

Special Metals INCONEL® 706 Precipitation Hardening Alloy, Cold Rolled Sheet, 2 Part Heat Treatment, 0.062 inch (1.57 mm) Thickness

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy , Iron Base

Material Notes:

Tensile and bearing strengths (ultimate and yield) and elongation values reported here are typical for Cold Rolled Sheet, 2 Part Heat Treatment, 0.062 inch (1.57 mm) Thickness samples. Density and magnetic permeability are typical of precipitation hardened INCONEL® alloy 706. Other property values are typical of INCONEL® alloy 706. For tensile-limited applications, the alloy receives a two part heat treatment as follows: Solution treat 1700-1850°F (925-1010°C) for a time commensurate with section size, then air cool. Precipitation treatment 1350°F (730°C)/8 hr, furnace cool at 100°F (55°C)/hr to 1150°F (620°C)/8 hr, air cool. Data provided by the manufacturer, Special Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Special-Metals-INCONEL-706-Precipitation-Hardening-Alloy-Cold-Rolled-Sheet-2-Part-Heat-Treatment-0062-inch-157-mm-Thickness.php

Physical Properties	Metric	English	Comments
Density	8.08 g/cc	0.292 lb/in ³	Precipitation Hardened

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	1320 MPa	191000 psi	
Tensile Strength, Yield	1100 MPa @Strain 0.200 %	159000 psi @Strain 0.200 %	
Elongation at Break	20 %	20 %	
Modulus of Elasticity	210 GPa	30500 ksi	Dynamic Method
Ultimate Bearing Strength	2181 MPa	316300 psi	Longitudinal, pin diameter = 0.250 in. (6.35 mm). Edge distance ratio of 1.5.
	2197 MPa	318600 psi	Transverse, pin diameter = 0.250 in. (6.35 mm). Edge distance ratio of 1.5.
Bearing Yield Strength	1602 MPa	232400 psi	2% Offset, Longitudinal, pin diameter = 0.250 in. (6.35 mm). Edge distance ratio of 1.5.
	1618 MPa	234700 psi	2% Offset, Transverse, pin diameter = 0.250 in. (6.35 mm). Edge distance ratio of 1.5.
Poissons Ratio	0.382	0.382	Calculated by mfr.
Shear Modulus	76.0 GPa	11000 ksi	Dynamic Method

Thermal Properties	Metric	English	Comments
	13.46 µm/m-°C	7.478 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@ Temperature 24.0 - 100 °C	@ Temperature 75.2 - 212 °F	
	15.08 µm/m-°C	8.378 µin/in-°F	Mean
	@ Temperature 24.0 - 300 °C	@ Temperature 75.2 - 572 °F	
	15.59 µm/m-°C	8.661 µin/in-°F	Mean
	@ Temperature 24.0 - 500 °C	@ Temperature 75.2 - 932 °F	
	16.42 µm/m-°C	9.122 µin/in-°F	Mean
	@ Temperature 21.0 - 700 °C	@ Temperature 69.8 - 1290 °F	
Specific Heat Capacity	0.444 J/g-°C	0.106 BTU/lb-°F	
Thermal Conductivity	12.5 W/m-K	86.8 BTU-in/hr-ft ² -°F	
Melting Point	1334 - 1371 °C	2433 - 2500 °F	
Solidus	1334 °C	2433 °F	
Liquidus	1371 °C	2500 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	<= 0.060 %	<= 0.060 %	
Boron, B	<= 0.0060 %	<= 0.0060 %	
Carbon, C	<= 0.30 %	<= 0.30 %	
Chromium, Cr	14.5 - 17.5 %	14.5 - 17.5 %	
Cobalt, Co	<= 1.0 %	<= 1.0 %	
Copper, Cu	<= 0.35 %	<= 0.35 %	
Iron, Fe	38 %	38 %	As remainder
Manganese, Mn	<= 0.35 %	<= 0.35 %	
Nickel, Ni	39 - 44 %	39 - 44 %	Including Cobalt
Niobium, Nb (Columbium, Cb)	2.5 - 3.3 %	2.5 - 3.3 %	Includes Ta
Phosphorous, P	<= 0.020 %	<= 0.020 %	
Silicon, Si	<= 0.35 %	<= 0.35 %	
Sulfur, S	<= 0.015 %	<= 0.015 %	

Titanium Ti Component Elements Properties	$\leq 0.40\%$ Metric	$\leq 0.40\%$ English	Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000985 ohm-cm	0.0000985 ohm-cm	
Magnetic Permeability	1.01	1.01	at 200 Oersted (15.9 kA/m);Annealed
Curie Temperature	$\leq -78.0\text{ }^{\circ}\text{C}$	$\leq -108\text{ }^{\circ}\text{F}$	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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