

Special Metals NIMONIC® Alloy 86

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

A nickel-chromium-molybdenum alloy with a rare-earth (cerium) addition. It combines good formability and weldability with exceptional resistance to oxidation and scaling at temperatures to 1920°F (1050°C). Used in gas turbines for sheet-metal fabrications such as combustion chambers and afterburners and in heat-treating furnaces. Standard product forms are round, extruded section, 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-NIMONIC-Alloy-86.php

Physical Properties	Metric	English	Comments
Density	8.54 g/cc	0.309 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	620 MPa	89900 psi	Solution Annealed prior to test
	@Temperature 650 °C	@Temperature 1200 °F	
Tensile Strength, Yield	825 MPa	120000 psi	Solution Annealed. Value at room temperature
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	410 MPa	59500 psi	Solution Annealed prior to test
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	240 MPa	34800 psi	Solution Annealed
	@Strain 0.200 %, Temperature 650 °C	@Strain 0.200 %, Temperature 1200 °F	
Modulus of Elasticity	42 %	42 %	Solution Annealed prior to test.
	50 %	50 %	
Modulus of Elasticity	210 GPa	30500 ksi	
	@Temperature 650 °C	@Temperature 1200 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	12.7 µm/m-°C	7.06 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.050 %	0.050 %	
Cerium, Ce	0.030 %	0.030 %	
Chromium, Cr	25 %	25 %	
Molybdenum, Mo	10 %	10 %	
Nickel, Ni	65 %	65 %	As remainder

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