



## SPEED &amp; FEED RECOMMENDATIONS

## SERIES 135 5xD

SERIES 135 5xD FRACTIONAL	HARDNESS	SPEED	FEED (inch/rev)						
	BRINELL	sfm	1/8	3/16	1/4	3/8	1/2	5/8	3/4
■ CARBON STEEL 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 200	360	0.00400	0.0060	0.0080	0.0120	0.0160	0.0200	0.0280
	> 200 ≤ 300	310	0.00350	0.0053	0.0070	0.0105	0.0140	0.0175	0.0245
	> 300 ≤ 420	150	0.00300	0.0045	0.0060	0.0090	0.0120	0.0150	0.0210
■ ALLOY STEEL 4140, 4150, 4320, 4340, 5120, 5150, 8630, 86L20, 50100, 52100	≤ 270	270	0.00300	0.0045	0.0060	0.0090	0.0120	0.0150	0.0210
	> 270 ≤ 370	200	0.00250	0.0038	0.0050	0.0075	0.0100	0.0125	0.0175
	> 370 ≤ 450	110	0.00175	0.0026	0.0035	0.0055	0.0070	0.0090	0.0125
■ TOOL STEEL A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250	200	0.00250	0.0038	0.0050	0.0075	0.0100	0.0125	0.0175
	> 250 ≤ 330	130	0.00175	0.0027	0.0035	0.0055	0.0070	0.0090	0.0125
	> 330 ≤ 450	60	0.00100	0.0015	0.0020	0.0030	0.0040	0.0050	0.0070
■ CAST IRON Gray, Malleable, Ductile	≤ 200	360	0.00500	0.0075	0.0100	0.0150	0.0200	0.0250	0.0350
	> 200 ≤ 330	230	0.00450	0.0068	0.0090	0.0135	0.0180	0.0225	0.0315
■ STAINLESS free machining 303, 416, 420F, 430F, 440F	≤ 250	180	0.00250	0.0038	0.0050	0.0075	0.0100	0.0125	0.0175
	> 250 ≤ 330	130	0.00200	0.0030	0.0040	0.0060	0.0080	0.0100	0.0140
■ STAINLESS difficult 304, 316, 321, 15-5ph, 17-4PH, Nitronic 32	≤ 270	80	0.00175	0.0026	0.0035	0.0055	0.0070	0.0090	0.0125
	> 270 ≤ 370	60	0.00150	0.0023	0.0030	0.0045	0.0060	0.0075	0.0105
■ TITANIUM TiCODE-12, Ti-6Al4V, Ti-5Al-5V-5Mo-3Cr, Ti-7Al4Mo, Ti8Al1Mo1V	≤ 280	100	0.00175	0.0027	0.0035	0.0055	0.0070	0.0090	0.0125
	> 280 ≤ 350	80	0.00150	0.0023	0.0030	0.0045	0.0060	0.0075	0.0105
	> 350 ≤ 440	60	0.00125	0.0019	0.0025	0.0040	0.0050	0.0065	0.0090
■ HIGH TEMPERATURE ALLOY A-286, Hastelloy, Haynes, Incoloy, Inconel, Rene, Waspalloy	≤ 220	50	0.00100	0.0015	0.0020	0.0030	0.0040	0.0050	0.0070
	> 220 ≤ 330	30	0.00075	0.0012	0.0015	0.0025	0.0030	0.0040	0.0055
	> 330 ≤ 420	20	0.00050	0.0008	0.0010	0.0015	0.0020	0.0025	0.0035
■ ALUMINUM 2017, 2024, 356, 6061, 7075	≤ 80	630	0.00550	0.0083	0.0110	0.0165	0.0220	0.0275	0.0385
	> 80	540	0.00500	0.0075	0.0100	0.0150	0.0200	0.0250	0.0350
■ COPPER ALLOY Alum Bronze, C110, Muntz Brass	≤ 140	450	0.00200	0.0030	0.0040	0.0060	0.0080	0.0100	0.0140
	> 140	360	0.00200	0.0030	0.0040	0.0060	0.0080	0.0100	0.0140
rpm = sfm × 3.82 / D <sub>1</sub>					ipm = (inch/rev) × rpm				