

Weartech International WT-21 Cobalt Hardfacing & Wear Resistant Alloy

Category : Metal , Nonferrous Metal , Cobalt Alloy

Material Notes:

Applications: hot trimming & forging dies, high pressure high temperature valves, hot shears, valve seats, pump impellers, rings
Information provided by Weartech International

Order this product through the following link:

http://www.lookpolymers.com/polymer_Weartech-International-WT-21-Cobalt-Hardfacing-Wear-Resistant-Alloy.php

Physical Properties	Metric	English	Comments
Density	8.31 g/cc	0.300 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	27	27	
Hardness, Vickers	100	100	
	@Treatment Temp. 760 °C	@Treatment Temp. 1400 °F	
	150	150	
	@Treatment Temp. 649 °C	@Treatment Temp. 1200 °F	
	190	190	
	@Treatment Temp. 538 °C	@Treatment Temp. 1000 °F	
	205	205	
	@Treatment Temp. 427 °C	@Treatment Temp. 800 °F	
	300	300	
	@Treatment Temp. 25.0 °C	@Treatment Temp. 77.0 °F	
Tensile Strength	696 MPa	101000 psi	Heat Treated
Elongation at Yield	1.0 - 3.5 %	1.0 - 3.5 %	
Charpy Impact	>= 8.13 J	>= 6.00 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear	13.7 µm/m-°C	7.60 µin/in-°F	
Specific Heat Capacity	0.423 J/g-°C	0.101 BTU/lb-°F	

Melting Point Thermal Properties	≤ 1370 °C Metric	≤ 2490 °F English	Comments
Liquidus	1370 °C	2490 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.25 %	0.25 %	
Chromium, Cr	27 %	27 %	
Cobalt, Co	61.25 - 64.25 %	61.25 - 64.25 %	
Iron, Fe	≤ 3.0 %	≤ 3.0 %	
Molybdenum, Mo	5.0 %	5.0 %	
Nickel, Ni	2.5 %	2.5 %	
Silicon, Si	≤ 1.0 %	≤ 1.0 %	

Descriptive Properties	Value	Comments
Corrosion Resistance, Hydrochloric Acid Conc. 5.65%	<5 mils/year	RT
Corrosion Resistance, Nitric Acid Conc. 25-65%	<5 mils/year	RT
Corrosion Resistance, Sulfuric Acid Conc. 5-10%	<5 mils/year	RT
Relative Wear Performance	Cold Abrasion	Not Recommended
	Corrosion	Excellent
	Erosion	Excellent
	Hot Abrasion	Not Recommended
	Impact	Excellent
	Metal to Metal	Excellent

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