

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	425		0.0065	0.0100	0.0125	0.0160					
	< 32	< 301	360		0.0050	0.0080	0.0100	0.0125					
Free-cutting steels	≤ 25	≤ 255	475		0.0080	0.0125	0.0160	0.0200					
	< 32	< 301	360		0.0065	0.0100	0.0125	0.0160					
Unalloyed heat-treatable steels	≤ 20	≤ 220	395		0.0065	0.0100	0.0125	0.0160					
	≤ 25	≤ 255	360		0.0065	0.0100	0.0125	0.0160					
Alloyed heat-treatable steels	≤ 32	≤ 301	345		0.0065	0.0100	0.0125	0.0160					
	< 43	< 402	330		0.0050	0.0080	0.0100	0.0125					
Unalloyed case hardened steels	< 25	< 255	425		0.0080	0.0125	0.0160	0.0200					
Alloyed case hardened steels	≤ 32	≤ 301	395		0.0065	0.0100	0.0125	0.0160					
	< 43	< 402	280		0.0040	0.0065	0.0080	0.0100					
Nitriding steels	≤ 32	≤ 301	330		0.0050	0.0080	0.0100	0.0125					
	< 43	< 402	295		0.0040	0.0065	0.0080	0.0100					
Tool steels	≤ 25	≤ 255	215		0.0050	0.0080	0.0100	0.0125					
	< 43	< 402	180		0.0040	0.0065	0.0080	0.0100					
High speed steels	≤ 43	≤ 402	150		0.0030	0.0050	0.0065	0.0080					
Spring steels	≤ 38	≤ 354	150		0.0025	0.0040	0.0050	0.0065					
Hardened steels	≤ 48	≤ 460	150		0.0025	0.0040	0.0050	0.0065					
	< 66	-	80		0.0020	0.0030	0.0040	0.0050					
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273	180		0.0030	0.0050	0.0065	0.0080					
	≤ 36	≤ 337	150		0.0030	0.0050	0.0065	0.0080					
	< 46	< 435	150		0.0025	0.0040	0.0050	0.0065					
Cast iron	≤ 23	≤ 242	690		0.0080	0.0125	0.0160	0.0200					
	< 38	< 354	510		0.0080	0.0125	0.0160	0.0200					
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	510		0.0065	0.0100	0.0125	0.0160					
	< 38	< 354	410		0.0065	0.0100	0.0125	0.0160					
Chilled cast iron	≤ 38	≤ 354	115		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	80		0.0030	0.0050	0.0065	0.0080					
Ti and Ti-alloys	≤ 25	≤ 255	130		0.0030	0.0050	0.0065	0.0080					
	< 43	< 402	115		0.0025	0.0040	0.0050	0.0065					
Aluminium and Al-alloys	-	< 120	855										
Al wrought alloys	-	< 200	855										
Al cast alloys ≤ 10 % Si	-	< 180	720										
	≤ 24 % Si	< 180	590										
Magnesium alloys	-	< 120	855										
Copper, low-alloyed	-	< 150	360										
Brass, short-chipping	-	≤ 180	885										
	-	≤ 180	590										
Bronze, short-chipping	-	≤ 180	360										
	≤ 25	≤ 255	330										
Bronze, long-chipping	≤ 25	≤ 255	240										
	< 32	< 301	215										
Duroplastics													
Thermoplastics													
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													