

ATI Allegheny Ludlum ALFA-I™ Stainless Steel Type 406

Category : Metal , Ferrous Metal , Stainless Steel , T 400 Series Stainless Steel

Material Notes:

Characteristics:superior oxidation resistance for the temperature range 1600°F-over 2200°F, high electrical resistivity, high resistance to sulfidation, high resistance to carburization. Applications:automotive exhaust system components, furnace parts, heat exchangers, recuperator parts, kiln lining, refractory reinforcement fibers.Information provided by Allegheny Ludlum

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-ALFA-I-Stainless-Steel-Type-406.php

Physical Properties	Metric	English	Comments
Density	7.48 g/cc	0.270 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	88	88	
Tensile Strength, Ultimate	519 MPa	75300 psi	Longitudinal, Unwelded
	524 MPa	76000 psi	
	538 MPa	78000 psi	Transverse, Welded
	551 MPa	79900 psi	Longitudinal, Welded
Tensile Strength, Yield	368 MPa	53400 psi	Longitudinal, Unwelded
	379 MPa	55000 psi	
	402 MPa	58300 psi	Transverse, Welded
	409 MPa	59300 psi	Longitudinal, Welded
Elongation at Break	28 %	28 %	in 2"

Thermal Properties	Metric	English	Comments
CTE, linear	11.5 µm/m-°C	6.39 µin/in-°F	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	12.8 µm/m-°C	7.11 µin/in-°F	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	14.4 µm/m-°C	8.00 µin/in-°F	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	3.0 %	3.0 %	
Carbon, C	0.025 %	0.025 %	
Chromium, Cr	13 %	13 %	
Iron, Fe	83.24 %	83.24 %	As Remainder
Manganese, Mn	0.035 %	0.035 %	
Silicon, Si	0.30 %	0.30 %	
Titanium, Ti	0.40 %	0.40 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000111 ohm-cm	0.000111 ohm-cm	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.000112 ohm-cm	0.000112 ohm-cm	
	@Temperature 204 °C	@Temperature 399 °F	
	0.000118 ohm-cm	0.000118 ohm-cm	
	@Temperature 427 °C	@Temperature 801 °F	
	0.000129 ohm-cm	0.000129 ohm-cm	
	@Temperature 649 °C	@Temperature 1200 °F	

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