

HP Alloys Nitronic® 50 Austenitic Stainless, Annealed

Category : Metal , Ferrous Metal , Heat Resisting , Stainless Steel , T S20000 Series Stainless Steel

Material Notes:

Annealed applies to tensile, impact, and hardness values and are for 3/4 in. diameter samples; other properties are typical of this alloy. Nitronic® 50 Stainless Steel provides a combination of corrosion resistance and strength not found in any other commercial material available in its price range. This austenitic stainless has corrosion resistance greater than that provided by Types 316 and 316L, plus approximately twice the yield strength at room temperature. In addition, Armco Nitronic 50 Stainless has very good mechanical properties at both elevated and sub-zero temperatures. And, unlike many austenitic stainless steels, Nitronic 50 does not become magnetic when cold worked. Data provided by High Performance Alloys, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_HP-Alloys-Nitronic-50-Austenitic-Stainless-Annealed.php

Physical Properties	Metric	English	Comments
Density	7.88 g/cc	0.285 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	189	189	Estimated from Rockwell B
Hardness, Knoop	232	232	Estimated from Rockwell B
Hardness, Rockwell A	56	56	Estimated from Rockwell B
Hardness, Rockwell B	91	91	
Hardness, Vickers	193	193	Estimated from Rockwell B
Tensile Strength, Ultimate	800 MPa	116000 psi	
Tensile Strength, Yield	393 MPa @Strain 0.200 %	57000 psi @Strain 0.200 %	
Elongation at Break	47 %	47 %	
Reduction of Area	70 %	70 %	
Modulus of Elasticity	193 GPa	28000 ksi	In Tension
Charpy Impact	314 J @Temperature 27.0 °C	232 ft-lb @Temperature 80.6 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.2 µm/m-°C	9.00 µin/in-°F	

Thermal Properties	@Temperature 20.0 - Metric 95.0 °C	@Temperature 68.0 - English 200 °F	Comments
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Component Elements Properties	Metric	English	Comments
Chromium, Cr	22 %	22 %	
Iron, Fe	58 %	58 %	As remainder
Manganese, Mn	5.0 %	5.0 %	
Molybdenum, Mo	2.25 %	2.25 %	
Nickel, Ni	12.5 %	12.5 %	
Nitrogen, N	0.30 %	0.30 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000110 ohm-cm	0.000110 ohm-cm	

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