

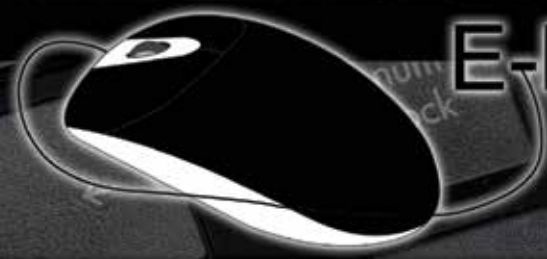
Using These Tables. The Speeds & Feeds listed below are conservative recommendations for initial setup. In actual use, depending on the machining environment and workpiece material, significantly higher speeds and feeds may be achievable. Using the below as a starting point, cutting speed/feed can be gradually adjusted upwards until the optimum settings per application are found. Questions? Contact us by telephone at (800) 776-6170.

Series # 6405

Material group	Hardness	SFM	Feed Rate - IPR							
			0.0197 in. 0.500 mm	0.0315 in. 0.800 mm	0.0394 in. 1.000 mm	0.0591 in. 1.500 mm	0.0787 in. 2.000 mm	0.0984 in. 2.500 mm	0.1181 in. 3.000 mm	
Common structural steels	≤ 20 HRC	345	0.0016	0.0024	0.0031	0.0047	0.0063	0.0079	0.0094	
	≤ 32 HRC	330	0.0016	0.0024	0.0031	0.0047	0.0063	0.0079	0.0094	
Free-cutting steels	≤ 25 HRC	345	0.0016	0.0024	0.0031	0.0047	0.0063	0.0079	0.0094	
	≤ 32 HRC	295	0.0014	0.0020	0.0028	0.0039	0.0055	0.0067	0.0083	
Unalloyed heat-treatable steels	≤ 20 HRC	310	0.0016	0.0024	0.0031	0.0047	0.0063	0.0079	0.0094	
	≤ 25 HRC	310	0.0016	0.0024	0.0031	0.0047	0.0063	0.0079	0.0094	
Alloyed heat-treatable steels	≤ 32 HRC	295	0.0014	0.0020	0.0028	0.0039	0.0055	0.0067	0.0083	
	≤ 43 HRC	230	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
Unalloyed case hardened steels	≤ 25 HRC	330	0.0014	0.0020	0.0028	0.0039	0.0055	0.0067	0.0083	
Alloyed case hardened steels	≤ 32 HRC	280	0.0014	0.0020	0.0028	0.0039	0.0055	0.0067	0.0083	
	≤ 43 HRC	230	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
Nitriding steels	≤ 32 HRC	230	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
	≤ 43 HRC	195	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
Tool steels	≤ 25 HRC	165	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
	≤ 43 HRC	165	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
High speed steels	≤ 43 HRC	165	0.0005	0.0006	0.0009	0.0014	0.0020	0.0028	0.0035	
Spring steels	≤ 38 HRC	165	0.0005	0.0006	0.0009	0.0014	0.0020	0.0028	0.0035	
Stainless steels	sulphured	≤ 28 HRC	230	0.0005	0.0006	0.0009	0.0014	0.0020	0.0028	0.0035
	austenitic	≤ 36 HRC	195	0.0002	0.0003	0.0005	0.0008	0.0013	0.0018	0.0024
	martensitic	≤ 46 HRC	230	0.0005	0.0006	0.0009	0.0014	0.0020	0.0028	0.0035
Hardened steels	≤ 48 HRC									
	≤ 66 HRC									
Special alloys	≤ 54 HRC	80	0.0002	0.0003	0.0005	0.0008	0.0013	0.0018	0.0024	
Cast iron	≤ 23 HRC	490	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
	≤ 38 HRC	460	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
Spheroidal graphite iron and malleable cast iron	≤ 23 HRC	460	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
	≤ 38 HRC	425	0.0012	0.0016	0.0016	0.0035	0.0047	0.0059	0.0071	
Chilled cast iron	≤ 38 HRC									
Ti and Ti-alloys	≤ 25 HRC	115	0.0002	0.0003	0.0005	0.0008	0.0013	0.0018	0.0024	
	≤ 43 HRC	115	0.0002	0.0003	0.0005	0.0008	0.0013	0.0018	0.0024	
Aluminum and Al-alloys	≤120HB	230	0.0024	0.0035	0.0047	0.0071	0.0094	0.0118	0.0142	
Al wrought alloys	≤200HB	230	0.0024	0.0035	0.0047	0.0071	0.0094	0.0118	0.0142	
Al cast alloys	≤ 10% Si	≤180HB	445	0.0009	0.0013	0.0017	0.0026	0.0036	0.0047	0.0059
	≤ 24% Si	≤180HB	445	0.0009	0.0013	0.0017	0.0026	0.0036	0.0047	0.0059
Magnesium alloys	≤120HB									
Copper	low-alloyed	≤ 80 HB								
Brass	short-chipping	≤180HB								
	long-chipping	≤180HB								
Bronze	short-chipping	≤180HB								
		≤ 25 HRC								
Bronze	long-chipping	≤ 25 HRC								
		≤ 32 HRC								

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