

Material group	Hardness		SFM	Feed Rate - IPR						
	HRC	BHN		0.0197 in. 0.5 mm	0.0315 in. 0.8 mm	0.0394 in. 1.0 mm	0.0591 in. 1.5 mm	0.0787 in. 2.0 mm	0.0984 in. 2.5 mm	0.1181 in. 3.0 mm
Common structural steels	-	≤ 150	345			0.0031	0.0047	0.0063	0.0079	0.0094
	≤ 32	≤ 301	330			0.0031	0.0047	0.0063	0.0079	0.0094
Free-cutting steels	≤ 25	≤ 255	345			0.0031	0.0047	0.0063	0.0079	0.0094
	≤ 32	≤ 301	295			0.0028	0.0039	0.0055	0.0067	0.0083
Unalloyed heat-treatable steels	≤ 20	≤ 220	310			0.0031	0.0047	0.0063	0.0079	0.0094
	≤ 25	≤ 255	310			0.0031	0.0047	0.0063	0.0079	0.0094
	≤ 32	≤ 301	295			0.0028	0.0039	0.0055	0.0067	0.0083
Alloyed heat-treatable steels	≤ 32	≤ 301	295			0.0028	0.0039	0.0055	0.0067	0.0083
	≤ 43	≤ 402	230			0.0016	0.0035	0.0047	0.0059	0.0071
Unalloyed case hardened steels	≤ 25	≤ 255	330			0.0028	0.0039	0.0055	0.0067	0.0083
Alloyed case hardened steels	≤ 32	≤ 301	280			0.0028	0.0039	0.0055	0.0067	0.0083
	≤ 43	≤ 402	230			0.0016	0.0035	0.0047	0.0059	0.0071
Nitriding steels	≤ 32	≤ 301	230			0.0016	0.0035	0.0047	0.0059	0.0071
	≤ 43	≤ 402	195			0.0016	0.0035	0.0047	0.0059	0.0071
Tool steels	≤ 25	≤ 255	165			0.0016	0.0035	0.0047	0.0059	0.0071
	≤ 43	≤ 402	165			0.0016	0.0035	0.0047	0.0059	0.0071
High speed steels	≤ 43	≤ 402	165			0.0009	0.0014	0.0020	0.0028	0.0035
Spring steels	≤ 38	≤ 354	165			0.0009	0.0014	0.0020	0.0028	0.0035
Hardened steels	≤ 48	≤ 460								
	≤ 66	-								
Stainless steels, sulphured	≤ 28	≤ 273	230			0.0009	0.0014	0.0020	0.0028	0.0035
austenitic	≤ 36	≤ 337	195			0.0005	0.0008	0.0013	0.0018	0.0024
martensitic	≤ 46	≤ 435	230			0.0009	0.0014	0.0020	0.0028	0.0035
Cast iron	≤ 23	≤ 242	490			0.0016	0.0035	0.0047	0.0059	0.0071
	≤ 38	≤ 354	460			0.0016	0.0035	0.0047	0.0059	0.0071
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	460			0.0016	0.0035	0.0047	0.0059	0.0071
	≤ 38	≤ 354	425			0.0016	0.0035	0.0047	0.0059	0.0071
Chilled cast iron	≤ 38	≤ 354								
New cast materials GGV	≤ 20	≤ 220	115			0.0005	0.0008	0.0013	0.0018	0.0024
	≤ 32	≤ 301								
New cast materials ADI	≤ 32	≤ 301								
	≤ 43	≤ 402								
Special alloys	≤ 54	≤ 549								
Ti and Ti-alloys	≤ 25	≤ 255	80			0.0005	0.0008	0.0013	0.0018	0.0024
	≤ 43	≤ 402	115			0.0005	0.0008	0.0013	0.0018	0.0024
Aluminium and Al-alloys	-	≤ 120	230			0.0047	0.0071	0.0094	0.0118	0.0142
Al wrought alloys	-	≤ 200	230			0.0047	0.0071	0.0094	0.0118	0.0142
Al cast alloys ≤ 10 % Si	-	≤ 180	445			0.0017	0.0026	0.0036	0.0047	0.0059
≤ 24 % Si	-	≤ 180	445			0.0017	0.0026	0.0036	0.0047	0.0059
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										
Thermoplastics										
Reinforced plastics - Kevlar										
Reinforced plastics - GFK / CFK										

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Common structural steels	-	≤ 150	345			0.0013	0.0020	0.0028	0.0037	0.0047
	≤ 32	≤ 301	330			0.0013	0.0020	0.0028	0.0037	0.0047
Free-cutting steels	≤ 25	≤ 255	345			0.0017	0.0026	0.0036	0.0047	0.0059
	≤ 32	≤ 301	295			0.0017	0.0026	0.0036	0.0047	0.0059
Unalloyed heat-treatable steels	≤ 20	≤ 220	310			0.0013	0.0020	0.0028	0.0037	0.0047
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