

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	130 95		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0125 0.0100				
Free-cutting steels	< 25 < 32	< 255 < 301	130 95		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0125 0.0100				
Unalloyed heat-treatable steels	< 20 < 25 < 32	< 220 < 255 < 301	130 95 70		0.0040 0.0040 0.0030	0.0065 0.0065 0.0050	0.0080 0.0080 0.0065	0.0100 0.0100 0.0080	0.0100 0.0100 0.0080				
Alloyed heat-treatable steels	< 32 < 43	< 301 < 402	65 45		0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065				
Unalloyed case hardened steels	< 25	< 255	130		0.0050	0.0080	0.0100	0.0125	0.0125				
Alloyed case hardened steels	< 32 < 43	< 301 < 402	55 35		0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065				
Nitriding steels	< 32 < 43	< 301 < 402	45 30		0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065				
Tool steels	< 25 < 43	< 255 < 402	65 30		0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065				
High speed steels	< 43	< 402	30		0.0025	0.0040	0.0050	0.0065	0.0065				
Spring steels	< 38	< 354	20		0.0020	0.0030	0.0040	0.0050	0.0050				
Hardened steels	< 48 < 66	< 460 -	10 -		0.0020	0.0030	0.0040	0.0050	0.0050				
Stainless steels, sulphured austenitic martensitic	< 28 < 36 < 46	< 273 < 337 < 435	45 30 35		0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065				
Cast iron	< 23 < 38	< 242 < 354	130 95		0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0125 0.0125				
Spheroidal graphite iron and malleable cast iron	< 23 < 38	< 242 < 354	110 80		0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0125 0.0125				
Chilled cast iron	< 38	< 354	20		0.0025	0.0040	0.0050	0.0065	0.0065				
New cast materials GGV	< 20 < 32	< 220 < 301											
New cast materials ADI	< 32 < 43	< 301 < 402											
Special alloys	< 54	< 549	15		0.0015	0.0025	0.0030	0.0040	0.0040				
Ti and Ti-alloys	< 25 < 43	< 255 < 402	30 15		0.0020 0.0020	0.0030 0.0030	0.0040 0.0040	0.0050 0.0050	0.0050 0.0050				
Aluminium and Al-alloys	-	< 120											
Al wrought alloys	-	< 200											
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	< 180 < 180	245 195		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0160 0.0125				
Magnesium alloys	-	< 120											
Copper, low-alloyed	-	< 150	130		0.0040	0.0065	0.0080	0.0100	0.0100				
Brass, short-chipping long-chipping	- -	< 180 < 180	160		0.0040	0.0065	0.0080	0.0100	0.0100				
Bronze, short-chipping	-	< 180											
Bronze, long-chipping	< 25 < 32	< 255 < 301	110 95 80		0.0030 0.0030	0.0050 0.0050	0.0065 0.0065	0.0080 0.0080	0.0080 0.0080				
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			95		0.0040	0.0065	0.0080	0.0100	0.0100				

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											
Free-cutting steels	< 25 < 32	< 255 < 301											
Unalloyed heat-treatable steels	< 20 < 25 < 32	< 220 < 255 < 301											
Alloyed heat-treatable steels	< 32 < 43	< 301 < 402											
Unalloyed case hardened steels	< 25	< 255											
Alloyed case hardened steels	< 32 < 43	< 301 < 402											
Nitriding steels	< 32 < 43	< 301 < 402											
Tool steels	< 25 < 43	< 255 < 402											
High speed steels	< 43	< 402											
Spring steels	< 38	< 354											
Hardened steels	< 48 < 66	< 460 -											
Stainless steels, sulphured austenitic martensitic	< 28 < 36 < 46	< 273 < 337 < 435											
Cast iron	< 23 < 38	< 242 < 354											
Spheroidal graphite iron and malleable cast iron	< 23 < 38	< 242 < 354											
Chilled cast iron	< 38	< 354											
New cast materials GGV	< 20 < 32	< 220 < 301											
New cast materials ADI	< 32 < 43	< 301 < 402											
Special alloys	< 54	< 549											
Ti and Ti-alloys	< 25 < 43	< 255 < 402											
Aluminium and Al-alloys	-	< 120	225	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Al wrought alloys	-	< 200	225	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	< 180 < 180											
Magnesium alloys	-	< 120	225	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Copper, low-alloyed	-	< 150	130	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Brass, short-chipping long-chipping	- -	< 180 < 180											
Bronze, short-chipping	-	< 180											
Bronze, long-chipping	< 25 < 32	< 255 < 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			70	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				