

Material group	Hardness		SFM	Feed Rate - IPR								
	HRC	BHN		.5 mm	1.0 mm	2.0 mm	2.5 mm	3.15 mm	4.0 mm	5.0 mm	6.3 mm	8 mm
Common structural steels	-	≤ 150	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Free-cutting steels	≤ 25	≤ 255	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Unalloyed heat-treatable steels	≤ 20	≤ 220	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 25	≤ 255	65	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Alloyed heat-treatable steels	≤ 32	≤ 301	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Unalloyed case hardened steels	≤ 25	≤ 255	80	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Alloyed case hardened steels	≤ 32	≤ 301	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Nitriding steels	≤ 32	≤ 301	35	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Tool steels	≤ 25	≤ 255	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
	≤ 43	≤ 402	20	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
High speed steels	≤ 43	≤ 402	20	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Spring steels	≤ 38	≤ 354	15	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
Hardened steels	≤ 48	≤ 460	-	-	-	-	-	-	-	-	-	-
Stainless steels, sulphured austenitic	≤ 28	≤ 273	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
	≤ 36	≤ 337	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Cast iron	≤ 23	≤ 242	65	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
	≤ 38	≤ 354	65	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	80	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Chilled cast iron	≤ 38	≤ 354	65	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
New cast materials GGV	≤ 20	≤ 220	-	-	-	-	-	-	-	-	-	-
New cast materials ADI	≤ 32	≤ 301	-	-	-	-	-	-	-	-	-	-
	≤ 43	≤ 402	-	-	-	-	-	-	-	-	-	-
Special alloys	≤ 54	≤ 549	10	0.0002	0.0002	0.0008	0.0010	0.0013	0.0016	0.0016	0.0020	0.0025
Ti and Ti-alloys	≤ 25	≤ 255	15	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
Aluminium and Al-alloys	-	≤ 120	230	0.0006	0.0008	0.0031	0.0039	0.0049	0.0063	0.0063	0.0079	0.0098
	-	≤ 200	230	0.0006	0.0008	0.0031	0.0039	0.0049	0.0063	0.0063	0.0079	0.0098
Al wrought alloys	-	≤ 180	130	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	130	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Magnesium alloys	-	≤ 120	195	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Copper, low-alloyed	-	≤ 150	165	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Brass, short-chipping	-	≤ 180	195	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
	-	≤ 180	130	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Bronze, short-chipping	-	≤ 180	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Bronze, long-chipping	≤ 25	≤ 255	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Duroplastics	-	-	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Thermoplastics	-	-	80	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Reinforced plastics - Kevlar	-	-	-	-	-	-	-	-	-	-	-	-
Reinforced plastics - GFK / CFK	-	-	-	-	-	-	-	-	-	-	-	-

Material group	Hardness		SFM	Feed Rate - IPR								
	HRC	BHN		.5 mm	1.0 mm	2.0 mm	2.5 mm	3.15 mm	4.0 mm	5.0 mm	6.3 mm	8 mm
Common structural steels	-	≤ 150	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Free-cutting steels	≤ 25	≤ 255	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Unalloyed heat-treatable steels	≤ 20	≤ 220	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 25	≤ 255	65	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Alloyed heat-treatable steels	≤ 32	≤ 301	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Unalloyed case hardened steels	≤ 25	≤ 255	80	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Alloyed case hardened steels	≤ 32	≤ 301	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Nitriding steels	≤ 32	≤ 301	35	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Tool steels	≤ 25	≤ 255	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
	≤ 43	≤ 402	20	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
High speed steels	≤ 43	≤ 402	20	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Spring steels	≤ 38	≤ 354	15	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
Hardened steels	≤ 48	≤ 460	-	-	-	-	-	-	-	-	-	-
Stainless steels, sulphured austenitic	≤ 28	≤ 273	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
	≤ 36	≤ 337	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Cast iron	≤ 23	≤ 242	65	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
	≤ 38	≤ 354	65	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	80	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Chilled cast iron	≤ 38	≤ 354	65	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
New cast materials GGV	≤ 20	≤ 220	-	-	-	-	-	-	-	-	-	-
New cast materials ADI	≤ 32	≤ 301	-	-	-	-	-	-	-	-	-	-
	≤ 43	≤ 402	-	-	-	-	-	-	-	-	-	-
Special alloys	≤ 54	≤ 549	10	0.0002	0.0002	0.0008	0.0010	0.0013	0.0016	0.0016	0.0020	0.0025
Ti and Ti-alloys	≤ 25	≤ 255	15	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
Aluminium and Al-alloys	-	≤ 120	230	0.0006	0.0008	0.0031	0.0039	0.0049	0.0063	0.0063	0.0079	0.0098
	-	≤ 200	230	0.0006	0.0008	0.0031	0.0039	0.0049	0.0063	0.0063	0.0079	0.0098
Al wrought alloys	-	≤ 180	130	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	130	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Magnesium alloys	-	≤ 120	195	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Copper, low-alloyed	-	≤ 150	165	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Brass, short-chipping	-	≤ 180	195	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
	-	≤ 180	130	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Bronze, short-chipping	-	≤ 180	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Bronze, long-chipping	≤ 25	≤ 255	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	50	0.0003	0.0006	0.0016	0.0020	0.0025	0.003			