



MATERIAL GROUP	HARDNESS HRC	NORMAL SPEED	Size (mm)											
			1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	13 14	< 30-40	v_c (m/min)	40	75	95	105	115	130	145	160	175	180	205
			n	12720	11560	10000	8400	7300	6900	5770	5090	4640	3780	3260
			f_s	0.006	0.01	0.017	0.024	0.03	0.045	0.06	0.075	0.059	0.106	0.12
			f (mm/min)	300	480	690	800	870	1250	1380	1530	1650	1800	1560
H	15 16	45-65	v_c (m/min)	20	30	45	55	60	60	60	65	65	70	70
			n	5800	4840	4520	4200	3680	3180	2470	2040	1750	1350	1110
			f_s	0.008	0.008	0.012	0.016	0.018	0.022	0.033	0.042	0.053	0.069	0.084
			f (mm/min)	130	160	220	270	270	280	330	340	370	370	375
K	31 32 33 34		v_c (m/min)	50	100	125	130	145	160	180	200	220	240	260
			n	15760	15760	13100	10500	9140	8490	7160	6370	5840	4770	4140
			f_s	0.006	0.013	0.019	0.026	0.034	0.045	0.068	0.09	0.111	0.136	0.151
			f (mm/min)	380	800	1020	1110	1230	1530	1950	2300	2600	2600	2500
< HRc45			<p> $a_p: \varnothing 1.0\text{mm} - 6.0\text{mm} = 0.2\text{mm}$ $a_p: \varnothing 8.0\text{mm} - 20.0\text{mm} = 0.3\text{mm}$ $a_e: 0.2 \times D$ </p>											
> HRc45			<p> $a_p: \varnothing 1.0\text{mm} - 6.0\text{mm} = 0.2\text{mm}$ $a_p: \varnothing 8.0\text{mm} - 20.0\text{mm} = 0.3\text{mm}$ $a_e: 0.1 \times D$ </p>											

MATERIAL GROUP	HARDNESS HRC	HIGH SPEED	Size (mm)											
			1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	13 14	< 30-40	v_c (m/min)	80	130	200	265	330	395	420	440	460	480	500
			n	25000	21000	21000	21000	21000	21000	16700	14000	12200	9550	7960
			f_s	0.02	0.026	0.036	0.052	0.064	0.071	0.09	0.104	0.12	0.136	0.15
			f (mm/min)	1950	220	3000	4400	5400	6000	6000	5850	5850	5180	4770
H	15 16	45-65	v_c (m/min)	80	130	160	170	190	200	210	220	230	240	250
			n	25000	21000	17000	13660	12000	10500	8360	7000	6100	4770	3980
			f_s	0.012	0.017	0.023	0.032	0.038	0.045	0.056	0.064	0.071	0.079	0.087
			f (mm/min)	1200	1400	1560	1750	1800	1880	1880	1800	1740	1500	1380
K	31 32 33 34		v_c (m/min)	80	130	200	265	330	395	420	440	460	480	500
			n	2500	21000	21000	21000	21000	21000	16700	14000	12200	9550	7960
			f_s	0.02	0.026	0.036	0.052	0.064	0.071	0.09	0.104	0.12	0.136	0.15
			f (mm/min)	1950	220	3000	4400	5400	6000	6000	5850	5850	5180	4770
			<p> $a_p: \varnothing 1.0\text{mm} - 6.0\text{mm} = 0.2\text{mm}$ $a_p: \varnothing 8.0\text{mm} - 20.0\text{mm} = 0.3\text{mm}$ $a_e: 0.05 \times D$ </p>											