

Series 301 Fractional		Hardness BRINELL	Vc (SFM)	Diameter (D ₁) (inch)						
				1/32	3/64	5/64	1/8	3/16	7/32	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 200	275	RPM	33616	22411	13446	8404	5603	4802
			(220-330)	Fr	0.0003	0.0005	0.0007	0.0012	0.0018	0.0021
				Feed (IPM)	10.1	11.2	9.4	10.1	10.1	10.1
		≥ 200 ≤ 300	150	RPM	18336	12224	7334	4584	3056	2619
			(120-180)	Fr	0.0003	0.0004	0.0007	0.0011	0.0016	0.0019
				Feed (IPM)	5.5	4.9	5.1	5.0	4.9	5.0
		≥ 300 ≤ 420	105	RPM	12835	8557	5134	3209	2139	1834
			(84-126)	Fz	0.0002	0.0003	0.0005	0.0007	0.0011	0.0013
				Feed (IPM)	2.6	2.6	2.6	2.2	2.4	2.4
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275	230	RPM	28115	18743	11246	7029	4686	4016
			(184-276)	Fz	0.0003	0.0004	0.0006	0.0010	0.0015	0.0018
				Feed (IPM)	8.4	7.5	6.7	7.0	7.0	7.2
		≥ 275 ≤ 375	140	RPM	17114	11409	6845	4278	2852	2445
			(112-168)	Fr	0.0003	0.0004	0.0006	0.0010	0.0015	0.0018
				Feed (IPM)	5.1	4.6	4.1	4.3	4.3	4.4
		≥ 375 ≤ 450	90	RPM	11002	7334	4401	2750	1834	1572
			(72-108)	Fr	0.0002	0.0003	0.0004	0.0007	0.0010	0.0012
				Feed (IPM)	2.2	2.2	1.8	1.9	1.8	1.9
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250	85	RPM	10390	6927	4156	2598	1732	1484
			(68-102)	Fr	0.0002	0.0003	0.0004	0.0007	0.0010	0.0012
				Feed (IPM)	2.1	2.1	1.7	1.8	1.7	1.8
		≥ 250 ≤ 330	50	RPM	6112	4075	2445	1528	1019	873
			(40-60)	Fr	0.0001	0.0002	0.0002	0.0004	0.0006	0.0007
				Feed (IPM)	0.6	0.8	0.5	0.6	0.6	0.6
		≥ 330 ≤ 450	40	RPM	4890	3260	1956	1222	815	699
			(32-48)	Fr	0.0001	0.0002	0.0002	0.0004	0.0006	0.0007
				Feed (IPM)	0.5	0.7	0.4	0.5	0.5	0.5
K	CAST IRONS Gray, Malleable, Ductile	≤ 200	250	RPM	30560	20373	12224	7640	5093	4366
			(200-300)	Fr	0.0004	0.0005	0.0009	0.0014	0.0021	0.0025
				Feed (IPM)	12.2	10.2	11.0	10.7	10.7	10.9
		≥ 200 ≤ 330	185	RPM	22614	15076	9046	5654	3769	3231
			(148-222)	Fr	0.0003	0.0005	0.0009	0.0014	0.0021	0.0024
				Feed (IPM)	6.8	7.5	8.1	7.9	7.9	7.8
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F 440F	< 250	155	RPM	18947	12631	7579	4737	3158	2707
			(124-186)	Fr	0.0002	0.0003	0.0004	0.0006	0.0009	0.0011
				Feed (IPM)	3.8	3.8	3.0	2.8	2.8	3.0
		≥ 250 ≤ 330	110	RPM	13446	8964	5379	3362	2241	1921
			(88-132)	Fr	0.0002	0.0003	0.0004	0.0006	0.0009	0.0011
				Feed (IPM)	2.7	2.7	2.2	2.0	2.0	2.1

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