

Tungsten carbide burrs with ALU and NON-FERROUS

Maximum stock removal on aluminium and non-ferrous metals



**YOU KNOW HOW.
WE KNOW WOW!**



TRUST BLUE

- Very broad and comprehensive range, including miniature burrs for delicate applications
- Extremely high stock removal performance, long tool life and smooth milling
- Also available with HICOAT coating HC-NFE for an effective chip removal thanks to improved anti-adhesion characteristics

TC burrs with ALU and NON-FERROUS cuts

for use on aluminium/non-ferrous metals

When it comes to machining aluminium and non-ferrous metals, PFERD offers two high-performance cuts and a HICOAT coating which have been designed specifically for demanding machining tasks on long-chipping and lubricating materials.

Applications:

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


Matching tool drives:

- Flexible shaft drive
- Straight grinder
- Robot
- Machine tools

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:
 - Shank diameter of 3 mm: 75 to 300 watts
 - Shank diameter of 6 mm: from 500 watts
- Please observe the rotational speed recommendations.



412 ALU grinding oil

Grinding oil can be used as an alternative to the HICOAT coating HC-NFE. **Grinding oil 412 ALU** in a 400 ml aerosol is particularly well suited: EAN 4007220791332. Detailed information on grinding oil 412 ALU can be found in our Tool Manual 23, catalogue section 4.

Safety notes:



= 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!

ALU cut



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

Advantages:

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

ALU cut with HICOAT coating HC-NFE



The use of burrs with the PFERD HICOAT coating HC-NFE prevents chips adhering during work on soft aluminium alloys. This increases the tool life and improves the surface quality of the workpiece.

Advantages:

- Mainly used for long-chipping and lubricating non-ferrous metals.
- Highest stock removal rate.
- Effective chip removal through improved anti-adhesion characteristics.
- Lower thermal loads.
- Longer service life.

Materials that can be worked:

- Aluminium
- Bronze
- Copper
- Brass
- Titanium
- Titanium alloys
- Zinc
- Fibre-reinforced plastics (GRP/CRP)
- Thermoplastics

PFERDVALUE:

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



Waste Saving



Time Saving

NON-FERROUS cut



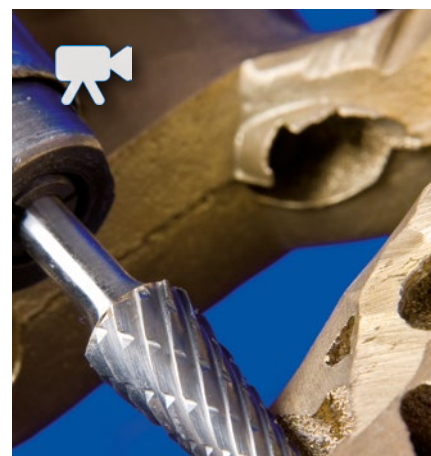
PFERD has developed the NON-FERROUS cut for universal use on non-ferrous metals and fibre-reinforced plastics. This cut is characterized by its high stock removal rate.

Advantages:

- Very good stock removal rate when used on non-ferrous metals such as brass and copper, plastics and fibre-reinforced plastics.

Materials that can be worked:

- Bronze
- Copper
- Brass
- Zinc
- Fibre-reinforced plastics (GRP/CRP)
- Thermoplastics



TC burrs with ALU and NON-FERROUS cuts

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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 Determine the type of application.
- 3 Select the cut.
- 4 Establish the cutting speed range.

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

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

1 Material group		2 Application	3 Cut	4 Cutting speed	
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys	Coarse stock removal	ALU	600–1,100 m/min
			HICOAT HC-NFE	600–1,300 m/min	
		Fine stock removal	ALU	900–1,100 m/min	
			HICOAT HC-NFE	900–1,300 m/min	
		Brass, copper, zinc	Coarse stock removal	ALU	600–1,100 m/min
				HICOAT HC-NFE	600–1,300 m/min
	Fine stock removal		NON-FERROUS	450–600 m/min	
			ALU	900–1,100 m/min	
	Hard non-ferrous metals	Hard aluminium alloys (high Si content)	Coarse stock removal	HICOAT HC-NFE	900–1,300 m/min
				ALU	600–1,100 m/min
			Fine stock removal	ALU	900–1,100 m/min
		HICOAT HC-NFE		900–1,300 m/min	
Bronze		Coarse stock removal	ALU	600–900 m/min	
			HICOAT HC-NFE	600–1,100 m/min	
	Fine stock removal	NON-FERROUS	600–900 m/min		
ALU		600–1,100 m/min			
Plastics, other materials	Thermoplastics, fibre-reinforced plastics (GRP/CRP)	Coarse stock removal	HICOAT HC-NFE	600–1,300 m/min	
			NON-FERROUS	600–1,100 m/min	
		Fine stock removal	ALU	600–1,100 m/min	
			HICOAT HC-NFE	600–1,300 m/min	

Example:

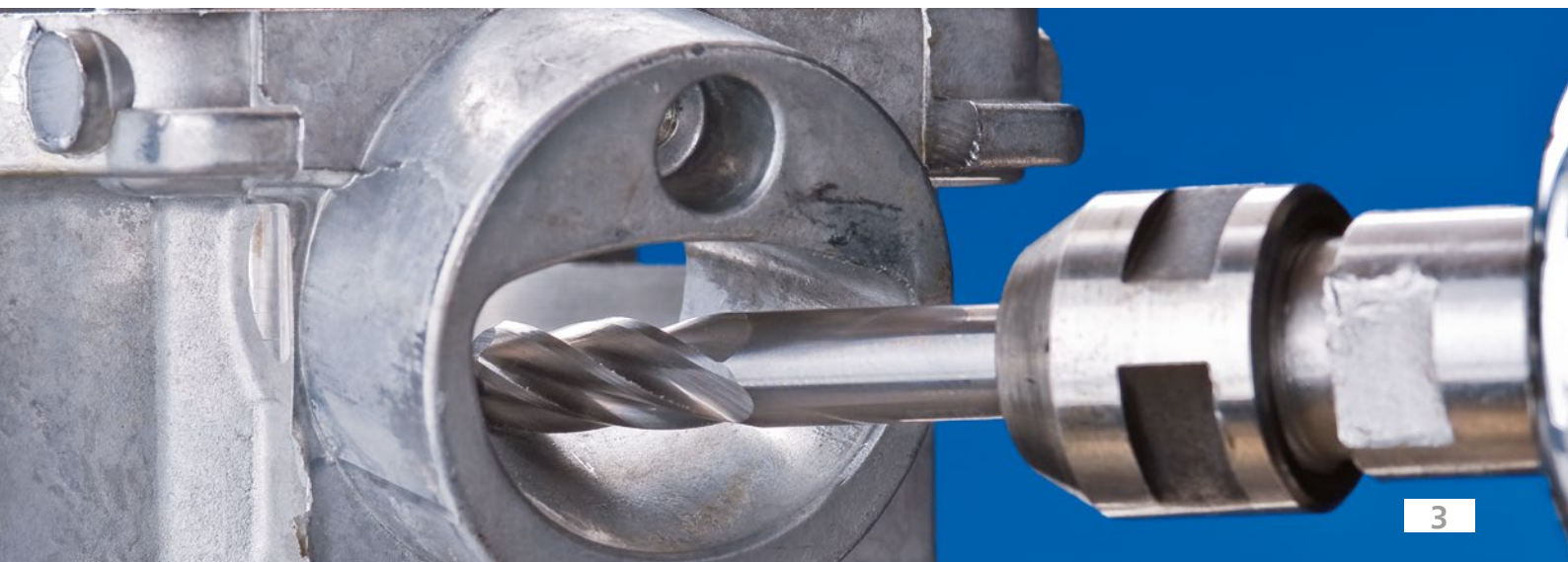
TC burr,
ALU cut,
burr dia. 12 mm.
Coarse stock removal on hard non-ferrous
metals, e.g. bronze.

Cutting speed: 600–900 m/min

Rotational speed range:

16,000–24,000 RPM

5 Burr dia. [mm]	6 Cutting speeds [m/min]				
	450	600	900	1,100	1,300
Rotational speeds [RPM]					
3	48,000	64,000	95,000	117,000	138,000
6	24,000	32,000	48,000	59,000	70,000
8	18,000	24,000	36,000	44,000	52,000
10	14,000	19,000	29,000	35,000	42,000
12	12,000	16,000	24,000	30,000	35,000
16	9,000	12,000	18,000	22,000	26,000

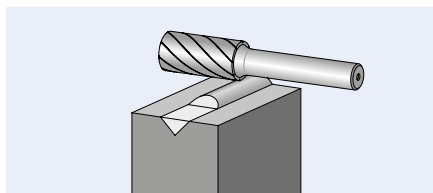
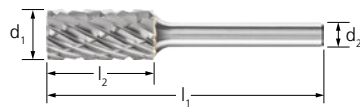




TC burrs with ALU and NON-FERROUS cuts

for use on aluminium/non-ferrous metals

Cylindrical shape ZYA without end cut

Cylindrical burr according to DIN 8032.



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	Cut			Description
				NON-FERROUS 	EAN 4007220		

Shank dia. 6 mm

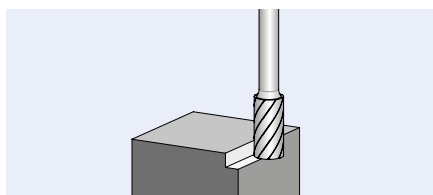
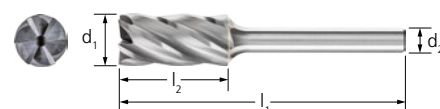
6	16	6	55	221044	1	ZYA 0616/6 NON-FERROUS
12	25	6	65	533314	1	ZYA 1225/6 NON-FERROUS

Shank dia. 8 mm

12	25	8	65	221051	1	ZYA 1225/8 NON-FERROUS
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Cylindrical shape ZYAS with end cut

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





Ordering notes:

- Please complete the description with the desired cut.

PFERDVALUE:

HICOAT coating:



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	Cut			Description
				ALU 	ALU HC-NFE 		

Shank dia. 3 mm

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

Shank dia. 6 mm

6	16	6	55	246986	-	1	ZYAS 0616/6 ...
8	20	6	60	952955	-	1	ZYAS 0820/6 ...
10	20	6	60	533321	-	1	ZYAS 1020/6 ...
12	25	6	65	533345	804117	1	ZYAS 1225/6 ...
16	25	6	65	803974	-	1	ZYAS 1625/6 ...

Shank dia. 8 mm

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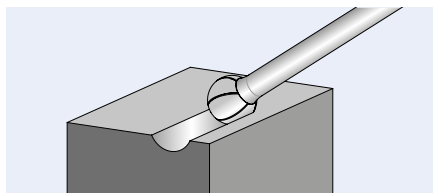


TC burrs with ALU and NON-FERROUS cuts

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Ball shape KUD

Ball-shaped burr according to DIN 8032.







Ordering notes:

- Please complete the description with the desired cut.

PFERDVALUE:

HICOAT coating:



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	Cut				Description
				ALU 	ALU HC-NFE 	NON-FERROUS 		
				EAN 4007220				

Shank dia. 3 mm

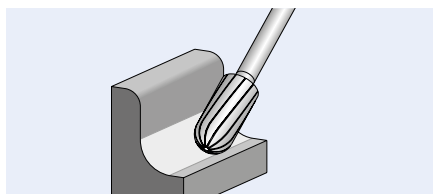
3	2	3	33	803714	-	-	1	KUD 0302/3 ...
6	5	3	35	803721	-	-	1	KUD 0605/3 ...

Shank dia. 6 mm

6	5	6	45	869123	-	-	1	KUD 0605/6 ...
8	7	6	47	869130	-	221082	1	KUD 0807/6 ...
10	9	6	49	952962	-	-	1	KUD 1009/6 ...
12	10	6	51	533147	804155	533154	1	KUD 1210/6 ...
16	14	6	54	803998	-	-	1	KUD 1614/6 ...

Cylindrical shape with radius end WRC

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

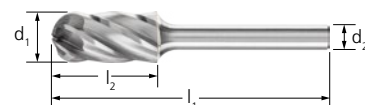


Ordering notes:

- Please complete the description with the desired cut.

PFERDVALUE:

HICOAT coating:



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	Cut				Description
				ALU 	ALU HC-NFE 	NON-FERROUS 		
				EAN 4007220				

Shank dia. 3 mm

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

Shank dia. 6 mm

6	16	6	55	247006	-	221068	1	WRC 0616/6 ...
8	20	6	60	952979	-	-	1	WRC 0820/6 ...
10	20	6	60	952986	-	-	1	WRC 1020/6 ...
12	25	6	65	533260	804131	533284	1	WRC 1225/6 ...
16	25	6	65	803981	-	-	1	WRC 1625/6 ...

Shank dia. 8 mm

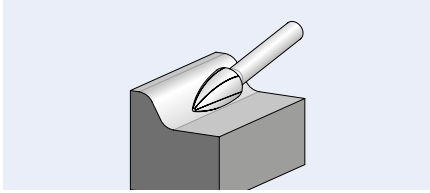
12	25	8	65	247013	-	-	1	WRC 1225/8 ...
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TC burrs with ALU and NON-FERROUS cuts

for use on aluminium/non-ferrous metals

Pointed tree shape SPG

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

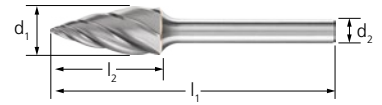


Ordering notes:

- Please complete the description with the desired cut.

PFERDVALUE:

HICOAT coating:



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	Cut			Description
				ALU	ALU HC-NFE		
				EAN 4007220			

Shank dia. 3 mm

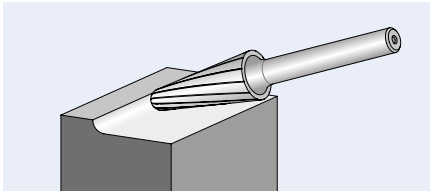
3	7	3	37	003350	-	1	SPG 0307/3 ...
	13	3	43	003435	-	1	SPG 0313/3 ...
6	13	3	43	003442	-	1	SPG 0613/3 ...

Shank dia. 6 mm

6	18	6	55	003503	-	1	SPG 0618/6 ...
8	20	6	60	003534	-	1	SPG 0820/6 ...
10	20	6	60	003558	-	1	SPG 1020/6 ...
12	25	6	65	003596	222706	1	SPG 1225/6 ...

Conical shape with radius end KEL

Conical burr with radius end according to DIN 8032.

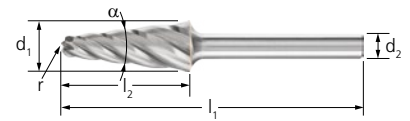


Ordering notes:

- Please complete the description with the desired cut.

PFERDVALUE:

HICOAT coating:



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	α	r [mm]	Cut			Description
						ALU	ALU HC-NFE	NON-FERROUS	
						EAN 4007220			

Shank dia. 6 mm

8	20	6	60	16°	1.25	953013	-	-	1	KEL 0820/6 ...
10	20	6	60	14°	2.9	953020	-	221105	1	KEL 1020/6 ...
12	30	6	70	14°	2.6	533109	533093	533116	1	KEL 1230/6 ...
16	30	6	70	14°	4.8	804018	-	-	1	KEL 1630/6 ...

Shank dia. 8 mm

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

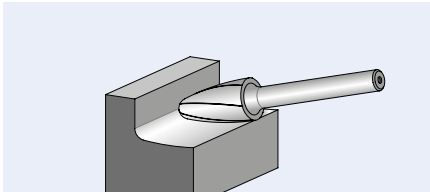


TC burrs with ALU and NON-FERROUS cuts

for use on aluminium/non-ferrous metals

Tree shape with radius end RBF

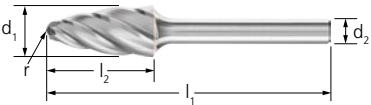
Tree-shaped burr with radius end according to DIN 8032.



Ordering notes:

- Please complete the description with the desired cut.

PFERDVALUE:
HICOAT coating:



d ₁ [mm]	l ₂ [mm]	d ₂ [mm]	l ₁ [mm]	r [mm]	Cut			Description
					ALU	ALU HC-NFE		
					EAN 4007220			

Shank dia. 3 mm

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

Shank dia. 6 mm

6	18	6	55	1.5	328071	-	1	RBF 0618/6 ...
8	20	6	60	1.2	952993	-	1	RBF 0820/6 ...
10	20	6	60	2.5	953006	-	1	RBF 1020/6 ...
12	25	6	65	2.5	533208	533192	1	RBF 1225/6 ...
16	30	6	70	3.6	804001	-	1	RBF 1630/6 ...

Shank dia. 8 mm

12	25	8	65	2.5	247020	-	1	RBF 1225/8 ...
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TC burrs with ALU and NON-FERROUS cuts

for use on aluminium/non-ferrous metals

Set 1603 ALU

Set 1603 ALU contains ten small tungsten carbide burrs for processing aluminium in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage.



Contents:

10 tungsten carbide burrs,
shank diameter of 3 mm, ALU cut

1 piece each:

- ZYAS 0313/3 ALU ■ WRC 0313/3 ALU ■ SPG 0313/3 ALU
- ZYAS 0613/3 ALU ■ WRC 0613/3 ALU ■ SPG 0613/3 ALU
- KUD 0302/3 ALU ■ RBF 0313/3 ALU
- KUD 0605/3 ALU ■ RBF 0613/3 ALU



Cut		Description
ALU 		
EAN 4007220		
Shank dia. 3 mm		
004401	1	1603 ALU

Set 1612 ALU

Set 1612 ALU contains five tungsten carbide burrs for processing aluminium in the most common shapes and dimensions. The sturdy plastic box protects the tools from dirt and damage. The burrs are secured at the shanks, facilitating the selection and withdrawal of the tools. Five further slots are available for other burrs.



Contents:

5 tungsten carbide burrs,
shank diameter of 6 mm, ALU cut

1 piece each:

- ZYAS 1225/6 ALU ■ RBF 1225/6 ALU
- KUD 1210/6 ALU ■ KEL 1230/6 ALU
- WRC 1225/6 ALU



Cut		Description
ALU 		
EAN 4007220		
Shank dia. 6 mm		
068823	1	1612 ALU



Subject to technical modifications.

03/2020