

ATI Allegheny Ludlum 310H Austenitic Stainless Steel

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

Material Notes:

Characteristics: comparable corrosion resistance, superior resistance to oxidation, and the retention of a larger fraction of room temperature strength than common austenitic alloys. Good creep deformation resistance. Applications: Heat treatment industry-conveyor belts, rollers, burner parts, refractory supports, retorts linings, oven linings, fans, tube hangers, baskets, and trays. Chemical process industry- containers for hot concentrated acids, ammonia, and sulfur dioxide. Food processing industry- used in contact with hot acetic and citric acid. Information provided by Allegheny Ludlum

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-310H-Austenitic-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Density	8.03 g/cc	0.290 lb/in ³	

Mechanical Properties	Metric	English	Comments
Creep Strength	20.0 MPa	2900 psi	1% creep
	@Temperature 788 °C, Time 3.60e+7 sec	@Temperature 1450 °F, Time 10000 hour	
Rupture Strength	138 MPa	20000 psi	1% creep
	@Temperature 593 °C, Time 3.60e+7 sec	@Temperature 1100 °F, Time 10000 hour	
Modulus of Elasticity	200 GPa	29000 ksi	calculated
	0.30	0.30	
Poissons Ratio	0.30	0.30	calculated
	77.0 GPa	11200 ksi	
Shear Modulus	77.0 GPa	11200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	15.9 µm/m-°C	8.83 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	17.1 µm/m-°C	9.50 µin/in-°F	

Thermal Properties	Metric @Temperature 20.0 - 300 °C	English @Temperature 68.0 - 539 °F	Comments
	18.9 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.5 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	0.502 J/g-°C	0.120 BTU/lb-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
Thermal Conductivity	13.8 W/m-K	95.8 BTU-in/hr-ft ² -°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	18.7 W/m-K	130 BTU-in/hr-ft ² -°F	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.040 - 0.10 %	0.040 - 0.10 %	
Chromium, Cr	24 - 26 %	24 - 26 %	
Iron, Fe	45.865 - 49.075 %	45.865 - 49.075 %	As Remainder
Manganese, Mn	2.0 %	2.0 %	
Nickel, Ni	19 - 22 %	19 - 22 %	
Phosphorous, P	0.045 %	0.045 %	
Silicon, Si	0.75 %	0.75 %	
Sulfur, S	0.030 %	0.030 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000780 ohm-cm	0.0000780 ohm-cm	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Magnetic Permeability	1.02	1.02	at 200H

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