REAMING RECOMMENDATIONS

Workpiece Material Group			Hardness	Surface Feet Per Minute (SFM) SFM	Inches Per Revolution (IPR) (IPR) Reamer Diameter 0.0280 - 0.0625"	0.0626 - 0.1250"	0.1251 - 0.2500"	0.2501 - 0.5000"	0.5001 - 0.7500"
Steels	Free Machining & Low Carbon, 10XX, 11XX, 12XX 12LXX, ASTM A27 ASTM A36	P	≤ 28 Rc	200-300	0.0005 - 0.0030	0.0020 - 0.0060	0.0040 - 0.0100	0.0060 - 0.0150	0.0100 - 0.0300
	Medium Carbon & High Carbon, 1030, 4140, 5115		28 - 38 Rc	125-200	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
Tool & Die Steels	A2, D2, H13, L6, P20, S7	P	28 - 44 Rc	50-125	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100
Stainless Steels	Austenitic, 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	≤ 28 Rc	120-190	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
	Ferritic, 18Cr-2Mo, 26Cr-1Mo, 29Cr-4Mo, 29Cr-4Mo- 2Ni		≤ 28 Rc	80-120	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
	Moderately Difficult to Machine, Nitronic 50, Nitronic 60, 301, 303, 304, 304L, Incoloy 27-7MO, 316 316L, 321, 347		≤ 28 Rc	60-100	0.0002 - 0.0020	0.0010 - 0.0040	0.0020 - 0.0060	0.0040 - 0.0100	0.0060 - 0.0100
Super Alloys	Inconel	S	< 40 Rc	40-70	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100
	High Temp, Nimonics, Monel, Hastelloy		< 40 Rc	30-45	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040- 0.0060	0.0060 - 0.0200
	Titanium: Ti 3Al-2.5V, Ti 6Al-4V Ti 10V-2Fe-3Al		< 40 Rc	35-50	0.0002 - 0.0020	0.0010 - 0.0040	0.0020 - 0.0060	0.0040 - 0.0100	0.0060 - 0.0200
Hardened Materials		H	23 - 32 Rc	125-200	0.0002 - 0.0020	0.0010 - 0.0040	0.0020 - 0.0060	0.0040 - 0.0100	0.0060 - 0.0200
			32 - 43 Rc	50-125	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
			43 - 52 Rc	35-50	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100
			> 50 Rc	15-35	0.0005 - 0.0030	0.0020 - 0.0060	0.0040 - 0.0100	0.0060 - 0.0150	0.0100 - 0.0300
Cast Iron	Gray, SAE J431, ASTM A48	K	≤ 240 HB	150-250	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
	Ductile & Malleable, ASTM A536, ASTM 897, ASTM A47, ASTM A220 ASTM A602		> 240 HB	125-200	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
	Martensitic (Hard)		> 240 HB	50-75	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100
Non-Ferrous	Aluminum, Aluminum Alloys	N	> 240 HB	500- 1000	0.0005 - 0.0020	0.0020 - 0.0060	0.0040 - 0.0100	0.0060 - 0.0150	0.0100 - 0.0300
	Brass, Bronze (Free Machining)		> 240 HB	250-400	0.0005 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100	0.0100 - 0.0200
	Brass, Bronze (Soft)		> 240 HB	150-250	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100
	Copper, Bronze (Hard)		> 240 HB	100-150	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100
	Magnesium, Magnesium Alloys, Plastics		> 240 HB	500- 1000	0.0002 - 0.0010	0.0010 - 0.0020	0.0020 - 0.0040	0.0040 - 0.0060	0.0060 - 0.0100

Workpiece Material Group			Drill Diameter 0.0135	0.0290/0.0280	0.0550/0.0520	0.1130	0.2380	0.3594	0.4844	0.6094	0.7344
			Reamer Diameter 0.0150	0.0320	0.0625	0.1250	0.2500	0.3750	0.5000	0.625	0.75
			TOTAL STOCK ALLOWANCE								
Steels	Low Carbon ≤ 35% C	P	0.0012	0.0025	0.0049	0.0089	0.0100	0.0120	0.0130	0.0150	0.0170
	Medium/ HighCarbon ≥ 35% C		0.0013	0.0028	0.0055	0.0099	0.0110	0.0130	0.0140	0.0160	
Tool & Die Steels	A2, D2, H13, L6, P20, S7		0.0012	0.0025	0.0049	0.0089	0.0100	0.0120	0.0130	0.0150	
Stainless Steels	Easy, Moderate & Difficult to Machine	M	0.0012	0.0025	0.0049	0.0089	0.0100	0.0120	0.0130	0.0150	0.0160
Super Alloys	Soft	S	0.0012	0.0025	0.0049	0.0089	0.0100	0.0110	0.0130	0.0140	0.0160
	Hard		0.0010	0.0023	0.0044	0.0081	0.0090	0.0100	0.0120	0.0130	0.0140
	Titanium: Ti 3Al-2.5V, Ti 6Al-4V Ti 10V-2Fe-3Al		0.0013	0.0028	0.0055	0.0099	0.0110	0.0130	0.0140	0.0160	0.0170
Hardened Materials		H	0.0009	0.0020	0.0040	0.0072	0.0080	0.0100	0.0110	0.0130	0.0140
Cast Iron	Cast	K	0.0013	0.0028	0.0055	0.0099	0.0110	0.0130	0.0140	0.0160	0.0180
	Ductile									0.0150	0.0170
Non-Ferrous	Magnesium	N	0.0014	0.0030	0.0060	0.0110	0.0120	0.0150	0.0160	0.0180	0.0200
	Aluminum ≥ 5% SI										
	Aluminum ≤ 5% SI							0.0130	0.0150	0.0160	0.0180
	Brass										
	Bronze, Copper							0.0140	0.0150	0.0170	0.0190