

## Special Metals INCONEL® 625LCF® Nickel Superalloy (UNS N06626) Annealed 2150°F (1180°C) + Aged 1200°F (650°C)

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

### Material Notes:

Tensile strength (ultimate and yield), elongation, and hardness values are for samples annealed 2150°F (1180°C)/5 minutes/AC + Aged 1200°F (650°C)/100h/AC. This produces ASTM grain size 5.0. 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-2150F-1180C-Aged-1200F-650C.php](http://www.lookpolymers.com/polymer_Special-Metals-INCONEL-625LCF-Nickel-Superalloy-UNS-N06626-Annealed-2150F-1180C-Aged-1200F-650C.php)

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

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	24	24	
Tensile Strength, Ultimate	862.5 MPa	125100 psi	
Tensile Strength, Yield	469 MPa @Strain 0.200 %	68000 psi @Strain 0.200 %	
Elongation at Break	55 %	55 %	
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	7.11 Åµin/in-Å°F	Mean
	@Temperature 21.0 - 100 Å°C	@Temperature 69.8 - 212 Å°F	
	13.3 Åµm/m-Å°C	7.39 Åµin/in-Å°F	Mean
	@Temperature 21.0 - 300 Å°C	@Temperature 69.8 - 572 Å°F	
13.9 Åµm/m-Å°C	7.72 Åµin/in-Å°F	Mean	
@Temperature 21.0 - 500 Å°C	@Temperature 69.8 - 932 Å°F		
	14.9 Åµm/m-Å°C	8.28 Åµin/in-Å°F	Mean

Thermal Properties	Metric @Temperature 21.0 - 700 ÅC	English @Temperature 69.8 - 1220 ÅF	Comments
Specific Heat Capacity	0.410 J/g-Å°C	0.0980 BTU/lb-Å°F	
Thermal Conductivity	9.70 W/m-K	67.3 BTU-in/hr-ftÅ²- Å°F	
Melting Point	1290 - 1350 Å°C	2350 - 2460 Å°F	
Solidus	1290 Å°C	2350 Å°F	
Liquidus	1350 Å°C	2460 Å°F	
Maximum Service Temperature, Air	650 Å°C	1200 Å°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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