

ATI Allegheny Ludlum 316Ti Austenitic Stainless Steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T 300 Series Stainless Steel , T S30000 Series Stainless Steel

Material Notes:

Characteristics:excellent resistance to general corrosion, excellent resistance to pitting/crevice corrosion, resistant to sensitization, better creep stress-rupture and tensile strength at elevated temperatures then Type 304. Information provided by Allegheny Ludlum

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-316Ti-Austenitic-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Density	8.00 g/cc	0.289 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	76	76	
Tensile Strength, Ultimate	620 MPa	89900 psi	
	78.0 MPa	11300 psi	
	@Temperature 982 °C	@Temperature 1800 °F	
	155 MPa	22500 psi	
	@Temperature 871 °C	@Temperature 1600 °F	
	261 MPa	37900 psi	
	@Temperature 760 °C	@Temperature 1400 °F	
	375 MPa	54400 psi	
	@Temperature 649 °C	@Temperature 1200 °F	
	423 MPa	61400 psi	
	@Temperature 538 °C	@Temperature 1000 °F	
	433 MPa	62800 psi	
	@Temperature 427 °C	@Temperature 801 °F	
443 MPa	64300 psi		
@Temperature 316 °C	@Temperature 601 °F		
455 MPa	66000 psi		
@Temperature 204 °C	@Temperature 399 °F		
518 MPa	75100 psi		
@Temperature 93.0 °C	@Temperature 199 °F		

Mechanical Properties	55.0 MPa Metric	7980 psi English	Comments
	@Temperature 982 °C	@Temperature 1800 °F	
	112 MPa	16200 psi	
	@Temperature 871 °C	@Temperature 1600 °F	
	145 MPa	21000 psi	
	@Temperature 538 °C	@Temperature 1000 °F	
	146 MPa	21200 psi	
	@Temperature 649 °C	@Temperature 1200 °F	
	146 MPa	21200 psi	
	@Temperature 760 °C	@Temperature 1400 °F	
	146 MPa	21200 psi	
	@Temperature 427 °C	@Temperature 801 °F	
	159 MPa	23100 psi	
	@Temperature 316 °C	@Temperature 601 °F	
	179 MPa	26000 psi	
	@Temperature 204 °C	@Temperature 399 °F	
	208 MPa	30200 psi	
	@Temperature 93.0 °C	@Temperature 199 °F	
	248 MPa	36000 psi	
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	54 %	54 %	in 2"
	19.5 %	19.5 %	
	@Temperature 649 °C	@Temperature 1200 °F	
	23 %	23 %	
	@Temperature 760 °C	@Temperature 1400 °F	
	23 %	23 %	
	@Temperature 538 °C	@Temperature 1000 °F	
	25 %	25 %	
	@Temperature 427 °C	@Temperature 801 °F	
	26 %	26 %	
	@Temperature 316 °C	@Temperature 601 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 204 °C	@Temperature 399 °F	
	39.5 %	39.5 %	
	@Temperature 93.0 °C	@Temperature 199 °F	
	41 %	41 %	
	@Temperature 982 °C	@Temperature 1800 °F	
	48 %	48 %	
	@Temperature 871 °C	@Temperature 1600 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.5 µm/m-°C	9.17 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	18.2 µm/m-°C	10.1 µin/in-°F	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	19.5 µm/m-°C	10.8 µin/in-°F	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Thermal Conductivity	14.6 W/m-K	101 BTU-in/hr-ft ² -°F	
	@Temperature 100 °C	@Temperature 212 °F	
Melting Point	1345 - 1440 °C	2453 - 2620 °F	
Solidus	1345 °C	2453 °F	
Liquidus	1440 °C	2620 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.080 %	<= 0.080 %	
Chromium, Cr	16 - 18 %	16 - 18 %	
Iron, Fe	>= 61.295 %	>= 61.295 %	As Remainder
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Molybdenum, Mo	2.0 - 3.0 %	2.0 - 3.0 %	
Nickel, Ni	10 - 14 %	10 - 14 %	

Component Elements Properties	Metric	English	Comments
Phosphorous, P	<= 0.045 %	<= 0.045 %	
Silicon, Si	<= 0.75 %	<= 0.75 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	
Titanium, Ti	<= 0.70 %	<= 0.70 %	

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