

Crucible Compaction Metals P/M 625 Corrosion Resistant Alloy

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

P/M 625 (chemically, UNS N06625) is produced by the Crucible P/M process: inert gas atomization, coupled with consolidation by hot isostatic pressing (HIP) and/or extrusion. The Crucible powder consolidation operation guarantees a fully dense, fine grained product. Crucible custom crafted parts can be machined in less time and with less tool wear than those produced from conventional 625 material. P/M 625 gives engineers and designers great flexibility in design. It is available in standard mill forms such as billet, bar, and tubing, and as near net shapes and clad components and hollows. The use of near net shapes can decrease the amount of material used and drastically cut the costs of fabricating a finished part. Suggested Processing Conditions: Q & T - Water Quench at 996°C for 1 hour and Air Cool at 677°C for 6 hours; Double Age - Furnace Cool at 718°C for 8 hours and Air Cool from 38°C to 622°C for 8 hours.; ST&A4 - Water Quench at 982°C for 1 hour and Air Cool at 649°C for 16 hours; As-HIP: As-Hot Isostatic Pressed Advantages: Near net shape Excellent corrosion resistance Heat treatment for superior strength Flexibility in design Information provided by Crucible Compaction Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Compaction-Metals-PM-625-Corrosion-Resistant-Alloy.php

Physical Properties	Metric	English	Comments
Environmental Stress Crack Resistance	336 hour	336 hour	No Failure; Q&T; Test Type - C-Ring; Test Condition - Specimen coupled to carbon steel. 5% NaCl + 0.5% Acetic Acid in H ₂ O + 100% H ₂ S.
	720 hour	720 hour	No Failure; Double Age; Test Type - C-Ring; Test Condition - 25% NaCl in H ₂ O + a gas mixture of 15% H ₂ S, 15% CO ₂ and 70% N ₂ + lg/l elemental sulfur
	4320 hour	4320 hour	No Failure; Double Age; Test Type - C-Ring; Test Condition - 25% NaCl in H ₂ O + a gas mixture of 15% H ₂ S, 15% CO ₂ and 70% N ₂ + lg/l elemental sulfur

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	850 MPa	123000 psi	As-Consolidated
	1010 MPa	146000 psi	Q&T
	1200 MPa	174000 psi	Double Age
Tensile Strength, Yield	400 MPa	58000 psi	As-Consolidated
	@Strain 0.200 %	@Strain 0.200 %	
	600 MPa	87000 psi	

Mechanical Properties	Metric @Strain 0.200 %	English @Strain 0.200 %	Q&T Comments
	800 MPa	116000 psi	Double Age
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	37 %	37 %	Double Age
	40 %	40 %	As-Consolidated
	40 %	40 %	Q&T
	40 %	40 %	Double Age
Reduction of Area	38 %	38 %	Double Age
	40 %	40 %	Q&T
	50 %	50 %	As-Consolidated
	50 %	50 %	Double Age
Modulus of Elasticity	203 GPa	29500 ksi	Test Temperature 24°C; As-HIP Condition
	190 GPa	27500 ksi	As-HIP Condition
	@Temperature 371 °C	@Temperature 700 °F	
Charpy Impact	75.9 J	56.0 ft-lb	Material Condition - ST&A₄
	122 J	90.0 ft-lb	Material Condition - As-HIP

Component Elements Properties	Metric	English	Comments
Aluminum, Al	<= 0.40 %	<= 0.40 %	
Carbon, C	<= 0.10 %	<= 0.10 %	
Chromium, Cr	20 - 23 %	20 - 23 %	
Cobalt, Co	<= 0.10 %	<= 0.10 %	
Copper, Cu	<= 0.50 %	<= 0.50 %	
Iron, Fe	<= 5.0 %	<= 5.0 %	
Manganese, Mn	<= 0.50 %	<= 0.50 %	
Molybdenum, Mo	8.0 - 10 %	8.0 - 10 %	
Nickel, Ni	55.31 - 61.31 %	55.31 - 61.31 %	As Balance
Niobium, Nb (Columbium, Cb)	3.15 - 4.15 %	3.15 - 4.15 %	
Nitrogen, N	<= 0.010 %	<= 0.010 %	
Phosphorous, P	<= 0.015 %	<= 0.015 %	

Component Elements Properties	Metric	English	Comments
Sulfur, S	<= 0.015 %	<= 0.015 %	
Titanium, Ti	<= 0.40 %	<= 0.40 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China