

**HSS & Carbide Reamers Speeds & Feeds**

Material	Grades	SFM		Tool Diameter (IPR)					
				1/8	1/4	3/8	1/2	3/4	1
		HSS	Carbide	(.1250)	(.2500)	(.3750)	(.5000)	(.7500)	(1.000)
<b>P - Steels</b>									
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	10-25	50-100	.0020	.0040	.0050	.0060	.0080	.0160
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	50-80	250-300	.0060	.0100	.0120	.0140	.0200	.0400
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	30-50	125-225	.0040	.0060	.0080	.0090	.0110	.0160
<b>M - Stainless Steels</b>									
Austenitic	301-304L, 310, 316L, 321, 347	20-30	150-225	.0040	.0060	.0070	.0080	.0120	.0180
Martensitic	403, 410, 416, 420, 430, 431, 440	15-25	60-110	.0040	.0060	.0070	.0080	.0120	.0180
Precipitation Hardening	12/8, 15/5, 17/4, AM-350/355/363, PH13-8MO, PH14-8/MO	15-25	60-90	.0030	.0040	.0050	.0060	.0100	.0150
<b>K - Cast Irons</b>									
Ductile	A536, J434. 60-40-18	25-40	100-175	.0040	.0060	.0080	.0090	.0120	.0180
Gray	A48, A436, A319, Class 20, G4000	40-65	125-200	.0050	.0070	.0090	.0110	.0150	.0300
Malleable	A220, A602, J158	50-100	150-250	.0050	.0070	.0090	.0110	.0150	.0300
<b>N - Non-Ferrous</b>									
Aluminum Alloys	2014, 2024, 6061, 7075	125-325	450-1000	.0040	.0060	.0080	.0100	.0200	.0400
High Silicon	A380, A390	105-275	380-850	.0040	.0060	.0080	.0100	.0200	.0400
Brass/Bronze	Aluminum Bronze, Low Silicon Bronze	125-200	225-400	.0040	.0050	.0060	.0070	.0150	.0300
Composites	G-10, Fiberglass, Graphite, Graphite Epoxy, Plastics	75-100	550-900	.0020	.0050	.0070	.0080	.0150	.0300
Copper		50-75	100-175	.0040	.0060	.0080	.0100	.0120	.0150
Magnesium		50-75	100-175	.0040	.0060	.0080	.0100	.0120	.0150
<b>S - High Temp Alloys</b>									
Cobalt Base	Stellite, HS-21, Haynes 25/188, X40, L605	10-15	30-50	.0020	.0040	.0050	.0060	.0080	.0160
Iron Base	Incoloy 800-802, Multmet N-155, Timkin 16-25-6, Carpenter 22-b3	15-25	50-75	.0020	.0040	.0050	.0060	.0080	.0160
Nickel Base	Inconel 625/718, Inco 700, 713C, 718, Monel 400-401, 404, K401, Rene, Rene 41 & 95 Hastelloy, Waspoloy, Udimet 500 & 700	10-20	45-70	.0020	.0040	.0050	.0060	.0080	.0160
Titanium	Commercially Pure, 6Al-4V, ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si, Ti-8Al-1Mo, Ti-8Al-4Mo	35-100	45-125	.0030	.0050	.0060	.0070	.0090	.0180

NOTE: Speeds and Feeds listed are estimated and will vary by application. These tools can be found on [pages 467-494](#).