

Weartech International WT-6 Cobalt Hardfacing & Wear Resistant Alloy

Category : Metal , Nonferrous Metal , Cobalt Alloy

Material Notes:

Applications: engine valves, pump shafts & sleeves, hot cutting & rotary knives, high pressure high temperature valves, extrusion screws
Information provided by Weartech International

Order this product through the following link:

http://www.lookpolymers.com/polymer_Weartech-International-WT-6-Cobalt-Hardfacing-Wear-Resistant-Alloy.php

Physical Properties	Metric	English	Comments
Density	8.39 g/cc	0.303 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	38 - 48	38 - 48	
Hardness, Vickers	185	185	
	@Treatment Temp. 760 °C	@Treatment Temp. 1400 °F	
	275	275	
	@Treatment Temp. 649 °C	@Treatment Temp. 1200 °F	
	290	290	
	@Treatment Temp. 538 °C	@Treatment Temp. 1000 °F	
	320	320	
	@Treatment Temp. 427 °C	@Treatment Temp. 800 °F	
	415	415	
	@Treatment Temp. 25.0 °C	@Treatment Temp. 77.0 °F	
Tensile Strength	793 MPa	115000 psi	As Cast
Elongation at Yield	0.00 - 1.5 %	0.00 - 1.5 %	
Charpy Impact	12.2 J	9.00 ft-lb	As Cast

Thermal Properties	Metric	English	Comments
CTE, linear	16.4 μm/m-°C	9.10 μin/in-°F	
Specific Heat Capacity	0.423 J/g-°C	0.101 BTU/lb-°F	

Melting Point Thermal Properties	≤ 1290 °C Metric	≤ 2360 °F English	Comments
Liquidus	1290 °C	2360 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.1 %	1.1 %	
Chromium, Cr	28 %	28 %	
Cobalt, Co	59.8 - 65.8 %	59.8 - 65.8 %	
Iron, Fe	≤ 3.0 %	≤ 3.0 %	
Nickel, Ni	≤ 3.0 %	≤ 3.0 %	
Silicon, Si	1.1 %	1.1 %	
Tungsten, W	4.0 %	4.0 %	

Descriptive Properties	Value	Comments
Corrosion Resistance, Hydrochloric Acid Conc. 5.65%	<5 mils/year	RT
	>400 mils/year	Boiling
Corrosion Resistance, Nitric Acid Conc. 25-65%	<5 mils/year	RT
	>400 mils/year	Boiling
Corrosion Resistance, Sulfuric Acid Conc. 5-10%	<5 mils/year	RT
	>400 mils/year	150 °F
Relative Wear Performance	Cold Abrasion	Good/Moderate
	Corrosion	Excellent
	Erosion	Excellent
	Hot Abrasion	Good/Moderate
	Impact	Excellent
	Metal to Metal	Excellent

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