

44001

HSS milling bit set

HSS



Applications

For steel and steel casting, alloyed and unalloyed.

Quality

HSS.

Note:

For types of milling bit, see art. no. 44002.

Set contents

2	milling bits cylindrical 6 x 16/12 x 25 mm
1	milling bit helical 12 x 25 mm
2	milling bits spherical 4 x 3/12 x 10 mm
1	milling bit teardrop 12 x 20 mm
1	milling bit pointed arc 12 x 30 mm
1	milling bit flame-shaped 12 x 30 mm
1	milling bit lobed 6 x 20 mm
1	milling bit pointed taper 6 x 18 mm



44001

	Serration	Shank Ø mm	Cutting speed m/min	Design	44001	...
10 pieces	3	6	60-180	in case		201

44002

HSS milling bits

HSS



Design

Serration 3.

Applications

For steel and steel casting, alloyed and unalloyed.

Recommended cutting speed $v_c = 60-180$ m/min.Quality
HSS.

Note:

Available with the following upon request:

Serration 1 = for light metals (long-chipping), light metal alloys, lead, tin, plastics (thermoplastics and duroplastics), fibre, rubber, wood.**Serration 2** = for light metals (short-chipping), brass, copper, electrolytic copper, gunmetal, bronze, zinc, magnesium alloys (electron).**Serration 5** = for fine machining of steel and steel casting, alloyed and unalloyed and non-lubricating non-ferrous metals.

ZYA (6 x 16)



ZYA (10 x 13)



ZYA (12 x 25)



ZYA (16 x 25)



WRC (6 x 20)



WRC (12 x 25)



Serration 1



KUD (4.5 x 4)



KUD (8 x 7)



KUD (12 x 10)



KUD (16 x 14)



TRE (16 x 25)



SPG (6 x 18)

Serration 2
With chip breaker

SPG (12 x 30)



SPG (16 x 30)



B (12 x 30)



Lobed (6 x 20)



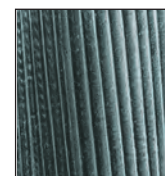
KEL (10 x 20)



SKM (10 x 20)



SKM (12 x 30)

Serration 3
With chip breaker

Serration 5

Shape	Head Ø x length mm	Total length mm	Shank Ø mm	44002	...
Cylindrical (ZYA)	6 x 16	56	6		103
Cylindrical (ZYA)	10 x 13	53	6		105
Cylindrical (ZYA)	12 x 25	65	6		106
Cylindrical (ZYA)	16 x 25	65	6		107
Helical (WRC)	6 x 20	60	6		116
Helical (WRC)	12 x 25	65	6		119
Spherical (KUD)	4.5 x 4	60	6		123
Spherical (KUD)	8 x 7	60	6		126
Spherical (KUD)	12 x 10	60	6		128
Spherical (KUD)	16 x 14	60	6		129

Shape	Head Ø x length mm	Total length mm	Shank Ø mm	44002	...
Teardrop (TRE)	16 x 25	60	6		132
Pointed arc (SPG)	6 x 18	58	6		133
Pointed arc (SPG)	12 x 30	70	6		136
Pointed arc (SPG)	16 x 30	70	6		137
Flame-shaped (B)	12 x 30	70	6		140
Lobed	6 x 20	60	6		143
Round taper (KEL)	10 x 20	60	6		145
Pointed taper (SKM)	10 x 20	60	6		152
Pointed taper (SKM)	12 x 30	70	6		154

**Recommended uses**

- HSS milling bits must be used at comparatively lower speeds than carbide milling bits.

- For application situations where high speeds are not an option.
- HSS milling bits are the economical alternative to carbide milling bits for soft materials.

- The toughness of the high-speed steel (HSS) results in high-strength cutting teeth.

Aluminium
toothingToothing 1 without
chip breakerToothing 2 with
chip breakerToothing 3 with
chip breakerToothing 5 without
chip breaker

	Material groups		Machining task	Toothing	Cutting speed
Steel and steel cast materials	Unhardened, non-tempered steels up to 1200 N/mm ² (< 38 HRC)	Structural steels, carbon steels, tool steels, unalloyed steels, case-hardening steels, steel casting	Rough machining = high material removal Fine machining, e.g. deburring	2	60 - 80 m/min
				3 3 5	60 - 80 m/min 80 - 100 m/min 60 - 80 m/min
	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Rough machining = high material removal Fine machining, e.g. deburring	1	60 - 80 m/min
				2	80 - 100 m/min 60 - 80 m/min
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys, brass, copper, zinc	Rough machining = high material removal	Alu 1	200 - 300 m/min 200 - 300 m/min
			Fine machining, e.g. deburring	2	200 - 250 m/min
Cast iron materials		Grey cast iron, spheroidal graphite iron	Rough machining = high material removal	2	60 - 80 m/min
				3	60 - 80 m/min
			Fine machining, e.g. deburring	3	80 - 100 m/min
				5	80 - 100 m/min
Other/plastics		Fibre-reinforced thermoplastic and thermosetting plastics, rubber, wood	Rough machining = high material removal	Aluminium	200 - 300 m/min
				1	200 - 300 m/min
			Fine machining, e.g. deburring	1	250 - 300 m/min
				2	200 - 250 m/min

Example:

HSS milling bit, toothing 2, tool diameter 12 mm.

Rough machining of unhardened, non-tempered steels.

Cutting speed: 60 - 80 m/min

Speed range: 1600 - 2200 rpm

dia. mm	Cutting speeds m/min					
	60	80	100	200	250	300
	Speeds rpm					
1.6	12.000	16.000	19.900	39.800	49.800	59.700
2.3	8.400	11.100	13.900	27.700	34.600	41.600
3.2	6.000	8.000	10.000	19.900	24.900	29.900
4.0	4.800	6.400	8.000	16.000	19.900	23.900
5.0	3.900	5.100	6.400	12.800	16.000	19.100
6.0	3.200	4.300	5.400	10.700	13.300	16.000
7.0	2.800	3.700	4.600	9.100	11.400	13.700
8.0	2.400	3.200	4.000	8.000	10.000	12.000
10.0	2.000	2.600	3.200	6.400	8.000	9.600
12.0	1.600	2.200	2.700	5.400	6.700	8.000
14.0	1.400	1.900	2.300	4.600	5.700	6.900
16.0	1.200	1.600	2.000	4.000	5.000	6.000



44007 - 44009

HSS milling bits cylindrical (ZYAS)

HSS

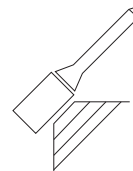


Design

- With spur cut



Serration 1



Serration 2



Serration 3

44007 - 44009

Head Ø x length mm	Total length mm	Shank Ø mm	44007	...	44008	...	44009	...
6 x 16	60	6			202		202	202
10 x 13	53	6			204		204	204
12 x 25	65	6			206		206	206
16 x 25	65	6					207	207

44012 - 44014

HSS milling bits helical (WRC)

HSS



Serration 1



Serration 2

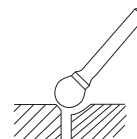
44012 - 44014

Head Ø x length mm	Total length mm	Shank Ø mm	44012	...	44013	...	44014	...
6 x 16	60	6			202		202	202
8 x 20	60	6						203
12 x 25	65	6			205		205	205

44019

HSS milling bits spherical (KUD)

HSS



Serration 3

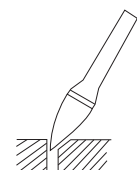
44019

Head Ø x length mm	Total length mm	Shank Ø mm	44019	...
8 x 7	55	6		203
12 x 10	51	6		205
16 x 14	54	6		206

44027 - 44029

HSS milling bits pointed arc (SPG)

HSS



44027 - 44029

Head Ø x length mm	Total length mm	Shank Ø mm	44027	...	44028	...	44029	...
6 x 18	60	6					201	201
12 x 30	70	6			204		204	204
16 x 30	70	6						205

44034

HSS milling bit flame-shaped (B)

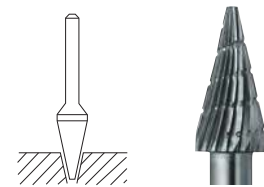
HSS



Serration 3

44034

Head Ø x length mm	Total length mm	Shank Ø mm	44034	...
12 x 30	70	6		202



44043 - 44044

Serration 2 Serration 3

Head Ø x length mm	Total length mm	Shank Ø mm	44043	...	44044	...
10 x 20	60	6			202	202
12 x 25	65	6			203	203

Info

(Solid) carbide milling bits art. no. 44093 - 44226

VHM

ATORN®

Version

With straight shank, right-hand spiral, right-hand cutting.

Toothting 2

Recommended cutting speed
V_c = 400–800 m/min.

Toothting 3 (aluminium)

Recommended cutting speed
V_c = 600–960 m/min.

Toothting 5

Increased tooth angle especially for rough work, e.g. in foundries, shipyards and heavy industry.

Recommended cutting speed
V_c = 500–960 m/min.

Advantage over toothting 6: 40% longer service life.

Toothting 6

Universal use, highest machining performance. Recommended cutting speed
V_c = 500–960 m/min.

Toothting 6 (TiAlN)

Like toothting 6 but with longer service life thanks to TiAlN coating.

Note:

Further dimensions, toothting types (e.g. diamond teeth) and versions (e.g. double end or milling bit with extra-long shank) are available on request.

Caution:

Always observe the recommended **cutting speed or working speed** (the rotation speed being too low is the most common cause of tooth breakage). Selecting the **right shape** (see application sketches, art. no. 44102 et seq.) and the **right milling bit size** is equally important. To avoid significant vibration, **no more than 33%** of the cutting edges should remove material at once.

Head dia. mm	Working speed	
	max.	recommended
2	100.000	50.000 - 80.000
3	100.000	50.000 - 75.000
4	100.000	50.000 - 75.000
6	70.000	35.000 - 53.000
8	55.000	28.000 - 42.000
10	50.000	25.000 - 38.000
12	40.000	20.000 - 30.000
15	30.000	15.000 - 23.000
20	20.000	10.000 - 15.000
25	15.000	7.000 - 11.000

Toothting	2	3 (Alu)	5	6	6 (TiAlN)	STEEL	INOX

Area of application							
Aluminium, aluminium alloys	-	x	-	-	-	-	-
Bronze, copper, brass	x	-	-	-	-	-	-
Carbon	-	-	-	-	-	-	-
Fibreglass	-	x	-	-	-	-	-
Cast iron	x	-	x	x	x	-	-
Hard rubber	-	x	-	-	-	-	-
HSS-E (Co)	x	-	-	x	x	-	-
Plastics	-	x	-	-	-	-	-
Magnesium, alloys	-	-	-	-	-	-	-
Stainless steels	x	-	-	x	x	-	x
Welding seams	x	-	x	x	x	x	-
High-strength steels	x	-	-	x	x	x	-
Steel, nickel chromium	x	-	-	x	x	x	-
Titanium alloys	x	-	-	x	x	-	x
Zinc alloys	-	x	-	-	-	-	-

Milling bits with extra-long shaft
available on request



ATORN®**Design**

Dimensions = Head Ø x head length mm.

Set contents 44093 101	
Serration 2	
1	milling bit cylindrical 3 x 12 mm
1	milling bit helical 3 x 12 mm
1	milling bit spherical 3 x 3 mm
1	milling bit teardrop 3 x 6 mm
1	milling bit round arc 3 x 12 mm
1	milling bit pointed arc 3 x 12 mm
1	milling bit flame-shaped 3 x 6 mm
1	milling bit round taper 3 x 12 mm
1	milling bit pointed taper 3 x 11 mm
1	milling bit angled 3 x 3 mm

Set contents 44093 102	
Serration 2	
2	milling bits cylindrical 3 x 12 mm
2	milling bits helical 3 x 12 mm
2	milling bits spherical 3 x 3 mm
2	milling bits teardrop 3 x 6 mm
2	milling bits round arc 3 x 12 mm
Serration 6	
2	milling bits cylindrical 3 x 12 mm
2	milling bits helical 3 x 12 mm
2	milling bits spherical 3 x 3 mm
2	milling bits teardrop 3 x 6 mm
2	milling bits round arc 3 x 12 mm

Contents	Serration	Shank Ø mm	Design	44093	...
10 pieces	2	3	in case		101
20 pieces	2 and 6	3	in case		102



44093 101

ATORN®**Design**

Dimensions = Head Ø x head-length mm.

Set contents 44096 101	
Serration 3 (alu)	
1	milling bit cylindrical 12 x 25 mm
1	milling bit helical 12 x 25 mm
1	milling bit round arc 12 x 25 mm
1	milling bit round taper 12 x 28 mm

Set contents 44096 104	
Serration 6	
1	milling bit cylindrical 6 x 18 mm
1	milling bit helical 6 x 18 mm
1	milling bit spherical 6 x 6 mm
1	milling bit teardrop 6 x 10 mm
1	milling bit round arc 6 x 18 mm
1	milling bit pointed arc 6 x 18 mm

Set contents 44096 107	
Serration 5	
1	milling bit cylindrical 12 x 25 mm
1	milling bit helical 12 x 25 mm
1	milling bit round arc 12 x 25 mm
1	milling bit pointed arc 12 x 25 mm
1	milling bit round taper 12 x 28 mm

Set contents 44096 105	
Serration 6	
1	milling bit cylindrical 12 x 25 mm
2	milling bits helical 10 x 20/12 x 25 mm
1	milling bit spherical 12 x 12 mm
1	milling bit teardrop 10 x 15 mm
2	milling bits round arc 10 x 20/12 x 25 mm
1	milling bit pointed arc 10 x 20 mm

Set contents 44096 102	
Serration 6	
1	milling bit cylindrical 10 x 20 mm
1	milling bit helical 10 x 20 mm
1	milling bit round arc 10 x 20 mm
1	milling bit pointed arc 10 x 20 mm

Set contents 44096 108	
Serration 6	
2	milling bits cylindrical 10 x 20/12 x 25 mm
2	milling bits helical 10 x 20/12 x 25 mm
1	milling bit spherical 12 x 10 mm
1	milling bit teardrop 10 x 16 mm
1	milling bit round arc 12 x 25 mm
2	milling bits pointed arc 10 x 20/12 x 25 mm
1	milling bit round taper 12 x 30 mm

Set contents 44096 103	
Serration 6	
1	milling bit cylindrical 12 x 25 mm
1	milling bit helical 12 x 25 mm
1	milling bit round arc 12 x 25 mm
1	milling bit pointed arc 12 x 25 mm

Set contents 44096 106	
Serration 6 TiAlN	
1	milling bit cylindrical 10 x 20 mm
1	milling bit helical 12 x 25 mm
1	milling bit round arc 12 x 25 mm
1	milling bit pointed arc 10 x 20 mm
1	milling bit round taper 12 x 28 mm

Contents	Serration	Coating	Shank Ø mm	Design	44096	...
4 pieces	(alu) 3	-	6	in case		101
5 pieces	5	-	6	in case		107
4 pieces	6	-	6	in case		102
4 pieces	6	-	6	in case		103
6 pieces	6	-	6	in case		104
8 pieces	6	-	6	in case		105
10 pieces	6	-	6	in case		108
5 pieces	6	TiAlN	6	in case		106



44096 101



44096 107



44096 105

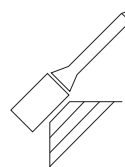


44096 106

44102 - 44108

Solid carbide/CC milling bits cylindrical (ZYA)

VHM

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44102 - 44108



Head Ø x length mm	Shank Ø mm	Serration 2		Serration 3 (alu)		Serration 6		STEEL		INOX	
		44102	...	44103	...	44106	...	44107	...	44108	...
3 x 14	3	102				102					
6 x 5	3	103				103					
6 x 12	3	104				104					
6 x 18	6	106			106	106		106		106	
8 x 20	6	107			107	107		107		107	
10 x 20	6	109			109	109		109		109	
12 x 25	6	113			113	113		113		113	
15 x 25	6	114			114	114					
15 x 25	8	121			121	121					

44115 - 44117

Solid carbide/CC milling bits cylindrical (ZYA-S)

VHM

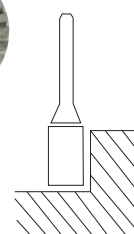
ATORN®

Design

- With spur cut

Head Ø x length mm	Shank Ø mm	Serration 5		Serration 6		Serration 6/TiAlN	
		44115	...	44116	...	44117	...
6 x 18	6			106			
8 x 20	6			107			
10 x 20	6			109		109	
12 x 25	6	112		112			

44115 - 44117



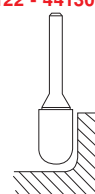
44122 - 44130

Solid carbide/CC milling bits helical (WRC)

VHM

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44122 - 44130



Head Ø x length mm	Serration Shank Ø mm	2		3 (alu)		5		6		6/TiAlN		STEEL		INOX	
		44122	...	44123	...	44125	...	44126	...	44127	...	44128	...	44130	...
2 x 11	3	101						101							
3 x 12	3	102						102							
6 x 12	3	104						104							
6 x 18	6	106			106			106				106		106	
8 x 20	6	107						107				107		107	
10 x 20	6	108			108			108				108		108	
12 x 25	6	111			111		111	111		111		111		111	
15 x 25	6							113							
12 x 25	8							118							
15 x 25	8							120							

44132 - 44136

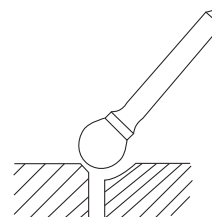
Solid carbide/CC milling bits spherical (KUD)

VHM

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44132 - 44136

Head Ø x length mm	Shank Ø mm	Serration 2		Serration 3 (alu)		Serration 6	
		44132	...	44133	...	44136	...
3 x 3	3	102				102	
4 x 4	3	103				103	
6 x 6	3	104				104	
6 x 6	6	106				106	
8 x 8	6	107				107	
10 x 10	6	108			108	108	
12 x 12	6	109			109	109	
15 x 15	6	110			110	110	



44142 - 44146

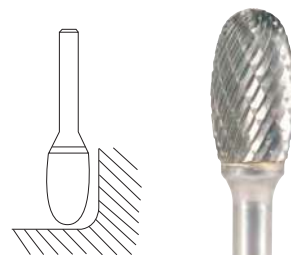
Solid carbide/CC milling bits teardrop-shaped (TRE)

VHM

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44142 - 44146

Head Ø x length mm	Shank Ø mm	Serration 2		Serration 3 (alu)		Serration 6	
		44142	...	44143	...	44146	...
3 x 6	3			101			101
6 x 10	3			102			102
6 x 10	6			103			103
8 x 15	6			104			104
10 x 15	6			105			105
12 x 20	6			106	106		106
15 x 25	6			107			107
15 x 25	8			111	111		



Sanding/cutting tools

44152 - 44159

Solid carbide/CC milling bits round arc (RBF)

VHM

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44152 - 44159

Head Ø x length mm	Serration	2	3 (alu)		5		6		6/TiAlN		STEEL		INOX		
	Shank Ø mm	44152	...	44153	...	44155	...	44156	...	44157	...	44158	...	44159	...
3 x 8	3			101						101					
3 x 12	3			102						102					
6 x 12	3			103						103					
6 x 18	6			104						104			104		104
8 x 20	6			105		105				105			105		105
10 x 20	6			106		106				106			106		106
12 x 25	6			108		108	108			108	108		108		108
15 x 25	6			110		110				110					
12 x 25	8			116		116				116					



44162 - 44167

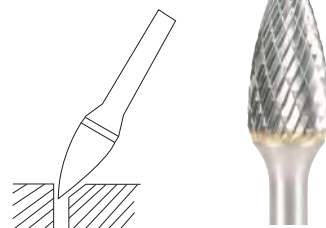
Solid carbide/CC milling bits pointed arc (SPG)

VHM

ATORN®

44162 - 44167

Head Ø x length mm	Shank Ø mm	Serration 2		Serration 5		Serration 6		Serration 6/TiAlN	
		44162	...	44165	...	44166	...	44167	...
3 x 6	3							101	
3 x 12	3							102	
6 x 12	3							103	
6 x 18	6							104	
8 x 20	6							105	
10 x 20	6							106	106
12 x 25	6				108			108	
15 x 25	6				110			110	
12 x 25	8							116	



44172 - 44176

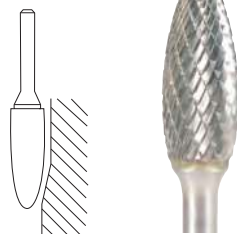
Solid carbide/CC milling bits flame-shaped (H)

VHM

ATORN®

44172 - 44176

Head Ø x length mm	Shank Ø mm	Serration 2		Serration 6	
		44172	...	44176	...
3 x 6	3			101	101
8 x 20	6			102	102
12 x 32	6			103	103
15 x 35	8			107	107



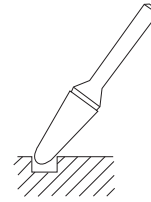
44182 - 44187

Solid carbide/CC milling bits round taper (KEL)

VHM

ATORN®

44182 - 44187



Head Ø x length mm	Shank Ø mm	Serration 2 44182	...	Serration 3 (alu) 44183	...	Serration 5 44185	...	Serration 6 44186	...	Serration 6/TiAlN 44187	...
3 x 12	3	101						101			
6 x 18	6	103						103			
10 x 26	6	105			105			105			
12 x 32	6	106			106		106	106			106
15 x 33	6	107			107			107			

44192 - 44196

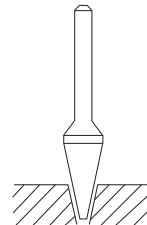
Solid carbide/CC milling bits pointed taper (SKM)

VHM

ATORN®

44192 - 44196

Head Ø x length mm	Shank Ø mm	Serration 2 44192	...	Serration 6 44196	...
3 x 8	3		101		101
3 x 11	3		102		102
3 x 15	3		103		103
6 x 12	3		104		104
6 x 20	6		105		105
10 x 20	6		106		106
12 x 25	6		107		107
16 x 25	6		108		108



44202 - 44206

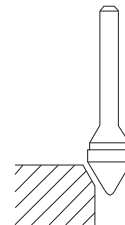
Solid carbide/CC milling bits conical countersink 60° (KSJ)

VHM

ATORN®

44202 - 44206

Head Ø x length mm	Shank Ø mm	Serration 2 44202	...	Serration 6 44206	...
3 x 2.5	3		101		101
6 x 4	6		102		102
10 x 8	6		103		103
12 x 11	6		104		104
15 x 14	6		105		105



44212 - 44216

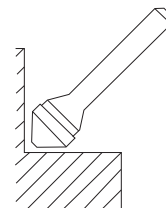
Solid carbide/CC milling bits conical countersink 90° (KSK)

VHM

ATORN®

44212 - 44216

Head Ø x length mm	Shank Ø mm	Serration 2 44212	...	Serration 6 44216	...
3 x 1.5	3		101		101
6 x 3	6		102		102
10 x 5	6		103		103
12 x 6	6		104		104
15 x 8	6		105		105



44222 - 44226

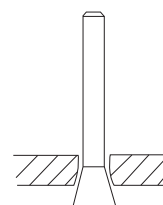
Solid/cemented angled milling bits (WKN)

VHM

ATORN®

44222 - 44226

Head Ø x length mm	Shank Ø mm	Serration 2 44222	...	Serration 6 44226	...
3 x 4	3		101		101
6 x 6	3		102		102
10 x 10	6				104
12 x 12	6		105		



Carbide milling bits for universal use

PFERD



PFERD carbide milling bits can machine materials of almost any strength. This is possible through the optimal coordination of tooth shape, number of teeth, twist angle, chip angle and concentricity. The precise concentricity of PFERD carbide milling bits

- Protects the health of the person during the work process,
- Reduces wear on the drive machine,
- Enables impact-free working,
- Prevents chatter marks.

The high profile accuracy of the carbide milling bits enables

- Use on robots and
- Repeated regrinding.

Principle of use:

The harder the material, the finer the toothing.

Note:

Further dimensions and toothing types, as well as carbide milling bits with special shaft shapes/lengths and special toothing, are available on request.

3 PLUS toothing
With chip breaker
(MX in accordance
with DIN 8033)



Toothing 4
With chip breaker
(MX in accordance
with DIN 8033)



Toothing 5
Without chip breaker
(F in acc. with
DIN 8033)



Material groups			Machining task	Toothing	Cutting speed
Steel, steel casting	Unhardened, non-tempered steels up to 1200 N/mm ² (<38 HRC)	Structural steels, carbon steels, tool steels, unalloyed steels, case-hardening steels, steel casting	Roughing	3 PLUS	450 - 600 m/min
	Hardened, tempered steels above 1200 N/mm ² (>38 HRC)	Tool steels, heat-treated steels, alloyed steels, steel casting	Roughing	3 PLUS	250 - 350 m/min
			Fine machining	5	350 - 450 m/min
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Roughing	3 PLUS	250 - 350 m/min
			Fine machining	5	350 - 450 m/min
Non-ferrous metals	Hard non-ferrous metals	Bronze, titanium/titanium alloys, hard aluminium alloys (high Si content)	Roughing	4	250 - 350 m/min
	Highly heat-resistant materials	Nickel-based and cobalt-based alloys (engine and turbine construction)	Roughing	3 PLUS	250 - 450 m/min
			Fine machining	5	350 - 600 m/min
Cast iron	Grey cast iron, white cast iron	Cast iron with lamellar graphite, with spheroidal graphite/spheroidal graphite iron, white malleable iron, black malleable iron	Roughing	3 PLUS	450 - 600 m/min

Example:

Carbide milling bit, 3 PLUS toothing,

milling bit dia. 12 mm.

Roughing of unhardened, non-tempered steels.

Cutting speed: 450 - 600 m/min

Speed range: 12.000 - 16.000 rpm

Milling bit dia. mm	Cutting speeds m/min				
	250	350	450	600	900
	Speeds rpm				
1,5	53.000	74.000	95.000	127.000	191.000
2	40.000	56.000	72.000	95.000	143.000
3	27.000	37.000	48.000	64.000	95.000
4	20.000	28.000	36.000	48.000	72.000
6	13.000	19.000	24.000	32.000	48.000
8	10.000	14.000	18.000	24.000	36.000
10	8.000	11.000	14.000	19.000	29.000
12	7.000	9.000	12.000	16.000	24.000
16	5.000	7.000	9.000	12.000	18.000
20	4.000	6.000	7.000	10.000	14.000
25	3.000	4.000	6.000	8.000	11.000

Continued ►



Carbide milling bits for high-performance applications

STEEL toothing with chip breaker

Material groups			Machining task	Toothings	Cutting speed
Steel, steel casting	Unhardened, non-tempered steels up to 1200 N/mm ² (<38 HRC)	Structural steels, carbon steels, tool steels, unalloyed steels, case-hardening steels, steel casting	Roughing	STEEL	450 - 750 m/min
	Hardened, tempered steels above 1200 N/mm ² (>38 HRC)	Tool steels, tempered steels, alloyed steels, steel casting			

Example:

Carbide milling bit, STEEL toothing,
Milling bit dia. 12 mm.

Cutting speed: 450 - 750 m/min

Speed range: 12.000 - 20.000 rpm

With chip breaker



Milling bit dia. mm	Cutting speeds m/min	
	450	750
	Speeds rpm	
6	24.000	40.000
8	18.000	30.000
10	14.000	24.000
12	12.000	20.000
16	9.000	15.000

INOX toothing

Material groups			Machining task	Toothings	Cutting speed
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels	Roughing	INOX	450 - 600 m/min

Example:

SC milling bit, INOX toothing,
Milling bit dia. 12 mm.

Cutting speed: 450 - 600 m/min

Speed range: 12.000 - 16.000 rpm



Milling bit dia. mm	Cutting speeds m/min	
	450	600
	Speeds rpm	
3	48.000	64.000
6	24.000	32.000
8	18.000	24.000
10	14.000	19.000
12	12.000	16.000

ALU toothing

Material groups			Machining task	Toothings	Cutting speed
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys	Roughing	ALU	600 - 1.100 m/min
			Fine machining		900 - 1.100 m/min
		Brass, copper, zinc	Roughing		600 - 1.100 m/min
			Fine machining		900 - 1.100 m/min
	Hard non-ferrous metals	Hard aluminium alloys (high Si content)	Roughing		600 - 1.100 m/min
			Fine machining		900 - 1.100 m/min
		Titanium and titanium alloys	Roughing		450 - 600 m/min
			Fine machining		600 - 900 m/min
Plastics, other materials	Fibre-reinforced plastics (GFRP/CFRP), thermoplastics	Bronze	Roughing	ALU	600 - 1.100 m/min
			Fine machining		600 - 900 m/min
			Roughing		600 - 900 m/min
			Fine machining		600 - 1.100 m/min

Example:

SC milling bit, ALU toothing,
Milling bit dia. 12 mm. Roughing of hard non-ferrous metals, e.g. bronze.

Cutting speed: 600 - 1100 m/min

Speed range: 16.000 - 30.000 rpm



Milling bit dia. mm	Cutting speeds m/min			
	450	600	900	1100
	Speeds rpm			
3	48.000	64.000	95.000	117.000
6	24.000	32.000	48.000	59.000
8	18.000	24.000	36.000	44.000
10	14.000	19.000	29.000	35.000
12	12.000	16.000	24.000	30.000
16	9.000	12.000	18.000	22.000



44233

CC milling bit set

HM



Design

Dimensions = Head Ø x head length mm.

Set contents

- 4 milling bits cylindrical 2 x 10/3 x 13/6 x 7/6 x 13 mm
- 1 milling bit flame-shaped 3 x 7 mm
- 2 milling bits helical 2 x 10/3 x 13 mm
- 1 milling bit angled 3 x 7 mm
- 2 milling bits teardrop 3 x 7/6 x 10 mm
- 1 milling bit spherical 4 x 3 mm
- 1 milling bit pointed taper 6 x 13 mm
- 2 milling bits round arc 3 x 7/6 x 13 mm
- 1 milling bit pointed arc 3 x 7



44233

Contents	Serration	Shank Ø mm	Design	44233	...
15 pieces	5	3	in clear view box		101

44234

CC milling bit set

HM



Design

Aggressive serration for high cutting performance, long service life.

Dimensions = Head Ø x head length mm.

Applications

For structural steel, stainless steel, non-ferrous metals. For fast, aggressive machining on surfaces and in solid material. Especially non-slip when used on edges; for example, when deburring. Ideal for welding seam machining.

Set contents

- 2 milling bits cylindrical 6 x 16/12 x 25 mm
- 2 milling bits spherical 10 x 9/12 x 10 mm
- 2 milling bits helical 6 x 18/12 x 25 mm
- 2 milling bits pointed arc 6 x 18/12 x 25 mm
- 1 milling bit round arc 6 x 18 mm
- 1 milling bit round taper 12 x 30 mm



44234

Contents	Serration	Shank Ø mm	Cutting speed m/min	Design	44234	...
10 pieces	Combicut	6	450-700	in plastic box		101

44238 - 44242

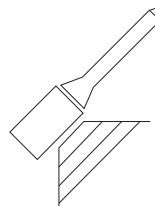
CC milling bits cylindrical (ZYA)

HM



Design

- DIN 8032



44238 - 44242

Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	...	Serration 4	...	Serration 5	...	INOX	...
			44238		44239		44240		44242	
6 x 16	6	55	106		106		106		106	
8 x 20	6	60	107		107					107
10 x 20	6	60	109		109					109
12 x 25	6	65	111		111					111
16 x 25	6	65	113		113					

44243 - 44248

Cemented carbide milling bits cylindrical (ZYA-S)

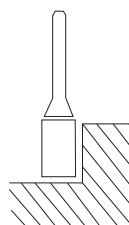
HM



Design

- DIN 8033

- With spur cut



44243 - 44248

Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	...	Serration 5	...	STEEL	...	ALU	...
			44243		44245		44246		44248	
2 x 10	3	40	101		101					
3 x 13	3	43	102		102					
4 x 13	6	55	103		103					
6 x 13	3	43	105		105					
6 x 16	6	55	106		106		206		106	
8 x 20	6	60	107				207		107	
10 x 20	6	60	109				209		109	
12 x 25	6	65	111				211		111	

CC milling bits

44250 - 44255

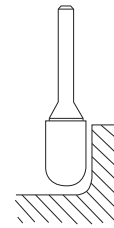
CC milling bits helical (WRC)

HM



Design
- DIN 8032

44250 - 44255



Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	Serration 4	Serration 5	STEEL	INOX	ALU
			44250	... 44251	... 44252	... 44253	... 44254	... 44255
2 x 10	3	40	101	101				
3 x 13	3	43	102	102	102			
6 x 13	3	43	104	104	104			
6 x 16	6	55	105	105	105	105	105	105
8 x 20	6	60	107	107		107	107	107
10 x 20	6	60	109	109		109	109	109
12 x 25	6	65	113	113		113	113	113

44257 - 44262

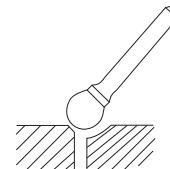
CC milling bits spherical (KUD)

HM



Design
- DIN 8032

44257 - 44262



Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	Serration 4	Serration 5	STEEL	INOX	ALU
			44257	... 44258	... 44259	... 44260	... 44261	... 44262
3 x 2	3	33	101	101	101			
4 x 3	3	34	102	102	102			
6 x 5	3	35	104	104	104			
6 x 5	6	45	105	105	105	205	105	
8 x 7	6	47	106	106	106	206	106	106
10 x 9	6	49	107	107		207	107	107
12 x 10	6	51	108	108		208	108	108

44263 - 44267

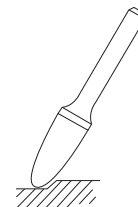
Cemented carbide milling bits round arc (RBF)

HM



Design
- DIN 8032

44263 - 44267



Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	Serration 5	STEEL	INOX	ALU
			44263	... 44265	... 44266	... 44267	... 44267
6 x 13	3	43	102	102			
6 x 18	6	55			203	103	203
8 x 20	6	60			207	107	207
10 x 20	6	60			209	109	209
12 x 25	6	65			213	113	213

44268 - 44272

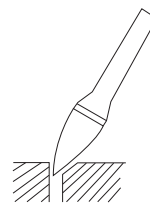
CC milling bits pointed arc (SPG)

HM



Design
- DIN 8032

44268 - 44272



Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	Serration 4	Serration 5	STEEL	INOX	ALU
			44268	... 44269	... 44270	... 44272	... 44272	... 44272
3 x 13	3	43	102	102	102			
6 x 13	3	43	103	103	103			
6 x 18	6	55	104	104	104	204	304	404
10 x 20	6	60				205	305	405
12 x 25	6	65				207	307	407

44272 - 44273

CC milling bits flame-shaped (B)

HM



Design
- ISO 7755/8

44272 - 44273



Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	Serration 5
			44272	... 44273
6 x 13	3	43		102
12 x 30	6	70	104	

44283 - 44285

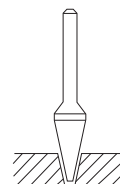
CC milling bits pointed taper (SKM)

HM



Design
- DIN 8032

44283 - 44285



Head Ø x length mm	Shank Ø mm	Total length mm	Serration 3 Plus	Serration 5
			44283	... 44285
6 x 13	3	43	103	103
6 x 18	6	55	104	104
10 x 20	6	60	105	
12 x 25	6	65	106	

PFFERD

**Applications**

For processing

- GFRP (glass fibre reinforced plastics)
- CRP (carbon fibre reinforced plastics)

FRP serration

Coarse machining = high degree of material removal

Intended for trimming and contour milling of GFRP and CRP fibre-reinforced plastics, hard rubber and thermoplastics. Suitable for use with machine tools and manual use due to the high degree of concentricity.

FRPS serration

Fine machining = low degree of material removal

Similar to FRP serration. Designed for use with machines and robots with high feed rates due to special serration, smooth milling behaviour, creates a smooth cutting edge.

44293**Applications**

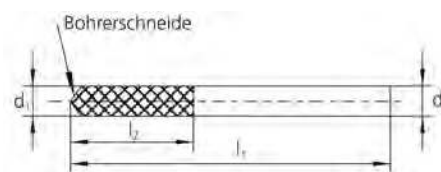
The special **drill cutting edge (BS)** can be inserted into solid material, allowing drilling and milling in a single step.

44294**Applications**

The **centre drill tip (ZBS)** can be inserted into solid material, allowing drilling and milling in a single step. Designed specifically for manual use. The centre drill tip permits reliable spot drilling on almost all surfaces.



44293



44294



With BS

With ZBS

Serration	d ₂ mm	d ₃ mm	d ₁ x l ₂ mm	l ₁ mm	Rotation speed rpm at 500 m/min*	Rotation speed rpm at 900 m/min*	44293	...	44294	...
FRP	6	-	6 x 25	65	27,000	48,000		101		
FRP	6	2.5	6 x 30	65	27,000	48,000				101
FRP	8	-	8 x 25	65	20,000	36,000		102		
FRP	8	3.0	8 x 30	65	20,000	36,000				102
FRPS	6	-	6 x 25	65	27,000	48,000		201		
FRPS	6	2.5	6 x 30	65	27,000	48,000				201
FRPS	8	-	8 x 25	65	20,000	36,000		202		

*Cutting speed

44299**Extensions for milling bits/sanding tips**

PFFERD

**Applications**

- Spindle extensions can be used to extend the shanks of sanding and milling tools
- These permit use in hard-to-reach areas
- The extension for drive spindles is clamped into the machine's collet chuck (pneumatic or electric drive) or in the handpiece of the flexible shaft
- Spindle extensions are an economical alternative to custom milling bits and sanding tips with a long shank

Safety instructions:

Note: The valid safety and accident prevention regulations must be observed when using spindle extensions.

When working with a long shanks, the tool must be inserted into the workpiece (e.g. holes, pipes, ducts or grooves) before switching on the drive machine. When not in the workpiece, the tool and extension must never be allowed to run freely.

Failure to observe this instruction results in an increased risk of accident! Under unfavourable conditions, the extension with the clamped tool may snap off. **The extension is only intended for manual use** in conjunction with suitable pneumatic, electric drives or flexible shaft handpieces for tools with standard **shanks**. It is clamped into the true-running collet chuck of the devices in conjunction with a tool that is duly approved for the rotation speed. It should never be clamped on the transition radius.

Clamping of a second extension or tools with over-long shanks is prohibited.



44299 101



44299 102



44299 103



44299 104



44299 105



44299 106



44299 107

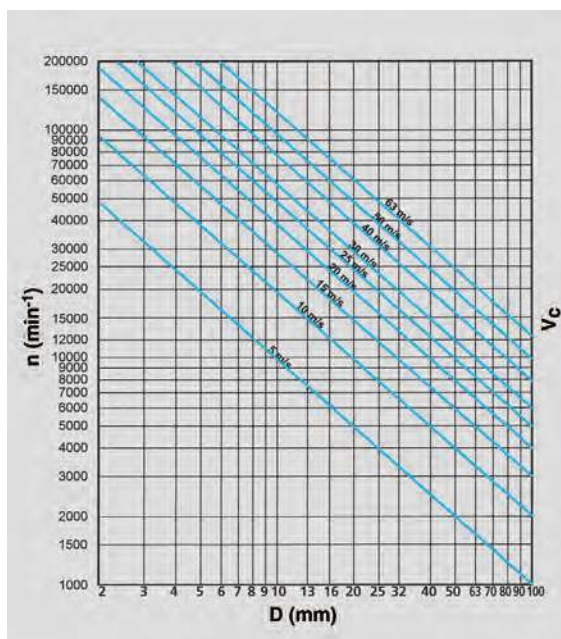


Max. permissible rotation speed rpm	Mounting spigots (motor/handpiece) Ø mm	Tool chuck mm	Total length mm	Mounting spigots length mm	Spindle Ø max. mm	Incl. collet chuck Ø mm	44299	...
44,000	8	3	78	30	9.5	3		101
20,000	SPG 6	6	104	Special	12.0	6		102
20,000	8	6	120	30	12.0	6		103
20,000	SPG 6	6	129	Special	12.0	6		104
20,000	8	6	144	30	12.0	6		105
10,000	6	3	150	30	11.5	-		106
10,000	8	6	150	30	13.5	-		107

The sanding tips are characterised by a consistent, superior removal rate and a long service life while achieving a high surface quality on the workpiece. The precise concentricity prevents chatter marks, enables quiet work, protects the drive machines and takes the health of the user into account. The sanding tips are specifically designed for the listed applications (see table) in terms of grain type, grain size, hardness and binding. The sanding tips can be used universally **for edge and surface grinding**.

Abrasive For material	Special corundum (NDW) Hardened Tool steel	Corundum (EK) steel, cast	Mix-corundum (HK) steel, cast iron, non-ferrous metals, Plastics (hard), GFRP
Grain (from - to)	fine (grain 100)	fine (grain 46-100) to coarse (grain 24-60)*	coarse (grain 24-46)
Degree of hardness	hard/very hard	medium	soft/medium
Binding	ceramic	ceramic	ceramic/synthetic resin
V = m/sec. (edge grinding)	approx. 10-30	approx. 25-40	approx. 30-50
V = m/sec. (surface grinding)	approx. 10-30	approx. 15-25	approx. 25-35
Applications	Grinding	Grinding	Grinding
Art. no.	44300 - 44304	44305 - 44342	44350 - 44355

*the larger the sanding tip, the coarser the grain
V = m/sec.: Recommended peripheral speed in m/sec.



Recommended peripheral speeds

In the diagram, the peripheral speeds are represented by blue diagonal lines. The vertical line corresponding to the tool diameter meets the specified peripheral speed (diagonal). From there, the rotation speed for the grinding tool and machine is read horizontally from the left-hand edge in rpm.

Example:

- Sanding tip dia. 20 mm,
- Recommended peripheral speed 15-40 m/s,
- Rotation speed: 14.000-38.000 rpm.

For materials that are difficult to machine, lower peripheral speeds are recommended, as this increases the grinding ability of the sanding tip.

n = rotation speed
D = tool diameter
Vc = peripheral speed



44300

Sanding tip set NDW



Design

Dimensions = Ø x height. Excellent dimensional stability, high edge strength, optimum machining results and long service life.

Applications

For forming and tool construction, especially for finishing and deburring work, edge machining, hardened steels.

Quality

Composition:

N = synthetic corundum,
D = dark red corundum,
W = white monocrystalline corundum.

44300



Set contents

- 4 sanding tips cylindrical 4 x 8/6 x 10/8 x 10/10 x 13 mm
- 2 sanding tips pointed arc 5 x 10/8 x 10 mm
- 3 sanding tips spherical 4 x 4/6 x 6/8 x 8 mm
- 1 sanding tip helical 10 x 13 mm

Contents	Shank Ø mm	Shank length mm	Cutting speed m/sec	Design	44300	...
10 pieces	3	50	10-30	in case		101

Grinding points

44301 - 44304

Sanding tips NDW (shank Ø 3 mm)



Design

Excellent dimensional stability, high edge strength, optimum machining results and long service life, recommended cutting speed 10–30 m/sec, shank length 50 mm.

Applications

For forming and tool construction, especially for finishing and deburring work, edge machining, hardened steels.

Quality

Composition:

N = synthetic corundum

D = dark red corundum

W = white monocrystalline corundum

44301

Cylindrical.

44303

Spherical.

44302

Pointed arc.

44304

Helical.

	Cylindrical	Pointed arc	Spherical	Helical
Ø x height mm	44301	...	44302	...
4 x 4				101
4 x 8	102			
5 x 10			101	
6 x 6				102
6 x 10	103			
8 x 8				103
8 x 10	105	102		
10 x 13	108			101



44305

Sanding tip set EK

PFERD



Design

Dimensions = Ø x height.

Quality

Pink fused corundum.

Set contents

- 11 sanding tips cylindrical 4 x 8/5 x 10/5 x 10/6 x 13/8 x 2/8 x 10/8 x 10/10 x 13/13 x 3/16 x 4/16 x 4 mm
- 2 sanding tips pointed arc 3 x 6/8 x 16 mm
- 1 sanding tip helical 5 x 10 mm
- 1 sanding tip spherical Ø 5 mm

Contents	Grain	Shank Ø mm	Design	44305	...
15 pieces	Fine	3	in box		101



44310 - 44315

Sanding tips EK



44310

Cylindrical.

44315

Spherical.

Quality

Pink fused corundum.

Ø x height mm	Ø mm	Shank Ø mm	Cylindrical	...	Spherical	...
			44310		44315	
4 x 8	-	3		105		
5 x 10	-	3		106		
6 x 10	-	3		107		
8 x 16	-	3		109		
-	6	3				101
-	8	3				102
-	13	3				104



44317

Cylindrical sanding tips EK

PFERD



Quality

Pink fused corundum.

Ø x height mm	Grain	Shank Ø mm		44317	...
4 x 8	coarse 60	3	10 pcs.		104
4 x 8	fine 100	3	10 pcs.		105
5 x 10	coarse 60	3	10 pcs.		106
5 x 10	fine 100	3	10 pcs.		107
6 x 13	coarse 60	3	10 pcs.		109
6 x 13	fine 100	3	10 pcs.		110
8 x 16	coarse 46	3	10 pcs.		115
8 x 16	fine 80	3	10 pcs.		116



44320**Sanding tip set EK****Design**

Dimensions = Ø x height.

Quality

Pink fused corundum.

Set contents

- 5** sanding tips cylindrical 5 x 10/8 x 16/
13 x 3/13 x 25/20 x 13 mm
- 1** sanding tip taper 13 x 13 mm
- 2** sanding tips spherical Ø 6/8 mm
- 1** sanding tip cup, conical 20 x 19.5 mm
- 1** sanding tip centre 60° 13 x 20 mm

**44320**

Contents	Shank Ø mm	Design	44320	...
10 pieces	6	in wooden holder		101

44322**Sanding tip set EK****PFERD****Design**

Dimensions = Ø x height.

Quality

Pink fused corundum.

Set contents

- 5** sanding tips cylindrical 10 x 13/13 x 20/
20 x 6/20 x 13/20 x 25 mm
- 1** sanding tip spherical Ø 16 mm
- 1** sanding tip helical 20 x 25 mm
- 1** sanding tip pointed arc 13 x 20 mm
- 2** sanding tips taper 20 x 20/20 x 32 mm

**44322**

Contents	Grain	Shank Ø mm	Design	44322	...
10 pieces	coarse	6	in box		101

44325**Cylindrical sanding tips EK****Quality**

Pink fused corundum.

Ø x height mm	Shank Ø mm	44325	...
4 x 8	6		103
5 x 10	6		104
6 x 10	6		105
8 x 16	6		107
10 x 20	6		111
10 x 32	6		112
13 x 3	6		114
13 x 20	6		116

Ø x height mm	Shank Ø mm	44325	...
13 x 25	6		117
16 x 4	6		119
16 x 20	6		121
16 x 32	6		122
16 x 40	6		123
20 x 6	6		124
20 x 40	6		129
25 x 10	6		131

Ø x height mm	Shank Ø mm	44325	...
25 x 32	6		134
32 x 8	6		135
32 x 20	6		136
32 x 40	6		138
40 x 10	6		139
40 x 20	6		140
50 x 10	6		142
50 x 20	6		143

**44325****44326****Cylindrical sanding tips SiC-Alu****Applications**

Specifically for machining non-ferrous metals.

For deburring, dressing, post-machining and surface finishing. Through its special micro-structure design, maximum service life is achieved and pores are prevented from clogging.

The sanding tips have a special impregnation which promotes self-sharpening.

Quality

Silicon carbide, green.

Ø x height mm	Grain	Shank Ø mm	44326	...
10 x 13	80	6		106
10 x 20	80	6		107

Ø x height mm	Grain	Shank Ø mm	44326	...
13 x 32	80	6		109
16 x 32	80	6		111

Ø x height mm	Grain	Shank Ø mm	44326	...
20 x 20	80	6		112
20 x 40	80	6		114

**44326****44327****Cylindrical sanding tips EK****PFERD****Quality**

Pink fused corundum.

Ø x height mm	Grain	Shank Ø mm	44327	...
4 x 8	coarse 60	6		103
4 x 8	fine 100	6		104
5 x 10	coarse 60	6		105
5 x 10	fine 100	6		106
6 x 13	coarse 60	6		107
6 x 13	fine 100	6		108
8 x 16	coarse 46	6		114
8 x 16	fine 80	6		115

Ø x height mm	Grain	Shank Ø mm	44327	...
10 x 20	coarse 46	6		120
10 x 20	fine 80	6		121
10 x 32	coarse 46	6		124
10 x 32	fine 80	6		125
13 x 3	coarse 60	6		126
13 x 20	coarse 46	6		131
13 x 20	fine 80	6		132
13 x 25	coarse 46	6		133

Ø x height mm	Grain	Shank Ø mm	44327	...
13 x 25	fine 80	6		134
16 x 4	coarse 46	6		138
16 x 4	fine 80	6		139
16 x 20	coarse 30	6		143
16 x 20	fine 60	6		144
16 x 32	coarse 30	6		145
16 x 32	fine 60	6		146

**44327**

Grinding points

44330

Tapered sanding tips EK



Quality

Pink fused corundum.

Ø x height mm	Shank Ø mm	44330	...
16 x 32	6		102
20 x 32	6		105

Ø x height mm	Shank Ø mm	44330	...
20 x 40	6		106
25 x 70	6		107



44330

44331

Tapered sanding tips SiC-Alu



Quality

Silicon carbide, green.

Usage

Specifically for machining non-ferrous metals.

For deburring, dressing, post-machining and surface finishing. Through its special micro-structure design, maximum service life is achieved and pores are prevented from clogging. The sanding tips have a special impregnation which promotes self-sharpening.

Ø x height mm	Grain 44331	Shank Ø mm	...
16 x 32	80	6	102

Ø x height mm	Grain 44331	Shank Ø mm	...
20 x 40	80	6	106



44331

44332

Tapered sanding tips EK

PFERD



Quality

Pink fused corundum.

Ø x height mm	Grain	Shank Ø mm	44332	...
16 x 45	coarse 46	6		108
16 x 45	fine 80	6		109
20 x 32	coarse 30	6		112
20 x 32	fine 60	6		113

Ø x height mm	Grain	Shank Ø mm	44332	...
20 x 40	coarse 30	6		114
20 x 40	fine 60	6		115
25 x 70	coarse 30	6		120



44332

44335

Spherical sanding tips EK



Quality

Pink fused corundum.

Ø mm	Shank Ø mm	44335	...
6	6		101
8	6		102
13	6		104

Ø mm	Shank Ø mm	44335	...
20	6		106
25	6		107
32	6		108



44335

44337

Spherical sanding tips EK



Quality

Pink fused corundum.

Ø mm	Grain	Shank Ø mm	44337	...
5	coarse 60	6		102
5	fine 100	6		103
8	coarse 46	6		104
8	fine 80	6		105
13	coarse 46	6		108
13	fine 80	6		109

Ø mm	Grain	Shank Ø mm	44337	...
20	coarse 30	6		112
20	fine 60	6		113
25	coarse 30	6		114
25	fine 60	6		115
32	coarse 24	6		116
32	fine 46	6		117



44337

44340

Conical cup sanding tips EK



Quality

Pink fused corundum.

Largest Ø x height mm	Shank Ø mm	44340	...
20 x 20	6		101
25 x 24	6		102

Largest Ø x height mm	Shank Ø mm	44340	...
32 x 29	6		103
40 x 36	6		104



44340

44342

Conical cup sanding tips EK



Quality

Pink fused corundum.

Ø x height mm	Grain	Shank Ø mm	44342	...
20 x 16	coarse 30	6		101
20 x 16	fine 60	6		102
25 x 20	coarse 30	6		103

Ø x height mm	Grain	Shank Ø mm	44342	...
32 x 25	coarse 24	6		105
32 x 25	fine 46	6		106



44342

44355

Cylindrical sanding tips INOX (ADW) hardness L



Design

INOX is specifically designed for use on stainless steel (INOX) and suitable for universal use on non-ferrous base metals and bronze. These tools are used for coarse grinding of stainless steel (INOX) cast parts and for sanding moulded parts made of heat-resistant alloys.

Advantage

- Ideal for temperature-sensitive materials due to low-temperature sanding
- High grinding comfort due to low-vibration cutting

Machinable materials:

- Stainless steel/INOX
- Bronze
- Hard non-ferrous metals

Design

- Synthetic resin bond
- Mix of dark red and white corundum

Recommended use:

INOX sanding tips achieve their best performance at a cutting speed of 35 to 50 m/s.

Suitable tool drives:

- Flexible shaft drive
- Straight grinder

Note:

The maximum permissible rotation speed refers to the open shank length of 10 mm.



44355

ADW/L medium

Head Ø x head height mm	Grain	Shank Ø rotation speed rpm	Max. permitted rotation speed rpm	Recommended	44355	...
8 x 16	coarse 46	6	119,300	100,000		150
10 x 32	coarse 46	6	62,800	62,800		168
16 x 32	coarse 30	6	51,200	51,200		199
20 x 40	coarse 30	6	72,400	32,400		222
25 x 32	coarse 30	6	32,900	32,900		237
32 x 16	coarse 24	6	29,800	29,000		244
40 x 20	coarse 24	6	23,800	23,000		253
50 x 25	coarse 24	6	19,000	19,000		258

Grinding points

44356

Sanding tip sets TOUGH



Design

The TOUGH design is specially intended for use on titanium materials, nickel and cobalt-based alloys and for the machining of hardened steel components and surface-layer welding. Machining tasks include, amongst others, smoothing repair welds and finishing turbine blades during aircraft maintenance and re-grinding repair welds in tool construction and forming.

Machinable materials

- Hardened, tempered steels over 1200 N/mm² (more than 38 HRC)
- Nickel-based alloys Inconell and Hastelloy
- Highly heat-resistant materials
- Cobalt-based alloys
- Other non-ferrous metals
- Hard non-ferrous metal
- Titanium alloys
- Titanium

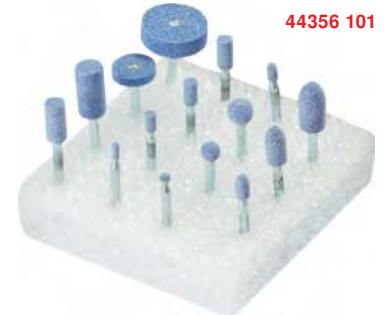
Applications

Grouting, gouging, grinding, deburring, surface conditioning, edge finishing (chamfering, rounding), edge finishing, finishing, welding seam machining.

Quality

White corundum abrasive grain and ceramic abrasive grain.

NEW



44356 101



44356 102

Set contents 44356 101 (shank Ø 3 mm)

- 8 sanding tips cylindrical 2 x 5/3 x 6/4 x 8/5 x 10/6 x 13/8 x 16/13 x 3/20 x 6 mm
- 3 sanding tips spherical Ø 3/6/8 mm
- 4 sanding tips pointed arc 3 x 6/4 x 8/6 x 13/8 x 16 mm
- 4 sanding tips pointed arc 3 x 6/4 x 8/6 x 13/8 x 16 mm

Set contents 44356 102 (shank Ø 6 mm)

- 6 sanding tips cylindrical 10 x 13/13 x 25/16 x 20/20 x 25/20 x 40/40 x 10 mm
- 1 sanding tip spherical Ø 13 mm
- 1 sanding tip pointed arc 13 x 20 mm
- 2 sanding tips tapered 10 x 25/16 x 45 mm
- 2 sanding tips tapered 10 x 25/16 x 45 mm

Contents	Grain	Shank Ø mm	44356	...
15 pieces	fine	3		101
10 pieces	coarse	6		102

44357 - 44358

Cylindrical sanding tips TOUGH (AWCO) hardness J (shank Ø 3 and 6 mm)



Quality

White corundum and ceramic abrasive grain.

Shank Ø 3 mm

Head Ø x head height mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44357	...
3 x 6	80	3 x 30	206,100	150,000		101
3 x 6	100	3 x 30	206,100	150,000		102
4 x 8	80	3 x 30	175,100	150,000		103
4 x 8	100	3 x 30	175,100	150,000		104
5 x 10	80	3 x 30	130,700	130,700		105
5 x 10	100	3 x 30	130,700	130,700		106
6 x 13	60	3 x 30	93,600	33,600		107
6 x 13	80	3 x 30	93,600	33,600		108
6 x 13	100	3 x 30	93,600	33,600		109

Shank Ø 6 mm

Head Ø x head height mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44358	...
8 x 16	46	6 x 40	119,300	100,000		101
8 x 16	80	6 x 40	119,300	100,000		102
10 x 13	46	6 x 40	95,400	85,000		103
10 x 13	80	6 x 40	95,400	85,000		104
13 x 25	46	6 x 40	73,400	65,000		105
13 x 25	80	6 x 40	73,400	65,000		106
16 x 20	46	6 x 40	59,600	55,000		107
16 x 20	60	6 x 40	59,600	55,000		108
16 x 32	46	6 x 40	51,200	51,200		109
16 x 32	60	6 x 40	51,200	51,200		110
20 x 25	46	6 x 40	47,700	45,000		111
20 x 25	60	6 x 40	47,700	45,000		112
32 x 32	46	6 x 40	25,700	25,700		113
40 x 20	46	6 x 40	23,800	22,000		114

44357 - 44358



44359 - 44360
Spherical sanding tips TOUGH (AWCO) hardness J

Quality

White corundum and ceramic abrasive grain.

Shank Ø 3 mm

Head Ø mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44359	...
6	80	3 x 30	159,100	140,000		101
6	100	3 x 30	159,100	140,000		102
8	80	3 x 30	116,200	100,000		103
8	100	3 x 30	116,200	100,000		104

Shank Ø 6 mm

Head Ø mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44360	...
13	46	6 x 40	73,400	65,000		101
13	60	6 x 40	73,400	65,000		102
13	80	6 x 40	73,400	65,000		103

44359 - 44360



Sanding/cutting tools

44361 - 44362
Pointed arc sanding tips TOUGH (AWCO) hardness J

Quality

White corundum and ceramic abrasive grain.

Shank Ø 3 mm

Head Ø x head height mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44361	...
6 x 13	80	3 x 30	108,100	108,100		101
6 x 13	100	3 x 30	108,100	108,100		102
8 x 16	60	3 x 30	72,800	72,800		103
8 x 16	80	3 x 30	72,800	72,800		104
8 x 16	100	3 x 30	72,800	72,800		105

Shank Ø 6 mm

Head Ø x head height mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44362	...
13 x 20	46	6 x 40	73,400	65,000		101
13 x 20	60	6 x 40	73,400	65,000		102
13 x 20	80	6 x 40	73,400	65,000		103

44361 - 44362


44363
Tapered sanding tips TOUGH (AWCO) hardness J

Quality

White corundum and ceramic abrasive grain.

Shank Ø 6 mm

Head Ø x head height mm	Grain	Shank Ø x shank length mm	Max. permitted rotation speed rpm	Recommended rotation speed rpm	44363	...
10 x 25	46	6 x 40	95,400	85,000		101
10 x 25	60	6 x 40	95,400	85,000		102
16 x 45	46	6 x 40	52,000	52,000		103
16 x 45	60	6 x 40	52,000	52,000		104

44363


Info
Sanding tips TOUGH (AWCO) hardness J art. no. 44356 - 44363
PFERD


The TOUGH (AWCO) version in **hardness J** is specifically intended for use on titanium materials, nickel- and cobalt-based alloys and for the machining of hardened steel components and surface-layer welding.

Machining tasks include smoothing repair welds and finishing turbine blades during aircraft maintenance and re-grinding repair welds in tool construction and forming.

Advantage

- Cool grinding due to the tendency of the grain mixture to splinter
- High removal rates and excellent service life
- Consistent removal rates thanks to the self-sharpening effect of the ceramic abrasive grain

Machinable materials:

- Hardened, tempered steels above 1200 N/mm² (> 38 HRC)
- Titanium alloys
- Titanium
- Highly heat-resistant materials
- Nickel- and cobalt-based alloys

Version

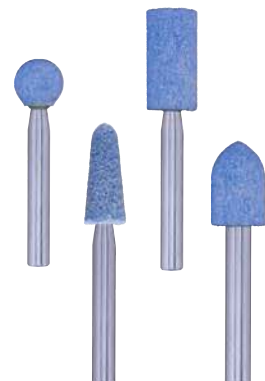
- Ceramic binding
- Corundum mixture of ceramic abrasive grain and white corundum

Application recommendations:

- TOUGH sanding tips provide optimum performance at a cutting speed of 30 to 50 m/s.

Suitable tool drives:

Flexible shaft drive, straight grinder



44364 - 44366

Poliflex® cylindrical finishing tips



Applications

Example applications include cold and heat-resistant steel, steel precision casting, structural steel, stainless steel, acid-resistant steel, stainless steel sheets, stainless casting steel, rustproof steel, bronze, copper, brass and bronze casting.

44364

Design

Rubber bonding, soft grinding finish.

Applications

Used to prepare for polishing and create a matt finish for non-ferrous base metals. Also for aluminium, aluminium wrought alloys, cast aluminium. Recommended peripheral speeds < 12–20 m/s

Quality

Pink fused corundum (EK).

44365

Design

Leather bonding, better surface quality, long service life.

Applications

Used to prepare for polishing and round edges. Recommended peripheral speeds < 15–30 m/s.

Quality

White corundum (EK).

44366

Design

Polyurethane bonding, soft, elastic, low-temperature sanding, adapts to contours.

Applications

For gentle machining of surfaces, line matting, cleaning, preliminary work for cleaning, de-oxidising, light duty deburring. Recommended peripheral speeds < 10–15 m/s

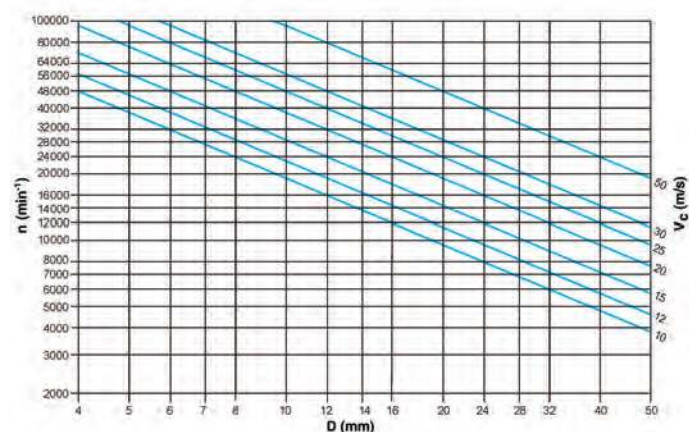
Quality

Silicon carbide green (SIC)

44364

44365

44366



Operating speeds for Poliflex® tools

In the diagram, the cutting speeds are represented by diagonal lines.

The perpendicular tool diameter line intersects the specified cutting speed (the diagonal line). The recommended speed for the selected diameter of the Poliflex® tool in RPM is read out at the left edge where it intersects with the horizontal.

Example:

Poliflex® finishing tip, pink fused corundum, 15 mm Ø, recommended peripheral speed = < 12–20 m/s, recommended rotational speed range = < 15,500–26,000 rpm.

n = rotation speed

D = tool diameter

V_c = peripheral speed

Head Ø x head height mm	Grain	Shank Ø mm	Shank length mm	Pink fused corundum		White corundum		SIC green	
				44364	...	44365	...	44366	...
8 x 12	80	3	30						107
8 x 12	120	3	30			112		109	
10 x 15	120	6	40			118		114	
15 x 25	120	6	40			128		123	
20 x 30	80	6	40						111
20 x 30	120	6	40			132		127	
25 x 25	120	6	40			134		129	
30 x 30	120	6	40			136		131	

Info

Polishing tips art. no. 44375 - 44377

Owing to their excellent elasticity, the felt polishing tips in combination with the grinding paste (art. no. 43141) and polishing pastes (art. nos. 44380 - 44381) are also suitable for polishing particularly complicated shapes, such as die-casting moulds and injection moulds, drawing tools, pressing tools and cutting tools, cold heading dies, bending dies, bearings, spindles, rollers, calibres, etc.

Abrasive	Felt with abrasive paste
For material made of	steel, cast iron, non-ferrous metals
Grain (from – to)	Microfine (with paste grain 1200) to very coarse (with paste grain 90)
Degree of hardness	Very soft
V = m/sec.	approx. 5-10
Applications	Polishing
Art. no.	44375 - 44377

V = m/sec.: Recommended peripheral speed in m/sec.



44375

Felt polishing tips (shank Ø 6 mm)



Applications

For surface honing of pre-sanded workpieces.
Used in conjunction with special grinding paste art. no. 43141 and polishing paste art. no. 44380–44381.

Note:

Art. no. 44375 120 with hole 6 mm Ø,
without mandrel.

44375 101-105



44375 107-109



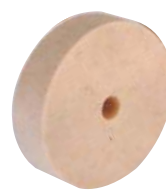
44375 111



44375 118



44375 120



44375 126



Shape	Head Ø x length approx. mm	44375	...
Cylindrical	10 x 15	101	
Cylindrical	25 x 30	105	
Spherical	Ø 10	107	
Spherical	Ø 12	108	
Spherical	Ø 20	109	

Shape	Head Ø x length approx. mm	44375	...
Pointed arc	12 x 20	111	
Round taper	25 x 30	118	
Disc	40 x 10	120	
Mandrel	-	126	



43141

44376

Felt polishing tips



Applications

Used in conjunction with special grinding paste art. no. 43141 and polishing pastes art. no. 44380–44381 primarily for **high-gloss polishing**.

The different diameters and shapes mean that workpieces with complex geometries can also be polished.
Easy to profile.

Shape	Head Ø x length mm	Shank Ø mm	Shank length mm	Recommended rotation speed rpm	44376	...
Cylindrical	6 x 10	3	40	16,000–32,000	101	
Cylindrical	8 x 10	3	40	12,000–24,000	102	
Cylindrical	10 x 14	3	40	10,000–20,000	103	
Pointed arc	8 x 12	3	40	12,000–24,000	104	
Pointed arc	10 x 18	3	40	10,000–20,000	105	
Pointed arc	12 x 18	3	40	8,000–16,000	106	
Helical	8 x 12	3	40	12,000–24,000	107	
Helical	10 x 14	3	40	10,000–20,000	108	



44376 101-103



44376 104-106



44376 107-108



44377

Felt polishing tips



Applications

Used in conjunction with special grinding paste art. no. 43141 and polishing pastes art. no. 44380–44381 primarily for **high-gloss polishing**. The broad diversity of shapes and diameters also permits the polishing of complex workpiece geometries. Easy to profile.

44377 102-104

Design

With centre hole, making it ideal for face grinding.
The centre hole prevents the accumulation of machining residue.

Shape	Head Ø x length mm	Shank Ø mm	Shank length mm	Recommended rotation speed rpm	44377	...
Cylindrical	10 x 14	6	40	10,000–20,000	101	
Cylindrical	15 x 20	6	40	6,000–12,000	102	
Cylindrical	20 x 25	6	40	5,000–10,000	103	
Cylindrical	25 x 30	6	40	4,000–8,000	104	
Pointed arc	10 x 18	6	40	10,000–20,000	105	
Pointed arc	15 x 20	6	40	6,000–12,000	106	
Pointed arc	15 x 30	6	40	6,000–12,000	107	
Pointed arc	20 x 25	6	40	5,000–10,000	108	
Helical	15 x 20	6	40	6,000–12,000	109	
Helical	20 x 25	6	40	5,000–10,000	110	
Helical	25 x 30	6	40	4,000–8,000	111	
Round taper	15 x 20	6	40	6000–12,000	112	
Round taper	20 x 25	6	40	5000–10,000	113	
Round taper	25 x 30	6	40	4,000–8,000	114	
Round taper	30 x 35	6	40	3,000–6,000	115	
Teardrop	10 x 14	6	40	10,000–20,000	116	
Angled	20 x 16	6	40	5,000–10,000	117	



44377 101



44377 102-104



44377 105-108



44377 109-111



44377 112-115



44377 116



44377 117



44380

Polishing paste bars



Applications

Use in conjunction with felt polishing tips (art. no. 44375–44377).

44380

Design	Use	Colour	W x D x H mm	44380	...
Pre-polishing paste	Steel + stainless steel	Green	70 x 50 x 140		101
Pre-polishing paste	Aluminium + brass	Grey	70 x 50 x 140		102
Pre-polishing paste	Non-ferrous metals	Brown	70 x 50 x 140		103
High gloss polishing paste	All metals	Pink	70 x 50 x 140		104
High gloss polishing paste	Plastics	Beige	70 x 50 x 140		105



44381

Diamond polishing pastes



Design

- Concentrated paste in practical dosing syringe with scale
- **High diamond content**
- Can also be applied in concentrated form
- Grain mix, providing better abrasion than pure grain
- Distinctive paste colour avoids mix-ups
- Soluble in oil
- No hazardous substances

Applications

- Suitable for polishing
- Cemented carbides
- Hard case-hardening and chrome steels
- Coatings that protect against wear

44381

Grain μ	Contents ml	Colour	44381	...
1–3	5	red		201
1–3	20	red		401
4–6	5	yellow		202
4–6	20	yellow		402
12–17	5	green		203
12–17	20	green		403
30–40	5	blue		204
30–40	20	blue		404
40–50	5	orange		205
40–50	20	orange		405



44385 - 44390

Diamond and CBN sanding tips



Design

Cylindrical, A = offset shank, N = non-offset shank.

Advantages: Excellent service life and good retention of profile. Short machining times. Reduced auxiliary process times. Avoidance of thermal damage to the workpiece due to lower sanding temperatures. Uniform level of quality across a multitude of workpieces.

plastics, natural and artificial stone, fire-resistant materials on internal cylindrical grinding machines and co-ordinate grinding machines amongst others.

Recommended peripheral speeds:

wet 20 m/sec, dry 15 m/sec.

Quality

Grain D 126.

44390

CBN sanding tips

Cubic boron nitride (cubic crystalline boron nitride).

Applications

For the machining of high-speed steels, tool steels, case-hardening steels, ball bearing steels, chrome steels on internal cylindrical grinding machines and co-ordinate grinding machines amongst others.

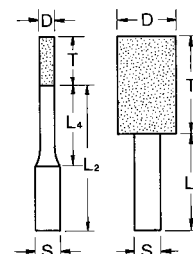
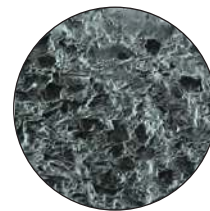
Recommended peripheral speeds:

wet 30 m/sec, dry 20 m/sec.

Quality

Grain B 126.

44385 - 44390



Type A

Type N

44385

Diamond sanding tips

Applications

For the machining of cemented carbide (sintered, green compact), glass, ceramics (including engineered ceramics), porcelain, coatings that protect against wear, ferrite, silicon, graphite, electro-carbons, thermosetting plastics, glass fibre-reinforced

Diamond					CBN		
D x T mm	S mm	Shank shape	L2 mm	L4 mm	44385	...	44390
1.0 x 4	3	A	36	9		103	103
1.6 x 4	3	A	36	10		107	107
2.0 x 4	3	A	36	10		109	109
2.6 x 4	3	A	36	14		113	113
3.0 x 4	3	A	36	19		115	115
3.5 x 5	3	N	45	-		116	116
4.0 x 5	3	N	45	-		117	117
4.5 x 5	3	N	45	-		118	118
5.0 x 5	3	N	45	-		119	119

Diamond					CBN		
D x T mm	S mm	Shank shape	L2 mm	L4 mm	44385	...	44390
5.5 x 6	3	N	44	-		120	120
6.0 x 6	6	A	54	19		121	121
7.0 x 8	6	N	52	-		123	123
8.0 x 8	6	N	52	-		125	125
10.0 x 8	6	N	52	-		127	127
12.0 x 8	6	N	52	-		129	129
15.0 x 10	6	N	50	-		132	132
20.0 x 10	6	N	50	-		136	136

ATORN®**Design**

- High-quality cup wheels in synthetic resin bond with maximum service life and equally high removal rate
- Premium wheel with vibration-absorbing basic body
- Universal grain for most grinding tasks

Applications

Universal use for dry and wet grinding on all common grinding machines; wet grinding is generally recommended (service life, temperature, performance).

Diamond (D126)**Applications**

For grinding cemented carbide and Cermet as well as materials made of stone, glass, porcelain, graphite, GFP etc.

Recommended peripheral speeds:

wet 25–30 m/s; dry 15–20 m/s

CBN (B126)**Applications**

For grinding high alloy (HSS) tool and case-hardening steels, hard cast, stellite, Ni and Co-based alloys.

Recommended peripheral speeds:

wet 30–40 m/s; dry 20–25 m/s

Note:

Cup wheels can be made to order.

Type	D mm	H H6 mm	T mm	X mm	U mm	D126		B126	
						44501	...	44501	...
11V9	100	20	35	3	10	201		301	

Type	D mm	H H6 mm	T mm	X mm	W mm	D126		B126	
						44501	...	44501	...
12A2	100	20	26	4	10	202		302	

Type	D mm	H H6 mm	T mm	X mm	W mm	D126		B126	
						44501	...	44501	...
12V2	100	20	20	2	10	203		303	

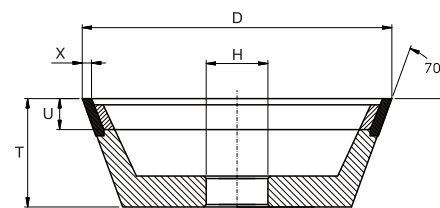
Type	D mm	H H6 mm	T mm	X mm	U mm	D126		B126	
						44501	...	44501	...
12V9	100	20	20	3	10	204		304	



44501

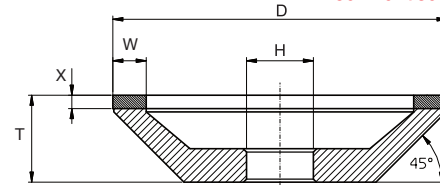
11V9

44501 201+301



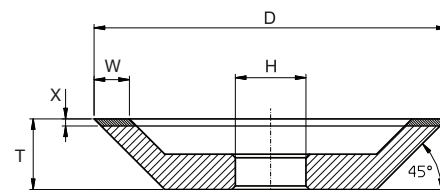
12A2

44501 202+302



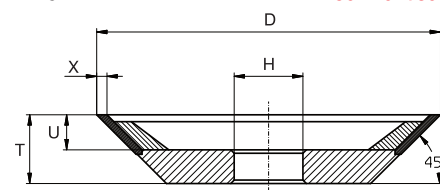
12V2

44501 203+303



12V9

44501 204+304

**PFERD****Design**

Synthetic resin bond.

Applications

Intended in particular for grinding (sharpening) of cemented carbide tools on all common grinding machines. Universally suitable for dry and wet grinding (wet grinding is recommended).

Grain D 126: For finishing

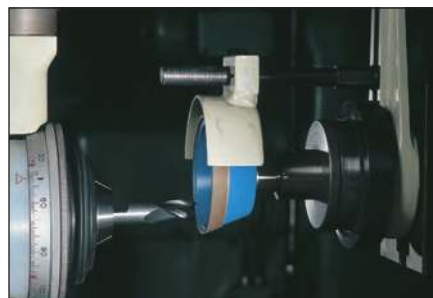
Grain D 64: For fine-grinding.

Bonding PHT:

Specially designed for **high-performance dry grinding**, i.e. lower-temperature grinding even without coolant.

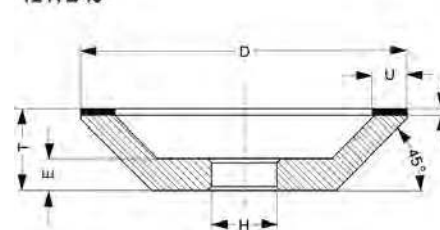
Note:

Grain concentration refers to the amount of grain in carats (ct) per volume unit (cm³) of the abrasive coating.



12 A 2/45°

44502



12 A 2/45°

44502 ...

D x X x U x H mm	T mm	E mm	Grain	Bonding	Grain concentration	Wet grinding approx. m/sec	Dry grinding approx. m/sec	
125 x 2 x 10 x 20	25	10	D 64	PHT	C 50 (2.2 ct/cm ³)	20 - 35	15 - 20	114
125 x 2 x 10 x 20	25	10	D 126	PHT	C 75 (3.3 ct/cm ³)	20 - 35	15 - 20	115

44540

Sanding block deburring wheel Scotch-Brite™ DB-WL

3M**Design**

This wheel is made of wound fibre fleece. This guarantees a permanent release of the abrasive grain. **Extremely long service life.** High cutting performance.

Applications

Ideal for deburring and rounding edges and holes, milling or punching edges and deburring taps. Suitable for all metals, including hard and ductile materials such as stainless steel and titanium.

Note:

Reducer flange for compact wheels, see art. no. 44545.



44540

Type	External Ø x width x internal Ø mm	Rotation speed max. rpm	44540	...
DB-WL	203 x 50.8 x 76.2	4,500		101

44541

Sanding block finishing wheel Scotch-Brite™ FS-WL

3M**Design**

Wound fibre fleece wheel guarantees a permanent release of abrasive grain. The impregnation ensures a longer service life. Uniform grain distribution, no deviations in the surface. Gentle, adaptive application, quick cutting at low temperatures.

Applications

For fine machining of stainless steel, copper, brass and aluminium.

Note:

Reducer flange for compact wheels, see art. no. 44545.



44541

Type	External Ø x width x internal Ø mm	Rotation speed max. rpm	44541	...
FS-WL	203 x 50.8 x 76.2	4,500		101

44545

Reducer flange for compact wheels

Design**In pairs.****Applications**

This flange pair is used to mount compact wheels. They are suitable for all standard shank diameters. The hole can be drilled out for other shank diameters.

Note:

For compatible compact wheels, see art. no. 44540–44541.



44545

Can be used for internal Ø mm	Flange hole mm	44545	...
76.2	13		101

44550

Sanding discs for roughing

A0

Design

Straight, ceramic bond, bonding type V 42, hardness 36 P.

Applications

For general workshop use. For roughing of normal steel, iron etc.

Quality

Abrasive grain synthetic corundum (AO).

Note:

Other sanding disc dimensions available on request. To reduce the hole Ø with reducing rings, see art. no. 44560.



44550

NK/grain 36				NK/grain 36				NK/grain 36			
Disc Ø x width x hole mm	44550	...		Disc Ø x width x hole mm	44550	...		Disc Ø x width x hole mm	44550	...	
150 x 20 x 15			101	200 x 20 x 32			105	200 x 25 x 51			109
150 x 20 x 32			102	200 x 25 x 15			106	200 x 32 x 51			110
175 x 25 x 32			103	200 x 25 x 20			107	300 x 40 x 76			113
175 x 25 x 51			104	200 x 25 x 32			108				

44552 - 44556

Bench grinder wheels

Design

- Straight
- Ceramic bond
- Bonding type V 42

Note:

Other sanding disc dimensions available on request.
To reduce the hole Ø with reducing rings,
see art. no. 44560.

44552

Applications

Hardness M. For general workshop use.

Materials to be processed:

Unalloyed and low-alloy steel, unhardened,
iron etc.

Quality

Synthetic corundum (NK).

44554

Applications

Hardness K. For finish-grinding of alloyed steel,
HSS and workshop steel.

Materials to be processed:

High-alloy steel (hardened), low-alloy steel
(hardened), tool steel, HSS.

Quality

Pink fused corundum (EK).

44556

Applications

Hardness J. For finishing cast iron, cemented
carbide and high-alloy steel.

Materials to be processed:

Cast iron, cemented carbide, high-alloy steel.

Quality

Green silicon carbide (SIC).

44552

44554



44556



Sanding/cutting tools

Disc Ø x width x hole mm	Synthetic corundum medium/K60		Corundum medium/K60		Silicon carbide green/K80	
	44552	...	44554	...	44556	...
150 x 20 x 15	301		101		101	
150 x 20 x 32	302		102		102	
175 x 25 x 32	303		103		103	
175 x 25 x 51	304		104		104	
200 x 20 x 32	305		105		105	
200 x 25 x 15	306		106		106	
200 x 25 x 20	307		107		107	
200 x 25 x 32	308		108		108	
200 x 25 x 51	309		109		109	
200 x 32 x 51	310		110		110	
250 x 32 x 51	311		111		111	
300 x 40 x 25	312		112		112	
300 x 40 x 76	313		113		113	

44560

Reducing rings for sanding discs

Design

In pairs.

Applications

For reducing the hole diameter of sanding discs
(art. no. 44550-44556).

2 reducing rings are required per disc.



44560

		Pair				Pair				Pair	
External Ø mm	Internal Ø mm	44560	...	External Ø mm	Internal Ø mm	44560	...	External Ø mm	Internal Ø mm	44560	...
20	12	101		32	15	103		51	32	106	
20	16	102		32	16	104		76	51	107	
				32	20	105					

44902 - 44903

Visual grinding wheels

Design

Horizontally rotating. Elongated holes arranged
radially on the break-resistant sanding disc ensure a
see-through effect during sanding to allow the
workpiece below to be observed. Abrasive covering
with synthetic resin bonding – both sides can be
used.

Quality

Corundum abrasive with silicon carbide.

44902

Type ER

Applications

For structural steels, malleable iron, steel casting,
grey cast iron and non-metallic materials.

44903

Type EF

Applications

For high-speed steels (alloyed tool steels).

44902 - 44903



		Type ER		Type EF	
Grain	Ø x thickness x hole mm	44902	...	44903	...
60	210 x 5 x 12	202		202	
120	210 x 4 x 12	205		205	
150	210 x 4 x 12	206		206	

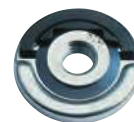
91403

FIXTEC quick-action clamping nut

Design

Designed to permit practical, ergonomic working at all times: The patented FIXTEC quick-action nut for tool-free disc changes with integrated safety slip clutch for all angle grinders up to 150 mm Ø/thread M 14.

Thread	91403	...
M 14		101



91403

91431

SDS quick-action clamping nut

BOSCH

Applications

Fast, tool-free clamping and releasing of plug-in tools without auxiliary tool for all angle grinders with thread M14.

Thread	91431	...
M 14		101



91431

44601

Rough grinding discs (metal)

ATORN®

Hard disc

Design

Offset, glass fibre-reinforced, open structure. Hard disc with high machining performance and edge strength.

Applications

For use on high-speed angle grinders. For machining structural and construction steels.

Quality

Abrasive grain synthetic corundum (AO).

Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44601	...
115 x 7	22.2	13,285	80	25 pcs.		201
125 x 7	22.2	12,200	80	25 pcs.		202
180 x 7	22.2	8,600	80	10 pcs.		203
230 x 7	22.2	6,600	80	10 pcs.		204



44601

44606 - 44609

Rough grinding discs (metal)

RHODIUS

Design

Offset, glass fibre-reinforced, open structure.

Applications

For machining steel on high-speed angle grinders.

Quality

Abrasive grain synthetic corundum (AO).

44606

Medium-hard disc type RS 2

Design

With high machining performance and edge strength.

Applications

For the machining of high-strength and high-alloy steels, structural steels, tool steels, hardened steels and Hardox.

44609

Standard universal type KSM

Design

Hard design with a long service life.

Applications

For general metalworking and universal use.



44606



44609

Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		Medium-hard 44606	...	Standard 44609	...
115 x 7	22.2	13,285	80	25 pcs.		101		101
125 x 7	22.2	12,200	80	25 pcs.		102		102
150 x 7	22.2	10,185	80	10 pcs.		103		
180 x 7	22.2	8,600	80	10 pcs.		104		104
180 x 10	22.2	8,600	80	10 pcs.		106		
230 x 7	22.2	6,600	80	10 pcs.				107

44615

Rough grinding discs (metal)

PFFERD



Universal line PSF STEEL

Advantage

- Fast progress and high efficiency due to considerable ease of grinding.
 - Good service life
 - Also suitable for low-performance angle grinders.
- Soft grinding characteristics, highly efficient machining even at low contact pressures.

Applications

For surface grinding, welding seam machining, fillet weld machining, gouging, chamfering and deburring. Can be used on steel and cast iron.

Quality

Abrasive grain synthetic corundum (AO).

Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44615	...
115 x 7	22.23	13,300	80	10 pcs.		101
125 x 7	22.23	12,200	80	10 pcs.		102
178 x 7	22.23	8,600	80	10 pcs.		103
178 x 8	22.23	8,600	80	10 pcs.		104
230 x 7	22.23	6,600	80	10 pcs.		105



44615



44617

Rough grinding discs (metal)

A0



Performance line SG STEEL

Advantage

- Fast progress and maximum efficiency due to considerable ease of grinding
- Long service life, meaning fewer tool changes

Applications

For surface grinding, welding seam machining, fillet weld machining, gouging, chamfering and deburring. Can be used on steel.

Quality

Abrasive grain, special corundum (AO).

Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44617	...
115 x 7.0	22.23	13,300	80	10 pcs.		102
125 x 7.0	22.23	12,200	80	10 pcs.		104
178 x 7.0	22.23	8,600	80	10 pcs.		106
178 x 8.0	22.23	8,600	80	10 pcs.		107
230 x 7.0	22.23	6,600	80	10 pcs.		108



Sanding/cutting tools

44610

Rough grinding disc (metal)



44610 104-105

CC-GRIND-SOLID STEEL VICTOGRAIN

Design

CC-GRIND-SOLID from PFERD is a modern, powerful and ergonomic alternative to conventional rough grinding discs. The abrasive grain cutting edges of the uniformly shaped and sized triangles of the **VICTOGRAIN** abrasive grain hit the workpiece at an optimal angle, meaning that the individual abrasive grains therefore require very little energy to penetrate the workpiece.

Advantage

- Ultimate, constant maximum performance at low temperatures and an extremely long service life
- Extremely fast work progress
- Requires less heat to be applied to the workpiece
- Less vibration, extremely quiet operation

Machining tasks

- Deburring
- Surface grinding
- Surface machining
- Chamfering
- Edge machining
- Welding seam machining
- Staged finishing

Machinable materials

Steel.

Quality

Ceramic abrasive grain (CER).

FE/S/CI ≤ 0.1% free from iron, chlorine and sulphur.

Note:

For optimum performance, use with a shallow contact angle and the SFS CC-GRIND clamping flange set. For surface grinding only, not suitable for peripheral grinding.

Ø mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec	Compatible clamping flange set		44610	...
115	22.23	13,300	80	44610 201	10 pcs.		104
125	22.23	12,200	80	44610 201	10 pcs.		105

44610 201-202

Clamping flange sets

Applications

The CC-GRIND clamping flange set is used to optimally position the CC-GRIND-SOLID and CC-GRIND-FILEX in the angle grinder protective cover,

enabling extremely flat, efficient use of the sanding discs. The black support plate is placed on the original mounting flange of the angle grinder.

The silver flange nut replaces the original flange nut.

Thread	Suitable for machine types	44610	...
M14	Angle grinder 115/125, mount M14		201
M14	Angle grinder 150/180, mount M14		202

PFERDERGONOMICS®:



PFERDEFFICIENCY®:



44610



44610 201-202



Rough grinding discs

44630

Rough grinding discs (stainless steel)

AO

RHODIUS

Medium-hard disc

Type RS 38

Design

Offset, glass fibre-reinforced, open structure. Grinds easily, with exceptional machining performance and a long service life.

Applications

For rust and acid-resistant steels such as Inox, V2A, Coracid, Nirosta, heat-resistant steel casting (GX steels), spring steels, all structural and tool steels. For grinding edges, deburring, dressing weld seams.

Quality

Abrasive grain synthetic corundum (AO).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.



44630

PRO LINE



Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44630	...
115 x 6	22.2	13,285	80	25 pcs.		101
125 x 6	22.2	12,200	80	25 pcs.		102
180 x 6	22.2	8,600	80	10 pcs.		103
230 x 6	22.2	6,600	80	10 pcs.		105

44621

Rough grinding discs (stainless steel)

AO

PFERD



Performance line SG INOX

Advantage

- Soft grinding characteristics for low-temperature grinding on stainless steel (INOX)
- Fast progress and maximum efficiency due to considerable ease of grinding
- Long service life, meaning fewer tool changes

Applications

For surface grinding, welding seam machining, fillet weld machining, gouging, chamfering and deburring. For use on stainless steel (INOX).

Quality

Abrasive grain, special corundum (AO).

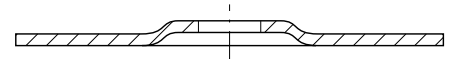
FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

Note:

Widths of 4.1 and 5.0 mm are ideal for root seams. Does not contain iron, sulphur or chlorine fillers.



44621



Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44621	...
115 x 4.1	22.23	13,300	80	10 pcs.		101
115 x 7.0	22.23	13,300	80	10 pcs.		103
125 x 5.0	22.23	12,200	80	10 pcs.		105
125 x 7.0	22.23	12,200	80	10 pcs.		106

44632

Rough grinding discs (stainless steel)

CER



PurpleGrain Single

Design

- PurpleGrain Single offers a high abrasion rate with application of force
- The integrated support plate made from eco-friendly recycled fibre ensures high stability and durability
- Its innovative design ensures even wear without overheating, brittleness or chips
- The deep offset zone permits flat work. Thanks to its special tool geometry, PurpleGrain Single is perfect even for hard-to-reach areas and offers greater versatility than a conventional tool

- Self-sharpening ceramic abrasive grain ensures sustained aggressive low-temperature grinding at a low contact force. The tools therefore offer aggressive grinding down to the last grain

Applications

For machining stainless steel, steel.

Quality

Ceramic abrasive grain (CER).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.



44632

Ceramic abrasive grain structure

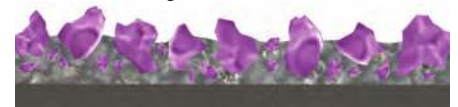


Illustration of self-sharpening effect of ceramic abrasive grain



Ø mm	Grain	Hole Ø mm	Rotation speed max. rpm		44632	...
115	36	22.2	13,300	10 pcs.		101
125	36	22.2	12,200	10 pcs.		201



44603

Rough grinding discs (stainless steel)

CER

ATORN®**Design**

Innovative rough grinding discs with latest-generation ceramic abrasive grain with permanently ultra-sharp cutting edges.

Advantage

- Increased productivity, removing up to three times more material than commercially available discs
- Maximum aggressiveness combined with comfortable handling
- More cost effective thanks to extremely long service life
- Superior performance at low contact pressure
- Low-temperature grinding with no heat-induced blue discolouration minimises rework

- Free grind function reduces twisting at the beginning of the roughing process

Applications

Ideal for users from pipe and pipeline construction, shipyards, metal construction, foundries, commercial vehicle construction, steel construction, plant construction, crane construction, construction vehicle manufacturing. Preparation and removal of welding seams, weld spatter removal, descaling, rough deburring and abrasive grinding on stainless steel or steel.

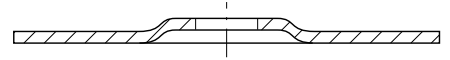
Quality

Ceramic abrasive grain (CER).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

NEW

44603

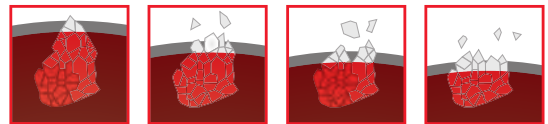


Sanding/cutting tools

Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/s		44603	...
115 x 7	22.23	13,280	80	10 pcs.		201
125 x 7	22.23	12,200	80	10 pcs.		202
180 x 7	22.23	8,600	80	10 pcs.		203
230 x 7	22.23	6,600	80	10 pcs.		204

Info**Ceramic abrasive grain: Permanently sharp edges for a sustained bite**

The new binding technology and microcrystalline structure of the ceramic abrasive grain guarantees a sustained and targeted release of new, ultra-sharp cutting edges. The ATORN rough grinding disc offers continued peak performance at all times – from start to finish. ATORN quality for maximum cutting speed, removal rate and service life.



44604

Rough grinding discs (stainless steel)

CER

3M**Cubitron™ II****Design**

- Up to three times the removal rate of conventional rough grinding discs
- Immediate engagement in solid material
- Up to 70% reduction in force required with the same removal rates
- Fast, low temperature grinding and optimised grinding processes

Applications

Ideal for structural steelwork applications (side grinding with frequent edge stress), chamfering, grinding of fillet welds, dressing, gouging, coarse grinding tasks and welding seam removal.

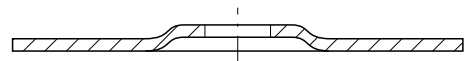
Quality

Ceramic abrasive grain (CER).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.



44604



Ø x width mm	Hole Ø mm	Working speed max. m/s		44604	...
115 x 7	22.2	80	10 pcs.		101
125 x 7	22.2	80	10 pcs.		102
178 x 7	22.2	80	10 pcs.		103
230 x 7	22.2	80	10 pcs.		104

Rough grinding discs

44631

Rough grinding discs (stainless steel)



44631 104-105

CC-GRIND-SOLID INOX VICTOGRAIN

Design

CC-GRIND-SOLID from PFERD is a modern, powerful and ergonomic alternative to conventional rough grinding discs. The abrasive grain cutting edges of the uniformly shaped and sized triangles of the **VICTOGRAIN** abrasive grain hit the workpiece at an optimal angle, meaning that the individual abrasive grains therefore require very little energy to penetrate the workpiece.

Advantage

- Ultimate, constant maximum performance at low temperatures and an extremely long service life
- Extremely fast work progress
- Requires less heat to be applied to the workpiece
- Less vibration, extremely quiet operation

Machining tasks

- Deburring
- Surface grinding
- Surface machining
- Chamfering
- Edge machining
- Welding seam machining

Machinable materials

Stainless steel.

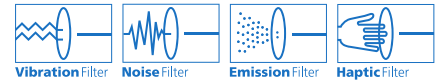
Quality

Ceramic abrasive grain (CER).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.



PFERDERGONOMICS®:



PFERDEFFICIENCY®:



44631

Ø mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec	Compatible clamping flange set		44631	...
115	22.23	13,300	80	44610 201	10 pcs.		104
125	22.23	12,200	80	44610 201	10 pcs.		105

44610 201-202

Clamping flange sets

Applications

The CC-GRIND clamping flange set is used to optimally position the CC-GRIND-SOLID and CC-GRIND-FILEX in the angle grinder protective cover, enabling extremely flat, efficient use of the sanding discs.

The black support plate is placed on the original mounting flange of the angle grinder.

The silver flange nut replaces the original flange nut.



44610 201-202

Thread	Suitable for machine types	44610	...
M14	Angle grinder 115/125, mount M14		201
M14	Angle grinder 150/180, mount M14		202

RHODIUS

Medium-hard disc

Type RS 24

Design

Offset, glass fibre-reinforced, open structure. Grinds easily, with an exceptional removal rate and long service life. Special filler materials to prevent clogging of the disc.

Applications

For all lubricating non-ferrous metals such as aluminium, copper, zinc, lead and tin and alloys such as bronze, brass and gunmetal. For grinding sprues, casting skin, weld seams, burrs and edges.

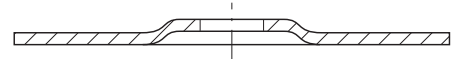
Quality

Abrasive grain synthetic corundum (AO).



44611

TOP LINE



Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44611	...
115 x 7	22.2	13,285	80	25 pcs.		101
125 x 7	22.2	12,200	80	25 pcs.		102
180 x 7	22.2	8,600	80	10 pcs.		104

PFERD

44612 100

High Speed ALUMASTER rough grinding disc

Design

- Extremely high cutting performance
- Protects health as no hazardous or explosive dusts are generated
- Maximum safety thanks to innovative cutting edge geometry and integrated depth limiter
- Extremely lightweight and robust tool due to innovative GFRP disc
- Can be used on all standard angle grinders (Ø 115/125 mm)
- Can be used anywhere as does not require suction
- Extremely durable due to innovative disc geometry and specially developed rotating and replaceable carbide indexable inserts
- No clogging of the tool even on lubricating materials
- Economic and environmentally friendly alternative to roughing and serrated lock washers

Applications

Ideal for aluminium machining.

The set includes:

- High Speed ALUMASTER rough grinding disc
- Indexable insert set
- Screw set for indexable inserts
- TX wrenches

44612 201

Indexable insert set

44612 200

Screw set for indexable inserts

44612 100



Designation	Ø mm	Rotation speed max. rpm	44612	...
HSD-F 115/125 ALUMASTER	115/125	13,300/12,300		100

Designation	Ø mm	Set contents	Compatible with	44612	...
WSP-A-12R ALUMASTER	12	10	HSD-F 115/125 ALUMASTER		201

Designation	Set contents	Compatible with Indexable inserts	44612	...
WSP-S-M4S	5	HSD-F 115/125 ALUMASTER		200



44660 - 44661

Cup wheels (metal/stone)

AO

SIC

RHODIUS

Design

Conical, medium hard.

Applications

For pre-sanding to final sanding.

On commercially available angle grinders.

Note:

Use special protective cover!

44660

Applications

For sanding surfaces, constructions and welding seams. For levelling of joined parts by face

mounting. For structural steels, unalloyed and alloyed steels, spring steels and heat-treated steels.

Quality

Abrasive grain synthetic corundum (AO).

44661

Applications

For sanding natural and artificial stone, edge chamfering, fettling of grey cast iron parts, sanding formwork panels. For concrete, flame-proof stone, tiles, glazed tiles, clinker, moulding sand.

Quality

Abrasive grain silicon carbide (SIC).



44660



44661



Grain	Maximum Ø x height mm	Hardness	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec	Metal 44660	...	Stone 44661	...
24 (coarse)	110/90 x 55	Q	22.2	8680	50		201		201
36 (medium)	110/90 x 55	Q	22.2	8680	50		202		
60 (fine)	110/90 x 55	Q	22.2	8680	50		203		

44705

Combination grinding discs

AO

RHODIUS

Type XT 35 Cross

Design

Extra-thin combination disc (1.9 mm), offset.

Enables pleasantly straightforward and rapid cutting and rough grinding with a good service life. Three full fabric layers guarantee very high stability and maximum occupational safety. Free from iron and sulphur. HydroProtect formula offers effective

protection against age-related loss of performance. For longer-lasting retention and cutting performance.

Applications

Extra-fine cutting, deburring, chamfering and sanding with a disc. For stainless and acid-resistant steels, Hardox, hardened, high alloy and high strength steels, zinc-plated parts, steels, tool steels.

Quality

Abrasive grain synthetic corundum (AO).

Ø x Thickness mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44705	...
115 x 1.9	22.23	13,285	80	25 pcs.		101
125 x 1.9	22.23	12,200	80	25 pcs.		102



44705

BRAINTOOLS[®]
by Rhodius

44710

Combination grinding discs

AO

PFERD



Universal line PSF DUO STEELOX

Design

- To EN 12413

- With high cutting performance and a long service life

- Robust, dimensionally and laterally stable disc design

- Reduces labour costs by reducing setup times

- Aggressive abrasive and high-grade abrasive grain bond

Applications

For cutting, deburring, surface grinding, fillet weld machining, gouging and welding seam machining. Suitable for use on steel and stainless steel (INOX). Suitable for angle grinders in all performance classes.

Quality

Abrasive grain corundum (AO).

Note:

Does not contain iron, sulphur or chlorine fillers.

Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm		44710	...
115 x 1.9	offset	22.23	13,300	10 pcs.		100
115 x 2.8	offset	22.23	13,300	10 pcs.		101
125 x 1.9	offset	22.23	12,200	10 pcs.		103
125 x 2.8	offset	22.23	12,200	10 pcs.		102



44710

Info

Combination grinding discs DUODISC[®]

Combination grinding discs are the solution for safe cutting and grinding with a single tool. They meet all the requirements of EN 12413 for cutting and rough grinding discs.

Advantage

- Safe, standard-compliant solution for cutting and lateral grinding with a single tool
- Save time thanks to fewer disc changes
- For universal use on steel and stainless steel (INOX)
- Widths 1.4 and 1.9 mm, also ideal for cordless angle grinders
- Solves issues relating to scale grinding



44800 - 44801

Small free-hand cutting discs

AO



44800

Medium-hard disc

Design

To EN 12413. Straight, fibre-reinforced synthetic resin bond. Does not contain iron, sulphur or chlorine fillers.

Applications

Universal implementation for cutting steel, stainless steel, cast iron and non-ferrous metals. Ideal for highly heat-resistant materials, e.g. for engine repair in turbine construction. Also in bodywork construction for cutting sheet metal in hard-to-reach areas.

Quality

Abrasive grain synthetic corundum (AO).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

44801

Clamping bolts

Design

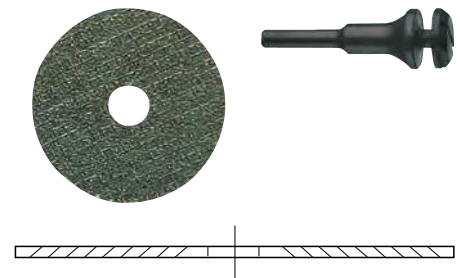
Shank Ø 6 or 10 mm.

Note:

When using the clamping bolt, comply with the maximum permissible rotation speed specified on the package insert.

44800

44801



Sanding/cutting tools

Note:

With the clamping bolt mounted on straight grinders, can be used up to the maximum permissible rotation speed of the clamping bolt.

For (pneumatic) straight grinders, see art. no.

91500–91503, 92425, 92430.

Ø x width mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec	Cutting disc		Clamping bolt	
				44800	...	44801	...
30 x 1.1	6	51,000	80		101		101
40 x 1.1	6	38,200	80		103		101
50 x 2.1	6	30,600	80		107		101
65 x 2.1	10	23,500	80		112		103
70 x 2.1	10	21,800	80		116		103
76 x 2.1	10	20,100	80		121		103

44804

Free-hand cutting discs (metal)

AO

ATORN®

Hard disc

Design

Straight, thin design. Very hard cutting disc for extremely short cutting times. Smooth sides for chatter-free and virtually burr-free cutting.

Applications

For cutting thin-walled pipes, thin sheet steel and profiles.

Quality

Abrasive grain synthetic corundum (AO).

Ø x Thickness mm	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44804	...
115 x 1.0	22.2	13,285	80	50 pcs.		101
115 x 1.5	22.2	13,285	80	50 pcs.		102
125 x 1.0	22.2	12,200	80	50 pcs.		103
125 x 1.5	22.2	12,200	80	50 pcs.		104
180 x 1.5	22.2	8,600	80	25 pcs.		106
230 x 1.9	22.2	8,600	80	25 pcs.		107



44804



44805

Cutting discs (metal/cast iron)

AO

ATORN®

Medium-hard disc

Applications

For cutting high-strength structural and construction steels. For machining all types of construction steels, alloyed and high-alloy steels, stainless steels and cast iron as well as for cutting larger cross-sections of solid material.

Quality

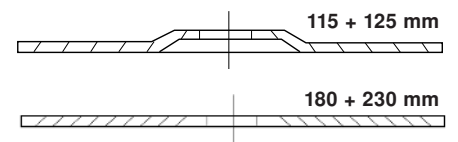
Abrasive grain synthetic corundum (AO).

Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44805	...
115 x 3	offset	22.2	13,285	80	25 pcs.		201
125 x 3	offset	22.2	12,200	80	25 pcs.		202
180 x 3	straight	22.2	8,600	80	25 pcs.		203
230 x 3	straight	22.2	6,600	80	25 pcs.		204

NEW



44805



RHODIUS**Design**

Glass-fibre reinforced, open structure,
hole Ø 22.2 mm, max. working speed 80 m/sec.

Quality

Abrasive grain synthetic corundum (AO).

44809

Extra-thin high-performance cutting disc

Type XT20

Design

Very hard, ultra-fast cutting, extremely thin, millimetre precision, chatter free, burr free, quiet, cool, with an extremely long service life.

Applications

For cutting solid steel materials, pipes, profiles, plates, spring steels and tool steels.

44810

High-performance cutting disc

Type XT/FT/FTK 67

Design

With an extremely long service life, cuts at particularly low temperatures. HydroProtect formula offers effective protection against age-related loss of performance. For longer-lasting retention and cutting performance.

Applications

For cutting sheet metal, pipes, profiles and solid steel material. Easily cuts all ferrous materials.

44814

Medium-hard disc

Type KSM/KSMK

Design

Good performance and cutting properties.

Applications

For universal use in metalworking.

44815

Special medium-hard

Type FT/FTK 33

Design

Cool and fast cutting with a long service life.

Applications

For cutting high-strength structural and construction steels.

44816

Medium-hard cutting disc

Type XT/FT/FTK 24

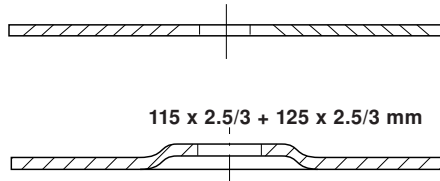
Design

Even cuts heavy-duty materials easily, long service life. HydroProtect formula offers effective protection against age-related loss of performance.

For longer-lasting retention and cutting performance.

Applications

Ideally suited for cutting aluminium, aluminium alloys, copper, brass, bronze and other lubricating non-ferrous metals.



44809



TOP LINE ●●●

44810



TOP LINE ●●●

44814



ALPHA LINE ●●○

44815



PRO LINE ●●○

44816



TOP LINE ●●●

Ø x thickness mm	Type	Rotation speed max. rpm.		XT20		XT/FT/FTK 67		KSM/KSMK		FT/FTK 33		XT/FT/FTK 24	
				44809	...	44810	...	44814	...	44815	...	44816	...
115 x 1.0	straight	13,285	-			101		201					
115 x 1.5	straight	13,285	-			102		203					103
115 x 2.5	offset	13,285	-										108
115 x 3.0	offset	13,285	25 pcs.							108		208	
115 x 3.0	offset	13,285	-					208					
125 x 1.0	straight	12,200	-			103		209					
125 x 1.5	straight	12,200	-			104		211					111
125 x 2.5	offset	12,200	25 pcs.										116
125 x 3.0	offset	12,200	25 pcs.					216		116		216	
150 x 1.5	straight	10,185	25 pcs.			108							
150 x 3.0	straight	10,185	-							223			
180 x 1.5	straight	8,600	25 pcs.			105		229					
180 x 1.5	straight	8,600	-										128
180 x 3.0	straight	8,600	25 pcs.					231		131		231	
180 x 3.0	straight	8,600	-										131
230 x 1.9	straight	6,600	25 pcs.			106		237					137
230 x 3.0	straight	6,600	25 pcs.					239		139			139
230 x 3.0	straight	6,600	-									239	

PFERD



Universal line PSF STEEL

Design

- **Thickness: 1.9/1.6/1.0 mm:** for fast, comfortable and burr-free cutting.
- **Thickness: 2.4 mm:** for universal cutting tasks.
- **Thickness: 3.2 mm:** for an extremely long service life and high degree of lateral stability. Suitable for angle grinders in all performance classes.

Advantage

- Fast progress owing to high cutting efficiency
- Very cost effective thanks to long service life

Applications

For cutting sheet metal, profiles and solid material, creating openings.

Quality

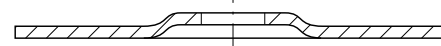
Abrasive grain synthetic corundum (AO).

44806



Sanding/cutting tools

115 x 2.4 + 125 x 2.4 mm



Ø x thickness mm	Type	Grain size	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44806	...
115 x 1.0	straight	60	22.23	13,300	80	25 pcs.		105
115 x 1.6	straight	46	22.23	13,300	80	25 pcs.		106
115 x 2.4	offset	46/30	22.23	13,300	80	25 pcs.		107
125 x 1.0	straight	60	22.23	12,200	80	25 pcs.		109
125 x 1.6	straight	46	22.23	12,200	80	25 pcs.		110
125 x 2.4	offset	46/30	22.23	12,200	80	25 pcs.		111
178 x 1.6	straight	46	22.23	8,600	80	25 pcs.		112
178 x 3.2	straight	24	22.23	8,600	80	25 pcs.		113
230 x 1.9	straight	46	22.23	6,600	80	25 pcs.		114
230 x 3.0	straight	24	22.23	6,600	80	25 pcs.		115

PFERD



Performance line SG STEEL

Design

- **Thickness: 1.9/1.6/1.0 mm:** for fast, comfortable and burr-free cutting.
- **Thickness: 2.4 mm:** for universal cutting tasks.
- **Thickness: 3.2 mm:** for an extremely long service life and high degree of lateral stability. Suitable for angle grinders in all performance classes.

Advantage

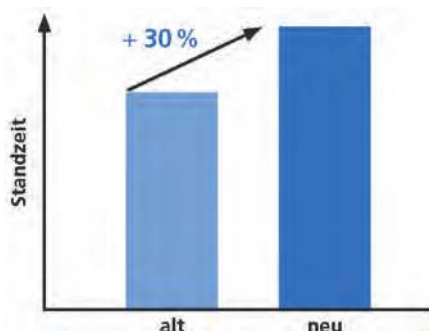
- Fast progress owing to high cutting efficiency
- Highly cost-effective thanks to extremely long service life

Applications

For cutting sheet metal, profiles and solid material, creating openings.

Quality

Abrasive grain high-performance corundum (AO).

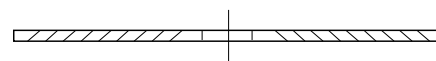


* Thickness 1.0 has been optimised for a longer service life and improved handling (art. no. 44807 104 and 109). The SSG cutting discs offer an up to 30% longer service life than cutting discs for steel and stainless steel (INOX)! SSG therefore represents the best solution for users who only machine steel.

44807



115 x 2.4 + 125 x 2.4 mm



Ø x thickness mm	Type	Grain size	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44807	...
* 115 x 1.0	straight	60	22.23	13,300	80	25 pcs.		104
115 x 1.6	straight	46	22.23	13,300	80	25 pcs.		105
115 x 2.4	straight	30	22.23	13,300	80	25 pcs.		106
115 x 2.4	offset	46/30	22.23	13,300	80	25 pcs.		107
* 125 x 1.0	straight	60	22.23	12,200	80	25 pcs.		109
125 x 1.6	straight	46	22.23	12,200	80	25 pcs.		110
125 x 2.4	straight	30	22.23	12,200	80	25 pcs.		111
125 x 2.4	offset	46/30	22.23	12,200	80	25 pcs.		112
178 x 1.6	straight	46	22.23	8,600	80	25 pcs.		115
178 x 3.2	straight	24	22.23	8,600	80	25 pcs.		116
230 x 1.9	straight	46	22.23	6,600	80	25 pcs.		119
230 x 2.9	straight	24	22.23	6,600	80	25 pcs.		120

Cutting discs

44824

Free-hand extra thin cutting discs (stainless steel)

AO

ATORN®

Design

- The latest generation of extra thin high-performance cutting discs
- Longer service life and improved cutting performance
- Clean, almost burr-free cuts requiring minimum application of force
- Minimises post-machining work, such as cleaning and deburring
- Reduces heat-induced blue discolouration
- No tendency to kick back or risk of jamming
- 30% less dust production
- Noise reducing and vibration damping
- Improved performance and significantly lower tool wear
- Short cutting times thanks to exceptional cutting performance and rough lateral surfaces

Applications

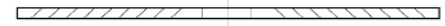
Super thin cutting discs are particularly suitable for thin-walled sheet steel, profiles and pipes, but can also cut through small cross-sections, bars and iron reinforcements quickly and easily.

Quality

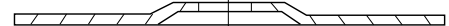
Abrasive grain synthetic corundum (AO).
FE/S/CI ≤ 0.1% free from iron, chlorine and sulphur.



44824 101+102



44824 201+202



Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44824	...
115 x 0.75	straight	22.23	13,300	80	25 pcs.		101
115 x 0.75	offset	22.23	13,300	80	25 pcs.		201
125 x 0.75	straight	22.23	12,250	80	25 pcs.		102
125 x 0.75	offset	22.23	12,250	80	25 pcs.		202

44802

Free-hand cutting discs (metal and stainless steel)

AO

HHW

Design

High-performance cutting disc for steel and stainless steel with high cutting performance and minimal expenditure of force. The disc offers an exceptionally clean cut and high cutting speed. This disc is ideal for use with cordless angle grinders.

Advantage

- Longer service life
- High cutting speed
- Fast, low-temperature cutting
- Minimal expenditure of force
- Burr-free edges

Applications

Cutting disc for cutting thin-walled profiles, tubes and plates made of non-ferrous metals, steel, stainless steel and composite materials (GFRP).

Quality

Abrasive grain high-performance corundum (AO).
FE/S/CI ≤ 0.1% free from iron, chlorine and sulphur.

NEW



44802



Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44802	...
115 x 1.0	straight	22.23	13,300	80	50 pcs.		201
125 x 1.0	straight	22.23	12,250	80	50 pcs.		202
180 x 1.6	straight	22.23	8,500	80	25 pcs.		203
230 x 1.9	straight	22.23	6,650	80	25 pcs.		204

44802 200

Design

Practical storage box with 10 cutting discs (125 x 1 mm) and carrier core for safe transport.

NEW



44802 200

Ø x thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		Pack= pcs.	44802	...
125 x 1.0	straight	22.23	12,250	80	1 pcs.	10		200

44825

Free-hand cutting discs (stainless steel)

AO

ATORN®**Very hard disc****Design**

- Highly durable cutting disc with good cutting properties
- Minimal burr formation, sparking and odour
- High cutting speed and a long service life

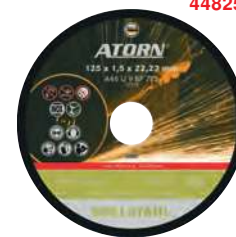
Applications

Iron and sulphur-free cutting disc for cutting alloyed, high-alloy and non-rusting stainless steels, sheet metal, pipes, flat bars, profiles and solid material.

Quality

Abrasive grain synthetic corundum (AO).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.



44825



Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44825	...
115 x 1.0	straight	22.2	13,300	80	50 pcs.		101
115 x 1.5	straight	22.2	13,300	80	50 pcs.		102
125 x 1.0	straight	22.2	12,250	80	50 pcs.		103
125 x 1.5	straight	22.2	12,250	80	50 pcs.		104
180 x 1.5	straight	22.2	8,500	80	25 pcs.		106
230 x 1.9	straight	22.2	6,650	80	25 pcs.		107

44825 303**Design**

10x cutting discs in sheet steel box with viewing window for safe storage of the cutting discs.



44825 303

Ø x thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		Pack= pcs.	44825	...
125 x 1.0	straight	22.2	12,250	80	1 pcs.	10		303

44826

Free-hand cutting discs X-Lock (metal and stainless steel)

AO

ATORN®**Design**

High-performance cutting disc with the innovative Bosch X-LOCK clamping system. For extremely rapid cutting of steel and stainless steel with millimetre precision and minimal force. The disc offers an exceptionally clean cut and high cutting speed. This disc is ideal for use with cordless angle grinders.

Advantage

- Innovative quick-action clamping system X-Lock
- Extremely long service life
- High cutting speed
- Fast, low-temperature cutting
- Burr-free edges

Applications

Cutting disc for cutting thin-walled profiles, tubes and plates made of non-ferrous metals, steel, stainless steel and composite materials (GFRP).

Quality

Abrasive grain high-performance corundum (AO).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

NEW

44826



Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44826	...
125 x 1.0	straight	22.23	12,250	80	50 pcs.		101

44826 100**Design**

Practical storage box with 10 cutting discs (125 x 1 mm) and carrier core for safe transport.

NEW

44826 100

Ø x thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		Pack= pcs.	44826	...
125 x 1.0	straight	22.23	12,250	80	1 pcs.	10		100

Cutting discs

44820

Free-hand cutting discs (stainless steel)

AO

RHODIUS

Type XT/FT/FTK 38

Design

Highly durable cutting disc with good cutting properties. **Free from iron and sulphur.** HydroProtect formula offers effective protection against age-related loss of performance. For longer-lasting retention and cutting performance.

Applications

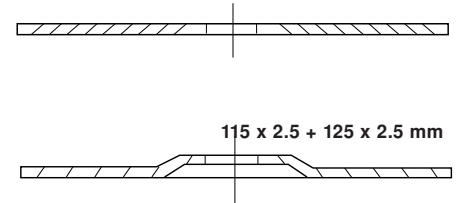
For cutting alloyed, high-alloy and non-rusting stainless steels, sheet metal, pipes, profiles and solid material.

Quality

Abrasive grain synthetic corundum (AO).
FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44820	...
115 x 1.0	straight	22.2	13,300	80	50 pcs.		301
115 x 1.5	straight	22.2	13,300	80	50 pcs.		302
115 x 2.5	offset	22.2	13,300	80	25 pcs.		303
125 x 1.0	straight	22.2	12,250	80	50 pcs.		304
125 x 1.5	straight	22.2	12,250	80	50 pcs.		305
125 x 2.5	offset	22.2	12,250	80	25 pcs.		306
* 180 x 1.5	straight	22.2	8,500	80	25 pcs.		307
180 x 3.0	straight	22.2	8,500	80	25 pcs.		308
* 230 x 1.9	straight	22.2	6,650	80	25 pcs.		309
230 x 3.0	straight	22.2	6,650	80	25 pcs.		310

* Up to 30% more cuts.



44823

Free-hand cutting discs (stainless steel)

AO

RHODIUS

Quality

Abrasive grain synthetic corundum (AO).
FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

44823 100 + 107

Type XTK8

Design

Very hard, iron and sulphur-free, extremely fast cutting, millimetre thin, millimetre precision, chatter free, burr free, quiet, low temperature. HydroProtect formula offers effective protection against age-related loss of performance. For longer-lasting retention and cutting performance.

Applications

0.8 mm precision cutting disc for thin sheet metal.

44823 101-106 + 109

Type XT10

Design

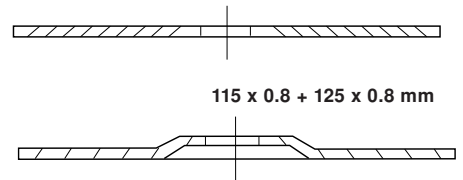
Very hard, iron and sulphur-free. Extremely long service life meaning fewer disc changes and maximum cost effectiveness. Low-temperature, burr-free cutting. HydroProtect formula offers effective protection against age-related loss of performance. For longer-lasting retention and cutting performance.

Applications

For cutting solid material, pipes, profiles and stainless steel sheet metal. Ideal for all stainless and acid-resistant steels, spring steels, tool steels.

Ø x thickness mm	Type	Hole Ø mm	Rotation speed max. rpm		44823	...
115 x 0.8	offset	22.23	13,285	50 pcs.		100
115 x 1.0	straight	22.23	13,285	50 pcs.		101
115 x 1.5	straight	22.23	13,285	50 pcs.		102
125 x 0.8	offset	22.23	12,200	50 pcs.		107
125 x 1.0	straight	22.23	12,200	50 pcs.		103
125 x 1.5	straight	22.23	12,200	50 pcs.		104
* 150 x 1.5	straight	22.23	10,185	25 pcs.		109
* 180 x 1.5	straight	22.23	8,600	25 pcs.		105
* 230 x 1.9	straight	22.23	6,600	25 pcs.		106

* Up to 30% more cuts.



PFERD



Universal line PSF STEELOX

Advantage

- Fast progress owing to high cutting efficiency
- Very cost effective thanks to long service life
- Thin cutting discs are ideal for cordless angle grinders

Applications

For cutting sheet metal, profiles and solid material, creating openings. For universal use on steel and stainless steel (INOX).

Quality

Abrasive grain synthetic corundum (AO).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

Note:

Does not contain iron, sulphur or chlorine fillers.

44830



Ø x thickness mm	Type	Grain size	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44830	...
115 x 1.0	straight	60	22.23	13,300	80	25 pcs.		105
115 x 1.6	straight	46	22.23	13,300	80	25 pcs.		106
115 x 2.4	straight	46	22.23	13,300	80	25 pcs.		107
125 x 1.0	straight	60	22.23	12,200	80	25 pcs.		109
125 x 1.6	straight	46	22.23	12,200	80	25 pcs.		110
125 x 2.4	straight	46	22.23	12,200	80	25 pcs.		111
178 x 1.6	straight	46	22.23	8,600	80	25 pcs.		112
178 x 2.5	straight	24	22.23	8,600	80	25 pcs.		113
230 x 1.9	straight	46	22.23	6,600	80	25 pcs.		114
230 x 2.5	straight	24	22.23	6,600	80	25 pcs.		115

PFERD



Power line SG STEELOX

Advantage

- Fast progress owing to high cutting efficiency
- Highly cost-effective thanks to extremely long service life

Applications

For cutting sheet metal, profiles and solid material, creating openings. For universal use on steel and stainless steel (INOX).

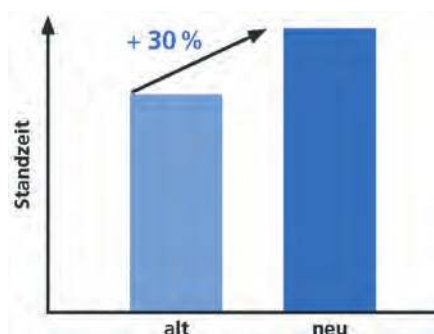
Quality

Abrasive grain high-performance corundum (AO).

FE/S/Cl ≤ 0.1% free from iron, chlorine and sulphur.

Note:

Does not contain iron, sulphur or chlorine fillers.



* Following systematic further development, the 1.0 mm disc R SG-INOX (art. no. 44832 102 and 106) sets new standards in performance. This intensive development has improved performance by up to 30%.

44832



Ø x thickness mm	Type	Grain size	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44832	...
* 115 x 1.0	straight	60	22.23	13,300	80	25 pcs.		102
115 x 1.6	straight	46	22.23	13,300	80	25 pcs.		103
115 x 2.4	straight	46	22.23	13,300	80	25 pcs.		104
* 125 x 1.0	straight	60	22.23	12,200	80	25 pcs.		106
125 x 1.6	straight	46	22.23	12,200	80	25 pcs.		107
125 x 2.4	straight	46	22.23	12,200	80	25 pcs.		108
178 x 1.6	straight	46	22.23	8,600	80	25 pcs.		109
178 x 2.5	straight	24	22.23	8,600	80	25 pcs.		110
230 x 1.9	straight	46	22.23	6,600	80	25 pcs.		111
230 x 2.5	straight	24	22.23	6,600	80	25 pcs.		112

Cutting discs

44833

Free-hand cutting discs (stainless steel)

AO



Special line SGP STEELOX

Advantage

- Exceptional service life on thin sheet metal and profiles due to wear-resistant binding system
- Fast progress owing to high cutting efficiency

Applications

For cutting sheet metal, profiles and solid material, creating openings.
For universal use on steel and stainless steel (INOX).

Quality

Abrasive grain high-performance corundum (AO).

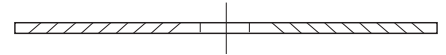
FE/S/Cl <= 0.1% free from iron, chlorine and sulphur.

Note:

Does not contain iron, sulphur or chlorine fillers.



44833



Ø x thickness mm	Type	Grain size	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		44833	...
115 x 1.0	straight	60	22.23	13,300	80	25 pcs.		102
115 x 1.6	straight	46	22.23	13,300	80	25 pcs.		103
125 x 0.8	straight	60	22.23	12,200	80	25 pcs.		155
125 x 1.0	straight	60	22.23	12,200	80	25 pcs.		106
125 x 1.6	straight	46	22.23	12,200	80	25 pcs.		107
178 x 1.6	straight	46	22.23	8,600	80	25 pcs.		110
230 x 1.9	straight	46	22.23	6,600	80	25 pcs.		115

44811

Free-hand cutting discs (stainless steel)

CER



CubitronTM II

Design

- Faster cutting and a longer service life
- Minimal discolouration
- Ultra thin cut with minimal burr formation
- Fast, low temperature grinding and optimised grinding processes

Applications

Fast, convenient cutting of profiles, bars and pipes as well as stainless steel, structural steel and non-ferrous base metal sheet metal.

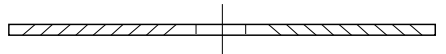
Quality

Ceramic abrasive grain (CER).

FE/S/Cl <= 0.1% free from iron, chlorine and sulphur.



44811



Ø x thickness mm	Type	Hole Ø mm	Working speed max. m/s		44811	...
76 x 1.0	straight	6.35	80	25 pcs.		101
76 x 1.0	straight	9.53	80	25 pcs.		102
115 x 1.0	straight	22.20	80	25 pcs.		103
115 x 1.6	straight	22.20	80	25 pcs.		104
115 x 2.5	straight	22.20	80	25 pcs.		105
125 x 1.0	straight	22.20	80	25 pcs.		106
125 x 1.6	straight	22.20	80	25 pcs.		107
125 x 2.0	straight	22.20	80	25 pcs.		108
125 x 2.5	straight	22.20	80	25 pcs.		109
180 x 1.6	straight	22.20	80	25 pcs.		110
180 x 2.0	straight	22.20	80	25 pcs.		111
180 x 2.5	straight	22.20	80	25 pcs.		112
230 x 2.5	straight	22.20	80	25 pcs.		113

44834

Free-hand cutting discs (aluminium)

AO



Design

Cutting disc for aluminium and other non-ferrous metals with high cutting performance and maximum service life.

Advantage

- Special abrasive mixture and binding technology prevent the cutting disc clogging, even on soft, tough aluminium
- Fast progress owing to high cutting efficiency
- Highly cost-effective thanks to extremely long service life
- Contains no fillers to leave unwanted residue on the workpiece.
- The surface can therefore be welded directly

Applications

Creating openings. Cutting solid material, sheet metal and profiles.

Machinable materials:

- Aluminium
- Other non-ferrous metals

Quality

Abrasive grain synthetic corundum (AO).

NEW

44834 101

44834 201



Ø x Thickness mm	Type	Hole Ø mm	Rotation speed max. rpm		44834	...
115 x 1.0	straight	22.23	13,300	25 pcs.		101
125 x 1.0	straight	22.23	12,200	25 pcs.		201

RHODIUS**Design**

Glass-fibre reinforced, open structure.

Quality**Abrasive grain synthetic corundum (AO).****44818****Special hard type FT/FTK 44****Design**

Long service life and a broad range of applications.

Applications

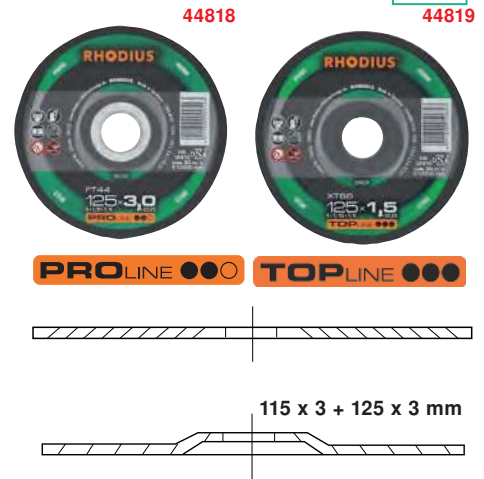
For cutting concrete, natural and artificial stone as well as roof tiles, granite, ceramics and clinker etc.

44819**Special hard type XT 66****Design**

Very hard cutting disc. Good cutting performance with a long service life. Smooth, precise cutting edges. Up to 50% less dust.

Applications

For glazed tiles, tiles, marble, window sills, stairs, slate roof etc.

Special application: titanium.

Ø x thickness mm	Type	Hole Ø mm	Rotation speed max. rpm	Working speed max. m/sec		FT/FTK 44 44818	XT 66 44819	...
115 x 1.5	straight	22.2	13,285	80	50 pcs.			201
115 x 3.0	offset	22.2	13,285	80	25 pcs.		101	
125 x 1.5	straight	22.2	12,200	80	50 pcs.			202
125 x 3.0	offset	22.2	12,200	80	25 pcs.		102	
180 x 1.9	straight	22.2	8,600	80	25 pcs.			204
180 x 3.0	straight	22.2	8,600	80	25 pcs.		104	
230 x 1.9	straight	22.2	6,600	80	25 pcs.			205

44821 - 44822

Diamond cutting discs

HHW**Applications**

For dry cutting with angle grinders. Especially for concrete, hard artificial stone, roof tiles, clinker High-fired, stoneware pipes, exposed aggregate concrete etc.

44821**Design**

Slotted edge with diamond segments. High performance series.

44822**Design**

Smooth closed edge.

Applications

For glazed tiles, glazed clinker, natural stone, tiles.

Ø mm	Segment height mm	Segment width mm	Hole mm	44821	...	44822	...
125	5	1.9	22.23				102
115	10	2.2	22.23		101		
125	10	2.2	22.23		102		
180	10	2.4	22.23		103		
230	10	2.4	22.23		104		



44828

Diamond cutting discs (Allcut)

RHODIUS**Type DG210 Allcut****Design**

The diamonds are applied directly onto the carrier blade and constantly provide a good cutting capacity until they are completely worn. Its long service life means that it is very cost effective when used for cutting stone. Its performance on steel makes it the ideal all-rounder. Fast, reliable, low-temperature cutting of a wide range of materials. High cutting speed, high cutting performance, short cutting times, comfortable cutting behaviour.

Applications

For wet and dry cutting. Suitable for concrete products, reinforced concrete, natural stone, construction materials, steel, tiles, glazed tiles, wood, plastics, GFRP.

Ø mm	Segment height mm	Segment width mm	Hole mm	44828	...
115	3	2.5	22.23		101
125	3	2.5	22.23		102
150	3	2.5	22.23		103
180	3	2.8	22.23		104
230	3	2.8	22.23		105



