

# Tungsten Carbide Burrs

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## Product line marking

Product lines are labelled in the table header with the appropriate tabs. Further information on page **14** and **15**.



## Technical Information

### Quality

LUKAS carbide burrs are manufactured using high quality types of carbide and modern CNC automatic grinding machines in order to guarantee precision and repeatability of angle, profile and twist. Carbide burrs manufactured to your drawings or details assist in solving your particular stock removal problem.

### Application

The best results are obtained by selecting the recommended cut and speed. Please refer to the cutting speeds in the table on page 28 or according to the table illustrating the various cuts on page 29.

### Power tools

Electric and pneumatic power tools are used; the bearings should be in good condition and the collets running true. Vibration and chatter will cause premature wear and tooth breakage. High pressure will reduce tool life and decreases tool efficiency.

### Shanks

For safety reasons the largest possible shank diameter should always be selected from the table. Other shank diameters and lengths are available on request. A selection of burrs with extra long shanks appears on page 60.

### Robot application

LUKAS tungsten carbide burrs are precision tools, and have produced excellent results when used in conjunction with industrial robots. We can also develop the optimal burr for your particular application.

### Coated

The reasons for producing cutting tools with hard coatings such as TiN, TiCN, TiALN and LTE are as follows:

- to increase tool life
- to reduce machining forces
- to improve chip removal

The increase in tool life is mainly the result of the considerably higher surface hardness of the coating in comparison to the base material of the tool itself. In addition, due to the high chemical stability, it minimizes the reaction between the cutting edge of the tool and the chip to be removed.

The reduction of machining forces and the improvement in chip removal are achieved through a reduction in the friction between the free cutting zone of the tool and workpiece on the one hand, and the cutting edge of the tool and the chip removed on the other. The reduction in friction depends on the coating improving the surface finish and as previously described by largely avoiding any chemical reaction.

Our technicians would be pleased to help you in the selection of the correct coating. Please note the different possibilities on page 31.

### Special tools

Tungsten carbide burrs manufactured to your design or drawing guarantee the LUKAS high quality standard, and can therefore assist in solving your particular machining problem.

### Packaging

We use plastics-packaging; please select the respective packing unit from our product lists.

### Recommendations for use

Select the cut to suit the material to be machined. Please kindly follow the principle: **The harder the material, the finer the cut!** The correct selection of speed is the basis of achieving optimum machining results and long tool-life; please refer to the adjoining table. On the following pages you will find some assistance to choose the right speed for your process. Use the highest possible speed within the indicated area.

Too low a speed results in vibration, chipping and premature wear! Reduce the speed of the burrs only when using in large arc angles or when used on low heat conducting materials. Never let the shank and head become discoloured blue. For safety reasons, extended shanks should also be run at low speed.

The power of your machine should be compatible with the machining process. A reduction in RPM due to lack of power – particularly common with pneumactic tools – should be avoided. Collets must run true. Run-out and vibration will result in chipping and premature wear.

For the same reasons, take care that the machine bearings are in perfect condition.

To avoid vibrations and shank breakage, select the shortest shank overhang as possible.

## A summary of available shapes

Shape	Type	Shape (DIN 8033)	Shape (LUKAS)	Page
	Cylindrical	ZYA	<b>A</b>	32
	Cylindrical round nose	WRC	<b>C</b>	35
	Spherical	KUD	<b>D</b>	37
	Oval	TRE	<b>E</b>	39
	Arch round nose	RBF	<b>F</b>	40
	Arch pointed nose	SPG	<b>G</b>	41
	Flame	–	<b>H</b>	43
	Internal	–	<b>I</b>	43
	Counter sink	KSJ	<b>J</b>	44
	Conical round nose	KEL	<b>L</b>	44
	Conical pointed nose	SKM	<b>M</b>	46
	Inverted cone	WKN	<b>N</b>	47
	Burrs for the machining of plastic	–	<b>P</b>	48
	Engraving Cutters	–	–	49
	Burrs for radius trimming (external)	–	<b>R</b>	50
	Burrs for radius trimming (internal)	–	<b>S</b>	50
	Miniature Burrs	–	–	51
	Small Burrs	–	–	52
	Tool-Set	–	–	54
	Burrs with TiAlN-coating	–	–	56
	Rasp burrs	–	–	57
	Rotary files	–	–	58
	Burrs for machining of non-ferrous metals	–	–	59
	Burrs with extended shank length	–	–	60
	Some examples of our competitive performance	–	–	62
	Power Tools	–	–	373

### Three steps to your optimum burr:

- 1 Select the **material** and **machining mode** (coarse to fine) from the table and
- 2 read off the recommended **cut** and **cutting speed**.
- 3 Determine the appropriate **speed** for your power tool in the second table.

### Recommendations for use of tungsten carbide burrs

1				2	
Material	Lukas material group (see also fold-out tab)	Strength [N/mm <sup>2</sup> ]	Machining	Cut	Recommended cutting speed vc [m/min]
Steel, cast steel	1 STEEL AND CAST STEEL	< 800	coarse	Z3, Z7, ZX	500 – 700
			medium	Z5	300 – 500
			fine	ZF3	500 – 700
	2 ALLOYED/HARDENED & TEMPERED STEELS	800 to 1200	coarse	Z7, ZX	400 – 600
			medium	Z5	300 – 400
			fine	ZF3	400 – 600
	3 TOOL STEELS	> 1200	coarse	Z7, Z4	300 – 500
			medium	Z5	300 – 400
			fine	ZF3	400 – 600
Stainless steel	4 RUST/ACID/HEAT-RESISTANT STEEL AND CAST STEEL	up to 800	coarse	Z2, Z6	400 – 500
			medium	Z3, Z7, Z4, Z5	300 – 500
			fine	ZF3	400 – 600
Cast metal	5 CAST IRON	150 to 300	coarse	Z6	400 – 600
			medium	Z7	300 – 500
		300 to 450	coarse	Z7	300 – 500
			medium	Z5	300 – 500
			fine	ZF3	400 – 700
			Non-ferrous metal 1	6 ALUMINIUM, MAGNESIUM AND COPPER ALLOYS	up to 450
medium	Z1	500 – 900			
BRASS, BRONZE, TITANIUM	up to 450	coarse		Z9, Z1	400 – 800
		medium		Z2	400 – 600
	from 450	fine		ZF3	500 – 600
		Non-ferrous metal 2		7 TITANIUM AND NICKEL ALLOYS	up to 900
medium	Z7		300 – 400		
fine	ZF3		500 – 700		
900 to 1500	coarse		Z4		300 – 400
	medium		Z5		400 – 500
	fine		ZF3		400 – 600
Plastics and wood	8 PLASTIC/WOOD/RUBBER	20 to 400	coarse	Z1, Z9	500 – 1000
			fine	ZP, ZR2	500 – 900
		400 to 1000	coarse	Z1	500 – 800
			fine	Z2, ZR2	400 – 800

Tip: Page 27 contains a complete overview of the shapes for your chosen milling tool.

## Machining



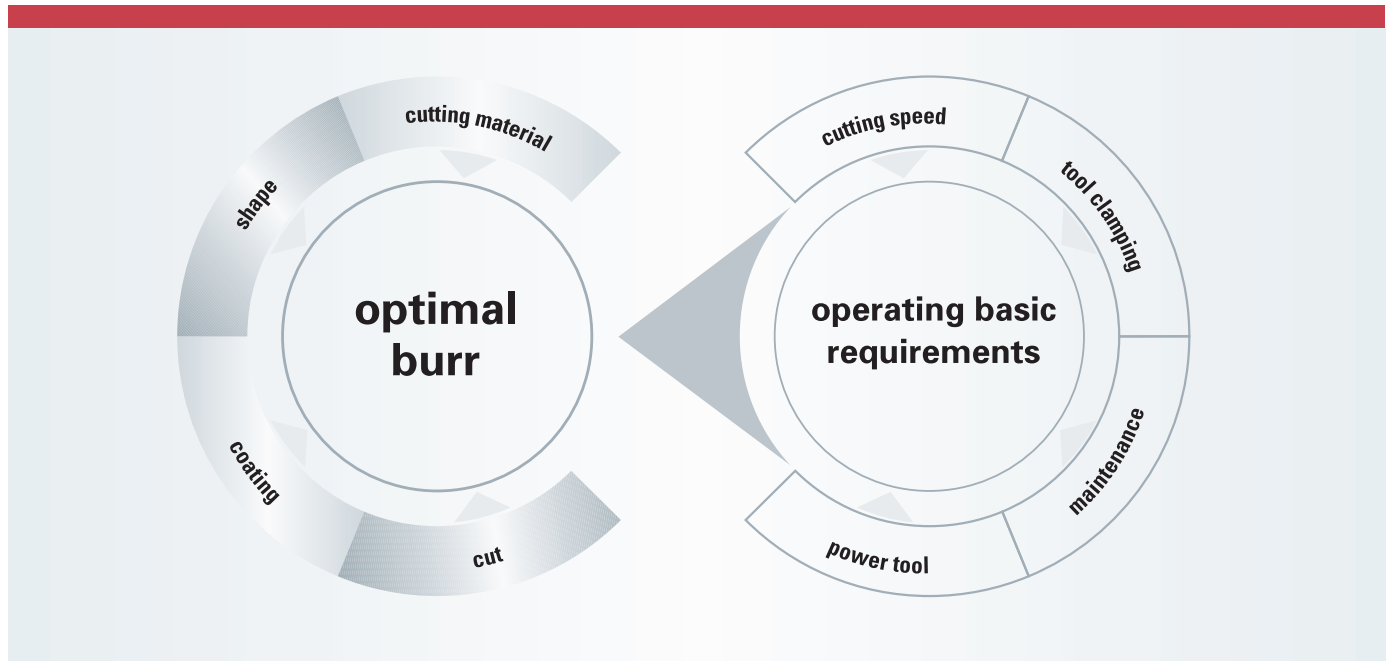
**Rotational speeds for milling tools** based on the tool diameter and cutting speed

3									
Recommended cutting speed $v_c$ [m/min]									
		300	400	500	600	700	800	900	1000
		Rotational speed [min <sup>-1</sup> ]							
Tool diameter [mm]	2	48.000	64.000	80.000	95.000	111.000	127.000	143.000	159.000
	3	32.000	42.000	53.000	64.000	74.000	85.000	95.000	106.000
	4	24.000	32.000	40.000	48.000	56.000	64.000	72.000	80.000
	6	16.000	21.000	27.000	32.000	37.000	42.000	48.000	53.000
	8	12.000	16.000	20.000	24.000	28.000	32.000	36.000	40.000
	10	10.000	13.000	16.000	19.000	22.000	25.000	29.000	32.000
	12	8.000	11.000	13.000	16.000	19.000	21.000	24.000	27.000
	16	6.000	8.000	10.000	12.000	14.000	16.000	18.000	20.000
	20	5.000	6.000	8.000	10.000	11.000	13.000	14.000	16.000



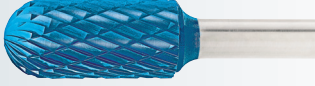

## Cuts

	<b>Z 9</b>	Very coarse single cut with faceting for soft materials		<b>Z 4</b>	Fine cross cut for hard materials
	<b>Z 1</b>	Coarse cut for soft materials		<b>Z 6</b>	Robust cross cut
	<b>Z 2</b>	Robust single cut for high stock removal		<b>Z 7</b>	Medium cross cut
	<b>Z 3</b>	Medium single cut		<b>ZI</b>	Fine cross cut especially to machine the inside of the bore (page 43)
	<b>Z 5</b>	Very fine single cut for high-quality surfaces		<b>ZP</b>	Cross cut for machining plastic (page 48)
	<b>ZF</b>	Very fine cross cut		<b>ZX</b>	Universal cross cut for practically every application
	<b>ZR</b>	Rasp cut for pattern construction			

### Choosing the appropriate Burr



## Coatings

Coatings	Specification (LUKAS)	Properties	Friction on steel (dry)
	<b>TiN</b> (Titanium nitride)	general purpose coating for steel and cast iron, high toughness	0,65–0,70 µm
	<b>TiCN</b> (Titanium carbon nitride)	wear resisting coating for fine deburring process; suited to applications with higher thermal and shock loads	0,10–0,20 µm
	<b>TiAlN</b> (Titanium aluminium nitride) (see page 56)	high performance coating with a high degree of hardness and low heat conductivity; therefore suitable for high thermal and mechanical applications	0,30–0,35 µm
	<b>LTE</b> (hard coating carbon-based)	Special coating with lotus-effect for long chip and smearing non-ferrous metals, particularly aluminium alloys. Excellent sliding friction properties reducing loading on cutting edges.	0,10–0,20 µm

### The reasons for producing cutting tools with hard coatings are as follows:

- to increase tool life
- to reduce machining forces
- to improve chip removal

### Take advantage of our grind service

LUKAS tungsten carbide burrs can be resharpened several times when blunted by normal working conditions. Burrs with severe damage to the cutting edges are priced accordingly. We can offer this service providing the tools are delivered to us carriage paid.

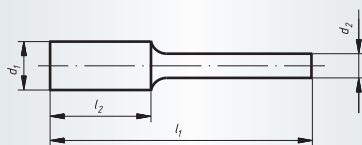


*The symbol denotes burrs which can be reground against enquiry.*



## Shape A, Cylindrical

Ordering example: A10010210305



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

Ⓢ regrind service, please enquire

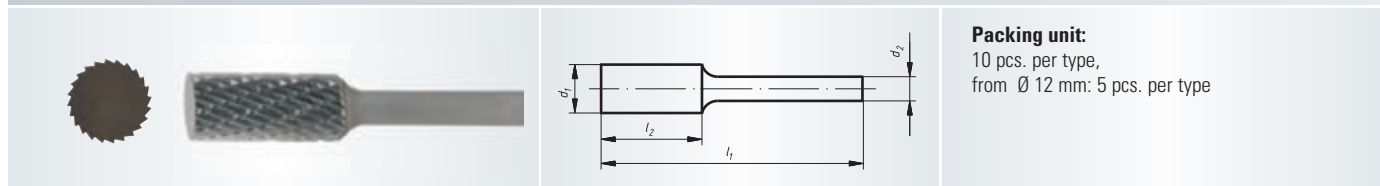
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								New burrs		
								1	2	3	4	5	6	7	8			
HFA 0210.03	Z5	ZYA 0210	2	10	3	40	A10010210305	1	2	3	4			7				■
HFA 0313.03	Z3	ZYA 0313	3	13	3	40	A10010313303	1	2	3	4			7				■
HFA 0313.03	Z4	ZYA 0313	3	13	3	40	A10010313304		2	3	4			7	8			■
HFA 0313.03	Z5	ZYA 0313	3	13	3	40	A10010313305	1	2	3	4			7				■
HFA 0313.03	Z7	ZYA 0313	3	13	3	40	A10010313308	1	2	3		5		7				■
HFA 0413.06	Z3	ZYA 0413	4	13	6	50	A10010413603	1	2	3	4			7				■
HFA 0413.06	Z7	ZYA 0413	4	13	6	50	A10010413608	1	2	3		5		7				■
HFA 0607.03	Z5	ZYA 0607	6	7	3	37	A10010607305	1	2	3	4			7				■ Ⓢ
HFA 0613.03	Z5	ZYA 0613	6	13	3	43	A10010613305	1	2	3	4			7				■ Ⓢ
HFA 0613.03	Z7	ZYA 0613	6	13	3	43	A10010613308	1	2	3		5		7				■ Ⓢ
HFA 0616.06	Z2	ZYA 0616	6	16	6	50	A10010616602	1				5	6		8			■ Ⓢ
HFA 0616.06	Z3	ZYA 0616	6	16	6	50	A10010616603	1	2	3	4			7				■ Ⓢ
HFA 0616.06	Z4	ZYA 0616	6	16	6	50	A10010616604		2	3	4			7	8			■ Ⓢ
HFA 0616.06	Z5	ZYA 0616	6	16	6	50	A10010616605	1	2	3	4			7				■ Ⓢ
HFA 0616.06	Z7	ZYA 0616	6	16	6	50	A10010616608	1	2	3		5		7				■ Ⓢ
HFA 0616.06	Z9	ZYA 0616	6	16	6	50	A10010616609						6		8			■
HFA 0820.06	Z3	ZYA 0820	8	20	6	60	A10010820603	1	2	3	4			7				■ Ⓢ
HFA 0820.06	Z4	ZYA 0820	8	20	6	60	A10010820604		2	3	4			7	8			■ Ⓢ
HFA 0820.06	Z5	ZYA 0820	8	20	6	60	A10010820605	1	2	3	4			7				■ Ⓢ
HFA 0820.06	Z7	ZYA 0820	8	20	6	60	A10010820608	1	2	3		5		7				■ Ⓢ
HFA 1013.06	Z3	ZYA 1013	10	13	6	53	A10011013603	1	2	3	4			7				■ Ⓢ
HFA 1013.06	Z7	ZYA 1013	10	13	6	53	A10011013608	1	2	3		5		7				■ Ⓢ
HFA 1013.08	Z3	ZYA 1013	10	13	8	53	A10011013803	1	2	3	4			7				■ Ⓢ
HFA 1020.06	Z3	ZYA 1020	10	20	6	60	A10011020603	1	2	3	4			7				■ Ⓢ
HFA 1020.06	Z4	ZYA 1020	10	20	6	60	A10011020604		2	3	4			7	8			■ Ⓢ
HFA 1020.06	Z7	ZYA 1020	10	20	6	60	A10011020608	1	2	3		5		7				■ Ⓢ
HFA 1025.06	Z4	ZYA 1025	10	25	6	65	A10011025604		2	3	4			7	8			■ Ⓢ
HFA 1025.06	Z7	ZYA 1025	10	25	6	65	A10011025608	1	2	3		5		7				■ Ⓢ
HFA 1025.08	Z3	ZYA 1025	10	25	8	65	A10011025803	1	2	3	4			7				■ Ⓢ
HFA 1225.06	Z3	ZYA 1225	12	25	6	65	A10011225603	1	2	3	4			7				■ Ⓢ
HFA 1225.06	Z4	ZYA 1225	12	25	6	65	A10011225604		2	3	4			7	8			■ Ⓢ
HFA 1225.06	Z5	ZYA 1225	12	25	6	65	A10011225605	1	2	3	4			7				■ Ⓢ
HFA 1225.06	Z7	ZYA 1225	12	25	6	65	A10011225608	1	2	3		5		7				■ Ⓢ
HFA 1225.06	Z9	ZYA 1225	12	25	6	65	A10011225609						6		8			■
HFA 1225.08	Z4	ZYA 1225	12	25	8	65	A10011225804		2	3	4			7	8			■ Ⓢ
HFA 1225.08	Z9	ZYA 1225	12	25	8	65	A10011225809						6		8			■
HFA 1625.06	Z3	ZYA 1625	16	25	6	65	A10011625603	1	2	3	4			7				■ Ⓢ
HFA 1625.06	Z7	ZYA 1625	16	25	6	65	A10011625608	1	2	3		5		7				■ Ⓢ
HFA 1625.06	Z9	ZYA 1625	16	25	6	65	A10011625609						6		8			■ Ⓢ
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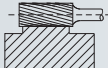
Base

Shape A, Cylindrical BASE-X

Ordering example:A10010313322




**Packing unit:**  
10 pcs. per type,  
from Ø 12 mm: 5 pcs. per type

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs	
HFA 0313.03 BASE-X	ZX	ZYA 0313	3	13	3	40	A10010313322		<input type="checkbox"/>	NEW
HFA 0616.06 BASE-X	ZX	ZYA 0616	6	16	6	50	A10010616622		<input type="checkbox"/>	NEW
HFA 0820.06 BASE-X	ZX	ZYA 0820	8	20	6	60	A10010820622		<input type="checkbox"/>	NEW
HFA 1020.06 BASE-X	ZX	ZYA 1020	10	20	6	60	A10011020622		<input type="checkbox"/>	NEW
HFA 1225.06 BASE-X	ZX	ZYA 1225	12	25	6	65	A10011225622		<input type="checkbox"/>	NEW



## Always the right tool



**Mounted points and polishing points:**  
11,000 specially produced items according to customers' requests reflect the big variety of these products.

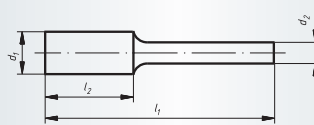
**Martin Reif**  
Sales Department

[www.lukas-erzett.com](http://www.lukas-erzett.com)



### Shape A, Cylindrical, with end-cut

Ordering example: A100102103050001



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

regrind service, please enquire

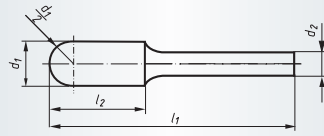
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								New burrs			
								1	2	3	4	5	7	8	9		10		
HFAS 0210.03	Z5	ZYA-S 0210	2	10	3	40	A100102103050001	1	2	3	4				7				■
HFAS 0313.03	Z3	ZYA-S 0313	3	13	3	40	A100103133030001	1	2	3	4				7				■
HFAS 0313.03	Z4	ZYA-S 0313	3	13	3	40	A100103133040001		2	3	4				7	8			■
HFAS 0313.03	Z5	ZYA-S 0313	3	13	3	40	A100103133050001	1	2	3	4				7				■
HFAS 0313.03	Z7	ZYA-S 0313	3	13	3	40	A100103133080001	1	2	3		5			7				■
HFAS 0413.06	Z3	ZYA-S 0413	4	13	6	50	A100104136030001	1	2	3	4				7				■
HFAS 0413.06	Z7	ZYA-S 0413	4	13	6	50	A100104136080001	1	2	3		5			7				■
HFAS 0607.03	Z5	ZYA-S 0607	6	7	3	37	A100106073050001	1	2	3	4				7				■
HFAS 0613.03	Z5	ZYA-S 0613	6	13	3	43	A100106133050001	1	2	3	4				7				■
HFAS 0613.03	Z7	ZYA-S 0613	6	13	3	43	A100106133080001	1	2	3		5			7				■
HFAS 0616.06	Z3	ZYA-S 0616	6	16	6	50	A100106166030001	1	2	3	4				7				■
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HFAS 0616.06	Z7	ZYA-S 0616	6	16	6	50	A100106166080001	1	2	3		5			7				■
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HFAS 0820.06	Z4	ZYA-S 0820	8	20	6	60	A100108206040001		2	3	4				7	8			■
HFAS 0820.06	Z5	ZYA-S 0820	8	20	6	60	A100108206050001	1	2	3	4				7				■
HFAS 0820.06	Z7	ZYA-S 0820	8	20	6	60	A100108206080001	1	2	3		5			7				■
HFAS 1013.06	Z3	ZYA-S 1013	10	13	6	53	A100110136030001	1	2	3	4				7				■
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HFAS 1025.06	Z7	ZYA-S 1025	10	25	6	65	A100110256080001	1	2	3		5			7				■
HFAS 1225.06	Z3	ZYA-S 1225	12	25	6	65	A100112256030001	1	2	3	4				7				■
HFAS 1225.06	Z4	ZYA-S 1225	12	25	6	65	A100112256040001		2	3	4				7	8			■
HFAS 1225.06	Z5	ZYA-S 1225	12	25	6	65	A100112256050001	1	2	3	4				7				■
HFAS 1225.06	Z7	ZYA-S 1225	12	25	6	65	A100112256080001	1	2	3		5			7				■
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HFAS 1625.06	Z7	ZYA-S 1625	16	25	6	65	A100116256080001	1	2	3		5			7				■



Industry

Shape C, Cylindrical Round nose

Ordering example: A10020210305



Packing unit:

1 pc. per type

Further dimensions, cuts and shank lengths on request.

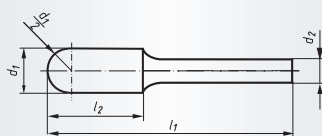
regrind service, please enquire

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								New burrs			
									1	2	3	4	5	6	7		8		
HFC 0210.03	Z5	WRC 0210	2	10	3	40	A10020210305		1	2	3	4				7			■
HFC 0210.03	Z7	WRC 0210	2	10	3	40	A10020210308		1	2	3			5		7			■
HFC 0313.03	Z2	WRC 0313	3	13	3	40	A10020313302		1					5	6		8		■
HFC 0313.03	Z3	WRC 0313	3	13	3	40	A10020313303		1	2	3	4				7			■
HFC 0313.03	Z4	WRC 0313	3	13	3	40	A10020313304			2	3	4				7	8		■
HFC 0313.03	Z5	WRC 0313	3	13	3	40	A10020313305		1	2	3	4				7			■
HFC 0313.03	Z7	WRC 0313	3	13	3	40	A10020313308		1	2	3			5		7			■
HFC 0413.06	Z3	WRC 0413	4	13	6	50	A10020413603		1	2	3	4				7			■
HFC 0413.06	Z4	WRC 0413	4	13	6	50	A10020413604			2	3	4				7	8		■
HFC 0413.06	Z7	WRC 0413	4	13	6	50	A10020413608		1	2	3			5		7			■
HFC 0613.03	Z5	WRC 0613	6	13	3	43	A10020613305		1	2	3	4				7			■
HFC 0613.03	Z7	WRC 0613	6	13	3	43	A10020613308		1	2	3			5		7			■
HFC 0616.06	Z1	WRC 0616	6	16	6	50	A10020616601								6		8		■
HFC 0616.06	Z2	WRC 0616	6	16	6	50	A10020616602		1					5	6		8		■
HFC 0616.06	Z3	WRC 0616	6	16	6	50	A10020616603		1	2	3	4				7			■
HFC 0616.06	Z4	WRC 0616	6	16	6	50	A10020616604			2	3	4				7	8		■
HFC 0616.06	Z5	WRC 0616	6	16	6	50	A10020616605		1	2	3	4				7			■
HFC 0616.06	Z7	WRC 0616	6	16	6	50	A10020616608		1	2	3			5		7			■
HFC 0616.06	Z9	WRC 0616	6	16	6	50	A10020616609								6		8		■
HFC 0820.06	Z3	WRC 0820	8	20	6	60	A10020820603		1	2	3	4				7			■
HFC 0820.06	Z4	WRC 0820	8	20	6	60	A10020820604			2	3	4				7	8		■
HFC 0820.06	Z5	WRC 0820	8	20	6	60	A10020820605		1	2	3	4				7			■
HFC 0820.06	Z6	WRC 0820	8	20	6	60	A10020820606			2	3	4				7	8		■
HFC 0820.06	Z7	WRC 0820	8	20	6	60	A10020820608		1	2	3			5		7			■
HFC 0820.06	Z9	WRC 0820	8	20	6	60	A10020820609								6		8		■
HFC 1020.06	Z3	WRC 1020	10	20	6	60	A10021020603		1	2	3	4				7			■
HFC 1020.06	Z4	WRC 1020	10	20	6	60	A10021020604			2	3	4				7	8		■
HFC 1020.06	Z5	WRC 1020	10	20	6	60	A10021020605		1	2	3	4				7			■
HFC 1020.06	Z6	WRC 1020	10	20	6	60	A10021020606			2	3	4				7	8		■
HFC 1020.06	Z7	WRC 1020	10	20	6	60	A10021020608		1	2	3			5		7			■
HFC 1020.08	Z4	WRC 1020	10	20	8	60	A10021020804			2	3	4				7	8		■
HFC 1020.08	Z7	WRC 1020	10	20	8	60	A10021020808		1	2	3			5		7			■
HFC 1025.06	Z7	WRC 1025	10	25	6	65	A10021025608		1	2	3			5		7			■
HFC 1225.06	Z1	WRC 1225	12	25	6	65	A10021225601									6		8	■
HFC 1225.06	Z2	WRC 1225	12	25	6	65	A10021225602		1						5	6		8	■
HFC 1225.06	Z3	WRC 1225	12	25	6	65	A10021225603		1	2	3	4				7			■
HFC 1225.06	Z4	WRC 1225	12	25	6	65	A10021225604			2	3	4				7	8		■
HFC 1225.06	Z5	WRC 1225	12	25	6	65	A10021225605		1	2	3	4				7			■
HFC 1225.06	Z6	WRC 1225	12	25	6	65	A10021225606			2	3	4				7	8		■
HFC 1225.06	Z7	WRC 1225	12	25	6	65	A10021225608		1	2	3			5		7			■



### Shape C, Cylindrical Round nose

Ordering example: A10021225609



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

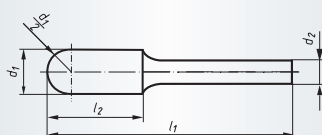
Ⓢ *regrind service, please enquire*

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								New burrs	
								1	2	3	4	5	6	7	8		
HFC 1225.06	Z9	WRC 1225	12	25	6	65	A10021225609						6		8		■
HFC 1225.08	Z3	WRC 1225	12	25	8	65	A10021225803	1	2	3	4				7		■ Ⓢ
HFC 1225.08	Z4	WRC 1225	12	25	8	65	A10021225804		2	3	4				7	8	■ Ⓢ
HFC 1225.08	Z7	WRC 1225	12	25	8	65	A10021225808	1	2	3		5			7		■ Ⓢ
HFC 1225.08	Z9	WRC 1225	12	25	8	65	A10021225809							6		8	■
HFC 1625.06	Z3	WRC 1625	16	25	6	65	A10021625603	1	2	3	4				7		■ Ⓢ
HFC 1625.06	Z7	WRC 1625	16	25	6	65	A10021625608	1	2	3		5			7		■ Ⓢ
HFC 1625.06	Z9	WRC 1625	16	25	6	65	A10021625609							6		8	■ Ⓢ
HFC 1625.08	Z3	WRC 1625	16	25	8	65	A10021625803	1	2	3	4				7		■ Ⓢ
HFC 1625.08	Z9	WRC 1625	16	25	8	65	A10021625809							6		8	■ Ⓢ



### Shape C, Cylindrical Round nose BASE-X

Ordering example: A10020313322



**Packing unit:**

10 pcs. per type,

from Ø 12 mm: 5 pcs. per type

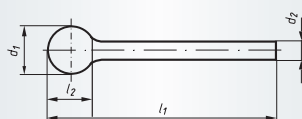
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								New burrs	
								1	2	3	4	5	6	7	8		
<b>NEW</b> HFC 0313.03 BASE-X	ZX	WRC 0313	3	13	3	40	A10020313322	1	2	3	4	5			7		■
<b>NEW</b> HFC 0613.03 BASE-X	ZX	WRC 0613	6	13	3	43	A10020613322	1	2	3	4	5			7		■
<b>NEW</b> HFC 0616.06 BASE-X	ZX	WRC 0616	6	16	6	50	A10020616622	1	2	3	4	5			7		■
<b>NEW</b> HFC 0820.06 BASE-X	ZX	WRC 0820	8	20	6	60	A10020820622	1	2	3	4	5			7		■
<b>NEW</b> HFC 1020.06 BASE-X	ZX	WRC 1020	10	20	6	60	A10021020622	1	2	3	4	5			7		■
<b>NEW</b> HFC 1225.06 BASE-X	ZX	WRC 1225	12	25	6	65	A10021225622	1	2	3	4	5			7		■



Industry

Shape D, Spherical

Ordering example: A10030303302



Packing unit:

1 pc. per type

Further dimensions, cuts and shank lengths on request.

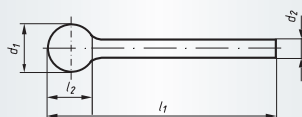
Ⓢ regrind service, please enquire

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								New burrs	
								1	2	3	4	5	6	7	8		
HFD 0302.03	Z2	KUD 0302	3	2	3	40	A10030303302	1				5	6		8	■	
HFD 0302.03	Z3	KUD 0302	3	2	3	40	A10030303303	1	2	3	4				7	■	
HFD 0302.03	Z4	KUD 0302	3	2	3	40	A10030303304		2	3	4				7	8	■
HFD 0302.03	Z5	KUD 0302	3	2	3	40	A10030303305	1	2	3	4				7	■	
HFD 0302.03	Z7	KUD 0302	3	2	3	40	A10030303308	1	2	3		5			7	■	
HFD 0403.03	Z5	KUD 0403	4	3	3	34	A100304043050001	1	2	3	4				7	■	
HFD 0403.03	Z7	KUD 0403	4	3	3	34	A100304043080001	1	2	3		5			7	■	
HFD 0403.06	Z3	KUD 0403	4	3	6	50	A10030404603	1	2	3	4				7	■	
HFD 0403.06	Z4	KUD 0403	4	3	6	50	A10030404604		2	3	4				7	8	■
HFD 0403.06	Z7	KUD 0403	4	3	6	50	A10030404608	1	2	3		5			7	■	
HFD 0605.03	Z5	KUD 0605	6	5	3	35	A10030606305	1	2	3	4				7	■	
HFD 0605.03	Z7	KUD 0605	6	5	3	35	A10030606308	1	2	3		5			7	■	
HFD 0605.06	Z3	KUD 0605	6	5	6	50	A10030606603	1	2	3	4				7	■	
HFD 0605.06	Z4	KUD 0605	6	5	6	50	A10030606604		2	3	4				7	8	■
HFD 0605.06	Z5	KUD 0605	6	5	6	50	A10030606605	1	2	3	4				7	■	
HFD 0605.06	Z7	KUD 0605	6	5	6	50	A10030606608	1	2	3		5			7	■	
HFD 0807.06	Z3	KUD 0807	8	7	6	47	A10030808603	1	2	3	4				7	■	
HFD 0807.06	Z4	KUD 0807	8	7	6	47	A10030808604		2	3	4				7	8	■
HFD 0807.06	Z5	KUD 0807	8	7	6	47	A10030808605	1	2	3	4				7	■	
HFD 0807.06	Z7	KUD 0807	8	7	6	47	A10030808608	1	2	3		5			7	■	
HFD 1009.06	Z3	KUD 1009	10	9	6	49	A10031010603	1	2	3	4				7	■	
HFD 1009.06	Z4	KUD 1009	10	9	6	49	A10031010604		2	3	4				7	8	■
HFD 1009.06	Z5	KUD 1009	10	9	6	49	A10031010605	1	2	3	4				7	■	
HFD 1009.06	Z7	KUD 1009	10	9	6	49	A10031010608	1	2	3		5			7	■	
HFD 1210.06	Z3	KUD 1210	12	10	6	51	A10031212603	1	2	3	4				7	■	
HFD 1210.06	Z4	KUD 1210	12	10	6	51	A10031212604		2	3	4				7	8	■
HFD 1210.06	Z5	KUD 1210	12	10	6	51	A10031212605	1	2	3	4				7	■	
HFD 1210.06	Z7	KUD 1210	12	10	6	51	A10031212608	1	2	3		5			7	■	
HFD 1210.06	Z9	KUD 1210	12	10	6	50	A10031212609						6		8	■	
HFD 1210.08	Z4	KUD 1210	12	10	8	51	A10031212804		2	3	4				7	8	■
HFD 1210.08	Z7	KUD 1210	12	10	8	51	A10031210808	1	2	3		5			7	■	
HFD 1210.08	Z9	KUD 1210	12	10	8	50	A10031212809						6		8	■	
HFD 1614.06	Z3	KUD 1614	16	14	6	54	A10031616603	1	2	3	4				7	■	
HFD 1614.06	Z4	KUD 1614	16	14	6	54	A10031616604		2	3	4				7	8	■
HFD 1614.06	Z7	KUD 1614	16	14	6	54	A10031616608	1	2	3		5			7	■	
HFD 1614.06	Z9	KUD 1614	16	14	6	54	A10031616609						6		8	■	
HFD 1614.08	Z3	KUD 1614	16	14	8	54	A10031616803	1	2	3	4				7	■	
HFD 1614.08	Z9	KUD 1614	16	14	8	54	A10031616809						6		8	■	



### Shape D, Spherical

Ordering example: A10032020603



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

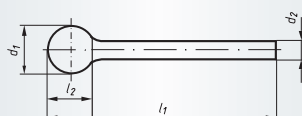
reground service, please enquire

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
HFD 2018.06	Z3	KUD 2018	20	18	6	58	A10032020603		■
HFD 2018.06	Z7	KUD 2018	20	18	6	58	A10032020608		■
HFD 2018.08	Z3	KUD 2018	20	18	8	58	A10032020803		■



### Shape D, Spherical BASE-X

Ordering example: A10030403322



**Packing unit:**

10 pcs. per type,

from Ø 12 mm: 5 pcs. per type

Further dimensions, cuts and shank lengths on request.

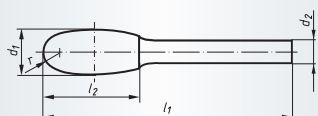
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
<b>NEW</b> HFD 0403.03 BASE-X	ZX	KUD 0403	4	3	3	34	A10030403322		■
<b>NEW</b> HFD 0605.03 BASE-X	ZX	KUD 0605	6	5	3	35	A10030605322		■
<b>NEW</b> HFD 0807.06 BASE-X	ZX	KUD 0807	8	7	6	47	A10030807622		■
<b>NEW</b> HFD 1009.06 BASE-X	ZX	KUD 1009	10	9	6	49	A10031009622		■
<b>NEW</b> HFD 1210.06 BASE-X	ZX	KUD 1210	12	10	6	51	A10031210622		■



Industry

Shape E, Oval

Ordering example: A10060307303



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

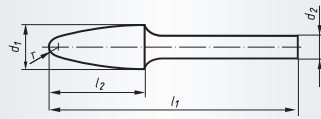
Ⓢ regrind service, please enquire

Description	Cut	similar DIN 8033	d1 mm	l2 mm	d2 mm	l1 mm	r≈ mm	Product-Number	recommended for								New burrs	
									1	2	3	4	5	6	7	8		
HFE 0307.03	Z3	TRE 0307	3	7	3	40	1,2	A10060307303	1	2	3	4			7			■
HFE 0307.03	Z5	TRE 0307	3	7	3	40	1,2	A10060307305	1	2	3	4			7			■
HFE 0307.03	Z7	TRE 0307	3	7	3	40	1,2	A10060307308	1	2	3		5		7			■
HFE 0610.03	Z5	TRE 0610	6	10	3	40	2,8	A10060610305	1	2	3	4			7			■ Ⓢ
HFE 0610.03	Z7	TRE 0610	6	10	3	40	2,8	A10060610308	1	2	3		5		7			■ Ⓢ
HFE 0610.06	Z3	TRE 0610	6	10	6	50	2,8	A10060610603	1	2	3	4			7			■ Ⓢ
HFE 0610.06	Z4	TRE 0610	6	10	6	50	2,8	A10060610604		2	3	4			7	8		■ Ⓢ
HFE 0610.06	Z7	TRE 0610	6	10	6	50	2,8	A10060610608	1	2	3		5		7			■ Ⓢ
HFE 0813.06	Z3	TRE 0813	8	13	6	53	3,7	A10060813603	1	2	3	4			7			■ Ⓢ
HFE 0813.06	Z4	TRE 0813	8	13	6	53	3,7	A10060813604		2	3	4			7	8		■ Ⓢ
HFE 0813.06	Z7	TRE 0813	8	13	6	53	3,7	A10060813608	1	2	3		5		7			■ Ⓢ
HFE 1220.06	Z3	TRE 1220	12	20	6	60	5,0	A10061220603	1	2	3	4			7			■ Ⓢ
HFE 1220.06	Z4	TRE 1220	12	20	6	60	5,0	A10061220604		2	3	4			7	8		■ Ⓢ
HFE 1220.06	Z5	TRE 1220	12	20	6	60	5,0	A10061220605	1	2	3	4			7			■ Ⓢ
HFE 1220.06	Z7	TRE 1220	12	20	6	60	5,0	A10061220608	1	2	3		5		7			■ Ⓢ
HFE 1225.08	Z3	TRE 1225	12	25	8	65	5,0	A10061225803	1	2	3	4			7			■ Ⓢ
HFE 1225.08	Z9	TRE 1225	12	25	8	65	5,0	A10061225809						6		8		■
HFE 1625.06	Z7	TRE 1625	16	25	6	65	7,1	A10061625608	1	2	3		5		7			■ Ⓢ
HFE 1625.08	Z3	TRE 1625	16	25	8	65	7,1	A10061625803	1	2	3	4			7			■ Ⓢ
HFE 1625.08	Z9	TRE 1625	16	25	8	65	7,1	A10061625809						6		8		■
HFE 2035.08	Z3	TRE 2035	20	35	8	75	8,0	A10062035803	1	2	3	4			7			■ Ⓢ



### Shape F, Arch round nose

Ordering example: A10100307303



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

regrind service, please enquire

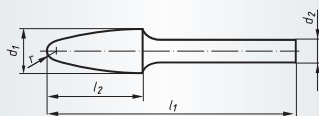
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r≈ mm	Product-Number	recommended for								New burrs	
									1	2	3	4	5	6	7	8		
HFF 0307.03	Z3	RBF 0307	3	7	3	40	0,75	A10100307303	1	2	3	4			7			■
HFF 0307.03	Z4	RBF 0307	3	7	3	40	0,75	A10100307304		2	3	4			7	8		■
HFF 0307.03	Z5	RBF 0307	3	7	3	40	0,75	A10100307305	1	2	3	4			7			■
HFF 0313.03	Z5	RBF 0313	3	13	3	40	0,75	A10100313305	1	2	3	4			7			■
HFF 0313.03	Z7	RBF 0313	3	13	3	40	0,75	A10100313308	1	2	3		5		7			■
HFF 0613.03	Z5	RBF 0613	6	13	3	43	1,4	A10100613305	1	2	3	4			7			■
HFF 0613.03	Z7	RBF 0613	6	13	3	43	1,4	A10100613308	1	2	3		5		7			■
HFF 0618.06	Z3	RBF 0618	6	18	6	50	1,5	A10100618603	1	2	3	4			7			■
HFF 0618.06	Z4	RBF 0618	6	18	6	50	1,5	A10100618604		2	3	4			7	8		■
HFF 0618.06	Z5	RBF 0618	6	18	6	50	1,5	A10100618605	1	2	3	4			7			■
HFF 0618.06	Z7	RBF 0618	6	18	6	50	1,5	A10100618608	1	2	3		5		7			■
HFF 0820.06	Z3	---	8	20	6	60	1,8	A10100820603	1	2	3	4			7			■
HFF 0820.06	Z7	---	8	20	6	60	1,8	A10100820608	1	2	3		5		7			■
HFF 1020.06	Z3	RBF 1020	10	20	6	60	2,5	A10101020603	1	2	3	4			7			■
HFF 1020.06	Z4	RBF 1020	10	20	6	60	2,5	A10101020604		2	3	4			7	8		■
HFF 1020.06	Z6	RBF 1020	10	20	6	60	2,5	A10101020606		2	3	4			7	8		■
HFF 1020.06	Z7	RBF 1020	10	20	6	60	2,5	A10101020608	1	2	3		5		7			■
HFF 1225.06	Z1	RBF 1225	12	25	6	65	2,5	A10101225601						6		8		■
HFF 1225.06	Z3	RBF 1225	12	25	6	65	2,5	A10101225603	1	2	3	4			7			■
HFF 1225.06	Z4	RBF 1225	12	25	6	65	2,5	A10101225604		2	3	4			7	8		■
HFF 1225.06	Z7	RBF 1225	12	25	6	65	2,5	A10101225608	1	2	3		5		7			■
HFF 1225.06	Z9	RBF 1225	12	25	6	65	2,5	A10101225609						6		8		■
HFF 1225.08	Z3	RBF 1225	12	25	8	65	2,5	A10101225803	1	2	3	4			7			■
HFF 1225.08	Z7	RBF 1225	12	25	8	65	2,5	A10101225808	1	2	3		5		7			■
HFF 1225.08	Z9	RBF 1225	12	25	8	65	2,5	A10101225809						6		8		■
HFF 1230.06	Z3	RBF 1230	12	30	6	70	2,7	A10101230603	1	2	3	4			7			■
HFF 1230.06	Z7	RBF 1230	12	30	6	70	2,7	A10101230608	1	2	3		5		7			■
HFF 1230.08	Z3	RBF 1230	12	30	8	70	2,7	A10101230803	1	2	3	4			7			■
HFF 1630.06	Z7	RBF 1630	16	30	6	70	3,6	A10101630608	1	2	3		5		7			■
HFF 1630.06	Z9	RBF 1630	16	30	6	70	3,6	A10101630609						6		8		■
HFF 1630.08	Z3	RBF 1630	16	30	8	70	3,6	A10101630803	1	2	3	4			7			■
HFF 1630.08	Z9	RBF 1630	16	30	8	70	3,6	A10101630809						6		8		■



**Base**

**Shape F, Arch round nose BASE-X**

Ordering example: A10100313322



**Packing unit:**  
10 pcs. per type,  
from Ø 12 mm: 5 pcs. per type

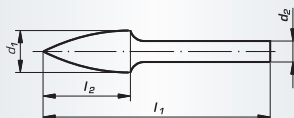
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r≈ mm	Product-Number	recommended for	New burrs
HFF 0313.03 BASE-X	ZX	RBF 0313	3	13	3	40	0,75	A10100313322	1 2 3 4 5 7	NEW
HFF 0618.06 BASE-X	ZX	RBF 0618	6	18	6	50	1,5	A10100618622	1 2 3 4 5 7	NEW
HFF 0820.06 BASE-X	ZX	---	8	20	6	60	1,8	A10100820622	1 2 3 4 5 7	NEW
HFF 1020.06 BASE-X	ZX	RBF 1020	10	20	6	60	2,5	A10101020622	1 2 3 4 5 7	NEW
HFF 1225.06 BASE-X	ZX	RBF 1225	12	25	6	65	2,5	A10101225622	1 2 3 4 5 7	NEW



**Industry**

**Shape G, Arch pointed nose**

Ordering example: A10040307305



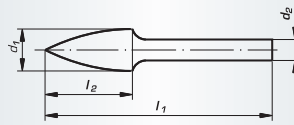
**Packing unit:**  
1 pc. per type  
Further dimensions, cuts and shank lengths on request.  
Ⓢ reground service, please enquire

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
HFG 0307.03	Z5	SPG 0307	3	7	3	40	A10040307305	1 2 3 4 7	■
HFG 0307.03	Z7	SPG 0307	3	7	3	40	A10040307308	1 2 3 5 7	■
HFG 0313.03	Z3	SPG 0313	3	13	3	40	A10040313303	1 2 3 4 7	■
HFG 0313.03	Z4	SPG 0313	3	13	3	40	A10040313304	2 3 4 7 8	■
HFG 0313.03	Z5	SPG 0313	3	13	3	40	A10040313305	1 2 3 4 7	■
HFG 0313.03	Z7	SPG 0313	3	13	3	40	A10040313308	1 2 3 5 7	■
HFG 0613.03	Z5	SPG 0613	6	13	3	43	A10040613305	1 2 3 4 7	■ Ⓢ
HFG 0613.03	Z7	SPG 0613	6	13	3	43	A10040613308	1 2 3 5 7	■ Ⓢ
HFG 0618.06	Z1	SPG 0618	6	18	6	50	A10040618601	6 8	■
HFG 0618.06	Z2	SPG 0618	6	18	6	50	A10040618602	1 5 6 8	■ Ⓢ
HFG 0618.06	Z3	SPG 0618	6	18	6	50	A10040618603	1 2 3 4 7	■ Ⓢ
HFG 0618.06	Z4	SPG 0618	6	18	6	50	A10040618604	2 3 4 7 8	■ Ⓢ
HFG 0618.06	Z5	SPG 0618	6	18	6	50	A10040618605	1 2 3 4 7	■ Ⓢ
HFG 0618.06	Z7	SPG 0618	6	18	6	50	A10040618608	1 2 3 5 7	■ Ⓢ
HFG 0820.06	Z3	---	8	20	6	60	A10040820603	1 2 3 4 7	■ Ⓢ
HFG 0820.06	Z7	---	8	20	6	60	A10040820608	1 2 3 5 7	■ Ⓢ
HFG 1020.06	Z3	SPG 1020	10	20	6	60	A10041020603	1 2 3 4 7	■ Ⓢ
HFG 1020.06	Z4	SPG 1020	10	20	6	60	A10041020604	2 3 4 7 8	■ Ⓢ
HFG 1020.06	Z5	SPG 1020	10	20	6	60	A10041020605	1 2 3 4 7	■ Ⓢ
HFG 1020.06	Z7	SPG 1020	10	20	6	60	A10041020608	1 2 3 5 7	■ Ⓢ



### Shape G, Arch pointed nose

Ordering example: A10041220603



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

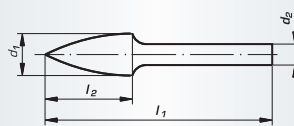
Ⓢ *regrind service, please enquire*

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
HFG 1220.06	Z3	SPG 1220	12	20	6	60	A10041220603	① ② ③ ④ ⑦	■ Ⓢ
HFG 1220.06	Z7	SPG 1220	12	20	6	60	A10041220608	① ② ③ ⑤ ⑦	■ Ⓢ
HFG 1225.06	Z2	SPG 1225	12	25	6	65	A10041225602	① ⑤ ⑥ ⑧	■ Ⓢ
HFG 1225.06	Z3	SPG 1225	12	25	6	65	A10041225603	① ② ③ ④ ⑦	■ Ⓢ
HFG 1225.06	Z4	SPG 1225	12	25	6	65	A10041225604	② ③ ④ ⑦ ⑧	■ Ⓢ
HFG 1225.06	Z7	SPG 1225	12	25	6	65	A10041225608	① ② ③ ⑤ ⑦	■ Ⓢ
HFG 1225.08	Z3	SPG 1225	12	25	8	65	A10041225803	① ② ③ ④ ⑦	■ Ⓢ
HFG 1230.06	Z2	SPG 1230	12	30	6	70	A10041230602	① ⑤ ⑥ ⑧	■ Ⓢ
HFG 1230.06	Z3	SPG 1230	12	30	6	70	A10041230603	① ② ③ ④ ⑦	■ Ⓢ
HFG 1230.06	Z4	SPG 1230	12	30	6	70	A10041230604	② ③ ④ ⑦ ⑧	■ Ⓢ
HFG 1230.06	Z5	SPG 1230	12	30	6	70	A10041230605	① ② ③ ④ ⑦	■ Ⓢ
HFG 1230.06	Z7	SPG 1230	12	30	6	70	A10041230608	① ② ③ ⑤ ⑦	■ Ⓢ
HFG 1230.08	Z3	SPG 1230	12	30	8	70	A10041230803	① ② ③ ④ ⑦	■ Ⓢ
HFG 1630.06	Z3	SPG 1630	16	30	6	70	A10041630603	① ② ③ ④ ⑦	■ Ⓢ
HFG 1630.06	Z4	SPG 1630	16	30	6	70	A10041630604	② ③ ④ ⑦ ⑧	■ Ⓢ
HFG 1630.06	Z7	SPG 1630	16	30	6	70	A10041630608	① ② ③ ⑤ ⑦	■ Ⓢ
HFG 1630.08	Z3	SPG 1630	16	30	8	70	A10041630803	① ② ③ ④ ⑦	■ Ⓢ



### Shape G, Arch pointed nose BASE-X

Ordering example: A10040313322



**Packing unit:**

10 pcs. per type,

from Ø 12 mm: 5 pcs. per type

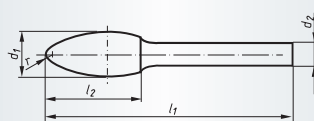
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
<b>NEW</b> HFG 0313.03 BASE-X	ZX	SPG 0313	3	13	3	40	A10040313322	① ② ③ ④ ⑤ ⑦	■
<b>NEW</b> HFG 0613.03 BASE-X	ZX	SPG 0613	6	13	3	43	A10040613322	① ② ③ ④ ⑤ ⑦	■
<b>NEW</b> HFG 0820.06 BASE-X	ZX	SPG 0820	8	20	6	60	A10040820622	① ② ③ ④ ⑤ ⑦	■
<b>NEW</b> HFG 1020.06 BASE-X	ZX	SPG 1020	10	20	6	60	A10041020622	① ② ③ ④ ⑤ ⑦	■
<b>NEW</b> HFG 1225.06 BASE-X	ZX	SPG 1225	12	25	6	65	A10041225622	① ② ③ ④ ⑤ ⑦	■
<b>NEW</b> HFG 1230.06 BASE-X	ZX	SPG 1230	12	30	6	65	A10041230622	① ② ③ ④ ⑤ ⑦	■



Industry

**Shape H, Flame**

Ordering example: A10090307305



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

Ⓢ regrind service, please enquire

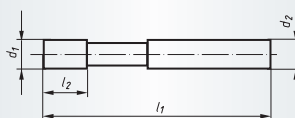
Description	Cut	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r ≈ mm	Product-Number	recommended for	New burrs
HFH 0307.03	Z5	3	7	3	40	0,8	A10090307305	① ② ③ ④ ⑦	■
HFH 0613.03	Z1	6	13	3	43	1,0	A10090613301	⑥ ⑧	■
HFH 0613.03	Z2	6	13	3	43	1,0	A10090613302	① ⑤ ⑥ ⑧	■
HFH 0613.03	Z3	6	13	3	43	1,0	A10090613303	① ② ③ ④ ⑦	■ Ⓢ
HFH 0613.03	Z4	6	13	3	43	1,0	A10090613304	② ③ ④ ⑦ ⑧	■ Ⓢ
HFH 0613.03	Z5	6	13	3	43	1,0	A10090613305	① ② ③ ④ ⑦	■ Ⓢ
HFH 0613.03	Z7	6	13	3	43	1,0	A10090613308	① ② ③ ⑤ ⑦	■ Ⓢ
HFH 0820.06	Z2	8	20	6	60	1,6	A10090820602	① ⑤ ⑥ ⑧	■ Ⓢ <b>NEW</b>
HFH 0820.06	Z3	8	20	6	60	1,6	A10090820603	① ② ③ ④ ⑦	■ Ⓢ
HFH 0820.06	Z4	8	20	6	60	1,6	A10090820604	② ③ ④ ⑦ ⑧	■ Ⓢ
HFH 0820.06	Z7	8	20	6	60	1,6	A10090820608	① ② ③ ⑤ ⑦	■ Ⓢ
HFH 1230.06	Z3	12	30	6	70	2,0	A10091230603	① ② ③ ④ ⑦	■ Ⓢ
HFH 1230.06	Z4	12	30	6	70	2,0	A10091230604	② ③ ④ ⑦ ⑧	■ Ⓢ
HFH 1230.06	Z7	12	30	6	70	2,0	A10091230608	① ② ③ ⑤ ⑦	■ Ⓢ
HFH 1230.08	Z3	12	30	8	70	2,0	A10091230803	① ② ③ ④ ⑦	■ Ⓢ
HFH 1635.06	Z7	16	35	6	75	2,5	A10091635608	① ② ③ ⑤ ⑦	■ Ⓢ
HFH 1635.08	Z3	16	35	8	75	2,5	A10091635803	① ② ③ ④ ⑦	■ Ⓢ



Industry

**Shape I, Internal burr with multi purpose cut**

Ordering example: A10010204300



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

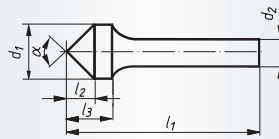
Ⓢ regrind service, please enquire

Description	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
HFI 0204.03	2,5	4	3	40	A10010204300	③ ④ ⑦	■
HFI 0408.03	4	8	3	50	A10010408300	③ ④ ⑦	■ Ⓢ
HFI 0610.06	6	10	6	65	A10010610600	③ ④ ⑦	■ Ⓢ
HFI 0810.06	8	10	6	65	A10010810600	③ ④ ⑦	■ Ⓢ



### Shape J, Pointed nose

Ordering example: A10080660603



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

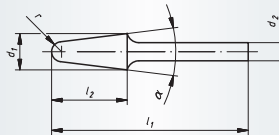
regrind service, please enquire

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	α	Product-Number	recommended for	New burrs
HFJ 0605.06	Z3	KSJ 0605	6	5	-	6	50	60°	A10080660603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFJ 1010.06	Z3	KSK 1005	10	5	10	6	50	90°	A10081090603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFJ 1013.06	Z3	KSJ 1008	10	9	13	6	53	60°	A10081060603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFJ 1613.06	Z3	KSK 1608	16	8	13	6	53	90°	A10081690603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFJ 1613.08	Z3	KSK 1608	16	8	13	8	53	90°	A10081690803	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFJ 1616.06	Z3	KSJ 1613	16	14	16	6	56	60°	A10081660603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFJ 1616.08	Z3	KSJ 1613	16	14	16	8	56	60°	A10081660803	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>



### Shape L, Conical Round nose

Ordering example: A10070820603



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

regrind service, please enquire

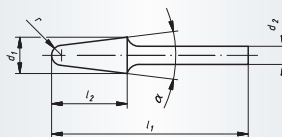
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r ≈ mm	α	Product-Number	recommended for	New burrs
HFL 0820.06	Z3	---	8	20	6	60	1,5	14°	A10070820603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 0820.06	Z7	---	8	20	6	60	1,5	14°	A10070820608	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 5 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 0820.06	Z9	---	8	20	6	60	1,5	14°	A10070820609	<input type="checkbox"/> 6 <input type="checkbox"/> 8	<input checked="" type="checkbox"/>
HFL 1015.06	Z3	---	10	15	6	55	3,6	14°	A10071015603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1020.06	Z3	KEL 1020	10	20	6	60	2,9	14°	A10071020603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1020.06	Z7	KEL 1020	10	20	6	60	2,9	14°	A10071020608	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 5 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1020.06	Z9	KEL 1020	10	20	6	60	2,9	14°	A10071020609	<input type="checkbox"/> 6 <input type="checkbox"/> 8	<input checked="" type="checkbox"/>
HFL 1225.06	Z3	KEL 1225	12	25	6	65	3,3	14°	A10071225603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1225.06	Z4	KEL 1225	12	25	6	65	3,3	14°	A10071225604	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7 <input type="checkbox"/> 8	<input checked="" type="checkbox"/>
HFL 1225.06	Z7	KEL 1225	12	25	6	65	3,3	14°	A10071225608	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 5 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1225.06	Z9	KEL 1225	12	25	6	65	3,3	14°	A10071225609	<input type="checkbox"/> 6 <input type="checkbox"/> 8	<input checked="" type="checkbox"/>
HFL 1225.08	Z3	KEL 1225	12	25	8	65	3,3	14°	A10071225803	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1225.08	Z7	KEL 1225	12	25	8	65	3,3	14°	A10071225808	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 5 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1230.06	Z1	KEL 1230	12	30	6	70	2,6	14°	A10071230601	<input type="checkbox"/> 6 <input type="checkbox"/> 8	<input checked="" type="checkbox"/>
HFL 1230.06	Z3	KEL 1230	12	30	6	70	2,6	14°	A10071230603	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1230.06	Z4	KEL 1230	12	30	6	70	2,6	14°	A10071230604	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7 <input type="checkbox"/> 8	<input checked="" type="checkbox"/>
HFL 1230.06	Z5	KEL 1230	12	30	6	70	2,6	14°	A10071230605	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>
HFL 1230.06	Z7	KEL 1230	12	30	6	70	2,6	14°	A10071230608	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 5 <input type="checkbox"/> 7	<input checked="" type="checkbox"/>



**Industry**

**Shape L, Conical Round nose**

Ordering example: A10071230609



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

regrind service, please enquire

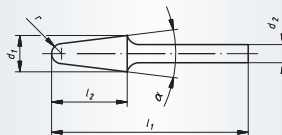
Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r ≈ mm	α	Product-Number	recommended for	New burrs
HFL 1230.06	Z9	KEL 1230	12	30	6	70	2,6	14 °	A10071230609		■
HFL 1230.08	Z4	KEL 1230	12	30	8	70	2,6	14 °	A10071230804		■
HFL 1230.08	Z9	KEL 1230	12	30	8	70	2,6	14 °	A10071230809		■
HFL 1630.06	Z3	KEL 1630	16	30	6	70	4,8	14 °	A10071630603		■
HFL 1630.06	Z7	KEL 1630	16	30	6	70	4,8	14 °	A10071630608		■
HFL 1630.08	Z3	KEL 1630	16	30	8	70	4,8	14 °	A10071630803		■
HFL 1630.08	Z9	KEL 1630	16	30	8	70	4,8	14 °	A10071630809		■
HFL 2040.08	Z9	KEL 2040	20	40	8	80	5,5	14 °	A10072040809		■



**Base**

**Shape L, Conical Round nose BASE-X**

Ordering example: A10071230622



**Packing unit:**

10 pcs. per type,

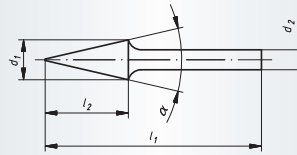
from Ø 12 mm: 5 pcs. per type

Description	Cut	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r ≈ mm	α	Product-Number	recommended for	New burrs
HFL 1230.06 BASE-X	ZX	KEL 1230	12	30	6	70	2,6	14 °	A10071230622		■ <b>NEW</b>



### Shape M, Conical Pointed nose

Ordering example: A10050307303



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

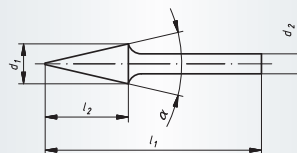
Ⓢ regrind service, please enquire

Description	Cut	similar DIN 8033	d1 mm	l2 mm	d2 mm	l1 mm	α	Product-Number	recommended for								New burrs	
HFM 0307.03	Z3	SKM 0307	3	7	3	40	22°	A10050307303	1	2	3	4			7			■
HFM 0307.03	Z5	SKM 0307	3	7	3	40	22°	A10050307305	1	2	3	4			7			■
HFM 0307.03	Z7	SKM 0307	3	7	3	40	22°	A10050307308	1	2	3		5		7			■
HFM 0311.03	Z5	SKM 0311	3	11	3	40	14°	A10050311305	1	2	3	4			7			■
HFM 0311.03	Z7	SKM 0311	3	11	3	40	14°	A10050311308	1	2	3		5		7			■
HFM 0613.03	Z5	SKM 0613	6	13	3	43	25°	A10050613305	1	2	3	4			7			■ Ⓢ
HFM 0613.03	Z7	SKM 0613	6	13	3	43	25°	A10050613308	1	2	3		5		7			■ Ⓢ
HFM 0618.06	Z3	SKM 0618	6	18	6	50	16°	A10050618603	1	2	3	4			7			■ Ⓢ
HFM 0618.06	Z4	SKM 0618	6	18	6	50	16°	A10050618604		2	3	4			7	8		■ Ⓢ
HFM 0618.06	Z5	SKM 0618	6	18	6	50	16°	A10050618605	1	2	3	4			7			■ Ⓢ
HFM 0618.06	Z7	SKM 0618	6	18	6	50	16°	A10050618608	1	2	3		5		7			■ Ⓢ
HFM 0820.06	Z3	---	8	20	6	60	21°	A10050820603	1	2	3	4			7			■ Ⓢ
HFM 0820.06	Z7	---	8	20	6	60	21°	A10050820608	1	2	3		5		7			■ Ⓢ
HFM 1020.06	Z3	SKM 1020	10	20	6	60	27°	A10051020603	1	2	3	4			7			■ Ⓢ
HFM 1020.06	Z4	SKM 1020	10	20	6	60	27°	A10051020604		2	3	4			7	8		■ Ⓢ
HFM 1020.06	Z7	SKM 1020	10	20	6	60	27°	A10051020608	1	2	3		5		7			■ Ⓢ
HFM 1020.08	Z3	---	10	20	8	60	27°	A10051020803	1	2	3	4			7			■ Ⓢ
<b>NEW</b> HFM 1225.06	Z1	SKM 1225	12	25	6	65	26°	A10051225601							6		8	■ Ⓢ
HFM 1225.06	Z3	SKM 1225	12	25	6	65	26°	A10051225603	1	2	3	4			7			■ Ⓢ
HFM 1225.06	Z4	SKM 1225	12	25	6	65	26°	A10051225604		2	3	4			7	8		■ Ⓢ
HFM 1225.06	Z7	SKM 1225	12	25	6	65	26°	A10051225608	1	2	3		5		7			■ Ⓢ
HFM 1225.08	Z3	SKM 1225	12	25	8	65	26°	A10051225803	1	2	3	4			7			■ Ⓢ



### Shape M, Conical Pointed nose BASE-X

Ordering example: A10050311322



**Packing unit:**

10 pcs. per type,

from Ø 12 mm: 5 pcs. per type


Description	Cut	similar DIN 8033	d1 mm	l2 mm	d2 mm	l1 mm	α	Product-Number	recommended for								New burrs		
<b>NEW</b> HFM 0311.03 BASE-X	ZX	SKM 0311	3	11	3	40	14°	A10050311322	1	2	3	4	5			7			■
<b>NEW</b> HFM 0618.06 BASE-X	ZX	SKM 0618	6	18	6	50	16°	A10050618622	1	2	3	4	5			7			■
<b>NEW</b> HFM 1020.06 BASE-X	ZX	SKM 1020	10	20	6	60	27°	A10051020622	1	2	3	4	5			7			■
<b>NEW</b> HFM 1225.06 BASE-X	ZX	SKM 1225	12	25	6	65	26°	A10051225622	1	2	3	4	5			7			■

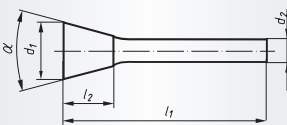


Industry

Shape N, Inverted cone


Ordering example: A10120307305















**Packing unit:**  
1 pc. per type

Further dimensions, cuts and shank lengths on request.

 regrind service, please enquire


Description	Cut	similar DIN 8033	d1 mm	l2 mm	d2 mm	l1 mm	α	Product-Number	recommended for								New burrs		
									1	2	3	4	5	6	7	8		9	10
HFN 0307.03	Z5	WKN 0307	3	7	3	40	10°	A10120307305	1	2	3	4			7				■
HFN 0307.03	Z7	WKN 0307	3	7	3	40	10°	A10120307308	1	2	3		5		7				■
HFN 0607.03	Z5	WKN 0607	6	7	3	37	10°	A10120607305	1	2	3	4			7				■ 
HFN 0607.06	Z3	WKN 0607	6	7	6	50	10°	A10120607603	1	2	3	4			7				■ 
HFN 0607.06	Z4	WKN 0607	6	7	6	50	10°	A10120607604		2	3	4			7	8			■ 
HFN 0607.06	Z5	WKN 0607	6	7	6	50	10°	A10120607605	1	2	3	4			7				■ 
HFN 1013.06	Z3	WKN 1013	10	13	6	53	10°	A10121013603	1	2	3	4			7				■ 
HFN 1013.06	Z4	WKN 1013	10	13	6	53	10°	A10121013604		2	3	4			7	8			■ 
HFN 1213.06	Z3	WKN 1213	12	13	6	53	20°	A10121213603	1	2	3	4			7				■ 
HFN 1213.06	Z4	WKN 1213	12	13	6	53	20°	A10121213604		2	3	4			7	8			■ 
HFN 1613.08	Z3	WKN 1613	16	13	8	53	20°	A10121613803	1	2	3	4			7				■ 
HFN 2013.06	Z4	---	20	13	6	53	30°	A10122013604		2	3	4			7	8			■ 

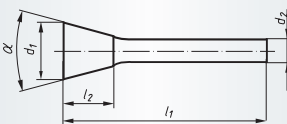


Industry

Shape N, Inverted cone with end-cut


Ordering example: A101203073050001












**Packing unit:**  
1 pc. per type

Further dimensions, cuts and shank lengths on request.

 regrind service, please enquire

Description	Cut	similar DIN 8033	d1 mm	l2 mm	d2 mm	l1 mm	α	Product-Number	recommended for								New burrs		
									1	2	3	4	5	6	7	8		9	10
HFNS 0307.03	Z5	WKN-S 0307	3	7	3	40	10°	A101203073050001	1	2	3	4			7				■
HFNS 0307.03	Z7	WKN-S 0307	3	7	3	40	10°	A101203073080001	1	2	3		5		7				■
HFNS 0607.03	Z5	WKN-S 0607	6	7	3	37	10°	A101206073050001	1	2	3	4			7				■ 
HFNS 1013.06	Z3	WKN-S 1013	10	13	6	53	10°	A101210136030001	1	2	3	4			7				■ 
HFNS 1013.06	Z4	WKN-S 1013	10	13	6	53	10°	A101210136040001		2	3	4			7	8			■ 
HFNS 1213.06	Z3	WKN-S 1213	12	13	6	53	20°	A101212136030001	1	2	3	4			7				■ 
HFNS 1213.06	Z4	WKN-S 1213	12	13	6	53	20°	A101212136040001		2	3	4			7	8			■ 
HFNS 1613.06	Z4	WKN-S 1613	16	13	6	53	20°	A101216136040001		2	3	4			7	8			■ 
HFNS 1613.08	Z3	WKN-S 1613	16	13	8	53	20°	A101216138030001	1	2	3	4			7				■ 

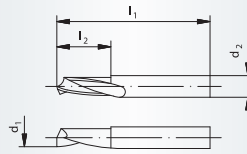




Industry

**Engraving cutters of solid carbide single flute type**

Ordering example: A13150030337102



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

Unless otherwise specified, the tolerances are as DIN 7468

Description	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for	New burrs
HGE 0207.03	2	7	3	40	A13150030337102		■
HGE 0307.03	3	7	3	40	A13150030337103		■

**Application:** Very well suited for the machining of light metals, non-ferrous metals, plastics and for high-speed-machining of aluminium parts. Cutters with mirror finished flute to allow ideal chip removal and to avoid clogging.

**Recommended cutting speeds**

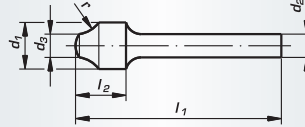
Main group of materials	Sub-group	Hardness (HB)	Strength (N/mm <sup>2</sup> )	Optimal cutting speed (m/min)
Aluminium, Magnesium	Al, Mg non alloyed	≤ 100	≤ 350	≤ 400
	Al alloyed Si < 0,5%	≤ 150	≤ 500	≤ 400
	Al alloyed Si ≥ 0,5 < 10%	≤ 120	≤ 400	≤ 100
	Al alloyed Si ≥ 10%, Mg-all., Al-Whisker	≤ 120	≤ 400	≤ 70
	Thermoplastics	–	–	≤ 150
Plastics	Thermo-setting plastics	–	–	–



Industry

## Shape R, Trimming burr (external)

Ordering example: A10140812603



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

regrind service, please enquire

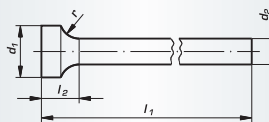
Description	Cut	d <sub>1</sub> mm	d <sub>3</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r ≈ mm	Product-Number	recommended for	New burrs
HFR 0812.06	Z3	8	3	12	6	52	2,5	A10140812603		■
HFR 1015.06	Z3	10	2	15	6	55	8	A10141015603		■
HFR 1215.06	Z3	12	6	15	6	55	8	A10141215603		■
HFR 1215.08	Z3	12	6	15	8	55	8	A10141215803		■
HFR 1315.06	Z3	13	3	15	6	55	10	A10141315603		■
HFR 1315.06	Z5	13	3	15	6	55	10	A10141315605		■
HFR 1315.08	Z3	13	3	15	8	55	10	A10141315803		■



Industry

## Shape S, Trimming burr (internal)

Ordering example: A10131618803



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

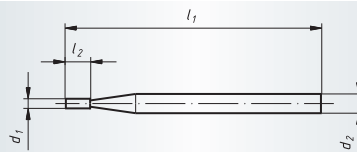
regrind service, please enquire

Description	Cut	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	r ≈ mm	Product-Number	recommended for	New burrs
HFS 1618.08	Z3	16	18	8	120	6	A10131618803		■
HFS 1818.08	Z3	18	18	8	120	8	A10131818803		■
HFS 2218.08	Z3	22	18	8	120	10	A10132218803		■



Miniature burrs with multi-purpose cut

Ordering example: A10010104312



Packing unit:

1 pc. per type

Further dimensions, cuts and shank lengths on request.

Description	Shape	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for							New burrs	
							2	3	4	7	8	9	10		
HFA 01004.03		1	4	3	40	A10010104312	2	3	4	7					■
HFA 01504.03		1,5	4	3	40	A100101043120001	2	3	4	7					■
HFA 02004.03		2	4	3	40	A10010204312	2	3	4	7					■
HFC 01004.03		1	4	3	40	A10020104312	2	3	4	7					■
HFC 01504.03		1,5	4	3	40	A100201043120001	2	3	4	7					■
HFC 02004.03		2	4	3	40	A10020204312	2	3	4	7					■
HFD 01001.03		1	0,9	3	40	A10030101312	2	3	4	7					■
HFD 01501.03		1,5	1,35	3	40	A100301013120001	2	3	4	7					■
HFD 02002.03		2	1,8	3	40	A10030202312	2	3	4	7					■
HFE 01504.03		1,5	4	3	40	A10060104312	2	3	4	7					■
HFF 01504.03		1,5	4	3	40	A10100104312	2	3	4	7					■
HFG 01504.03		1,5	4	3	40	A10040104312	2	3	4	7					■
HFM 01504.03		1,5	4	3	40	A10050104312	2	3	4	7					■

Application:

- tool manufacture
- precision engineering
- jewellery industry
- turbine manufacture

Power Tool:

- We recommend our pneumatic grinder AMIN 72-013 GD, page 387

Materials to be processed:

- stainless steel
- CrNi alloys
- non-ferrous metals
- zinc diecasting
- soft ceramics
- titanium alloys

Useful hints:

- choose shortest overhang
- concentric running of the collett chuck is very important
- recommended speed: 70.000 rpm

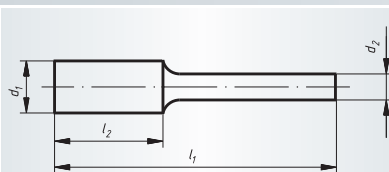
Advantages:

- high dimensional accuracy
- minimal runout
- multi-purpose cut
- micro grain carbide
- precision ground cutting edges



### Miniature burrs in cut 5, shank 3 mm

Ordering example: A10010210305



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

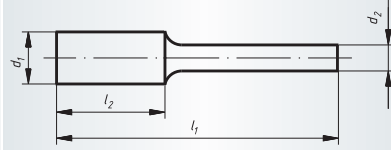
regrind service, please enquire

Description	Cut	Shape	similar DIN 8033	Shank H = solid carbide S = Steel	d <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for							New burrs	
HFA 0210.03	Z5		ZYA 0210	H	2	10	40	A10010210305	1	2	3	4		7			■
HFA 0313.03	Z5		ZYA 0313	H	3	13	40	A10010313305	1	2	3	4		7			■
HFA 0607.03	Z5		ZYA 0607	S	6	7	37	A10010607305	1	2	3	4		7			■
HFA 0613.03	Z5		ZYA 0613	S	6	13	43	A10010613305	1	2	3	4		7			■
HFAS 0210.03	Z5		ZYA-S 0210	H	2	10	40	A100102103050001	1	2	3	4		7			■
HFAS 0313.03	Z5		ZYA-S 0313	H	3	13	40	A100103133050001	1	2	3	4		7			■
HFAS 0607.03	Z5		ZYA-S 0607	S	6	7	37	A100106073050001	1	2	3	4		7			■
HFAS 0613.03	Z5		ZYA-S 0613	S	6	13	43	A100106133050001	1	2	3	4		7			■
HFC 0210.03	Z5		WRC 0210	H	2	10	40	A10020210305	1	2	3	4		7			■
HFC 0313.03	Z5		WRC 0313	H	3	13	40	A10020313305	1	2	3	4		7			■
HFC 0613.03	Z5		WRC 0613	S	6	13	43	A10020613305	1	2	3	4		7			■
HFD 0302.03	Z5		KUD 0302	H	3	2	40	A10030303305	1	2	3	4		7			■
HFD 0403.03	Z5		KUD 0403	H	4	3	34	A100304043050001	1	2	3	4		7			■
HFD 0605.03	Z5		KUD 0605	S	6	5	35	A10030606305	1	2	3	4		7			■
HFE 0307.03	Z5		TRE 0307	H	3	7	40	A10060307305	1	2	3	4		7			■
HFE 0610.03	Z5		TRE 0610	S	6	10	40	A10060610305	1	2	3	4		7			■
HFF 0307.03	Z5		RBF 0307	H	3	7	40	A10100307305	1	2	3	4		7			■
HFF 0313.03	Z5		RBF 0313	H	3	13	40	A10100313305	1	2	3	4		7			■
HFF 0613.03	Z5		RBF 0613	S	6	13	43	A10100613305	1	2	3	4		7			■
HFG 0307.03	Z5		SPG 0307	H	3	7	40	A10040307305	1	2	3	4		7			■
HFG 0313.03	Z5		SPG 0313	H	3	13	40	A10040313305	1	2	3	4		7			■
HFG 0613.03	Z5		SPG 0613	S	6	13	43	A10040613305	1	2	3	4		7			■
HFH 0307.03	Z5		---	H	3	7	40	A10090307305	1	2	3	4		7			■



Miniature burrs in cut 5, shank 3 mm

Ordering example: A10090613305



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

\* available only with fine cross-cut

Ⓢ regrind service, please enquire

Description	Cut	Shape	similar DIN 8033	Shank H = solid carbide S = Steel	d <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for							New burrs			
									1	2	3	4	5	6	7		8	9	
HFH 0613.03	Z5		---	S	6	13	43	A10090613305	1	2	3	4			7				■ Ⓢ
HFI 0204.03	*		---	H	2,5	4	40	A10010204300	1	2	3	4			7				■
HFI 0408.03	*		---	H	4	8	50	A10010408300	1	2	3	4			7				■ Ⓢ
HFM 0307.03	Z5		SKM 0307	H	3	7	40	A10050307305	1	2	3	4			7				■
HFM 0311.03	Z5		SKM 0311	H	3	11	40	A10050311305	1	2	3	4			7				■
HFM 0613.03	Z5		SKM 0613	S	6	13	43	A10050613305	1	2	3	4			7				■ Ⓢ
HFN 0307.03	Z5		WKN 0307	H	3	7	40	A10120307305	1	2	3	4			7				■
HFN 0607.03	Z5		WKN 0607	S	6	7	37	A10120607305	1	2	3	4			7				■ Ⓢ
HFNS 0307.03	Z5		WKN-S 0307	H	3	7	40	A101203073050001	1	2	3	4			7				■
HFNS 0607.03	Z5		WKN-S 0607	S	6	7	37	A101206073050001	1	2	3	4			7				■ Ⓢ

# 54 Tungsten Carbide Burrs



Industry

## Tool-sets, cut 7, shank 3 mm

Ordering example: A10390010



**Packing unit:**  
1 pc. per type

Description	Shank Ø mm	Cut	Contents	1 pc. each	Product-Number	recommended for	
F10 S3	3	Z7	10-pieces	HFA 0313, HFA 0613, HFC 0313, HFC 0613, HFD 0302, HFD 0605, HFG 0313, HFG 0613, HFM 0613, HFF 0313	A10390010	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10	■



Industry

## Tool-sets, cut 7, shank 6 mm

Ordering example: A1039001006



**Packing unit:**  
1 pc. per type

Description	Shank Ø mm	Cut	Contents	1 pc. each	Product-Number	recommended for	
F10 S6	6	Z7	10-pieces	HFAS 0616, HFAS 1225, HFC 0616, HFC 1225, HFD 0605, HFD 1210, HFG 0618, HFG 1225, HFF 0820, HFF 1225	A1039001006	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10	■



Base

**Tool-set, BASE-X, F5 S3**

Ordering example: A10390053



**Packing unit:**  
1 pc. per type

Description	Shank Ø mm	Cut	Contents	1 pc. each	Product-Number	recommended for	
F5 S3 BASE-X	3	ZX	5-pieces	HFA 0313, HFC 0313, HFD 0605, HFF 0313, HFG 0313	A10390053	<div style="display: flex; justify-content: space-around;"> <span>1</span><span>2</span><span>3</span><span>4</span><span>5</span><span>7</span> </div>	■

NEW



Base

**Tool-set, BASE-X, F5 S6**

Ordering example: A10390056



**Packing unit:**  
1 pc. per type

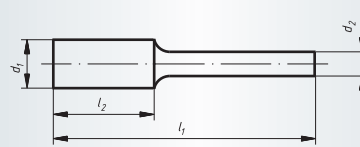
Description	Shank Ø mm	Cut	Contents	1 pc. each	Product-Number	recommended for	
F5 S6 BASE-X	6	ZX	5-pieces	HFA 1225, HFC 1225, HFD 1210, HFF 1225, HFG 1225	A10390056	<div style="display: flex; justify-content: space-around;"> <span>1</span><span>2</span><span>3</span><span>4</span><span>5</span><span>7</span> </div>	■

NEW



### Tungsten Carbide Burrs with TiAlN-coating\*

Ordering example: A10010616608TIALN



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

Description	Shape	Cut	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for							New burrs
HFA 0616.06 Z7 TIALN		Z7	6	16	6	50	A10010616608TIALN	1	2	3	5	7			■
HFA 0820.06 Z7 TIALN		Z7	8	20	6	60	A10010820608TIALN	1	2	3	5	7			■
<b>NEW</b> HFA 1020.06 Z7 TIALN		Z7	10	20	6	60	A10011020608TIALN	1	2	3	5	7			■
HFAS 0616.06 Z7 TIALN		Z7	6	16	6	50	A10010616608TIAL1	1	2	3	5	7			■
HFAS 0820.06 Z7 TIALN		Z7	8	20	6	60	A10010820608TIAL1	1	2	3	5	7			■
<b>NEW</b> HFAS 1020.06 Z7 TIALN		Z7	10	20	6	60	A10011020608TIAL1	1	2	3	5	7			■
<b>NEW</b> HFAS 1225.06 Z7 TIALN		Z7	12	25	6	65	A10011225608TIAL1	1	2	3	5	7			■
HFC 0616.06 Z7 TIALN		Z7	6	16	6	50	A10020616608TIALN	1	2	3	5	7			■
HFC 0820.06 Z7 TIALN		Z7	8	20	6	60	A10020820608TIALN	1	2	3	5	7			■
HFC 1020.06 Z7 TIALN		Z7	10	20	6	60	A10021020608TIALN	1	2	3	5	7			■
HFC 1225.06 Z7 TIALN		Z7	12	25	6	65	A10021225608TIALN	1	2	3	5	7			■
HFD 0605.06 Z7 TIALN		Z7	6	5	6	50	A10030606608TIALN	1	2	3	5	7			■
HFD 0807.06 Z7 TIALN		Z7	8	7	6	47	A10030808608TIALN	1	2	3	5	7			■
HFD 1009.06 Z7 TIALN		Z7	10	9	6	49	A10031010608TIALN	1	2	3	5	7			■
<b>NEW</b> HFD 1210.06 Z7 TIALN		Z7	12	10	6	50	A10031210608TIALN	1	2	3	5	7			■
<b>NEW</b> HFD 1614.06 Z7 TIALN		Z7	16	14	6	54	A10031614608TIALN	1	2	3	5	7			■
<b>NEW</b> HFF 0618.06 Z7 TIALN		Z7	6	18	6	50	A10100618608TIALN	1	2	3	5	7			■
HFF 1225.06 Z7 TIALN		Z7	12	25	6	65	A10101225608TIALN	1	2	3	5	7			■
<b>NEW</b> HFF 1630.06 Z7 TIALN		Z7	16	30	6	70	A10101630608TIALN	1	2	3	5	7			■
HFG 0618.06 Z7 TIALN		Z7	6	18	6	50	A10040618608TIALN	1	2	3	5	7			■
HFG 1020.06 Z7 TIALN		Z7	10	20	6	60	A10041020608TIALN	1	2	3	5	7			■
HFG 1225.06 Z7 TIALN		Z7	12	25	6	65	A10041225608TIALN	1	2	3	5	7			■
<b>NEW</b> HFG 1630.06 Z7 TIALN		Z7	16	30	6	70	A10041630608TIALN	1	2	3	5	7			■
HFH 0820.06 Z7 TIALN		Z7	8	20	6	60	A10090820608TIALN	1	2	3	5	7			■
HFH 1230.06 Z7 TIALN		Z7	12	30	6	70	A10091230608TIALN	1	2	3	5	7			■
HFL 1020.06 Z7 TIALN		Z7	10	20	6	60	A10071020608TIALN	1	2	3	5	7			■
<b>NEW</b> HFL 1230.06 Z7 TIALN		Z7	12	30	6	70	A10071230608TIALN	1	2	3	5	7			■
<b>NEW</b> HFM 1020.06 Z7 TIALN		Z7	10	20	6	60	A10051020608TIALN	1	2	3	5	7			■

\*High performance coating with a high degree of hardness and flow heat conductivity; therefore suitable for high thermal and mechanical applications; very low friction value

**The reasons for producing Tungsten Carbide Burrs with TiAlN-coating are as follows:**

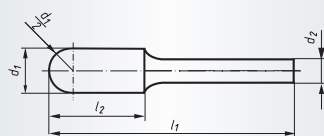
- to increase tool life
- to reduce machining forces
- to improve chip removal



**High Performance**

**Tungsten Carbide Rasp burrs**

Ordering example: A10021225618



**Packing unit:**

1 pc. per type

Ⓢ reground service, please enquire

Description	Cut	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for
HFC 1225.06	ZR2	12	25	6	65	A10021225618	Ⓢ ■ Ⓢ NEW

Rasp burrs are manufactured from fine grit tungsten carbide and achieve a service life far exceeding that of comparable HSS or stippled burrs. A positive cutting geometry means that, even where only light force is applied, the burrs are very efficient during

cutting, achieving a high level of stock removal. In particular, when working with wood and other pattern construction materials, the desired contours can be achieved rapidly and accurately. Burrs and material remain cool and do not overheat.

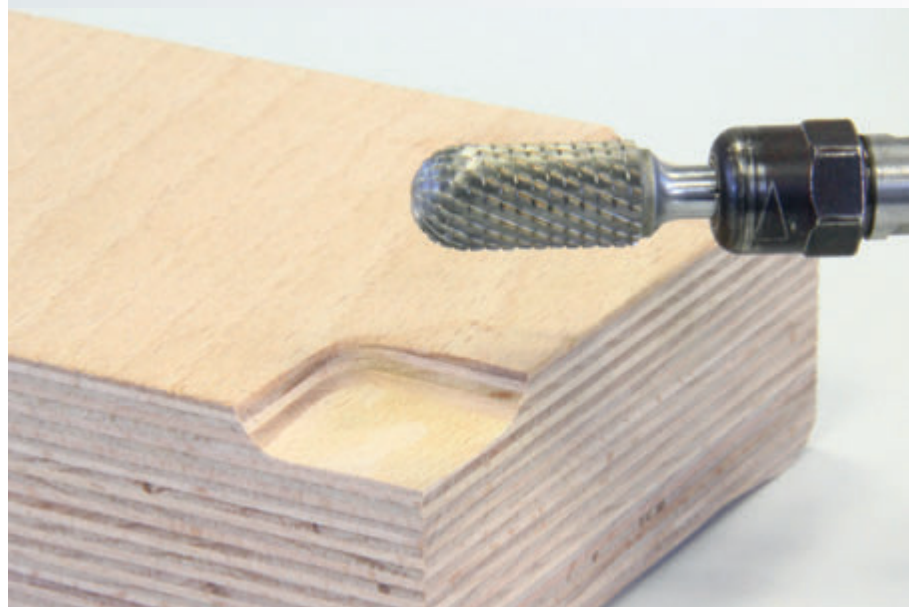
**Characteristics:**

- Extremely aggressive, owing to a positive rake angle
- Long service life, owing to tungsten carbide
- Smooth running without vibration

**Particularly suitable for:**

- Pattern construction and wood
- Mould & die and cores
- Soft materials
- Composite materials

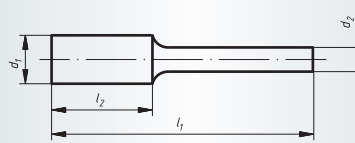
Example using Rasp burr with ZR2 cut





### Tungsten Carbide Rotary files

Ordering example: A100106166150001



**Packing unit:**

1 pc. per type

Ⓢ) regrind service, please enquire

Description	Cut	Shape	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for								
<b>NEW</b> HFAS 0616.06	ZF2		6	16	6	50	A100106166150001	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFAS 0616.06	ZF3		6	16	6	50	A100106166140001	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFAS 1225.06	ZF1		12	25	6	65	A100112256160001	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFAS 1225.06	ZF2		12	25	6	65	A100112256150001	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFC 0616.06	ZF3		6	16	6	50	A10020616614	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFC 1225.06	ZF1		12	25	6	65	A10021225616	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFC 1225.06	ZF2		12	25	6	65	A10021225615	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFD 1009.06	ZF2		10	9	6	49	A10031009615	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFG 0618.06	ZF2		6	18	6	50	A10040618615	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFG 0618.06	ZF3		6	18	6	50	A10040618614	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFG 1230.06	ZF1		12	30	6	70	A10041230616	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFG 1230.06	ZF2		12	30	6	70	A10041230615	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFG 1230.06	ZF3		12	30	6	70	A10041230614	1	2	3	4	5	7	■	Ⓢ	
<b>NEW</b> HFM 1225.06	ZF2		12	25	6	65	A10051225615	1	2	3	4	5	7	■	Ⓢ	

The micro-serration of the new tungsten carbide rotary files is based on the cutting geometry of a file and thus prevents clogging, even when removing soft materials. The precision cut is achieved on CNC grinding machines, thus ensuring perfect concentricity and chatter-free working. The burrs remain sharp for a long time as a result, achieving a clean surface finish free of chatter marks.

Rotary files are available in numerous sizes and shapes and three different cuts ranging from ZF1 (coarse) to ZF3 (fine). This means that the conditions of use can be optimised for each application with the result of the best surface finish.

**Characteristics:**

- Optimum surface finishes, owing to fine serration
- Long service life, owing to tungsten carbide
- No clogging

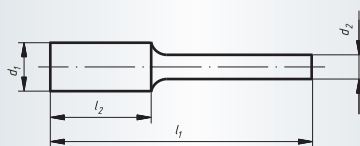
**Particularly suitable for:**

- Perfect surface finishes
- Composite materials
- Soft materials
- Bores



Burrs for machining non-ferrous metals, cut 9

Ordering example: A10010616609



Packing unit:

1 pc. per type

Further dimensions, cuts and shank lengths on request.

regrind service, please enquire

Description	Cut	Shape	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for				New burrs		
HFA 0616.06	Z9		6	16	6	50	A10010616609					6	8	■
HFA 1225.06	Z9		12	25	6	65	A10011225609					6	8	■
HFA 1225.08	Z9		12	25	8	65	A10011225809					6	8	■
HFA 1625.06	Z9		16	25	6	65	A10011625609					6	8	■
HFA 1625.08	Z9		16	25	8	65	A10011625809					6	8	■
HFC 0616.06	Z9		6	16	6	50	A10020616609					6	8	■
HFC 0820.06	Z9		8	20	6	60	A10020820609					6	8	■
HFC 1225.06	Z9		12	25	6	65	A10021225609					6	8	■
HFC 1225.08	Z9		12	25	8	65	A10021225809					6	8	■
HFC 1625.06	Z9		16	25	6	65	A10021625609					6	8	■
HFC 1625.08	Z9		16	25	8	65	A10021625809					6	8	■
HFD 1210.06	Z9		12	10	6	50	A10031212609					6	8	■
HFD 1210.08	Z9		12	10	8	50	A10031212809					6	8	■
HFD 1614.06	Z9		16	14	6	54	A10031616609					6	8	■
HFD 1614.08	Z9		16	14	8	54	A10031616809					6	8	■
HFE 1225.08	Z9		12	25	8	65	A10061225809					6	8	■
HFE 1625.08	Z9		16	25	8	65	A10061625809					6	8	■
HFF 1225.06	Z9		12	25	6	65	A10101225609					6	8	■
HFF 1225.08	Z9		12	25	8	65	A10101225809					6	8	■
HFF 1630.06	Z9		16	30	6	70	A10101630609					6	8	■
HFF 1630.08	Z9		16	30	8	70	A10101630809					6	8	■
HFL 0820.06	Z9		8	20	6	60	A10070820609					6	8	■
HFL 1020.06	Z9		10	20	6	60	A10071020609					6	8	■
HFL 1225.06	Z9		12	25	6	65	A10071225609					6	8	■
HFL 1230.06	Z9		12	30	6	70	A10071230609					6	8	■
HFL 1230.08	Z9		12	30	8	70	A10071230809					6	8	■
HFL 1630.08	Z9		16	30	8	70	A10071630809					6	8	■
HFL 2040.08	Z9		20	40	8	80	A10072040809					6	8	■

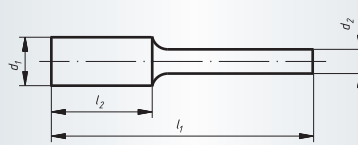
Example using burr with Z9 cut





## Burrs with extended shank length (shank length 200 mm)

Ordering example: A10011225603200



**Packing unit:**

1 pc. per type

Further dimensions, cuts and shank lengths on request.

NEW

Description	Shape	Cut	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	Product-Number	recommended for							New burrs	
HFA 1225.06 L		Z3	12	25	6	225	A10011225603200	1	2	3	4		7			■
HFA 1225.06 L		Z7	12	25	6	225	A10011225608200	1	2	3		5	7			■
HFC 0616.06 L		Z3	6	16	6	216	A10020616603200	1	2	3	4		7			■
HFC 0616.06 L		Z7	6	16	6	216	A10020616608200	1	2	3		5	7			■
HFC 0820.06 L		Z3	8	20	6	220	A10020820603200	1	2	3	4		7			■
HFC 0820.06 L		Z7	8	20	6	220	A10020820608200	1	2	3		5	7			■
HFC 1020.06 L		Z7	10	20	6	220	A10021020608200	1	2	3		5	7			■
HFC 1225.06 L		Z7	12	25	6	225	A10021225608200	1	2	3		5	7			■
HFD 0605.06 L		Z3	6	5	6	205	A10030605603200	1	2	3	4		7			■
HFD 0605.06 L		Z7	6	5	6	205	A10030605608200	1	2	3		5	7			■
HFD 0807.06 L		Z3	8	7	6	207	A10030807603200	1	2	3	4		7			■
HFD 0807.06 L		Z7	8	7	6	207	A10030807608200	1	2	3		5	7			■
HFD 1009.06 L		Z3	10	9	6	209	A10031009603200	1	2	3	4		7			■
HFD 1009.06 L		Z7	10	9	6	209	A10031009608200	1	2	3		5	7			■
HFD 1210.06 L		Z3	12	10	6	210	A10031210603200	1	2	3	4		7			■
HFD 1210.06 L		Z7	12	10	6	210	A10031210608200	1	2	3		5	7			■
HFD 1210.08 L		Z3	12	10	8	210	A10031210803200	1	2	3	4		7			■
HFD 1210.08 L		Z7	12	10	8	210	A10031210808200	1	2	3		5	7			■
HFE 1220.06 L		Z3	12	20	6	220	A10061220603200	1	2	3	4		7			■
HFE 1220.06 L		Z7	12	20	6	220	A10061220608200	1	2	3		5	7			■
HFE 1220.08 L		Z7	12	20	8	220	A10061220808200	1	2	3		5	7			■
HFF 0618.06 L		Z3	6	18	6	218	A10100618603200	1	2	3	4		7			■
HFF 0618.06 L		Z7	6	18	6	218	A10100618608200	1	2	3		5	7			■
HFF 1230.08 L		Z3	12	30	8	230	A10101230803200	1	2	3	4		7			■
HFF 1230.08 L		Z7	12	30	8	230	A10101230808200	1	2	3		5	7			■
HFG 0618.06 L		Z3	6	18	6	218	A10040618603200	1	2	3	4		7			■
HFG 0618.06 L		Z7	6	18	6	218	A10040618608200	1	2	3		5	7			■
HFG 1230.08 L		Z7	12	30	8	230	A10041230808200	1	2	3		5	7			■
HFH 1020.06 L		Z3	10	20	6	220	A10091020603200	1	2	3	4		7			■
HFH 1020.06 L		Z7	10	20	6	220	A10091020608200	1	2	3		5	7			■
HFH 1230.08 L		Z7	12	30	8	230	A10091230808200	1	2	3		5	7			■

**Safety instructions: Recommended operating speed for major exposed shank lengths**

In order to avoid the risk of accidents, it is necessary to ensure contact between the tool and workpiece prior to starting the power tool, or to insert the tool into bores or channels. Contact with the workpiece must be ensured until the machine is deactivated. If permanent contact with the workpiece cannot be ensured, the machine should run at idling speed.

**Reduced speeds for tungsten carbide burrs with extra long shank (200 mm)**

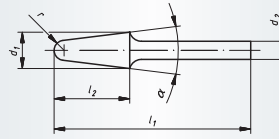
Tool diameter d1 mm	6	8	10	12	12
Shank diameter d2 mm	6	6	6	6	8
Maximum idling speed without workpiece contact (1/min)	4.000	3.200	2.800	2.200	3.600
Recommended reduced operating speed with workpiece contact (1/min)	13.000	10.000	8.000	7.000	7.000



Base

**Tungsten Carbide Burrs with Imperial-Sized Shanks, BASE-X**

Ordering example: A5001082062214

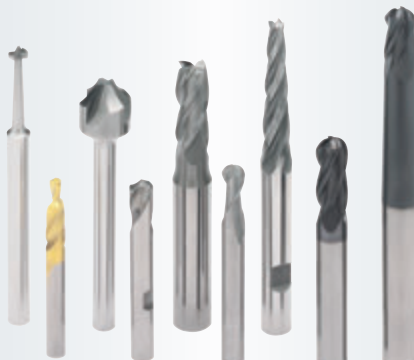


**Packing unit:**  
10 pcs. per type,  
from Ø 12 mm: 5 pcs. per type

Description	Cut	Shape	similar DIN 8033	d <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	l <sub>1</sub> mm	α	r ≈ mm	Product-Number	recommended for	New burrs
HFA 0820.06 BASE-X	ZX		ZYA 8020	8	20	1/4"	60			A5001082062214	1 2 3 4 5 7	NEW
HFA 1020.06 BASE-X	ZX		ZYA 1020	10	20	1/4"	60			A5001102062214	1 2 3 4 5 7	NEW
HFA 1225.06 BASE-X	ZX		ZYA 1225	12	25	1/4"	65			A5001122562214	1 2 3 4 5 7	NEW
HFC 0616.06 BASE-X	ZX		WRC 0616	6	16	1/4"	50			A5002061662214	1 2 3 4 5 7	NEW
HFC 0820.06 BASE-X	ZX		WRC 0820	8	20	1/4"	60			A5002082062214	1 2 3 4 5 7	NEW
HFC 1020.06 BASE-X	ZX		WRC 1020	10	20	1/4"	60			A5002102062214	1 2 3 4 5 7	NEW
HFC 1225.06 BASE-X	ZX		WRC 1225	12	25	1/4"	65			A5002122562214	1 2 3 4 5 7	NEW
HFD 1009.06 BASE-X	ZX		KUD 1009	10	9	1/4"	49			A5003100962214	1 2 3 4 5 7	NEW
HFD 1210.06 BASE-X	ZX		KUD 1210	12	10	1/4"	51			A5003121062214	1 2 3 4 5 7	NEW
HFF 0820.06 BASE-X	ZX		---	8	20	1/4"	60		1,8	A5010082062214	1 2 3 4 5 7	NEW
HFF 1020.06 BASE-X	ZX		RBF 1020	10	20	1/4"	60		2,5	A5010102062214	1 2 3 4 5 7	NEW
HFF 1225.06 BASE-X	ZX		RBF 1225	12	25	1/4"	65		2,5	A5010122562214	1 2 3 4 5 7	NEW
HFG 0820.06 BASE-X	ZX		SPG 8020	8	20	1/4"	60			A5004082062214	1 2 3 4 5 7	NEW
HFG 1020.06 BASE-X	ZX		SPG 1020	10	20	1/4"	60			A5004102062214	1 2 3 4 5 7	NEW
HFG 1225.06 BASE-X	ZX		SPG 1225	12	25	1/4"	65			A5004122562214	1 2 3 4 5 7	NEW
HFG 1230.06 BASE-X	ZX		SPG 1230	12	30	1/4"	70			A5004123062214	1 2 3 4 5 7	NEW
HFL 1230.06 BASE-X	ZX		KEL 1230	12	30	1/4"	70	14°	2,6	A5007123062214	1 2 3 4 5 7	NEW
HFM 0618.06 BASE-X	ZX		SKM 0618	6	18	1/4"	50	16°		A5005061862214	1 2 3 4 5 7	NEW
HFM 1020.06 BASE-X	ZX		SKM 1020	10	20	1/4"	60	27°		A5005102062214	1 2 3 4 5 7	NEW
HFM 1225.06 BASE-X	ZX		SKM 1225	12	25	1/4"	65	26°		A5005122562214	1 2 3 4 5 7	NEW



Tools for stationary use


	<p><b>Range of application:</b></p> <ul style="list-style-type: none"> <li>• Tool construction</li> <li>• Turbine construction</li> <li>• Aircraft and space industry</li> <li>• general machine tool construction</li> </ul>	<p>In addition to rotary burrs, we also produce tungsten carbide milling tools in special shapes and sizes for stationary application.</p> <p>We supply these milling cutters with a diameter of <b>12 mm</b> maximum diameter and with a maximum length of <b>250 mm</b>; they differ from our extensive standard range by the shape, tool material and geometry (rake, relief and helix angles).</p>
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Differential drill, radius mill, shank-end mill, die mill, profile mill

delivery on request



Tools for hand-held and floor-stand application

	<p><b>Range of application:</b></p> <ul style="list-style-type: none"> <li>• general machine tool construction</li> <li>• shipbuilding</li> </ul>	
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Trimming burr

delivery on request