

Series 135 3D Fractional	Hardness BRINELL	Vc (SFM)	Diameter (D ₁) (inch)							
			1/32	1/8	1/4	3/8	1/2	5/8	7/8	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	400	RPM	48896	12224	6112	4075	3056	2445	1746
		≤ 200 (320-480)	Fr	0.001	0.0040	0.0080	0.0120	0.0160	0.0200	0.0280
			Feed (IPM)	48.9	48.9	48.9	48.9	48.9	48.9	48.9
		350	RPM	42784	10696	5348	3565	2674	2139	1528
		> 200 ≤ 300 (280-420)	Fr	0.0009	0.0035	0.0070	0.0105	0.0140	0.0175	0.0245
			Feed (IPM)	38.5	37.4	37.4	37.4	37.4	37.4	37.4
		160	RPM	19558	4890	2445	1630	1222	978	699
		> 300 ≤ 420 (128-192)	Fz	0.0008	0.0030	0.0060	0.0090	0.0120	0.0150	0.0210
			Feed (IPM)	15.6	14.7	14.7	14.7	14.7	14.7	14.7
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	300	RPM	36672	9168	4584	3056	2292	1834	1310
		≤ 275 (240-360)	Fz	0.0008	.0030	0.0060	0.0090	0.0120	0.0150	0.0210
			Feed (IPM)	29.3	27.5	27.5	27.5	27.5	27.5	27.5
		220	RPM	26893	6723	3362	2241	1681	1345	960
		> 275 ≤ 375 (176-264)	Fr	0.0006	.0025	0.0050	0.0075	0.0100	0.0125	0.0175
			Feed (IPM)	16.1	16.8	16.8	16.8	16.8	16.8	16.8
		120	RPM	14669	3667	1834	1222	917	733	524
		> 375 ≤ 450 (96-144)	Fr	0.0005	.0018	0.0035	0.0055	0.0070	0.0090	0.0125
			Feed (IPM)	7.3	6.6	6.4	6.7	6.4	6.6	6.5
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	220	RPM	26893	6723	3362	2241	1681	1345	960
		≤ 250 (176-264)	Fr	0.0006	0.0025	0.0050	0.0075	0.0100	0.0125	0.0175
			Feed (IPM)	16.1	16.8	16.8	16.8	16.8	16.8	16.8
		150	RPM	18336	4584	2292	1528	1146	917	655
		> 250 ≤ 330 (120-180)	Fr	0.0005	0.0018	0.0035	0.0055	0.0070	0.0090	0.0125
			Feed (IPM)	9.2	8.0	8.0	8.4	8.0	8.3	8.2
		70	RPM	8557	2139	1070	713	535	428	306
		> 330 ≤ 450 (56-84)	Fr	0.0003	0.0010	0.0020	0.0030	0.0040	0.0050	0.0070
			Feed (IPM)	2.6	2.1	2.1	2.1	2.1	2.1	2.1
K	CAST IRONS Gray, Malleable, Ductile	400	RPM	48896	12224	6112	4075	3056	2445	1746
		≤ 200 (320-480)	Fr	0.0013	0.0050	0.0100	0.0150	0.0200	0.0250	0.0350
			Feed (IPM)	63.6	61.1	61.1	61.1	61.1	61.1	61.1
		250	RPM	30560	7640	3820	2547	1910	1528	1091
		> 200 ≤ 330 (200-300)	Fr	0.0011	0.0045	0.0090	0.0135	0.0180	0.0225	0.0315
			Feed (IPM)	33.6	34.4	34.4	34.4	34.4	34.4	34.4
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F 440F	200	RPM	24448	6112	3056	2037	1528	1222	873
		< 250 (160-240)	Fr	0.0006	0.0025	0.0050	0.0075	0.0100	0.0125	0.0175
			Feed (IPM)	14.7	15.3	15.3	15.3	15.3	15.3	15.3
		150	RPM	18336	4584	2292	1528	1146	917	655
		> 250 ≤ 330 (120-180)	Fr	0.0005	0.0018	0.0035	0.0055	0.0070	0.0090	0.0125
			Feed (IPM)	9.2	8.0	8.0	8.4	8.0	8.3	8.2

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