

ATI Allegheny Ludlum Type 332 Stainless Steel, UNS N08800

Category : Metal , Ferrous Metal , Stainless Steel , T 300 Series Stainless Steel

Material Notes:

Type 332 is a nickel and chromium austenitic stainless steel designed to resist oxidation and carburization at elevated temperatures. The nickel content, 32%, makes the alloy highly resistant both to chloride stress corrosion cracking and to embrittlement from precipitation to sigma phase. The general corrosion resistance is excellent. In the solution annealed condition, Type 332 has superior creep and stress rupture properties. Type 332 has been approved as a material of construction under ASME Boiler and Pressure Vessel Code, Section I - Power Boilers, Section III - Nuclear Vessels, Section VIII - Unfired Pressure Vessels. Information provided by Allegheny Ludlum

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-Type-332-Stainless-Steel-UNS-N08800.php

Physical Properties	Metric	English	Comments
Density	8.027 g/cc	0.2900 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	600 MPa	87000 psi	Typical; after 1800°F Anneal
Tensile Strength, Yield	294 MPa @Strain 0.200 %	42600 psi @Strain 0.200 %	Typical; after 1800°F Anneal
Elongation at Break	44 %	44 %	Typical; after 1800°F Anneal
Reduction of Area	67 %	67 %	Typical; after 1800°F Anneal
Modulus of Elasticity	196 GPa	28400 ksi	typical of UNS N08800
Poissons Ratio	0.34	0.34	typical of UNS N08800
Shear Modulus	73.0 GPa	10600 ksi	typical of UNS N08800

Thermal Properties	Metric	English	Comments
CTE, linear	14.2 µm/m-°C @Temperature 20.0 - 90.0 °C	7.89 µin/in-°F @Temperature 68.0 - 194 °F	
	16.0 µm/m-°C @Temperature 20.0 - 250 °C	8.89 µin/in-°F @Temperature 68.0 - 482 °F	
	16.7 µm/m-°C @Temperature 20.0 - 500 °C	9.28 µin/in-°F @Temperature 68.0 - 932 °F	
Specific Heat Capacity	0.500 J/g-°C	0.120 BTU/lb-°F	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	W/m-K	Btu-in/hr-ft ² -°F	
Melting Point	1357 - 1385 °C	2475 - 2525 °F	
Solidus	1357 °C	2475 °F	
Liquidus	1385 °C	2525 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	0.30 %	0.30 %	
Carbon, C	0.030 %	0.030 %	
Chromium, Cr	20.5 %	20.5 %	
Copper, Cu	0.20 %	0.20 %	
Iron, Fe	46 %	46 %	as balance
Manganese, Mn	1.0 %	1.0 %	
Nickel, Ni	31 %	31 %	
Phosphorous, P	0.020 %	0.020 %	
Silicon, Si	0.40 %	0.40 %	
Sulfur, S	0.010 %	0.010 %	
Titanium, Ti	0.30 %	0.30 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000990 ohm-cm	0.0000990 ohm-cm	
Magnetic Permeability	1.0092	1.0092	at 200 Oe
Curie Temperature	-115 °C	-175 °F	

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