

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	- ≤ 32	≤ 150 ≤ 301	330 280	0.0003 0.0003	0.0006 0.0006	0.0009 0.0009	0.0015 0.0015						
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	295 260	0.0003 0.0003	0.0006 0.0006	0.0009 0.0009	0.0015 0.0015						
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	295 260 245	0.0002 0.0002 0.0002	0.0004 0.0004 0.0004	0.0005 0.0005 0.0005	0.0010 0.0010 0.0010						
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	245 215	0.0002 0.0002	0.0004 0.0004	0.0005 0.0005	0.0010 0.0010						
Unalloyed case hardened steels	≤ 25	≤ 255	260	0.0003	0.0006	0.0009	0.0015						
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	245 215	0.0002 0.0002	0.0004 0.0004	0.0005 0.0005	0.0010 0.0010						
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	245 215	0.0002 0.0002	0.0004 0.0004	0.0005 0.0005	0.0010 0.0010						
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	245 215	0.0002 0.0002	0.0003 0.0003	0.0004 0.0004	0.0006 0.0006						
High speed steels	≤ 43	≤ 402	180	0.0001	0.0002	0.0003	0.0004						
Spring steels	≤ 38	≤ 354	215	0.0002	0.0003	0.0004	0.0006						
Hardened steels	≤ 48 ≤ 66	≤ 460 -	100 80	0.0002 0.0001	0.0003 0.0002	0.0004 0.0003	0.0006 0.0004						
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435	180 150 115	0.0002 0.0002 0.0002	0.0004 0.0004 0.0004	0.0005 0.0005 0.0005	0.0010 0.0010 0.0010						
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	280 260	0.0005 0.0005	0.0009 0.0009	0.0014 0.0014	0.0020 0.0020						
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	260 230	0.0003 0.0003	0.0006 0.0006	0.0009 0.0009	0.0015 0.0015						
Chilled cast iron	≤ 38	≤ 354	180	0.0002	0.0004	0.0005	0.0010						
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301											
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402											
Special alloys	≤ 54	≤ 549	115	0.0001	0.0002	0.0003	0.0004						
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402	115 100	0.0001 0.0001	0.0002 0.0002	0.0003 0.0003	0.0004 0.0004						
Aluminium and Al-alloys	-	≤ 120	490	0.0008	0.0016	0.0024	0.0028						
Al wrought alloys	-	≤ 200	395	0.0008	0.0016	0.0024	0.0028						
Al cast alloys ≤ 10 % Si	-	≤ 180	490	0.0013	0.0024	0.0033	0.0047						
≤ 24 % Si	-	≤ 180	425	0.0013	0.0024	0.0033	0.0047						
Magnesium alloys	-	≤ 120	360	0.0008	0.0016	0.0024	0.0028						
Copper, low-alloyed	-	≤ 150	245	0.0003	0.0006	0.0009	0.0015						
Brass, short-chipping	-	≤ 180	395	0.0013	0.0024	0.0033	0.0047						
long-chipping	-	≤ 180	295	0.0013	0.0024	0.0033	0.0047						
Bronze, short-chipping	-	≤ 180	310	0.0008	0.0016	0.0024	0.0028						
long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301	310 230	0.0008 0.0008	0.0016 0.0016	0.0024 0.0024	0.0028 0.0028						
Duroplastics			245	0.0003	0.0006	0.0009	0.0015						
Thermoplastics			230	0.0003	0.0006	0.0009	0.0015						
Reinforced plastics - Kevlar			195	0.0002	0.0004	0.0005	0.0010						
Reinforced plastics - GFK / CFK			165	0.0002	0.0004	0.0005	0.0010						