

Speed & Feed Recommendations

Series 200 Fractional	Hardness BRINELL	Vc (SFM)	Diameter (D ₁) (inch)								
			1/16	1/8	3/16	1/4	1/3	3/8	1/2		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 200	150	RPM	9168	4584	3056	2292	1834	1528	1146
			(120-180)	Fr	0.0018	0.0035	0.0053	0.0071	0.0088	0.0106	0.0141
				Feed (IPM)	16.5	16.0	16.2	16.3	16.1	16.2	16.2
		> 200 ≤ 300	75	RPM	4584	2292	1528	1146	917	764	573
			(60-90)	Fr	0.0016	0.0031	0.0047	0.0062	0.0078	0.0093	0.0124
				Feed (IPM)	7.3	7.1	7.2	7.1	7.2	7.1	7.1
		> 300 ≤ 420	55	RPM	3362	1681	1121	840	672	560	420
			(44-66)	Fz	0.0009	0.0019	0.0028	0.0037	0.0046	0.0056	0.0074
				Feed (IPM)	3.0	3.2	3.1	3.1	3.1	3.1	3.1
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275	115	RPM	7029	3514	2343	1757	1406	1171	879
			(92-138)	Fz	0.0015	0.0030	0.0045	0.0060	0.0075	0.0090	0.0120
				Feed (IPM)	10.5	10.5	10.5	10.5	10.5	10.5	10.5
		> 275 ≤ 375	70	RPM	4278	2139	1426	1070	856	713	535
			(56-84)	Fr	0.0015	0.0030	0.0045	0.0060	0.0075	0.0090	0.0120
				Feed (IPM)	6.4	6.4	6.4	6.4	6.4	6.4	6.4
		> 375 ≤ 450	45	RPM	2750	1375	917	688	550	458	344
			(36-54)	Fr	0.0009	0.0019	0.0028	0.0037	0.0046	0.0056	0.0074
				Feed (IPM)	2.5	2.6	2.6	2.5	2.5	2.6	2.5
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250	40	RPM	2445	1222	815	611	489	407	306
			(32-48)	Fr	0.0010	0.0020	0.0029	0.0039	0.0049	0.0059	0.0078
				Feed (IPM)	2.4	2.4	2.4	2.4	2.4	2.4	2.4
		> 250 ≤ 330	25	RPM	1528	764	509	382	306	255	191
			(20-30)	Fr	0.0006	0.0013	0.0019	0.0025	0.0031	0.0038	0.0050
				Feed (IPM)	0.9	1.0	1.0	1.0	0.9	1.0	1.0
		> 330 ≤ 450	20	RPM	1222	611	407	306	244	204	153
			(16-24)	Fr	0.0004	0.0008	0.0012	0.0016	0.0019	0.0023	0.0031
				Feed (IPM)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
K	CAST IRONS Gray, Malleable, Ductile	≤ 200	125	RPM	7640	3820	2547	1910	1528	1273	955
			(100-150)	Fr	0.0020	0.0040	0.0060	0.0081	0.0101	0.0121	0.0161
				Feed (IPM)	15.3	15.3	15.3	15.5	15.4	15.4	15.4
		> 200 ≤ 330	95	RPM	5806	2903	1935	1452	1161	968	726
			(76-114)	Fr	0.0020	0.0040	0.0060	0.0081	0.0101	0.0121	0.0161
				Feed (IPM)	11.6	11.6	11.6	11.8	11.7	11.7	11.7
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F 440F	≤ 250	75	RPM	4584	2292	1528	1146	917	764	573
			(60-90)	Fr	0.0010	0.0020	0.0029	0.0039	0.0049	0.0059	0.0078
				Feed (IPM)	4.6	4.6	4.4	4.5	4.5	4.5	4.5
		> 250 ≤ 330	55	RPM	3362	1681	1121	840	672	560	420
			(44-66)	Fr	0.0008	0.0015	0.0023	0.0030	0.0038	0.0045	0.0060
				Feed (IPM)	2.7	2.5	2.6	2.5	2.6	2.5	2.5

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