

SC saw blades UK 2012

Features



Application areas

Solid carbide saw blades are frequently applied in model construction, producing printed circuits boards, fine mechanical industries and various parting-off operations.

The **ZB** tools are made of **SC** with a high density structure

- => a smooth and tight grinded cutting edge
- => perfect surface roughness on the active surfaces
- => high oxidation resistance to the workpiece material
- => smooth and light cutting performance
- => high stability

High wear resistance on the cutting edge

- => longer form accuracy on the workpiece
- => improved surface roughness on the workpiece
- => longer tool life when working in abrasive materials

Perfect possibilities in repeatable re-grinding and re-coating as well

- => low cost on the tooling by a longer total life cycle of the tools

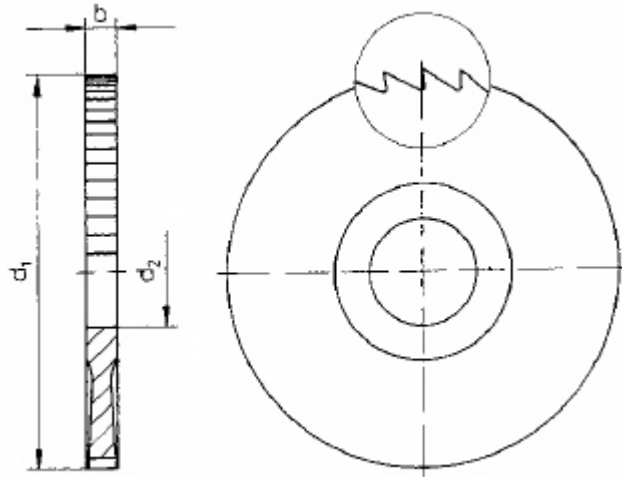
Index saw blades



Saw blades from solid carbide

Fine pitch acc. DIN 1837, tooth shape A

Coarse pitch acc. DIN 1838, tooth shape B



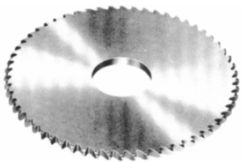
	Fine pitch	Coarse pitch
Ø 20 mm	100 001 – 100 018 ZF A	100 161 – 100 177 ZF B
Ø 25 mm	100 019 – 100 036 ZF A	100 178 – 100 194 ZF B
Ø 30 mm	100 037 – 100 054 ZF A	100 195 – 100 211 ZF B
Ø 40 mm	100 055 – 100 072 ZF A	100 212 – 100 228 ZF B
Ø 50 mm	100 073 – 100 089 ZF A	100 229 – 100 245 ZF B
Ø 63 mm	100 096 – 100 106 ZF A	100 246 – 100 261 ZF B
Ø 80 mm	100 107 – 100 122 ZF A	100 262 – 100 277 ZF B
Ø 100 mm	100 123 – 100 136 ZF A	100 278 – 100 291 ZF B
Ø 125 mm	100 137 – 100 149 ZF A	100 292 – 100 303 ZF B
Ø 160 mm	100 150 – 100 156 ZF A	--
Ø 200 mm	on request	

Index saw blades on request



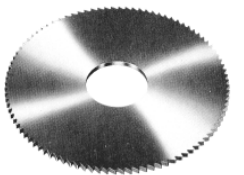
SC blades with inclined cutting edges

Ø 30, 40, 50, 63 and 80 mm



SC blades with convex radius

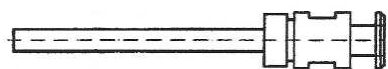
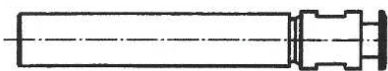
Ø 20, 25, 30, 40, 50 and 63 mm



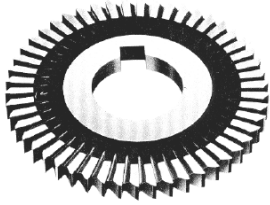
SC blades with extra fine pitch; DIN 1837

Ø 15, 20, 25, 30, 35, 40, 50, 63 and 80 mm

Saw blade tool holders

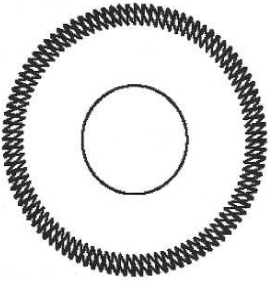


Index disc mills on request



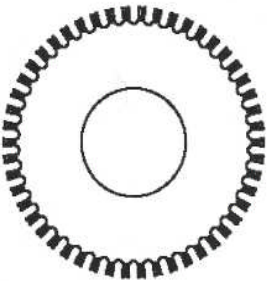
SC disc mills

Ø 20, 25, 30, 40, 50, 63 and 80 mm



SC disc mills for machining printed circuit boards

Ø 100 mm



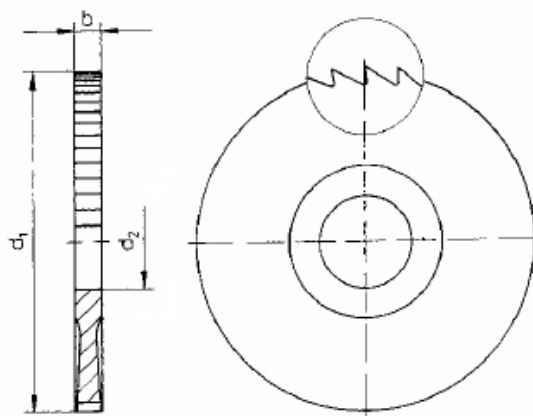
SC disc mills for machining printed circuit boards; right and left hand

Ø 100 mm

Ø 20 mm

100 001 – 100 018 ZF A

100 161 – 100 177 ZF B

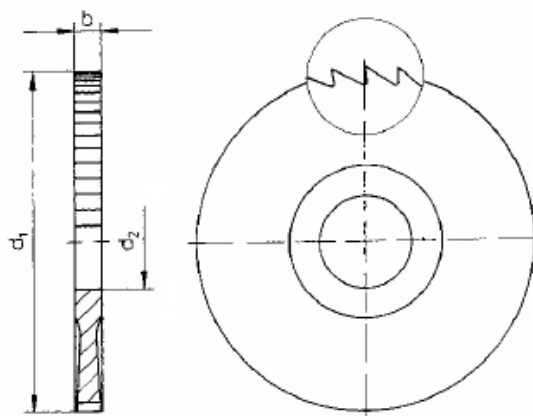


Article number		Dimensions D1 x b x d2 [H7]	Number of teeth		Price	Price	Price
ZF A	ZF B		ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 001	--	20 x 0.1 x 5	80	--	19.10	17.90	16.80
100 002	100 161	20 x 0.2 x 5	80	32	10.70	10.10	9.40
100 003	100 162	20 x 0.3 x 5	64	32	10.70	10.10	9.40
100 004	100 163	20 x 0.4 x 5	64	32	10.70	10.10	9.40
100 005	100 164	20 x 0.5 x 5	48	24	11.70	10.90	10.40
100 006	100 165	20 x 0.6 x 5	48	24	11.70	10.90	10.40
100 007	100 166	20 x 0.8 x 5	40	24	13.20	12.50	11.70
100 008	100 167	20 x 1.0 x 5	40	20	15.50	14.70	13.70
100 009	100 168	20 x 1.2 x 5	40	20	15.50	14.70	13.70
100 010	100 169	20 x 1.4 x 5	40	20	17.20	16.10	15.00
100 011	100 170	20 x 1.5 x 5	40	20	17.20	16.10	15.00
100 012	100 171	20 x 1.6 x 5	40	20	18.70	17.70	16.50
100 013	100 172	20 x 1.8 x 5	32	16	18.70	17.70	16.50
100 014	100 173	20 x 2.0 x 5	32	16	19.30	18.30	17.10
100 015	100 174	20 x 2.5 x 5	32	16	24.10	22.70	21.30
100 016	100 175	20 x 3.0 x 5	32	16	27.10	25.50	23.80
100 017	100 176	20 x 3.5 x 5	24	--	37.00	34.60	32.30
100 018	100 177	20 x 4.0 x 5	24	16	37.00	34.60	32.30

Ø 25 mm

100 019 – 100 036 ZF A

100 178 – 100 194 ZF B

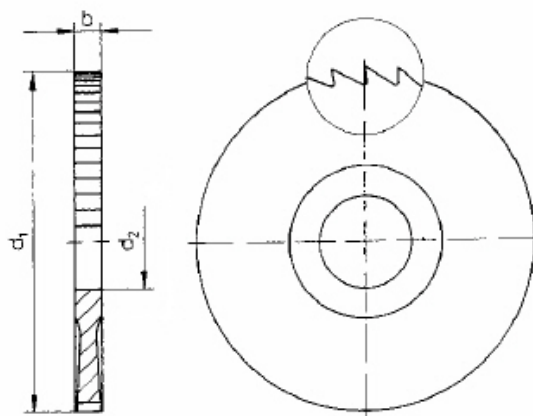


Article number		Dimensions D1 x b x d2 [H7]	Number of teeth		Price	Price	Price
ZF A	ZF B		ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 019	--	25 x 0.1 x 8	80	--	19.30	18.10	16.90
100 020	100 178	25 x 0.2 x 8	80	32	11.70	10.90	10.40
100 021	100 179	25 x 0.3 x 8	80	32	11.70	10.90	10.40
100 022	100 180	25 x 0.4 x 8	64	32	11.70	10.90	10.40
100 023	100 181	25 x 0.5 x 8	64	24	13.00	12.20	11.40
100 024	100 182	25 x 0.6 x 8	64	24	13.60	12.90	11.90
100 025	100 183	25 x 0.8 x 8	48	24	16.20	15.20	14.30
100 026	100 184	25 x 1.0 x 8	48	20	17.20	16.10	15.00
100 027	100 185	25 x 1.2 x 8	48	20	19.50	18.30	17.10
100 028	100 186	25 x 1.4 x 8	40	20	21.30	20.10	18.70
100 029	100 187	25 x 1.5 x 8	40	20	22.60	21.30	19.80
100 030	100 188	25 x 1.6 x 8	40	20	22.60	21.30	19.80
100 031	100 189	25 x 1.8 x 8	40	16	24.30	22.70	21.30
100 032	100 190	25 x 2.0 x 8	40	16	26.60	24.90	23.30
100 033	100 191	25 x 2.5 x 8	40	16	31.90	30.00	28.10
100 034	100 192	25 x 3.0 x 8	32	16	38.80	36.40	34.10
100 035	100 193	25 x 3.5 x 8	32	--	48.50	45.50	42.50
100 036	100 194	25 x 4.0 x 8	32	16	48.50	45.50	42.50

Ø 30 mm

100 037 – 100 054 ZF A

100 195 – 100 211 ZF B

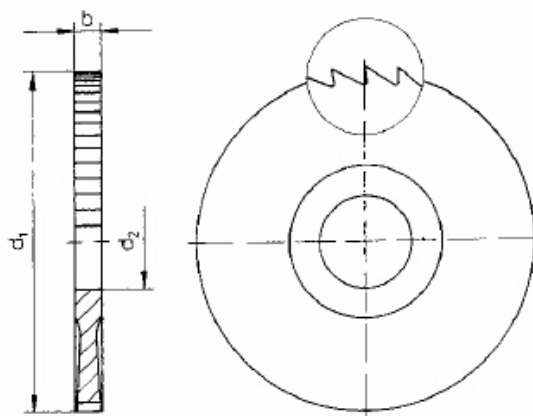


Article number		Dimensions		Number of teeth		Price	Price	Price
ZF A	ZF B	D1 x b	x d2 [H7]	ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 037	--	30 x 0.1	x 8	100	--	22.80	21.50	20.10
100 038	100 195	30 x 0.2	x 8	100	32	14.90	13.90	13.10
100 039	100 106	30 x 0.3	x 8	80	32	14.90	13.90	13.10
100 040	100 197	30 x 0.4	x 8	80	32	14.90	13.90	13.10
100 041	100 198	30 x 0.5	x 8	80	24	14.90	13.90	13.10
100 042	100 199	30 x 0.6	x 8	64	24	16.20	15.10	14.30
100 043	100 200	30 x 0.8	x 8	64	24	19.50	15.40	17.10
100 044	100 201	30 x 1.0	x 8	64	20	20.70	19.50	18.30
100 045	100 202	30 x 1.2	x 8	48	20	24.30	22.70	21.30
100 046	100 203	30 x 1.4	x 8	48	20	25.80	24.30	22.70
100 047	100 204	30 x 1.5	x 8	48	20	26.50	24.90	23.30
100 048	100 205	30 x 1.6	x 8	48	20	28.50	26.70	25.00
100 049	100 206	30 x 1.8	x 8	48	20	30.40	28.50	26.70
100 050	100 207	30 x 2.0	x 8	48	20	32.30	30.30	28.40
100 051	100 208	30 x 2.5	x 8	40	20	36.50	34.20	32.10
100 052	100 209	30 x 3.0	x 8	40	18	42.00	39.40	36.90
100 053	100 210	30 x 3.5	x 8	40	--	55.10	51.70	48.30
100 054	100 211	30 x 4.0	x 8	40	18	55.10	51.70	48.30

Ø 40 mm

100 055 – 100 072 ZF A

100 212 – 100 228 ZF B

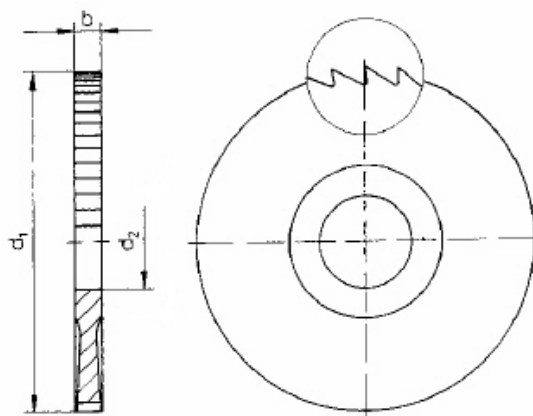


Article number		Dimensions		Number of teeth		Price	Price	Price
ZF A	ZF B	D1 x b	x d2 [H7]	ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 055	--	40 x 0.1	x 10	128	--	28.90	27.20	25.40
100 056	100 212	40 x 0.2	x 10	128	48	20.70	19.50	18.30
100 057	100 213	40 x 0.3	x 10	100	48	19.10	17.90	16.80
100 058	100 214	40 x 0.4	x 10	100	48	19.10	17.90	16.80
100 059	100 215	40 x 0.5	x 10	80	40	21.30	20.10	18.80
100 060	100 216	40 x 0.6	x 10	80	40	21.30	20.10	18.80
100 061	100 217	40 x 0.8	x 10	80	40	24.30	22.70	21.30
100 062	100 218	40 x 1.0	x 10	64	32	26.80	25.20	23.60
100 063	100 219	40 x 1.2	x 10	64	32	26.80	25.20	23.60
100 064	100 220	40 x 1.4	x 10	64	32	28.50	26.70	25.00
100 065	100 221	40 x 1.5	x 10	64	32	29.40	27.60	25.80
100 066	100 222	40 x 1.6	x 10	64	32	30.40	28.50	26.70
100 067	100 223	40 x 1.8	x 10	48	24	32.90	31.00	28.90
100 068	100 224	40 x 2.0	x 10	48	24	33.90	37.60	29.80
100 069	100 225	40 x 2.5	x 10	48	24	44.00	41.30	38.60
100 070	100 226	40 x 3.0	x 10	48	24	49.70	46.70	43.70
100 071	100 227	40 x 3.5	x 10	40	--	66.90	62.70	58.50
100 072	100 228	40 x 4.0	x 10	40	20	66.90	62.70	58.50

Ø 50 mm

100 073 – 100 089 ZF A

100 229 – 100 245 ZF B

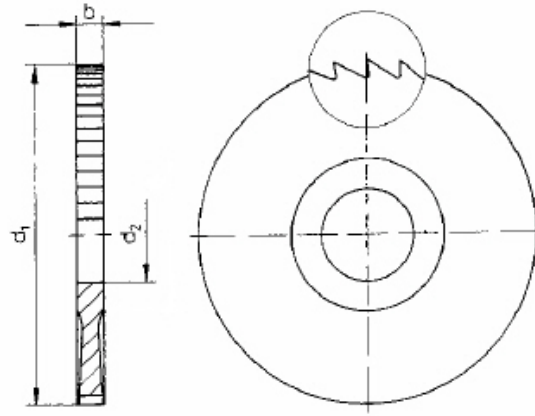


Article number		Dimensions		Number of teeth		Price	Price	Price
ZF A	ZF B	D1 x b	x d2 [H7]	ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 073	100 229	50 x 0.2	x 13	128	48	29.40	27.60	25.80
100 074	100 230	50 x 0.3	x 13	128	48	25.20	23.70	22.20
100 075	100 231	50 x 0.4	x 13	100	48	25.20	23.70	22.20
100 076	100 232	50 x 0.5	x 13	100	48	25.20	23.70	22.20
100 077	100 233	50 x 0.6	x 13	80	48	25.20	23.70	22.20
100 078	100 234	50 x 0.8	x 13	80	40	27.40	25.80	24.20
100 079	100 235	50 x 1.0	x 13	80	40	29.40	27.60	25.80
100 080	100 236	50 x 1.2	x 13	64	40	31.00	29.10	27.30
100 081	100 237	50 x 1.4	x 13	64	32	37.10	34.80	32.70
100 082	100 238	50 x 1.5	x 13	64	32	37.10	34.80	32.70
100 083	100 239	50 x 1.6	x 13	64	32	38.10	35.80	33.50
100 084	100 240	50 x 1.8	x 13	64	32	41.00	38.60	36.00
100 085	100 241	50 x 2.0	x 13	64	32	42.60	40.00	37.50
100 086	100 242	50 x 2.5	x 13	48	32	51.90	48.90	45.60
100 087	100 243	50 x 3.0	x 13	48	24	60.00	56.40	52.80
100 088	100 244	50 x 3.5	x 13	48	–	81.80	76.70	71.60
100 089	100 245	50 x 4.0	x 13	48	24	81.80	76.70	71.60

Ø 63 mm

100 090 – 100 106 ZF A

100 246 – 100 261 ZF B

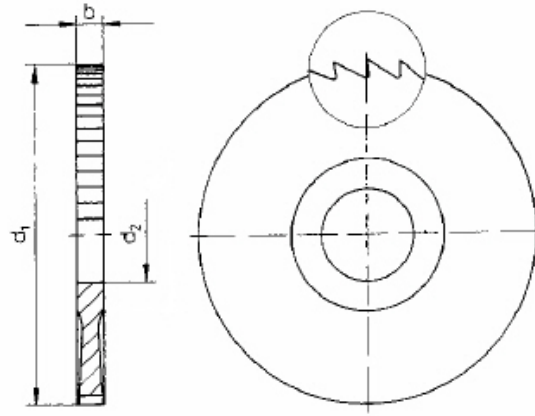


Article number		Dimensions		Number of teeth		Price	Price	Price
ZF A	ZF B	D1 x b	x d2 [H7]	ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 090	--	63 x 0.2	x 16	160	64	38.80	36.40	34.10
100 091	100 246	63 x 0.3	x 16	128	64	38.80	36.40	34.10
100 092	100 247	63 x 0.4	x 16	128	64	34.20	32.20	30.20
100 093	100 248	63 x 0.5	x 16	128	64	32.90	31.00	28.90
100 094	100 249	63 x 0.6	x 16	100	48	34.80	32.80	30.60
100 095	100 250	63 x 0.8	x 16	100	48	41.00	38.60	36.00
100 096	100 251	63 x 1.0	x 16	100	48	43.60	41.00	38.30
100 097	100 252	63 x 1.2	x 16	80	40	46.40	43.60	40.70
100 098	100 253	63 x 1.4	x 16	80	40	47.80	44.90	42.00
100 099	100 254	63 x 1.5	x 16	80	40	50.30	47.30	44.20
100 100	100 255	63 x 1.6	x 16	80	40	51.60	48.50	45.40
100 101	100 256	63 x 1.8	x 16	80	40	54.30	50.90	47.70
100 102	100 257	63 x 2.0	x 16	80	40	59.30	55.70	52.20
100 103	100 258	63 x 2.5	x 16	80	32	69.60	65.40	61.20
100 104	100 259	63 x 3.0	x 16	64	32	78.80	73.80	69.20
100 105	100 260	63 x 3.5	x 16	64	--	108.60	101.90	95.10
100 106	100 261	63 x 4.0	x 16	64	32	108.60	101.90	95.10

Ø 80 mm

100 107 – 100 122 ZF A

100 262 – 100 277 ZF B

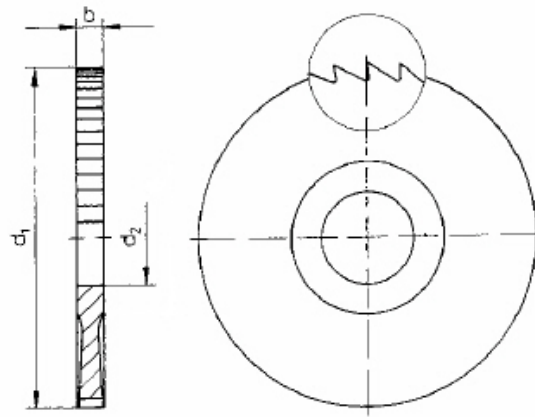


Article number		Dimensions D1 x b x d2 [H7]	Number of teeth		Price	Price	Price
ZF A	ZF B		ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 107	100 262	80 x 0.3 x 22	160	64	75.50	70.80	66.30
100 108	100 263	80 x 0.4 x 22	160	64	71.00	66.60	62.30
100 109	100 264	80 x 0.5 x 22	128	64	53.90	50.70	47.40
100 110	100 265	80 x 0.6 x 22	128	64	51.60	48.50	45.40
100 111	100 266	80 x 0.8 x 22	128	64	57.40	56.20	50.40
100 112	100 267	80 x 1.0 x 22	100	64	60.60	57.90	53.30
100 113	100 268	80 x 1.2 x 22	100	48	64.70	59.70	55.80
100 114	100 269	80 x 1.4 x 22	100	48	69.00	64.80	60.60
100 115	100 270	80 x 1.5 x 22	100	48	70.20	66.00	61.80
100 116	100 271	80 x 1.6 x 22	100	48	72.30	67.80	63.50
100 117	100 272	80 x 1.8 x 22	80	40	79.00	74.20	69.40
100 118	100 273	80 x 2.0 x 22	80	40	83.80	78.80	73.70
100 119	100 274	80 x 2.5 x 22	80	40	97.40	92.10	86.10
100 120	100 275	80 x 3.0 x 22	80	40	116.30	109.40	103.70
100 121	100 276	80 x 3.5 x 22	64	--	154.50	144.90	135.30
100 122	100 277	80 x 4.0 x 22	64	32	154.50	144.90	135.30

Ø 100 mm

100 123 – 100 136 ZF A

100 278 – 100 291 ZF B

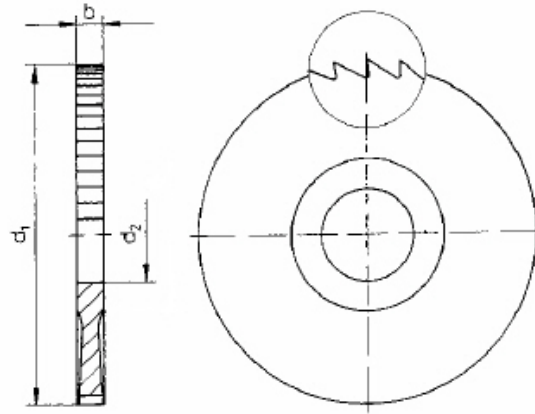


Article number		Dimensions		Number of teeth		Price	Price	Price	
ZF A	ZF B	D1	x b	x d2 [H7]	ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 123	100 278	100	x 0.5	x 22	160	80	100.20	94.20	88.10
100 124	100 279	100	x 0.6	x 22	160	80	97.60	90.60	84.80
100 125	100 280	100	x 0.8	x 22	128	64	82.80	77.80	72.90
100 126	100 281	100	x 1.0	x 22	128	64	76.70	72.00	67.50
100 127	100 282	100	x 1.2	x 22	128	64	85.10	80.00	74.80
100 128	100 283	100	x 1.4	x 22	100	48	93.20	87.50	81.90
100 129	100 284	100	x 1.5	x 22	100	48	96.40	90.60	84.80
100 130	100 285	100	x 1.6	x 22	100	48	101.60	95.40	89.30
100 131	100 286	100	x 1.8	x 22	100	48	108.30	101.80	95.20
100 132	100 287	100	x 2.0	x 22	100	48	120.50	113.30	105.90
100 133	100 288	100	x 2.5	x 22	100	48	136.70	128.40	121.20
100 134	100 289	100	x 3.0	x 22	100	40	156.30	146.80	138.00
100 135	100 290	100	x 3.5	x 22	80	--	195.60	184.80	174.00
100 136	100 291	100	x 4.0	x 22	80	40	195.60	184.80	174.00

Ø 125 mm

100 137 – 100 149 ZF A

100 292 – 100 303 ZF B

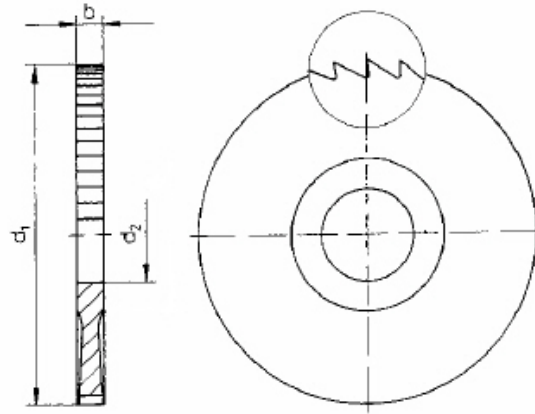


Article number		Dimensions D1 x b x d2 [H7]	Number of teeth		Price	Price	Price
ZF A	ZF B		ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 137	--	125 x 0.6 x 22	160	80	165.00	155.00	146.00
100 138	100 292	125 x 0.8 x 22	160	80	141.00	132.00	124.00
100 139	100 293	125 x 1.0 x 22	160	64	125.00	118.00	111.00
100 140	100 294	125 x 1.2 x 22	128	64	137.00	129.00	120.00
100 141	100 295	125 x 1.4 x 22	128	64	150.00	142.00	132.00
100 142	100 296	125 x 1.5 x 22	128	64	158.00	148.00	138.00
100 143	100 297	125 x 1.6 x 22	128	64	162.00	153.00	143.00
100 144	100 298	125 x 1.8 x 22	128	64	174.00	165.00	154.00
100 145	100 299	125 x 2.0 x 22	128	64	192.00	180.00	168.00
100 146	100 300	125 x 2.5 x 22	100	48	225.00	212.00	198.00
100 147	100 301	125 x 3.0 x 22	100	48	258.00	243.00	228.00
100 148	100 302	125 x 3.5 x 22	100	--	253.00	332.00	310.00
100 149	100 303	125 x 4.0 x 22	100	48	253.00	332.00	310.00

Ø 160 mm

100 150 – 100 156 ZF A

100 304 – 100 -- ZF B

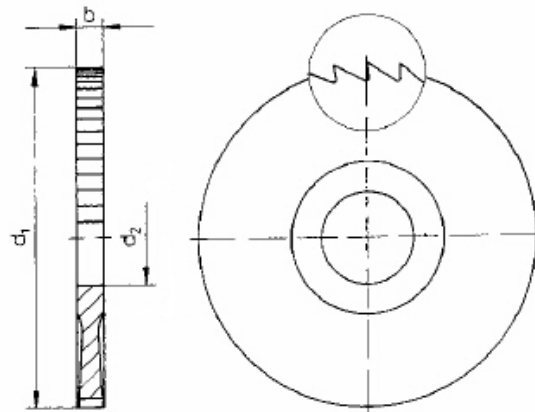


Article number		Dimensions D1 x b x d2 [H7]	Number of teeth		Price	Prijs	Price
ZF A	ZF B		ZF A	ZF B	1 - 4 pcs	5 - 9 pcs	10 and more
100 150	100 304	160 x 1.0 x 32	160	--	245.00	231.00	216.00
100 151	--	160 x 1.2 x 32	160	--	221.00	207.00	192.00
100 152	--	160 x 1.5 x 32	160	--	221.00	207.00	192.00
100 153	--	160 x 1.6 x 32	160	--	221.00	207.00	192.00
100 154	--	160 x 2.0 x 32	128	--	329.00	312.00	290.00
100 155	--	160 x 2.5 x 32	128	--	375.00	352.00	329.00
100 156	--	160 x 3.0 x 32	128	--	404.00	380.00	356.00

Ø 200 mm

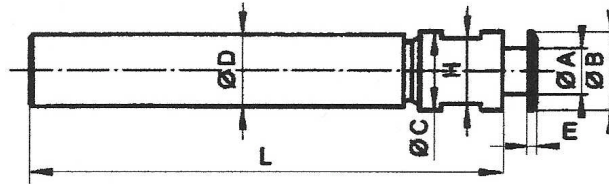
100 157 – 100 160 ZF A

100 -- – 100 -- ZF B

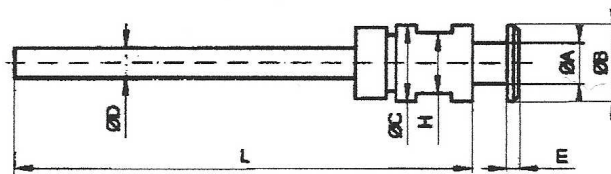


Article number		Dimensions D1 x b x d2 [H7]	Number of teeth		Pricing on request		
ZF A	ZF B		ZF A	ZF B			
100 157	--	200 x 1.5 x 32	160	--			
100 158	--	200 x 2.0 x 32	160	--			
100 159	--	200 x 2.5 x 32	160	--			
100 160	--	200 x 3.0 x 32	128	--			

Saw blade tool holders

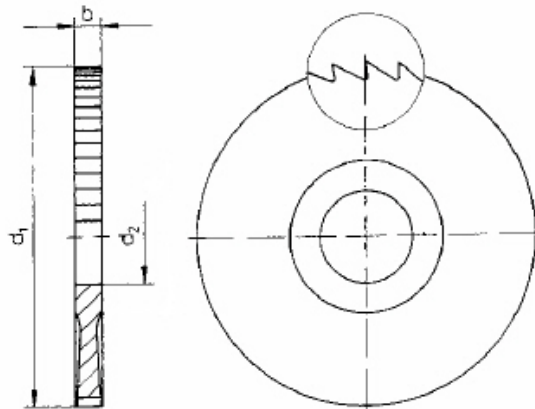
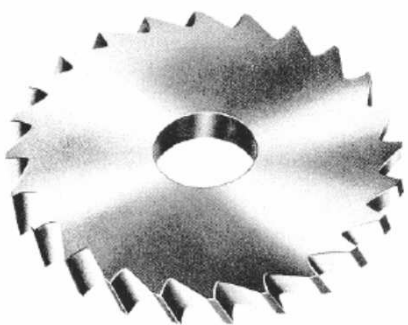


Article number	ØA	ØB	ØD	L	E	€/ piece
140 010	5	10	10	60	3	240.00
140 014	8	15	14	65	3	240.00
140 016	10	17	16	70	3	240.00
140 018	13	20	18	80	4	240.00
140 020	16	24	20	90	4	240.00



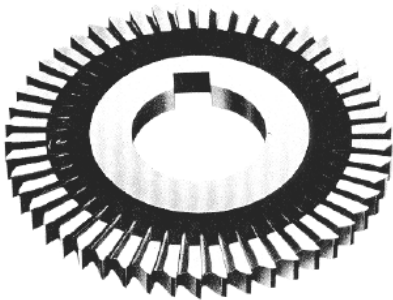
Article number	ØA	ØB	ØD	L	E	€/ piece
141 050	5	10	10	6	3	240.00
141 080	8	15	14	6	3	240.00
141 100	10	17	16	6	3	240.00
141 130	13	20	18	10	4	240.00
141 020	16	24	20	16	4	240.00

Pricing on request



Dimensions saw blade with inclined cutting edges

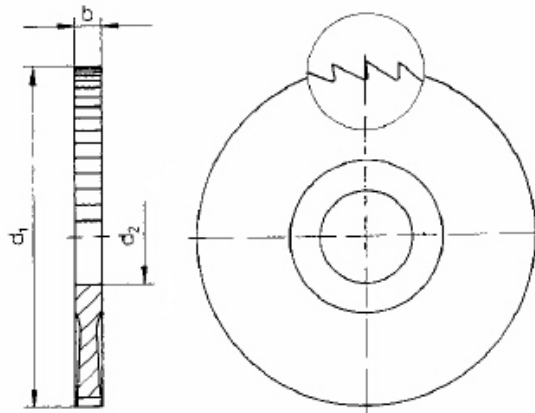
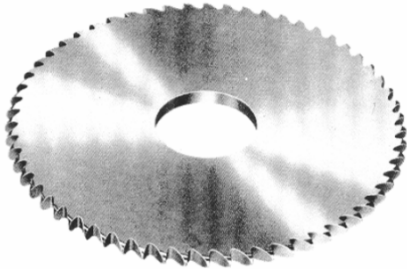
d1 [js15]	30	40	50	63	80
d2 [H7]	8	10	13	16	22
B	1- 6	1- 6	1- 6	1- 6	1- 6
z [N° teeth]	20	24	30	40	50



Dimensions SC disc mill

d1 [js15]	20	25	30	40	50	63	80
d2 [H7]	5	8	8	10	13	16	22
			z [N° teeth]				
width b = 2	12	20	24	30	40	50	60
width b = 3	12	12	24	20	40	50	50
width b = 4	12	12	30	20	30	30	50

Pricing on request



Dimensions saw blade with convex radius

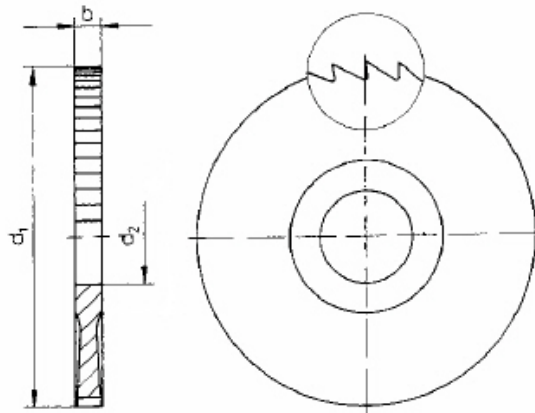
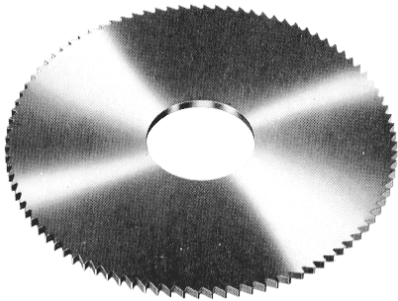
d1 [js15]	20	25	30	40	50	63
d2 [H7]	5	8	8	10	13	16

z [N° tanden]

Width b in mm

0.8	30	30	30	--	--	--
1.0	30	30	30	30	30	--
1.5	30	30	30	--	--	--
2.0	30	24	30	24	30	30
2.5	20	24	30	--	--	--
3.0	20	24	30	24	30	40
4.0	--	--	--	24	30	40
5.0	--	--	--	20	24	30
6.0	--	--	--	20	24	30

Pricing on request



Dimensions saw blade with extra fine pitch; DIN 1837

d1 [js15]	15	20	25	25	30	35	40	40	45	50	50	63	80
d2 [H7]	5	5	5	8	8	8	8	10	8	10	13	16	16

z [N° teeth]

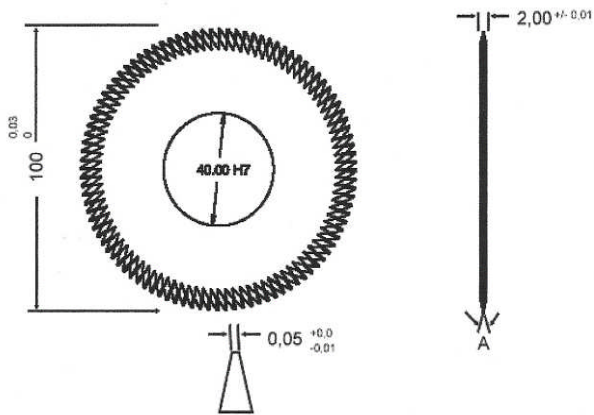
Width b in mm

0.1	80	100	100	120	120								
0.15	80	100	100	120	120								
0.2	80	100	100	120	120	120	160	160	160	160	160		
0.25	80	100	100	120	120	120	160	160	160	160	160		
0.3	80	100	100	120	120	120	160	160	160	160	160		
0.35	80	100	100	120	120	120	160	160	160	160	160		
0.4	80	100	100	120	120	120	160	160	160	160	160		
0.5	80	80	80	100	100	100	160	120	120	120	120		
0.6	80	80	80	100	100	100	160	120	120	120	120		
0.7	80	80	80	100	100	100	160	120	120	120	120		
0.8	80	80	80	100	100	100	160	120	120	120	120		
0.9	80	80	80	100	100	100	160	120	120	120	120		
1.0	80	80	80	100	100	100	160	120	120	120	120		
1.1	80	80	80	100	100	100	160	120	120	120	120		
1.2	80	80	80	100	100	100	160	120	120	120	120		
1.4	80	80	80	100	100	100	160	120	120	120	120		
1.5	80	80	80	100	100	100	160	120	120	120	120		
2.0	80	80	80	100	100	100	160	120	120	120	120		

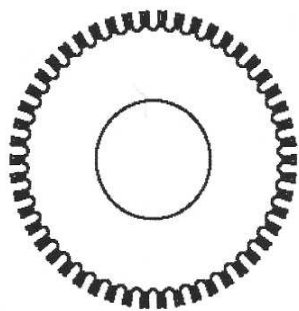
Editions/dimensions on request

- 2.5
- 3.0
- 3.5
- 4.0
- 4.5
- 5.0
- 5.5
- 6.0

Pricing on request



Standard tooth angle 30°
 Special edition also in 15° and 20°



Standard tooth angle 30°
 Number of teeth z = 50

Cutting depth in mm	Cutting width on the workpiece surface				
	milling angle 15°	milling angle 20°	milling angle 30°	milling angle 45°	milling angle 60°
0.1	0.126	0.135	0.153	0.182	0.215
0.2	0.153	0.170	0.207	0.265	0.330
0.3	0.179	0.205	0.260	0.348	0.446
0.4	0.206	0.240	0.314	0.431	0.561
0.5	0.232	0.276	0.368	0.514	0.677
0.6	0.258	0.311	0.421	0.596	0.792
0.7	0.285	0.346	0.475	0.679	0.907
0.8	0.311	0.381	0.528	0.762	1.023
0.9	0.338	0.416	0.582	0.845	1.138
1.0	0.364	0.452	0.636	0.928	1.254

Cutting speeds Vc saw blades



Carbon steel	Examples [DIN/W.Nr]	Vc
< 450 N/mm ²	C15 C22 Ck15 St37-3 9SMn28	70 - 90 m/min
< 850 N/mm ²	St50-2 16CrMo4 12CrMo19 5	60 - 70 m/min
< 1100 N/mm ²	St60-2 St70-2 42CrV6 51CrMoV4	40 - 50 m/min
Low alloyed steel		
< 600 N/mm ²	100Cr6 42Cr4 51CrV4	60 - 70 m/min
< 1000 N/mm ²	31NiCr14 100Cr2 36NiCr6	50 - 60 m/min
< 1300 N/mm ²	40CrMn7 35NiCr18 42CrMo4	40 - 50 m/min
High alloyed steel		
< 700 N/mm ²	X40CrMoV5 X155CrVMo12 1	40 - 50 m/min
< 1200 N/mm ²	S-12-1-4-5 S-6-5-2	30 - 40 m/min

Stainless steel	Examples [DIN/W.Nr]	Vc
Ferritic/martensitic	1.4021 1.4305 1.4448 1.4762	50 - 60 m/min
Martensitic	1.4034 1.4057 1.4125	40 - 50 m/min
Austenitic	1.4301 1.4311 1.4404 1.4462	30 - 40 m/min

Cast iron	Examples [DIN/W.Nr]	Vc
Grey cast iron [<180-HB]	EN-GJL-110 EN-GJL-150	90 - 70 m/min
Grey cast iron [<260HB]	EN-GJL-250 EN-GJL-400	70 - 50 m/min
Nodular cast iron [<160HB]	EN-GJS-350 EN-GJS-400	50 - 40 m/min
Nodular cast iron [<250HB]	EN-GJS-500 EN-GJS-700	40 - 30 m/min

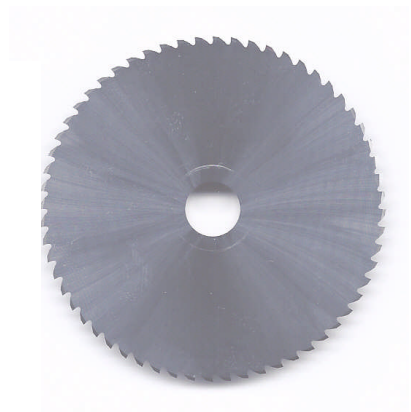
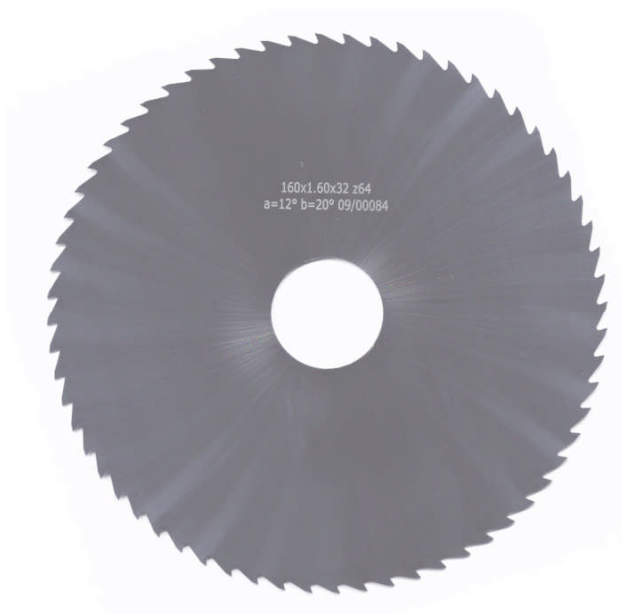
Non ferretic materials	Examples [DIN/W.Nr]	Vc
Aluminium alloys		
< 250 N/mm ²	Al99.5 AlMg1	80 - 120 m/min
< 300 N/mm ² / < 12% Si	G-AISi12 G-AISi10Mg	50 - 70 m/min
Copper alloys		
Brass	CuZn15 CuZn30 G-CuPb20Sn	40 - 60 m/min
Electrolytic copper	CuAl10Ni5Fe4 G-CuAl10Ni	60 - 80 m/min
Plastics		
Duroplastics	Responal / Novodur	80 - 100 m/min
Thermoplastics	Bakelit / Pertinax	70 - 90 m/min

Heat resistant alloys	Tensile strength Rm in N/mm ²	Vc
Iron based	800 - 1200	20 - 25 m/min
Nickel based	1000 - 1450	25 - 30 m/min
Cobalt based	1000 - 1450	25 - 30 m/min
Titanium alloys	900 - 1600	30 - 35 m/min

Troubles versus counter measures



Trouble	Situation and cause	Counter measures
Breakage of tools	engaging workpiece	Decrease feed rate V_f
	during cutting	Decrease feed rate V_f
	excessive wear	Decrease cutting speed V_c
	Earlier tool change	Apply coating
	Apply coating	Replace adapter
Fracture of cutting edge	run out	Replace adapter
	dry machining	Change to wet machining
	chipping	Decrease feed rate V_f
Fracture of cutting edge	large fracture	Decrease cutting speed V_c
	Replace adapter	Replace adapter
	From dry to wet machining	From dry to wet machining
Quick tool wear	Decrease feed rate V_f	Decrease feed rate V_f
	Increase coolant supply	Increase coolant supply
	Utilize coated edition	Utilize coated edition
Quick tool wear	cutting speed V_c	Decrease cutting speed V_c
	Increase feed rate V_f	Increase feed rate V_f
	Utilize coolant	Utilize coolant
Chattering	Check grinded tool	Check grinded tool
	Utilize coated edition	Utilize coated edition
	Increase feed rate V_f	Increase feed rate V_f
Chattering	Chance cutting speed V_c	Chance cutting speed V_c
	Check fixture and/or change it	Check fixture and/or change it
	Increase feed rate V_f	Increase feed rate V_f



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