

CVD Coated Carbide Grade Machining Recommendations for Turning

Type of Material	Hardness		Maximum Surface Speeds (ft/min)			
	Rc	BHN	GA-5025 GA-5035	GA-5026	GA-5040	GA-5022 GA-5023
Non-Alloy Carbon Steel						
<i>C < 0.25 %</i>		110	1105	N/A	697	N/A
<i>C < 0.80 %</i>	6	150	850	N/A	536	N/A
<i>C < 1.40 %</i>	33	310	680	N/A	425	N/A
Low-Alloy Steels						
<i>Annealed, Medium - High Carbon</i>	12	180	714	N/A	451	N/A
<i>Hardened</i>	36	330	459	N/A	289	N/A
High-Alloy Steels						
<i>Annealed</i>	16	200	425	N/A	272	N/A
<i>Hardened</i>	41	380	306	N/A	196	N/A
High-Alloy Tool Steel						
<i>Hardened</i>	36	330	442	N/A	281	N/A
Cast Steel						
<i>Non-Alloy</i>	6	150	850	N/A	536	N/A
<i>Low-Alloy</i>	16	200	680	N/A	425	N/A
<i>High-Alloy</i>	16	200	595	N/A	374	N/A
Stainless Steels						
<i>Ferritic, 400 Series</i>	16	200	N/A	N/A	400	638
<i>Ferritic, 400 Series</i>	32	310	600	N/A	350	N/A
<i>Austenitic, 300 Series</i>	16	200	N/A	450	272	425
Gray, Pearlitic Cast Irons						
<i>Low Tensile</i>	12	180	N/A	600	578	808
<i>High Tensile</i>	26	260	N/A	350	204	289
Nodular / Malleable Irons						
<i>Short Chipping</i>	6	150	N/A	N/A	697	1165
<i>Long Chipping</i>	21	230	N/A	N/A	417	697
Aluminum Alloys			N/A	2000	N/A	N/A
Brass, Copper, Bronze			N/A	700	N/A	N/A
Hardened Steels (> 50 Rc)			N/A	N/A	N/A	N/A
Chilled, Hardened Irons (> 50 Rc)			N/A	N/A	N/A	N/A
Titanium, Refractory Metals			N/A	200	N/A	N/A
Nickel & Iron Based Superalloys						
<i>Inconels</i>			N/A	260	N/A	N/A
<i>Hastelloys</i>			N/A	340	N/A	N/A
<i>Waspoloys</i>			N/A	260	N/A	N/A
<i>Renes</i>			N/A	220	N/A	N/A
<i>Monels</i>			N/A	220	N/A	N/A
Cobalt Based Superalloys						
<i>Stellites</i>			N/A	180	N/A	N/A
<i>Haynes Alloys</i>			N/A	180	N/A	N/A

Finishing: 0.003 to 0.015 in/rev
 General Purpose: 0.008 to 0.020 in/rev
 Medium Roughing: 0.015 to 0.030 in/rev
 Heavy Roughing: > 0.030 in/rev

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