



MATERIAL GROUP	HRc		Size (mm)										
			2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
<b>P</b>	11 12 <b>&lt; 30</b>	$v_c$ (m/min)	50	50	55	55	60	60	65	60	70	65	65
		$n$	7580	5290	4280	3680	3160	2400	2020	1640	1390	1010	820
		$f_z$	0.005	0.008	0.012	0.017	0.024	0.033	0.04	0.038	0.041	0.042	0.044
		$f$ (mm/min)	70	85	100	125	150	160	160	125	115	85	70
	13 14 <b>30-45</b>	$v_c$ (m/min)	40	40	45	45	50	50	50	50	55	50	50
		$n$	6050	4280	3410	2900	2520	1900	1640	1390	1070	820	630
		$f_z$	0.005	0.008	0.012	0.017	0.025	0.033	0.038	0.041	0.042	0.037	0.037
		$f$ (mm/min)	60	70	85	100	125	125	125	115	90	60	45
<b>H</b>	15 16 <b>45-55</b>	$v_c$ (m/min)	25	25	25	30	30	30	30	30	35	30	30
		$n$	3780	2640	2160	1900	1640	1260	1010	840	670	500	380
		$f_z$	0.004	0.007	0.009	0.012	0.018	0.024	0.03	0.027	0.03	0.03	0.03
		$f$ (mm/min)	30	35	40	45	60	60	60	45	40	30	20
<b>K</b>	31 32 33 34	$v_c$ (m/min)	50	50	55	55	60	60	65	60	70	65	65
		$n$	7580	5290	4280	3680	3160	2400	2020	1640	1390	1010	820
		$f_z$	0.005	0.008	0.012	0.017	0.024	0.033	0.04	0.038	0.041	0.042	0.044
		$f$ (mm/min)	70	85	100	125	150	160	160	125	115	85	70
		< HRc45											
		> HRc45											

$v_c$  - cutting speed (m/min)  
 $n$  - RPM (rev/min)  
 $f_z$  - feed rate (mm/tooth)  
 $f$  - feed rate (mm/rev)  
 $z$  - No. of teeth  
 $a_p$  - axial depth of cut  
 $a_e$  - radial depth of cut

$$\text{To calculate RPM from cutting speed: } n = \frac{v_c \times 1000}{\pi \times \phi}$$

$$\text{To calculate cutting speed from RPM: } v_c = \frac{n \times \pi \times \phi}{1000}$$

All recommendations are based on ideal machining conditions. Adjustments may need to be made according to your set-up. The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.