Series # 5520

Material group	Hardness HRC	Hardness BHN	SFM	Feed Rate - IPR 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	160	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	130	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Free-cutting steels	≤ 25	≤ 255	195	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	160	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Unalloyed heat-treatable steels	≤ 20	≤ 220	160	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 25	≤ 255	130	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Alloyed heat-treatable steels	≤ 32	≤ 301	70	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	45	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Unalloyed case hardened steels	≤ 25	≤ 255	130	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Alloyed case hardened steels	≤ 32	≤ 301	65	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	45	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Nitriding steels	≤ 32	≤ 301	55	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	45	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Tool steels	≤ 25	≤ 255	70	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	40	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
High speed steels	≤ 43	≤ 402	40	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273	65	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
austenitic	≤ 36	≤ 337	45	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
martensitic	≤ 46	≤ 435	55	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Cast iron	≤ 23	≤ 242	145	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 38	≤ 354	115	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Spheroidal graphite iron and	≤ 23	≤ 242	130	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
malleable cast iron	≤ 38	≤ 354	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 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	-	≤ 180	295	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
≤ 24 % Si	-	≤ 180	260	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Magnesium alloys	-	≤ 120	260	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Copper, low-alloyed	-	≤ 150	100	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Brass, short-chipping	-	≤ 180	205	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
long-chipping	-	≤ 180	130	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Bronze, short-chipping	-	≤ 180	160	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 25	≤ 255	95	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Bronze, long-chipping	≤ 25	≤ 255	130	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 32	≤ 301	95	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Duroplastics			80	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Thermoplastics			80	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													

Series # 5521

Material group	Hardness HRC	Hardness BHN	SFM	Feed Rate - IPR 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	130	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	100	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Free-cutting steels	≤ 25	≤ 255	155	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	125	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Unalloyed heat-treatable steels	≤ 20	≤ 220	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 25	≤ 255	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Alloyed heat-treatable steels	≤ 32	≤ 301	80	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	80	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Unalloyed case hardened steels	≤ 25	≤ 255	100	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Alloyed case hardened steels	≤ 32	≤ 301	60	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	50	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Nitriding steels	≤ 32	≤ 301	45	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	50	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Tool steels	≤ 25	≤ 255	60	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 43	≤ 402	50	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
High speed steels	≤ 43	≤ 402	50	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Spring steels	≤ 38	≤ 354	30	0.0007	0.0020	0.0030	0.0040	0.0050	0.0050				
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273	50	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
austenitic	≤ 36	≤ 337	35	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
martensitic	≤ 46	≤ 435	50	0.0010	0.0025	0.0040	0.0050	0.0065	0.0065				
Cast iron	≤ 23	≤ 242	115	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 38	≤ 354	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Spheroidal graphite iron and	≤ 23	≤ 242	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
malleable cast iron	≤ 38	≤ 354	80	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549	30	0.0007	0.0020	0.0030	0.0040	0.0050	0.0050				
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 402											
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si	-	≤ 180	230	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
≤ 24 % Si	-	≤ 180	185	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Magnesium alloys	-	≤ 120	205	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
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													