

Series # 535

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	-	≤ 150	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Free-cutting steels	≤ 25	≤ 255	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Unalloyed heat-treatable steels	≤ 20	≤ 220	90	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Alloyed heat-treatable steels	≤ 32	≤ 301											
Unalloyed case hardened steels	≤ 25	≤ 255	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Alloyed case hardened steels	≤ 32	≤ 301											
Nitriding steels	≤ 32	≤ 301											
Tool steels	≤ 25	≤ 255	45	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273											
Cast iron	≤ 23	≤ 242	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	70	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
New cast materials ADI	≤ 32	≤ 301											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	180	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Magnesium alloys	-	≤ 120	145	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Copper, low-alloyed	-	≤ 150	90	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Brass, short-chipping long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180	110	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Bronze, long-chipping	≤ 25	≤ 255	70	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK	≤ 32	≤ 301	45	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				

Series # 546

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	-	≤ 150	245		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Free-cutting steels	≤ 32	≤ 301	230		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Unalloyed heat-treatable steels	≤ 25	≤ 255	260		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Alloyed heat-treatable steels	≤ 32	≤ 301	230		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Unalloyed case hardened steels	≤ 20	≤ 220	260		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Alloyed case hardened steels	≤ 25	≤ 255	230		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Nitriding steels	≤ 32	≤ 301	195		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Tool steels	≤ 32	≤ 301	195		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
High speed steels	≤ 43	≤ 402	165		0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Spring steels	≤ 38	≤ 354	80		0.0016	0.0025	0.0039	0.0039	0.0049	0.0063	0.0079		
Hardened steels	≤ 48	≤ 460	65		0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273	80		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Cast iron	≤ 36	≤ 337	80		0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Spheroidal graphite iron and malleable cast iron	≤ 46	≤ 435	80		0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Chilled cast iron	≤ 23	≤ 242	295		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
New cast materials GGV	≤ 38	≤ 354	260		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
New cast materials ADI	≤ 23	≤ 242	260		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Special alloys	≤ 38	≤ 354	230		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Ti and Ti-alloys	≤ 32	≤ 301											
Aluminium and Al-alloys	≤ 43	≤ 402											
Al wrought alloys	≤ 54	≤ 549	50		0.0016	0.0025	0.0039	0.0039	0.0049	0.0063	0.0079		
Al cast alloys ≤ 10 % Si ≤ 24 % Si	≤ 25	≤ 255	65		0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Magnesium alloys	≤ 43	≤ 402	50		0.0016	0.0025	0.0039	0.0039	0.0049	0.0063	0.0079		
Copper, low-alloyed	-	≤ 120	655		0.0049	0.0079	0.0124	0.0124	0.0157	0.0197	0.0248		
Brass, short-chipping long-chipping	-	≤ 200	655		0.0049	0.0079	0.0124	0.0124	0.0157	0.0197	0.0248		
Bronze, short-chipping	-	≤ 180	490		0.0039	0.0063	0.0098	0.0098	0.0124	0.0157	0.0197		
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK	-	≤ 180	395		0.0039	0.0063	0.0098	0.0098	0.0124	0.0157	0.0197		
Magnesium alloys	-	≤ 120	590		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Copper, low-alloyed	-	≤ 150	260		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Brass, short-chipping long-chipping	-	≤ 180	590		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Bronze, short-chipping	-	≤ 180	395		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Bronze, long-chipping	≤ 25	≤ 255	395		0.0031	0.0049	0.0079	0.0079	0.0098	0.0124	0.0157		
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK	≤ 25	≤ 255	230		0.0025	0.0039	0.0063	0.0063	0.0079	0.0098	0.0124		
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK	≤ 32	≤ 301	165		0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		