

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											
	≤ 32	≤ 301											
Free-cutting steels	≤ 25	≤ 255											
	≤ 32	≤ 301											
Unalloyed heat-treatable steels	≤ 20	≤ 220											
	≤ 25	≤ 255											
	≤ 32	≤ 301											
Alloyed heat-treatable steels	≤ 32	≤ 301	35	0.0010	0.0025	0.0040	0.0050	0.0065					
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255											
Alloyed case hardened steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255											
	≤ 43	≤ 402											
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273	35	0.0012	0.0030	0.0050	0.0065	0.0080					
austenitic	≤ 36	≤ 337	25	0.0010	0.0025	0.0040	0.0050	0.0065					
martensitic	≤ 46	≤ 435	30	0.0010	0.0025	0.0040	0.0050	0.0065					
Cast iron	≤ 23	≤ 242											
	≤ 38	≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242											
	≤ 38	≤ 354											
Chilled cast iron	≤ 38	≤ 354	15	0.0010	0.0025	0.0040	0.0050	0.0065					
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549	15	0.0005	0.0015	0.0025	0.0030	0.0040					
Ti and Ti-alloys	≤ 25	≤ 255	25	0.0007	0.0020	0.0030	0.0040	0.0050					
	≤ 43	≤ 402	15	0.0007	0.0020	0.0030	0.0040	0.0050					
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si	-	≤ 180											
≤ 24 % Si	-	≤ 180											
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			65	0.0012	0.0030	0.0050	0.0065	0.0080					
Thermoplastics													
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													

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Alloyed heat-treatable steels	≤ 32	≤ 301	45	0.0010	0.0025	0.0040	0.0050	0.0065					
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255											
Alloyed case hardened steels	≤ 32	≤ 301	40	0.0010	0.0025	0.0040	0.0050	0.0065					
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301	40	0.0010	0.0025	0.0040	0.0050	0.0065					
	≤ 43	≤ 402	30	0.0010	0.0025	0.0040	0.0050	0.0065					
Tool steels	≤ 25	≤ 255											
	≤ 43	≤ 402	30	0.0010	0.0025	0.0040	0.0050	0.0065					
High speed steels	≤ 43	≤ 402	30	0.0010	0.0025	0.0040	0.0050	0.0065					
Spring steels	≤ 38	≤ 354	25	0.0007	0.0020	0.0030	0.0040	0.0050					
Hardened steels	≤ 48	≤ 460	5	0.0005	0.0015	0.0025	0.0030	0.0040					
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273	45	0.0012	0.0030	0.0050	0.0065	0.0080					
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