

Special Metals INCONEL® Alloy C-276

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

A nickel-molybdenum-chromium alloy with an addition of tungsten having excellent corrosion resistance in a wide range of severe environments. The high molybdenum content makes the alloy especially resistant to pitting and crevice corrosion. The low carbon content minimizes carbide precipitation during welding to maintain corrosion resistance in as-welded structures. Used in pollution control, chemical processing, pulp and paper production, and waste treatment. Standard product forms are round, forging stock, tube, pipe, plate, sheet, strip, and wire. Data provided by the manufacturer, Special Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Special-Metals-INCONEL-Alloy-C-276.php

Physical Properties	Metric	English	Comments
Density	8.89 g/cc	0.321 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	790 MPa	115000 psi	Annealed
	620 MPa @Temperature 550 Â°C	89900 psi @Temperature 1020 Â°F	Annealed prior to test
Tensile Strength, Yield	415 MPa	60200 psi	Annealed
	230 MPa @Temperature 550 Â°C	33400 psi @Temperature 1020 Â°F	Annealed prior to test
Elongation at Break	62 %	62 %	Annealed prior to test.
	60 % @Temperature 550 Â°C	60 % @Temperature 1020 Â°F	Annealed prior to test.

Thermal Properties	Metric	English	Comments
CTE, linear	12.2 Âµm/m-Â°C	6.78 Âµin/in-Â°F	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	
Specific Heat Capacity	0.427 J/g-Â°C	0.102 BTU/lb-Â°F	
Thermal Conductivity	9.80 W/m-K	68.0 BTU-in/hr-ftÂ²- Â°F	
Melting Point	1325 - 1370 Â°C	2417 - 2500 Â°F	

Thermal Properties	Metric °C	English °F	Comments
Liquidus	1370 °C	2500 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.010 %	<= 0.010 %	
Chromium, Cr	14.5 - 16.5 %	14.5 - 16.5 %	
Cobalt, Co	<= 2.5 %	<= 2.5 %	
Iron, Fe	4.0 - 7.0 %	4.0 - 7.0 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Molybdenum, Mo	15 - 17 %	15 - 17 %	
Nickel, Ni	55 %	55 %	As remainder
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 0.080 %	<= 0.080 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	
Tungsten, W	3.0 - 4.5 %	3.0 - 4.5 %	
Vanadium, V	<= 0.35 %	<= 0.35 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0001229 ohm-cm	0.0001229 ohm-cm	
Magnetic Permeability	1.0002	1.0002	at 200 oersted (15.9 kA/m)

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