

Series # 614

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	115	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
Free-cutting steels	≤ 25	≤ 255	115	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	115	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Unalloyed heat-treatable steels	≤ 20	≤ 220	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 25	≤ 255	80	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Alloyed heat-treatable steels	≤ 32	≤ 301	55	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Unalloyed case hardened steels	≤ 25	≤ 255	100	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Alloyed case hardened steels	≤ 32	≤ 301	60	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Nitriding steels	≤ 32	≤ 301	45	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 43	≤ 402	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Tool steels	≤ 25	≤ 255	45	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
	≤ 43	≤ 402	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
High speed steels	≤ 43	≤ 402	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Spring steels	≤ 38	≤ 354	25	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
Hardened steels	≤ 48	≤ 460										
	≤ 66	-										
Stainless steels, sulphured austenitic	≤ 28	≤ 273	50	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
	≤ 36	≤ 337	35	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
martensitic	≤ 46	≤ 435	25	0.0003	0.0005	0.0013	0.0016	0.0020	0.0025	0.0025	0.0031	0.0039
Cast iron	≤ 23	≤ 242	80	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
	≤ 38	≤ 354	80	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	100	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
	≤ 38	≤ 354	80	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
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	20	0.0002	0.0002	0.0008	0.0010	0.0013	0.0016	0.0016	0.0020	0.0025
Ti and Ti-alloys	≤ 25	≤ 255	20	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
	≤ 43	≤ 402	15	0.0002	0.0003	0.0010	0.0013	0.0016	0.0020	0.0020	0.0025	0.0031
Aluminium and Al-alloys	-	≤ 120										
Al wrought alloys	-	≤ 200										
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180										
	-	≤ 180	165	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Magnesium alloys	-	≤ 120	230	0.0005	0.0007	0.0025	0.0031	0.0039	0.0049	0.0049	0.0063	0.0079
Copper, low-alloyed	-	≤ 150	195	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Brass, short-chipping	-	≤ 180	230	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
	-	≤ 180	150	0.0004	0.0006	0.0020	0.0025	0.0031	0.0039	0.0039	0.0049	0.0063
Bronze, short-chipping	-	≤ 180	115	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 25	≤ 255	100	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Bronze, long-chipping	≤ 25	≤ 255	65	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
	≤ 32	≤ 301	60	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Duroplastics			65	0.0003	0.0006	0.0016	0.0020	0.0025	0.0031	0.0031	0.0039	0.0049
Thermoplastics			100	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												

Series # 617

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
Common structural steels	-	≤ 150										
	≤ 32	≤ 301										
Free-cutting steels	≤ 25	≤ 255										
	≤ 32	≤ 301										
Unalloyed heat-treatable steels	≤ 20	≤ 220										
	≤ 25	≤ 255										
Alloyed heat-treatable steels	≤ 32	≤ 301										
	≤ 43	≤ 402	35	0.0010	0.0025	0.0040	0.0050	0.0065				
Unalloyed case hardened steels	≤ 25	≤ 255										
Alloyed case hardened steels	≤ 32	≤ 301										
	≤ 43	≤ 402										
Nitriding steels	≤ 32	≤ 301										
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Tool steels	≤ 25	≤ 255										
	≤ 43	≤ 402										
High speed steels	≤ 43	≤ 402										
Spring steels	≤ 38	≤ 354										
Hardened steels	≤ 48	≤ 460										
	≤ 66	-										
Stainless steels, sulphured austenitic	≤ 28	≤ 273	35	0.0012	0.0030	0.0050	0.0065	0.0080				
	≤ 36	≤ 337	25	0.0010	0.0025	0.0040	0.0050	0.0065				
martensitic	≤ 46	≤ 435	30	0.0010	0.0025	0.0040	0.0050	0.0065				
Cast iron	≤ 23	≤ 242										
	≤ 38	≤ 354										
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242										
	≤ 38	≤ 354										
Chilled cast iron	≤ 38	≤ 354	15	0.0010	0.0025	0.0040	0.0050	0.0065				
New cast materials GGV	≤ 20	≤ 220										
	≤ 32	≤ 301										
New cast materials ADI	≤ 32	≤ 301										
	≤ 43	≤ 402										
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	≤ 43	≤ 402	15	0.0007	0.0020	0.0030	0.0040	0.0050				
Aluminium and Al-alloys	-	≤ 120										
Al wrought alloys	-	≤ 200										
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180										
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Duroplastics			65	0.0012	0.0030	0.0050	0.0065	0.0080				
Thermoplastics												
Reinforced plastics - Kevlar												
Reinforced plastics - GFK / CFK												