

Special Metals INCONEL® 625LCF® Nickel Superalloy (UNS N06626) Annealed + 50% Cold Work

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

Tensile strength (ultimate and yield), elongation, and reduction of area values are for annealed then cold worked samples. This produces ASTM grain size 10.0. Other property values are typical of this alloy. Data provided by the manufacturer, Special Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Special-Metals-INCONEL-625LCF-Nickel-Superalloy-UNS-N06626-Annealed-50-Cold-Work.php

Physical Properties	Metric	English	Comments
Density	8.44 g/cc	0.305 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	1017 MPa	147500 psi	
Tensile Strength, Yield	545 MPa @Strain 0.200 %	79000 psi @Strain 0.200 %	
Elongation at Break	40 %	40 %	
Modulus of Elasticity	208 GPa	30200 ksi	
Poissons Ratio	0.28	0.28	
Shear Modulus	81.4 GPa	11800 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	12.8 Åµm/m-Å°C @Temperature 21.0 - 100 Å°C	7.11 Åµin/in-Å°F @Temperature 69.8 - 212 Å°F	Mean
	13.3 Åµm/m-Å°C @Temperature 21.0 - 300 Å°C	7.39 Åµin/in-Å°F @Temperature 69.8 - 572 Å°F	Mean
	13.9 Åµm/m-Å°C @Temperature 21.0 - 500 Å°C	7.72 Åµin/in-Å°F @Temperature 69.8 - 932 Å°F	Mean
	14.9 Åµm/m-Å°C @Temperature 21.0 - 700 Å°C	8.28 Åµin/in-Å°F @Temperature 69.8 - 1290 Å°F	Mean
Specific Heat Capacity	0.410 J/g-Å°C	0.0980 BTU/lb-Å°F	

Thermal Properties	Metric	English	Comments
Melting Point	1290 - 1350 °C	2350 - 2460 °F	
Solidus	1290 °C	2350 °F	
Liquidus	1350 °C	2460 °F	
Maximum Service Temperature, Air	650 °C	1200 °F	resistance to low cycle and thermal fatigue

Component Elements Properties	Metric	English	Comments
Aluminum, Al	<= 0.40 %	<= 0.40 %	
Carbon, C	<= 0.030 %	<= 0.030 %	
Chromium, Cr	20 - 23 %	20 - 23 %	
Cobalt, Co	<= 1.0 %	<= 1.0 %	
Iron, Fe	<= 5.0 %	<= 5.0 %	
Manganese, Mn	<= 0.50 %	<= 0.50 %	
Molybdenum, Mo	8.0 - 10 %	8.0 - 10 %	
Nickel, Ni	>= 58 %	>= 58 %	
Niobium, Nb (Columbium, Cb)	3.15 - 4.15 %	3.15 - 4.15 %	Includes Ta
Nitrogen, N	<= 0.020 %	<= 0.020 %	
Phosphorous, P	<= 0.015 %	<= 0.015 %	
Silicon, Si	<= 0.020 %	<= 0.020 %	
Sulfur, S	<= 0.015 %	<= 0.015 %	
Titanium, Ti	<= 0.40 %	<= 0.40 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000132 ohm-cm	0.000132 ohm-cm	
Magnetic Permeability	1.0006	1.0006	at 200 Oersted (15.9 kA/m)

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