

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	655		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
	≤ 32	≤ 301	655		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
Free-cutting steels	≤ 25	≤ 255	655		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
	≤ 32	≤ 301	655		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
Unalloyed heat-treatable steels	≤ 20	≤ 220	590		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
	≤ 25	≤ 255	525		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
Alloyed heat-treatable steels	≤ 32	≤ 301	425		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
	≤ 43	≤ 402	395		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
Unalloyed case hardened steels	≤ 25	≤ 255	590		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
	≤ 32	≤ 301	395		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
Alloyed case hardened steels	≤ 43	≤ 402	360		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
	≤ 32	≤ 301	360		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
Nitriding steels	≤ 32	≤ 301	360		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
	≤ 43	≤ 402	330		0.0030	0.0050	0.0080	0.0080	0.0100	0.0125			
Tool steels	≤ 25	≤ 255	295		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
	≤ 43	≤ 402	215		0.0040	0.0065	0.0100	0.0100	0.0125	0.0155			
High speed steels	≤ 43	≤ 402	195		0.0030	0.0050	0.0080	0.0080	0.0100	0.0125			
Spring steels	≤ 38	≤ 354	195		0.0030	0.0050	0.0080	0.0080	0.0100	0.0125			
Hardened steels	≤ 48	≤ 460	180		0.0020	0.0030	0.0050	0.0050	0.0065	0.0080			
	≤ 66	-	-		-	-	-	-	-	-			
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273	260		0.0030	0.0050	0.0080	0.0080	0.0100	0.0125			
	≤ 36	≤ 337	-		-	-	-	-	-	-			
Cast iron	≤ 23	≤ 242	590		0.0065	0.0125	0.0155	0.0195	0.0250	0.0250			
	≤ 38	≤ 354	590		0.0065	0.0125	0.0155	0.0195	0.0250	0.0250			
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	525		0.0065	0.0125	0.0155	0.0195	0.0250	0.0250			
	≤ 38	≤ 354	460		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
Chilled cast iron	≤ 38	≤ 354	-		-	-	-	-	-	-			
	≤ 20	≤ 220	460		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
New cast materials GGV	≤ 32	≤ 301	460		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
	≤ 32	≤ 301	260		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
New cast materials ADI	≤ 43	≤ 402	260		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
	≤ 32	≤ 301	260		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
Special alloys	≤ 54	≤ 549	100		0.0025	0.0040	0.0065	0.0065	0.0080	0.0100			
Ti and Ti-alloys	≤ 25	≤ 255	130		0.0025	0.0040	0.0065	0.0065	0.0080	0.0100			
	≤ 43	≤ 402	115		0.0020	0.0030	0.0050	0.0050	0.0065	0.0080			
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180											
	-	≤ 180											
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping long-chipping	-	≤ 180											
	-	≤ 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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	≤ 32	≤ 301	590		0.0065	0.0100	0.0155	0.0155	0.0195	0.0250			
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Alloyed case hardened steels	≤ 43	≤ 402	330		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
	≤ 32	≤ 301	330		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
Nitriding steels	≤ 32	≤ 301	330		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
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Tool steels	≤ 25	≤ 255	260		0.0050	0.0080	0.0125	0.0125	0.0155	0.0195			
	≤ 43	≤ 402	195		0.0040	0.0065	0.0100	0.0100	0.0125	0.0155			
High speed steels	≤ 43	≤ 402	180		0.0030	0.0050	0.0080	0.0080	0.0100	0.0125			
Spring steels	≤ 38	≤ 354	180		0.0030	0.0050	0.0080	0.0080	0.0100	0.0125			
Hardened steels	≤ 48	≤ 460	150		0.0020	0.0030	0.0050	0.0050	0.0065	0.0080			
	≤ 66	-	-		-	-	-	-	-	-			
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	≤ 36	≤ 337	-		-	-	-	-	-	-			
Cast iron	≤ 23	≤ 242	540		0.0065	0.0125	0.0155	0.0195	0.0250	0.0250			
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Special alloys	≤ 54	≤ 549	80		0.0025	0.0040	0.0065	0.0065	0.0080	0.0100			
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