

REAMERS



CUTTING SPEED RECOMMENDATION - REAMERS

Tool-ø mm	Feed Column No. Countersinking Tools			
	81	82	83	84
	f (mm/rev.)			
2.00	0.03	0.04	0.06	0.08
2.50	0.03	0.05	0.07	0.10
3.15	0.03	0.05	0.08	0.11
4.00	0.04	0.06	0.09	0.13
5.00	0.04	0.07	0.10	0.14
6.30	0.04	0.07	0.12	0.15
8.00	0.05	0.08	0.13	0.16
10.00	0.06	0.09	0.14	0.17
12.50	0.06	0.10	0.15	0.19
16.00	0.07	0.11	0.17	0.21
20.00	0.08	0.13	0.18	0.23
25.00	0.09	0.15	0.21	0.26
31.50	0.12	0.17	0.24	0.30
40.00	0.14	0.21	0.28	0.34
50.00	0.17	0.24	0.31	0.36
63.00	0.20	0.27	0.33	0.38
80.00	0.23	0.30	0.35	0.40
100.00	0.25	0.30	0.35	0.40

Tool-ø mm	Feed Column No. Reamers								
	1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
2.00	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.127
2.50	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.150
3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.150
4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.180
5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.257
6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.308
8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.370
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.440
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.523
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.633
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.752
25.00	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.893

Tool-ø mm	Feed Column No. High Performance Reamers						
	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	3.500	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

Coolant

- Soluble Oil
- Oil
- Air

Material Group	Material Examples	Tens. Strength N/mm ²	Hard- ness	Cool- ant
Common Structural Steels	Mild steel, Grade 250 plate, Grade 350 plate	≤ 500 > 500 - 850		<input type="radio"/>
Free-Cutting Steels	1020, S1214, S1213, S12L13, S12L14	≤ 850 850 - 1000		<input type="radio"/>
Unalloyed Heat-Treatable Steels	1035, 1045, 1055, 1060, 1025	≤ 700 700 - 850 850 - 1000		<input type="radio"/>
Alloyed Heat-Treatable Steels	3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	850 - 1000 1000 - 1200		<input type="radio"/>
Unalloyed Case Hardened Steels	1010, 1015	≤ 750		<input type="radio"/>
Alloyed Case Hardened Steels	3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, N33, EN36A	850 - 1000 1000 - 1200		<input type="radio"/>
Nitriding Steels	1.8504 34CrAl6, 1.8519 31CrMo V9, 1.8550 34CrAlNi7	≥ 850 - 1000 1000 - 1200		<input type="radio"/>
Tool Steels	H11, H13, P20, D2, D3	≤ 850 850 - 1000		<input type="radio"/>
High Speed Steels	M2, M3, M35, M45	≥ 650 - 1000		<input type="radio"/>
Spring Steels	5155, 6150, 9255	≤ 330 HB		<input type="radio"/>
Stainless Steels, Sulphured	410S, 430F, 630	≤ 850		<input type="radio"/>
Austenitic	302, 303, 304, 310, 316, 316Ti, 321	≤ 850		<input type="radio"/>
Martensitic	410, 410X, 416, 420, 420C, 431, 440C	≤ 850		<input type="radio"/>
Hardened Steels	-	≤ 40 - 48 HRC > 48 - 60 HRC		<input type="radio"/>
Special Alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤ 1200		<input type="radio"/>
Cast Iron	GG10, GG15, GG20, GG25, GG30, GG35, GG40	≤ 240 HB < 300 HB		<input type="radio"/>
Spheroidal Graphite and Malleable Cast Iron	GGG40, GGG50, GGG60, GGG70, 32510, 50005, Nodular Iron	≤ 240 HB < 300 HB		<input type="radio"/>
Chilled Cast Iron	-	≤ 350 HB		<input type="radio"/>
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, -TiAl8Mo 1V1	≤ 850 850 - 1200		<input type="radio"/>
Al and Ti-alloys	3.0255 Al99.5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤ 400		<input type="radio"/>
Al Wrought Alloys	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1.5	≤ 450		<input type="radio"/>
Al Cast Alloys ≤10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤ 600		<input type="radio"/>
>10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, -GAlSi12CuNiMg	≤ 600		<input type="radio"/>
Magnesium Alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		<input type="radio"/>
Copper, Low-Alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤ 400		<input type="radio"/>
Brass, Short-Chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤ 600		<input type="radio"/>
Long-Chipping	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0.5	≤ 600		<input type="radio"/>
Bronze, Short-Chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤ 600		<input type="radio"/>
	2.0790 CuNi18Zn19Pb	> 600 - 850		<input type="radio"/>
Bronze, Long-Chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10	≤ 850		<input type="radio"/>
	2.0980 CuAl11Ni, 2.1247 CuBe2	850 - 1000		<input type="radio"/>
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	-		<input type="radio"/>
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	-		<input type="radio"/>
Kevlar	Kevlar	-		<input type="radio"/>
Glass, Carbon Concentr. Plastics	GFK/CFK	-		<input type="radio"/>

