





Material

Steel  
< 850 N/mm<sup>2</sup>

d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>z</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]
6	4	170	0.020	9.0	1.5	9020	720
7	4	170	0.025	10.5	1.8	7730	775
8	4	170	0.025	12.0	2.0	6765	675
10	4	170	0.035	15.0	2.5	5410	755
12	4	170	0.040	18.0	3.0	4510	720
14	4	170	0.045	21.0	3.5	3865	695
16	4	170	0.055	24.0	4.0	3380	745
18	4	170	0.060	27.0	4.5	3005	720
20	4	170	0.065	30.0	5.0	2705	705

Steel  
850 - 1100 N/mm<sup>2</sup>

6	4	110	0.020	9.0	1.5	5835	465
7	4	110	0.025	10.5	1.8	5000	500
8	4	110	0.025	12.0	2.0	4375	440
10	4	110	0.035	15.0	2.5	3500	490
12	4	110	0.040	18.0	3.0	2920	465
14	4	110	0.045	21.0	3.5	2500	450
16	4	110	0.055	24.0	4.0	2190	480
18	4	110	0.060	27.0	4.5	1945	465
20	4	110	0.065	30.0	5.0	1750	455

Steel  
1100 - 1300 N/mm<sup>2</sup>

6	4	80	0.020	9.0	0.6	4245	340
7	4	80	0.025	10.5	0.7	3640	365
8	4	80	0.025	12.0	0.8	3185	320
10	4	80	0.035	15.0	1.0	2545	355
12	4	80	0.040	18.0	1.2	2120	340
14	4	80	0.045	21.0	1.4	1820	330
16	4	80	0.055	24.0	1.6	1590	350
18	4	80	0.060	27.0	1.8	1415	340
20	4	80	0.065	30.0	2.0	1275	330

Cold work t. st. (12% Cr),  
high alloyed [1.2379]  
Stainless steel  
[Cr-Ni/1.4301]

6	4	70	0.020	9.0	1.5	3715	295
7	4	70	0.025	10.5	1.8	3185	320
8	4	70	0.025	12.0	2.0	2785	280
10	4	70	0.035	15.0	2.5	2230	310
12	4	70	0.040	18.0	3.0	1855	295
14	4	70	0.045	21.0	3.5	1590	285
16	4	70	0.055	24.0	4.0	1395	305
18	4	70	0.060	27.0	4.5	1240	300
20	4	70	0.065	30.0	5.0	1115	290

Material

Cast iron  
(lamellar / spheroidal)

Unalloyed copper

Titanium alloys  
up to 300 HB  
[Ti5Al2.5Sn]

Heat resistant steel  
[17-4 PH]

d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>z</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]
6	4	130	0.020	9.0	1.5	6895	550
7	4	130	0.025	10.5	1.8	5910	590
8	4	130	0.025	12.0	2.0	5175	520
10	4	130	0.035	15.0	2.5	4140	580
12	4	130	0.040	18.0	3.0	3450	550
14	4	130	0.045	21.0	3.5	2955	530
16	4	130	0.055	24.0	4.0	2585	570
18	4	130	0.060	27.0	4.5	2300	550
20	4	130	0.065	30.0	5.0	2070	540
6	4	230	0.020	9.0	1.5	12200	975
7	4	230	0.025	10.5	1.8	10460	1045
8	4	230	0.025	12.0	2.0	9150	915
10	4	230	0.035	15.0	2.5	7320	1025
12	4	230	0.040	18.0	3.0	6100	975
14	4	230	0.045	21.0	3.5	5230	940
16	4	230	0.055	24.0	4.0	4575	1005
18	4	230	0.060	27.0	4.5	4065	975
20	4	230	0.065	30.0	5.0	3660	950
6	4	80	0.020	9.0	1.5	4245	340
7	4	80	0.025	10.5	1.8	3640	365
8	4	80	0.025	12.0	2.0	3185	320
10	4	80	0.035	15.0	2.5	2545	355
12	4	80	0.040	18.0	3.0	2120	340
14	4	80	0.045	21.0	3.5	1820	330
16	4	80	0.055	24.0	4.0	1590	350
18	4	80	0.060	27.0	4.5	1415	340
20	4	80	0.065	30.0	5.0	1275	330
6	4	40	0.020	9.0	1.5	2120	170
7	4	40	0.025	10.5	1.8	1820	180
8	4	40	0.025	12.0	2.0	1590	160
10	4	40	0.035	15.0	2.5	1275	180
12	4	40	0.040	18.0	3.0	1060	170
14	4	40	0.045	21.0	3.5	910	165
16	4	40	0.055	24.0	4.0	795	175
18	4	40	0.060	27.0	4.5	705	170
20	4	40	0.065	30.0	5.0	635	165