

## Special Metals INCONEL® Alloy HX

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

### Material Notes:

A nickel-chromium-iron-molybdenum alloy with outstanding strength and oxidation resistance at temperatures to 2200°F (1200°C). Matrix stiffening provided by the molybdenum content results in high strength in a solid-solution alloy having good fabrication characteristics. Used in gas turbines, industrial furnaces, heat-treating equipment, and nuclear engineering. Standard product forms are round, extruded section, flats, forging stock, 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-HX.php](http://www.lookpolymers.com/polymer_Special-Metals-INCONEL-Alloy-HX.php)

Physical Properties	Metric	English	Comments
Density	8.23 g/cc	0.297 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	630 MPa	91400 psi	Solution Annealed prior to test
	@Temperature 550 °C	@Temperature 1020 °F	
	825 MPa	120000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	375 MPa	54400 psi	Solution Annealed. Value at room temperature
	@Strain 0.200 %	@Strain 0.200 %	
	210 MPa	30500 psi	Solution Annealed prior to test
	@Strain 0.200 %, Temperature 550 °C	@Strain 0.200 %, Temperature 1020 °F	
Elongation at Break	42 %	42 %	Solution Annealed
	48 %	48 %	
	@Temperature 550 °C	@Temperature 1020 °F	Solution Annealed prior to test.

Thermal Properties	Metric	English	Comments
CTE, linear	13.3 µm/m-°C	7.39 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Specific Heat Capacity	0.461 J/g-°C	0.110 BTU/lb-°F	
Thermal Conductivity	11.6 W/m-K	80.5 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	1260 - 1355 °C	2300 - 2471 °F	

<b>Solidus</b> Thermal Properties	<b>1260 °C</b> Metric	<b>2300 °F</b> English	Comments
Liquidus	1355 °C	2471 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.50 - 2.5 %	0.50 - 2.5 %	
Chromium, Cr	20.5 - 23 %	20.5 - 23 %	
Cobalt, Co	0.50 - 2.5 %	0.50 - 2.5 %	
Iron, Fe	17 - 20 %	17 - 20 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Molybdenum, Mo	8.0 - 10 %	8.0 - 10 %	
Nickel, Ni	45 %	45 %	As remainder
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	
Tungsten, W	0.20 - 1.0 %	0.20 - 1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000116 ohm-cm	0.000116 ohm-cm	
Magnetic Permeability	1.011	1.011	at 200 oersted (15.9 kA/m)

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China