

Special Metals INCOLOY® Alloy 800HT,ç

Category : Metal , Superalloy , Iron Base

Material Notes:

A nickel-iron-chromium alloy having the same basic composition as INCOLOY alloy 800 but with significantly higher creep-rupture strength. The higher strength results from close control of the carbon, aluminum, and titanium contents in conjunction with a high-temperature anneal. Used in chemical and petrochemical processing, in power plants for super-heater and reheater tubing, in industrial furnaces, and for heat-treating equipment. Standard product forms are round, flats, forging stock, pipe, tube, 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-INCOLOY-Alloy-800HT.php

Physical Properties	Metric	English	Comments
Density	7.94 g/cc	0.287 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	560 MPa	81200 psi	Annealed
	480 MPa @Temperature 550 Â°C	69600 psi @Temperature 1020 Â°F	Annealed prior to test
Tensile Strength, Yield	250 MPa	36300 psi	Annealed
	130 MPa @Temperature 550 Â°C	18900 psi @Temperature 1020 Â°F	Annealed prior to test
Elongation at Break	45 %	45 %	Annealed prior to test.
	44 % @Temperature 550 Â°C	44 % @Temperature 1020 Â°F	Annealed prior to test.

Thermal Properties	Metric	English	Comments
CTE, linear	14.4 Âµm/m-Â°C	8.00 Âµin/in-Â°F	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	
Specific Heat Capacity	0.460 J/g-Â°C	0.110 BTU/lb-Â°F	
Thermal Conductivity	11.5 W/m-K	79.8 BTU-in/hr-ftÂ²- Â°F	
Melting Point	1357 - 1385 Â°C	2475 - 2525 Â°F	

Thermal Properties	Metric °C	English °F	Comments
Liquidus	1385 °C	2525 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	0.15 - 0.60 %	0.15 - 0.60 %	
Carbon, C	0.060 - 0.10 %	0.060 - 0.10 %	
Chromium, Cr	19 - 23 %	19 - 23 %	
Copper, Cu	<= 0.75 %	<= 0.75 %	
Iron, Fe	>= 39.5 %	>= 39.5 %	
Manganese, Mn	<= 1.5 %	<= 1.5 %	
Nickel, Ni	30 - 35 %	30 - 35 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.015 %	<= 0.015 %	
Titanium, Ti	0.15 - 0.60 %	0.15 - 0.60 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000989 ohm-cm	0.0000989 ohm-cm	
Magnetic Permeability	1.014	1.014	at 200 oersted (15.9 kA/m)
Curie Temperature	-115 °C	-175 °F	

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