

Series # 5510

Material group	Hardness	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	≤100 Bhn >100-260 Bhn	475 395	•	0.00650 0.00500	0.01000 0.00800	0.01250 0.01000	0.01600 0.01250	0.01600 0.01250	0.01800 0.01400	•	•	•
Free-cutting steels	≤24 Rc >24-30 Rc	560 475	•	0.00800 0.00800	0.01250 0.01250	0.01600 0.01600	0.02000 0.02000	0.02000 0.02000	0.02200 0.02200	•	•	•
Unalloyed heat-treatable steels	≤16 Rc 16-24 Rc 24-30 Rc	425 410 395	•	0.00800 0.00650 0.00650	0.01250 0.01000 0.01000	0.01600 0.01250 0.01250	0.02000 0.01600 0.01600	0.02000 0.01600 0.01600	0.02200 0.01800 0.01800	•	•	•
Alloyed heat-treatable steels	24-30 Rc >30-38 Rc	395 345	•	0.00650 0.00650	0.01000 0.01000	0.01250 0.01250	0.01600 0.01600	0.01600 0.01600	0.01800 0.01800	•	•	•
Unalloyed case hardened steels	≤230 Bhn	475	•	0.00800	0.01250	0.01600	0.02000	0.02000	0.02200	•	•	•
Alloyed case hardened steels	24-30 Rc >30-38 Rc	395 280	•	0.00650 0.00400	0.01000 0.00650	0.01250 0.00800	0.01600 0.01000	0.01600 0.01000	0.01800 0.01100	•	•	•
Nitriding steels	≥24-30 Rc >30-38 Rc	360 345	•	0.00650 0.00400	0.01000 0.00650	0.01250 0.00800	0.01600 0.01000	0.01600 0.01000	0.01800 0.01100	•	•	•
Tool steels	≤24 Rc >24-30 Rc	260 215	•	0.00500 0.00400	0.00800 0.00650	0.01000 0.00800	0.01250 0.01000	0.01250 0.01000	0.01400 0.01100	•	•	•
High speed steels	≥14-30 Rc	195	•	0.00300	0.00500	0.00650	0.00800	0.00800	0.00900	•	•	•
Spring steels	≤330 Bhn	195	•	0.00250	0.00400	0.00500	0.00650	0.00650	0.00700	•	•	•
Stainless steels, sulphured austenitic martensitic	≤24 Rc ≤24 Rc ≤24 Rc	195 180 165	•	0.00400 0.00400 0.00400	0.00650 0.00650 0.00650	0.00800 0.00800 0.00800	0.01000 0.01000 0.01000	0.01000 0.01000 0.01000	0.01100 0.01100 0.01100	•	•	•
Hardened steels	≤40-48 Rc >48-60 Rc	180 115	•	0.00250 0.00200	0.00400 0.00300	0.00500 0.00400	0.00650 0.00500	0.00650 0.00500	0.00700 0.00550	•	•	•
Special alloys	≤38 Rc	115	•	0.00300	0.00500	0.00650	0.00800	0.00800	0.00900	•	•	•
Cast iron	≤240 Bhn <300 Bhn	690 525	•	0.01000 0.01000	0.01600 0.01600	0.02000 0.02000	0.02450 0.02450	0.02450 0.02450	0.02650 0.02650	•	•	•
Spheroidal graphite iron and malleable cast iron	≤240 Bhn <300 Bhn	460 425	•	0.01000 0.00800	0.01600 0.01250	0.02000 0.01600	0.02450 0.02000	0.02450 0.02000	0.02650 0.02200	•	•	•
Chilled cast iron	≤350 Bhn	130	•	0.00250	0.00400	0.00500	0.00650	0.00650	0.00700	•	•	•
Ti and Ti-alloys	≤24 Rc >24-38 Rc	150 130	•	0.00300 0.00300	0.00500 0.00500	0.00650 0.00650	0.00800 0.00800	0.00800 0.00800	0.00900 0.00900	•	•	•
Aluminium and Al-alloys	≤120 Bhn	1015	•	0.01000	0.01600	0.02000	0.02450	0.02450	0.02650	•	•	•
Al wrought alloys	≤150 Bhn	1015	•	0.01000	0.01600	0.02000	0.02450	0.02450	0.02650	•	•	•
Al cast alloys ≤ 10 % Si > 10 % Si	≤200 Bhn ≤200 Bhn	855 720	•	0.01000 0.01000	0.01600 0.01600	0.02000 0.02000	0.02450 0.02450	0.02450 0.02450	0.02650 0.02650	•	•	•
Magnesium alloys	≤150 Bhn	920	•	0.00800	0.01250	0.01600	0.02000	0.02000	0.02200	•	•	•
Copper, low-alloyed	≤120 Bhn	410	•	0.00650	0.01000	0.01250	0.01600	0.01600	0.01800	•	•	•
Brass, short-chipping long-chipping	≤200 Bhn ≤200 Bhn	1065 720	•	0.00800 0.00650	0.01250 0.01000	0.01600 0.01250	0.02000 0.01600	0.02000 0.01600	0.02200 0.01800	•	•	•
Bronze, short-chipping	≤200 Bhn >200-260 Bhn	410 345	•	0.00650 0.00500	0.01000 0.00800	0.01250 0.01000	0.01600 0.01250	0.01600 0.01400	0.01800 0.01400	•	•	•
Bronze, long-chipping	≤24 Rc >24-30 Rc	295 260	•	0.00500 0.00500	0.00800 0.00800	0.01000 0.01000	0.01250 0.01250	0.01250 0.01400	0.01400 0.01400	•	•	•
Duroplastics	—	•	•	•	•	•	•	•	•	•	•	•
Thermoplastics	—	•	•	•	•	•	•	•	•	•	•	•
Reinforced plastics - Kevlar	—	•	•	•	•	•	•	•	•	•	•	•
Reinforced plastics - GFK / CFK	—	•	•	•	•	•	•	•	•	•	•	•

Series # 5511

Material group	Hardness	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	≤100 Bhn >100-260 Bhn	475 395	•	0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160	•	•
Free-cutting steels	≤24 Rc >24-30 Rc	560 475	•	0.0080 0.0080	0.0125 0.0125	0.0160 0.0160	0.0200 0.0200	0.0200 0.0200	0.0220 0.0220	0.0245 0.0245	•	•
Unalloyed heat-treatable steels	≤16 Rc 16-24 Rc 24-30 Rc	425 410 395	•	0.0080 0.0065 0.0065	0.0125 0.0100 0.0100	0.0160 0.0125 0.0125	0.0200 0.0160 0.0160	0.0200 0.0160 0.0160	0.0220 0.0180 0.0180	0.0245 0.0200 0.0200	•	•
Alloyed heat-treatable steels	24-30 Rc >30-38 Rc	395 345	•	0.0065 0.0065	0.0100 0.0100	0.0125 0.0125	0.0160 0.0160	0.0160 0.0160	0.0180 0.0180	0.0200 0.0200	•	•
Unalloyed case hardened steels	≤230 Bhn	475	•	0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245	•	•
Alloyed case hardened steels	24-30 Rc >30-38 Rc	395 280	•	0.0065 0.0040	0.0100 0.0065	0.0125 0.0080	0.0160 0.0100	0.0160 0.0100	0.0180 0.0110	0.0200 0.0125	•	•
Nitriding steels	≥24-30 Rc >30-38 Rc	350 330	•	0.0065 0.0040	0.0100 0.0065	0.0125 0.0080	0.0160 0.0100	0.0160 0.0100	0.0180 0.0110	0.0200 0.0125	•	•
Tool steels	≤24 Rc >24-30 Rc	240 180	•	0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0125 0.0100	0.0140 0.0110	0.0160 0.0125	•	•
High speed steels	≥14-30 Rc	195	•	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100	•	•
Spring steels	≤330 Bhn	195	•	0.0025	0.0040	0.0050	0.0065	0.0065	0.0070	0.0080	•	•
Stainless steels, sulphured austenitic martensitic	≤24 Rc ≤24 Rc ≤24 Rc	195 180 165	•	0.0040 0.0040 0.0040	0.0065 0.0065 0.0065	0.0080 0.0080 0.0080	0.0100 0.0100 0.0100	0.0100 0.0100 0.0100	0.0110 0.0110 0.0110	0.0125 0.0125 0.0125	•	•
Hardened steels	≤40-48 Rc >48-60 Rc	180 115	•	0.0025 0.0020	0.0040 0.0030	0.0050 0.0040	0.0065 0.0050	0.0065 0.0050	0.0070 0.0055	0.0080 0.0065	•	•
Special alloys	≤38 Rc	115	•	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100	•	•
Cast iron	≤240 Bhn <300 Bhn	690 525	•	0.0100 0.0100	0.0160 0.0160	0.0200 0.0200	0.0245 0.0245	0.0245 0.0245	0.0265 0.0265	0.0290 0.0290	•	•
Spheroidal graphite iron and malleable cast iron	≤240 Bhn <300 Bhn	450 425	•	0.0100 0.0080	0.0160 0.0125	0.0200 0.0160	0.0245 0.0200	0.0245 0.0200	0.0265 0.0220	0.0290 0.0245	•	•
Chilled cast iron	≤350 Bhn	130	•	0.0025	0.0040	0.0050	0.0065	0.0065	0.0070	0.0080	•	•
Ti and Ti-alloys	≤24 Rc >24-38 Rc	150 130	•	0.0030 0.0025	0.0050 0.0040	0.0065 0.0050	0.0080 0.0065	0.0080 0.0065	0.0090 0.0070	0.0100 0.0080	•	•
Aluminium and Al-alloys	≤120 Bhn	1015	•	0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245	•	•
Al wrought alloys	≤150 Bhn	1015	•	0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245	•	•
Al cast alloys ≤ 10 % Si > 10 % Si	≤200 Bhn ≤200 Bhn	855 720	•	0.0080 0.0080	0.0125 0.0125	0.0160 0.0160	0.0200 0.0200	0.0200 0.0200	0.0220 0.0220	0.0245 0.0245	•	•
Magnesium alloys	≤150 Bhn	920	•	0.0080	0.0125	0.0160	0.0200	0.0200	0.0220	0.0245	•	•
Copper, low-alloyed	≤120 Bhn	410	•	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180	0.0200	•	•
Brass, short-chipping long-chipping	≤200 Bhn ≤200 Bhn	1065 720	•	0.0080 0.0065	0.0125 0.0100	0.0160 0.0125	0.0200 0.0160	0.0200 0.0160	0.0220 0.0180	0.0245 0.0200	•	•
Bronze, short-chipping	≤200 Bhn >200-260 Bhn	410 345	•	0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160	•	•
Bronze, long-chipping	≤24 Rc >24-30 Rc	295 260	•	0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0125 0.0125	0.0140 0.0140	0.0160 0.0160	•	•
Duroplastics	—	•	•	•	•	•	•	•	•	•	•	•
Thermoplastics	—	•	•	•	•	•	•	•	•	•	•	•
Reinforced plastics - Kevlar	—	•	•	•	•	•	•	•	•	•	•	•
Reinforced plastics - GFK / CFK	—	•	•	•	•	•	•	•	•	•	•	•