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	r [mm]	Cut		Item no.	Designation
Shank diameter 6 mm								
6	18	6	55	1.5	STEEL	1	21117387	RBF 0618/6 STEEL
8	20	6	60	1.2	STEEL	1	21117687	RBF 0820/6 STEEL
10	20	6	60	2.5	STEEL	1	21117787	RBF 1020/6 STEEL
					STEEL HC-FEP	1	21117790	RBF 1020/6 STEEL HC-FEP
12	25	6	65	2.5	STEEL	1	21117887	RBF 1225/6 STEEL
					STEEL HC-FEP	1	21117890	RBF 1225/6 STEEL HC-FEP
16	30	6	70	3.6	STEEL	1	21117987	RBF 1630/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)								
8	20	6	170	1.2	STEEL	1	*21117689*	RBF 0820/6 STEEL SL 150



Oval shape TRE

Oval burr according to DIN 8032 for machining steel and cast steel. Tangibly more aggressive combined with good guidance, guaranteeing safe and precise work. Also available with wear-resistant HICOAT coating.



Special features:
- Up to 50% higher stock removal rate when used on steel and cast steel than conventional cross-cut burrs.
- Workpieces are protected through significantly lower thermal load.
- There is reduced wear on the tool drive due to impact-free work without chatter marks, thanks to the high concentricity.

d_1 [mm]	l_2 [mm]	d_2 [mm]	l_1 [mm]	r [mm]	Cut		Item no.	Designation
Shank diameter 6 mm								
8	13	6	53	3.7	STEEL	1	21135087	TRE 0813/6 STEEL
10	16	6	56	4	STEEL	1	21134987	TRE 1016/6 STEEL
					STEEL HC-FEP	1	21134990	TRE 1016/6 STEEL HC-FEP
12	20	6	60	5	STEEL	1	21135187	TRE 1220/6 STEEL
					STEEL HC-FEP	1	21135190	TRE 1220/6 STEEL HC-FEP
16	25	6	65	6.5	STEEL	1	21135287	TRE 1625/6 STEEL
Long shank diameter of 6 mm, shank length SL 150 mm (long steel shank)								
10	16	6	160	4	STEEL	1	21134988	TRE 1016/6 STEEL SL 150
12	20	6	170	5	STEEL	1	21135189	TRE 1220/6 STEEL SL 150

Tungsten carbide burrs with STEEL cut
for use on steel and cast steel

Set 1812 STEEL

Set 1812 STEEL contains five tungsten carbide burrs for processing steel and cast steel in the most common shapes and dimensions.

Contents:
The set comprises one each of the following: ZYA 1225/6 STEEL, KUD 1210/6 STEEL, WRC 1225/6 STEEL, SPG 1225/6 STEEL and RBF 1225/6 STEEL with a shank diameter of 6 mm, cut STEEL.

Special features:
- The sturdy plastic box protects the tools against dirt and damage.
- The burrs are secured at the shanks, facilitating the selection and withdrawal of the tools.
- Five further slots are available for other burrs.

Cut		Item no.	Designation
Shank diameter 6 mm			
STEEL	1	21901812	SET 1812 STEEL 5TLG

Set 1806 STEEL

Set 1806 STEEL contains three tungsten carbide burrs for processing steel and cast steel in the most common shapes and dimensions.

Contents:
The set comprises one each of the following: ZYAS 0616/6 STEEL, WRC 0616/6 STEEL and RBF 0618/6 STEEL with a shank diameter of 6 mm, cut STEEL.

Special features:
- The sturdy plastic box protects the tools against dirt and damage.

Cut		Item no.	Designation
Shank diameter 6 mm			
STEEL	1	21901806	SET 1806 STEEL 3TLG

Set 1807 STEEL

Set 1807 STEEL contains three tungsten carbide burrs for processing steel and cast steel in the most common shapes and dimensions.

Contents:
The set comprises one each of the following: ZYAS 1225/6 STEEL, WRC 1225/6 STEEL and RBF 1225/6 STEEL with a shank diameter of 6 mm, cut STEEL.

Special features:
- The sturdy plastic box protects the tools against dirt and damage.

Cut		Item no.	Designation
Shank diameter 6 mm			
STEEL	1	21901807	SET 1807 STEEL 3TLG

Subject to technical modifications.

01/2025