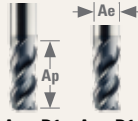














Series 51 | Speed & Feed Recommendations

Hardness BRINELL	Coolant	Series M51 / 51MCR Metric			Vc (m/min)	Diameter (inch)							
			Ap x D1	Ae x D1		6	8	10	12	16	20		
P < 275	A / E / M	CARBON STEEL 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	 Profile	≤ 1	≤ 0.1	219	RPM	11633	8725	6980	5816	4362	3490
						(176-263)	Fz	0.04800	0.08100	0.10100	0.12100	0.14200	0.15800
						Feed (mm/min)	3350	4240	4230	4223	3717	3308	
			 HSC	≤ 2	≤ 0.05	279	RPM	14784	11088	8870	7392	5544	4435
						(223-335)	Fz	0.06600	0.11300	0.14100	0.16900	0.19700	0.22000
						Feed (mm/min)	5854	7517	7504	7495	6553	5854	
P < 325	A / E / M	ALLOY STEEL 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	 Profile	≤ 1	≤ 0.1	149	RPM	7917	5938	4750	3958	2969	2375
						(119-179)	Fz	0.03600	0.06100	0.07700	0.09200	0.10700	0.11900
						Feed (mm/min)	1710	2173	2195	2185	1906	1696	
			 HSC	≤ 2	≤ 0.05	189	RPM	10017	7513	6010	5009	3756	3005
						(151-227)	Fz	0.04900	0.08300	0.10400	0.12500	0.14600	0.16300
						Feed (mm/min)	2945	3741	3750	3756	3291	2939	
P < 375	A / E / M	TOOL STEEL A2, D2, H13, L2, M2, P20, S7, T15, W2	 Profile	≤ 1	≤ 0.1	73	RPM	3878	2908	2327	1939	1454	1163
						(59-88)	Fz	0.02900	0.04900	0.06100	0.07300	0.08600	0.09600
						Feed (mm/min)	675	855	852	849	750	670	
			 HSC	≤ 2	≤ 0.05	93	RPM	4928	3696	2957	2464	1848	1478
						(74-112)	Fz	0.04000	0.06900	0.08600	0.10300	0.12000	0.13400
						Feed (mm/min)	1183	1530	1526	1523	1331	1189	
M < 275	E	STAINLESS STEEL (FREE MACHINING) 303, 416, 420F, 430F 440F	 Profile	≤ 1	≤ 0.1	155	RPM	8240	6180	4944	4120	3090	2472
						(140-171)	Fz	0.03500	0.06000	0.07500	0.09000	0.10500	0.11700
						Feed (mm/min)	1730	2225	2225	2225	1947	1735	
			 HSC	≤ 2	≤ 0.05	198	RPM	10502	7877	6301	5251	3938	3151
						(178-218)	Fz	0.04800	0.08200	0.10200	0.12200	0.14300	0.15900
						Feed (mm/min)	3025	3875	3856	3844	3379	3006	
M < 185	E	STAINLESS STEEL (DIFFICULT) 304, 304L, 316, 316L	 Profile	≤ 1	≤ 0.1	107	RPM	5655	4241	3393	2827	2121	1696
						(96-117)	Fz	0.02900	0.04900	0.06100	0.07300	0.08600	0.09600
						Feed (mm/min)	984	1247	1242	1238	1094	977	
			 HSC	≤ 2	≤ 0.05	137	RPM	7271	5453	4362	3635	2726	2181
						(123-151)	Fz	0.04000	0.06900	0.08600	0.10300	0.12000	0.13400
						Feed (mm/min)	1745	2258	2251	2247	1963	1754	
M < 325	E	STAINLESS STEEL (PH) 13-8 PH, 15-5PH, 17-4 PH, Custom 450	 Profile	≤ 1	≤ 0.1	99	RPM	5251	3938	3151	2626	1969	1575
						(89-109)	Fz	0.02900	0.04900	0.06100	0.07300	0.08600	0.09600
						Feed (mm/min)	914	1158	1153	1150	1016	907	
			 HSC	≤ 2	≤ 0.05	125	RPM	6624	4968	3975	3312	2484	1987
						(112-137)	Fz	0.04000	0.06900	0.08600	0.10300	0.12000	0.13400
						Feed (mm/min)	1590	2057	2051	2047	1789	1598	