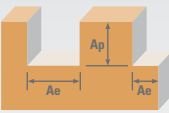


Speed & Feed Recommendations



Series 33MCR Metric	Hardness BRINELL			Vc (m/min)	Diameter (D ₁) (mm)								
		Ae x D ₁	Ap x D ₁		3	6	8	10	12	16	20	25	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	 ≤ 0.5	≤ 1.5	168	RPM	17773	8886	6665	5332	4443	3332	2666	2133
				(134-201)	Fz	0.012	0.029	0.049	0.061	0.074	0.100	0.107	0.108
				Feed (mm/min)	640	768	981	981	992	998	853	688	
		 1	≤ 1	134	RPM	14218	7109	5332	4265	3555	2666	2133	1706
				(107-161)	Fz	0.012	0.029	0.049	0.061	0.074	0.100	0.107	0.108
				Feed (mm/min)	512	614	785	785	793	798	682	550	
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	 ≤ 0.5	≤ 1.5	96	RPM	10179	5089	3817	3054	2545	1909	1527	1221
				(77-115)	Fz	0.010	0.022	0.036	0.045	0.055	0.074	0.080	0.080
				Feed (mm/min)	293	330	415	415	421	425	366	293	
		 1	≤ 1	76	RPM	8078	4039	3029	2424	2020	1515	1212	969
				(61-91)	Fz	0.010	0.022	0.036	0.045	0.055	0.074	0.080	0.080
				Feed (mm/min)	233	262	330	330	334	337	291	233	
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	 ≤ 0.5	≤ 1.5	56	RPM	5978	2989	2242	1793	1495	1121	897	717
				(45-68)	Fz	0.007	0.017	0.030	0.037	0.043	0.059	0.064	0.063
				Feed (mm/min)	129	151	201	201	194	198	172	135	
		 1	≤ 1	44	RPM	4686	2343	1757	1406	1171	879	703	562
				(35-53)	Fz	0.007	0.017	0.030	0.037	0.043	0.059	0.064	0.063
				Feed (mm/min)	101	118	157	157	152	155	135	105	
K	CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	 ≤ 0.5	≤ 1.5	136	RPM	14380	7190	5392	4314	3595	2696	2157	1726
				(109-163)	Fz	0.008	0.026	0.045	0.056	0.067	0.090	0.096	0.098
				Feed (mm/min)	362	569	725	725	725	725	621	505	
		 1	≤ 1	108	RPM	11471	5736	4302	3441	2868	2151	1721	1377
				(87-130)	Fz	0.008	0.026	0.045	0.056	0.067	0.090	0.096	0.098
				Feed (mm/min)	289	454	578	578	578	578	496	403	
K	CAST IRONS (HIGH ALLOY) Gray, Malleable, Ductile	 ≤ 0.5	≤ 1.5	104	RPM	10987	5493	4120	3296	2747	2060	1648	1318
				(83-124)	Fz	0.007	0.019	0.034	0.043	0.050	0.067	0.072	0.073
				Feed (mm/min)	237	316	422	422	415	411	356	287	
		 1	≤ 1	82	RPM	8725	4362	3272	2617	2181	1636	1309	1047
				(66-99)	Fz	0.007	0.019	0.034	0.043	0.050	0.067	0.072	0.073
				Feed (mm/min)	188	251	335	335	330	327	283	228	
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F 440F	 ≤ 0.5	≤ 1.5	149	RPM	15834	7917	5938	4750	3958	2969	2375	1900
				(119-179)	Fz	0.009	0.024	0.041	0.051	0.060	0.079	0.085	0.088
				Feed (mm/min)	433	570	722	722	712	707	608	499	
		 1	≤ 1	119	RPM	12602	6301	4726	3781	3151	2363	1890	1512
				(95-143)	Fz	0.009	0.024	0.041	0.051	0.060	0.079	0.085	0.088
				Feed (mm/min)	345	454	575	575	567	563	484	397	

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