

HP Alloys Nitronic® 50 Austenitic Stainless, Level 3 Cold Worked

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

Material Notes:

Cold Worked applies to tensile values and are for 0.25 to 2.4 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-Level-3-Cold-Worked.php

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

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 1103 MPa	>= 160000 psi	
Tensile Strength, Yield	>= 896 MPa @Strain 0.200 %	>= 130000 psi @Strain 0.200 %	
Elongation at Break	>= 15 %	>= 15 %	
Reduction of Area	>= 45 %	>= 45 %	
Modulus of Elasticity	193 GPa	28000 ksi	In Tension
Charpy Impact	73.0 J @Temperature -40.0 °C	53.8 ft-lb @Temperature -40.0 °F	
	123 J @Temperature 27.0 °C	90.7 ft-lb @Temperature 80.6 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.2 µm/m-°C @Temperature 20.0 - 95.0 °C	9.00 µin/in-°F @Temperature 68.0 - 203 °F	

Component Elements Properties	Metric	English	Comments
Chromium, Cr	22 %	22 %	

Component Elements Properties	Metric	English	Comments
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	

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