

ATI Allegheny Ludlum Stainless Steel Type 301, Full Hard (UNS S30100)

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

Material Notes:

Allegheny Ludlum Type 301 is a high strength grade of steel available in six conditions or tempers, its resistance to atmosphere corrosion and its bright, attractive surface make it an excellent choice for decorative structural applications. Applications include automobile molding and trim, wheel cover, conveyor belts, kitchen equipment, roof draining systems, hose clamps, springs, truck and trailer bodies, railway and subway cars. By varying the chemical composition within the limits set by the ASTM Specifications and by temper rolling, a broad range of magnetic and mechanical properties can be obtained for a variety of applications. Information provided by Allegheny Ludlum Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-Stainless-Steel-Type-301-Full-Hard-UNS-S30100.php

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

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	382	382	
Hardness, Rockwell C	41	41	
Tensile Strength, Ultimate	>= 1276 MPa	>= 185100 psi	
Tensile Strength, Yield	>= 965 MPa @Strain 0.200 %	>= 140000 psi @Strain 0.200 %	
Elongation at Break	>= 9.0 %	>= 9.0 %	in 2" (50 mm)
Modulus of Elasticity	174 GPa	25200 ksi	as rolled
	196 GPa	28400 ksi	stress relieved
Compressive Yield Strength	793 MPa	115000 psi	longitudinal
	1317 MPa	191000 psi	transverse
Fatigue Strength	552 MPa	80100 psi	endurance limit; test details not reported
Charpy Impact	150 J	111 ft-lb	
	150 J @Temperature -73.0 °C	111 ft-lb @Temperature -99.4 °F	
	150 J @Temperature 196 °C	111 ft-lb @Temperature 385 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.6 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.22 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	17.6 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.78 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
	18.6 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.3 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	19.5 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.8 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 700 °C	@Temperature 68.0 - 1290 °F	
Specific Heat Capacity	0.500 J/g·°C	0.120 BTU/lb·°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
Thermal Conductivity	16.3 W/m-K	113 BTU-in/hr-ft ² -°F	
	@Temperature 100 °C	@Temperature 212 °F	
	21.4 W/m-K	149 BTU-in/hr-ft ² -°F	
	@Temperature 500 °C	@Temperature 932 °F	
Melting Point	1399 - 1421 °C	2550 - 2590 °F	
Solidus	1399 °C	2550 °F	
Liquidus	1421 °C	2590 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.15 %	<= 0.15 %	
Chromium, Cr	16 - 18 %	16 - 18 %	
Iron, Fe	75 %	75 %	as balance
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Nickel, Ni	6.0 - 8.0 %	6.0 - 8.0 %	
Nitrogen, N	<= 0.10 %	<= 0.10 %	
Phosphorous, P	<= 0.045 %	<= 0.045 %	
Silicon, Si	<= 0.75 %	<= 0.75 %	

Component Elements Properties	Metric	English	Comments
	<= 0.030 %	<= 0.030 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000720 ohm-cm	0.0000720 ohm-cm	
Magnetic Permeability	<= 1.02	<= 1.02	typically < 1.02 at 200H; increases with cold work.

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China