

EXCLUSIVELINE®

HR 500 G high performance reamers GuhringNavigator and application examples

HR 500 Reamers from Ø 20.00 mm up to 40.00 mm

Tools with **bold** feed column no.
are preferred choice.

Tool material/Carbide grade	Carb./K10
Surface finish	TiAlN
Guhring no.	1680
Guhring no.	1681

Reamer- Ø mm	Feed column no.						
	71	72	73	74	75	76	77
	f (mm/rev.)						
< 4.00	0.080	0.100	0.125	0.300	0.500	0.800	1.000
4.00	0.100	0.125	0.160	0.300	0.500	1.000	1.200
5.00	0.100	0.125	0.160	0.400	0.600	1.000	1.400
6.30	0.125	0.160	0.200	0.400	0.700	1.200	1.600
8.00	0.160	0.200	0.250	0.600	1.000	1.800	2.400
10.00	0.200	0.250	0.315	0.600	1.200	1.800	2.400
12.50	0.200	0.250	0.315	0.800	1.200	2.000	2.500
16.00	0.250	0.315	0.400	0.800	1.400	2.200	2.600
20.00	0.315	0.400	0.500	0.800	1.400	2.200	2.600
25.00	0.400	0.500	0.630	1.000	1.600	2.500	3.000
31.50	0.400	0.500	0.630	1.000	2.000	3.000	3.600
40.00	0.500	0.630	0.800	1.200	2.000	3.000	3.600
50.00	0.630	0.800	1.000	1.400	2.200	3.200	3.600
> 50.00	0.800	1.000	1.250	1.600	2.200	3.200	3.600

For an optimal cooling lubricant supply to
HR 500 type D reamer cutting edges for through
holes we recommend clamping in hydraulic or
shrink fit chucks to the maximum clamping depth.

Coolant:
● soluble oil
● neat oil
○ air



Material group	Material examples <i>Figures in bold = material no. to DIN EN 10 027</i>	Tensile strength N/mm ²	Cool- ant	v _c m/min	Feed column no.
Common structural steels	1.0035 S185, 1.0486 StE P275N, 1.0345 P235GH, 1.0425 P265GH 1.0050 E295, 1.0070 E360, 1.8937 P500NH	≤500 >500-850	○ ○		
Free-cutting steels	1.0718 11SMnPb30, 1.0736 115Mn37 1.0727 46 S20, 1.0728 60 S20, 1.0757 46SPb20	≤850 850-1000	○ ○		
Unalloyed heat-treatable steels	1.0402 C22, 1.1178 C30E 1.0503 C45, 1.1191 C45E 1.0601 C60, 1.1221 C60E	≤ 700 700-850 850-1000	○ ○ ○		
Alloyed heat-treatable steels	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-1000 1000-1200	○ ○		
Unalloyed case hardened steels	1.0301 C10, 1.1121 C10E	≤750	○		
Alloyed case hardened steels	1.7043 38Cr4 1.5752 14NiCr14, 1.7131 16MnCr5, 1.7264 20CrMo5	850-1000 1000-1200	● ●		
Nitriding steels	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-1000 1000-1200	○ ●		
Tool steels	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 850-1000	○ ●		
High speed steels	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 61CrV4	≥650-1000	●	20-60	74-75
Spring steels	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4	≥330 HB	●		
Stainless steels, sulphured	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305	≤850	●	20-60	73-74
austenitic	1.4301 X5CrNi18 10, 1.4541 X6CrNiTi18 10, 1.4571 X6CrNiMoTi 17 12 2	≤850	●	20-60	73-74
martensitic	1.4057 X17CrNi16-1, 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18 2	≤850	●	20-60	73-74
Hardened steels	-	≤40-48 HRC >48-62 HRC	● ●	10-30	73
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200	●	20-60	74
Cast iron	0.6010 EN-GJL-100 (GG10) 0.6020 EN-GJL-200 (GG20) 0.6025 EN-GJL-250 (GG25) 0.6035 EN-GJL-350 (GG35)	≤240 HB <300 HB	○ ○ ○ ○	60-120 60-120	74-75 74-75
Spheroidal graphite and malleable cast iron	0.7050 EN-GJS-500-7 (GGG50) 0.8035 EN-GJMW-350-4 (GTW5) 0.7060 EN-GJS-600-3 (GGG60) 0.7070 EN-GJS-700-2 (GGG70)	≤240 HB <300 HB	○ ○	40-100 40-100	74-75 74-75
Chilled cast iron	-	≤350 HB	○	20-40	74-75
Ti and Ti-alloys	3.7024 Ti99.5, 3.7114 TiAl5Sn2.5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7164 TiAl6V4, 3.7184 TiAl4Mo4Sn2.5, -TiAl8Mo1V1	≤850 850-1200	● ●	20-40 20-40	74 74
Aluminium and Al-alloys	3.0255 Al99.5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400	○		
Al wrought alloys		≤450	○		
Al cast iron ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600	○		
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600	○		
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤450	○	80-160	74-75
Copper, low-alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5Zn5Pb	≤400	○		
Brass, short-chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600	○	30-100	74-75
long-chipping	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0.5	≤600	○	30-100	74-75
Bronze, short-chipping	2.1090 CuSn7Zn5Pb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600	○ ●	30-100	74-75
	2.0790 CuNi18Zn19Pb	>600-850	●	30-100	74-75
Bronze, long-chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	≤850 850-1000	● ●	30-100 30-100	74-75 74-75
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren		○	40-120	74-75
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon		○ ○	40-120	74-75
Kevlar	Kevlar		○	40-120	74-75
Glass/carbon fibre reinf. plastics	GFP/CFP		○	40-120	74-75