

Material group	Hardness		SFM	Feed Rate - IPR									
	HRC	BHN		1/16 in. 1.590 mm	1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm	1 in. 25.400 mm	1 1/4 in. 31.750 mm	1 1/2 in. 38.100 mm
Common structural steels	-	≤ 150	360		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
	≤ 32	≤ 301	295		0.0040	0.0065	0.0080	0.0100	0.0100	0.0110			
Free-cutting steels	≤ 25	≤ 255	425		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
	≤ 32	≤ 301	360		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Unalloyed heat-treatable steels	≤ 20	≤ 220	325		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
	≤ 25	≤ 255	310		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
	≤ 32	≤ 301	295		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
Alloyed heat-treatable steels	≤ 32	≤ 301	295		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
	≤ 43	≤ 402	260		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
Unalloyed case hardened steels	≤ 25	≤ 255	360		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Alloyed case hardened steels	≤ 32	≤ 301	295		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
	≤ 43	≤ 402	210		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
Nitriding steels	≤ 32	≤ 301	260		0.0050	0.0080	0.0100	0.0125	0.0125	0.0140			
	≤ 43	≤ 402	245		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
Tool steels	≤ 25	≤ 255	180		0.0040	0.0065	0.0080	0.0100	0.0100	0.0110			
	≤ 43	≤ 402	130		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
High speed steels	≤ 43	≤ 402	145		0.0025	0.0040	0.0050	0.0065	0.0065	0.0070			
Spring steels	≤ 38	≤ 354	145		0.0020	0.0030	0.0040	0.0050	0.0050	0.0055			
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273	145		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
austenitic	≤ 36	≤ 337	130		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
martensitic	≤ 46	≤ 435	110		0.0030	0.0050	0.0065	0.0080	0.0080	0.0090			
Cast iron	≤ 23	≤ 242	620		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
	≤ 38	≤ 354	360		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	360		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
	≤ 38	≤ 354	310		0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 402											
Aluminium and Al-alloys	-	≤ 120	785		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
Al wrought alloys	-	≤ 200	785		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
Al cast alloys ≤ 10 % Si	-	≤ 180	655		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
≤ 24 % Si	-	≤ 180	555		0.0080	0.0125	0.0160	0.0200	0.0200	0.0220			
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180											
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255											
	≤ 32	≤ 301											
Duroplastics													
Thermoplastics													
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													

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Common structural steels	-	≤ 150	330		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
	≤ 32	≤ 301	280		0.0040	0.0065	0.0080	0.0100	0.0110	0.0125			
Free-cutting steels	≤ 25	≤ 255	360		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
	≤ 32	≤ 301	280		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
Unalloyed heat-treatable steels	≤ 20	≤ 220	260		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
	≤ 25	≤ 255	280		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
	≤ 32	≤ 301	260		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
Alloyed heat-treatable steels	≤ 32	≤ 301	260		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
	≤ 43	≤ 402	245		0.0040	0.0065	0.0080	0.0100	0.0110	0.0125			
Unalloyed case hardened steels	≤ 25	≤ 255	330		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
Alloyed case hardened steels	≤ 32	≤ 301	295		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
	≤ 43	≤ 402	215		0.0030	0.0050	0.0065	0.0080	0.0090	0.0100			
Nitriding steels	≤ 32	≤ 301	245		0.0040	0.0065	0.0080	0.0100	0.0110	0.0125			
	≤ 43	≤ 402	230		0.0030	0.0050	0.0065	0.0080	0.0090	0.0100			
Tool steels	≤ 25	≤ 255	165		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
	≤ 43	≤ 402	130		0.0030	0.0050	0.0065	0.0080	0.0090	0.0100			
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354	115		0.0020	0.0030	0.0040	0.0050	0.0055	0.0065			
Hardened steels	≤ 48	≤ 460											
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Stainless steels, sulphured	≤ 28	≤ 273	95		0.0025	0.0040	0.0050	0.0065	0.0065	0.0080			
austenitic	≤ 36	≤ 337	90		0.0025	0.0040	0.0050	0.0065	0.0065	0.0080			
martensitic	≤ 46	≤ 435	90		0.0020	0.0030	0.0040	0.0050	0.0050	0.0065			
Cast iron	≤ 23	≤ 242	525		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
	≤ 38	≤ 354	395		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	395		0.0050	0.0080	0.0100	0.0125	0.0140	0.0160			
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