

## Carlson 330 Austenitic Alloy

Category : Metal , Nonferrous Metal , Nickel Alloy

### Material Notes:

**General Description** Carlson Alloy 330 is a nickel-iron-chromium-silicon austenitic alloy. It combines high strength with excellent resistance to carburization and oxidation at temperatures to 2200°F (1200°C). 330 remains completely austenitic at all temperatures; and is totally immune to sigma phase formations. With a 34 to 37 percent nickel content, 330 is highly resistant to chloride stress corrosion cracking. This high temperature alloy is often utilized for applications where conventional austenitic stainless steels are marginal. **Applications** 330 is used extensively in elevated temperature environments where resistance to the combined effects of thermal cycling and carburization is required. **Furnace Containers** – annealing, carbonitriding, malleablizing. **Heat Treating Equipment** – muffles, retorts, conveyor systems, baskets, boxes, quenching fixtures. **Gas Turbine Components** Heat Exchangers Furnace Fans Petrochemical Furnace Parts Salt Pots – neutral, cyanide Hot Pressing Platens. Information provided by Carlson

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Carlson-330-Austenitic-Alloy.php](http://www.lookpolymers.com/polymer_Carlson-330-Austenitic-Alloy.php)

Physical Properties	Metric	English	Comments
Density	7.97 g/cc	0.288 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	>= 483 MPa	>= 70000 psi	
Tensile Strength, Yield	>= 207 MPa @Strain 0.200 %	>= 30000 psi @Strain 0.200 %	
Elongation at Break	>= 30 %	>= 30 %	
Modulus of Elasticity	197 GPa	28500 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	17.5 µm/m-°C	9.70 µin/in-°F	
	@Temperature 21.1 - 816 °C	@Temperature 70.0 - 1500 °F	
	18.0 µm/m-°C	10.0 µin/in-°F	
	@Temperature 21.1 - 982 °C	@Temperature 70.0 - 1800 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
Melting Point	1340 - 1390 °C	2450 - 2540 °F	
Solidus	1340 °C	2450 °F	
Liquidus	1390 °C	2540 °F	

Thermal Properties	Metric	English	Comments
Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.080 %	<= 0.080 %	
Chromium, Cr	17 - 20 %	17 - 20 %	
Copper, Cu	<= 1.0 %	<= 1.0 %	
Iron, Fe	38.33 - 48.25 %	38.33 - 48.25 %	
Lead, Pb	<= 0.0050 %	<= 0.0050 %	
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Nickel, Ni	34 - 37 %	34 - 37 %	
Phosphorous, P	<= 0.030 %	<= 0.030 %	
Silicon, Si	0.75 - 1.5 %	0.75 - 1.5 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	
Tin, Sn	<= 0.025 %	<= 0.025 %	

Electrical Properties	Metric	English	Comments
Magnetic Permeability	1.02	1.02	B-H at 200H

## 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