

## ATI Allegheny Ludlum Stainless Steel Type 201, Annealed (UNS S20100)

Category : Metal , Ferrous Metal , Stainless Steel , T S20000 Series Stainless Steel

### Material Notes:

Allegheny Ludlum Type 201 and 201L have the greatest tonnage of the Cr-Ni-Mn steels (200 series). Type 201 provides advantages over the 18-8 grades in certain applications. Lower cost manganese and nitrogen additions are partial substitutes for nickel making them more economical alloys. Because they possess a very desirable combination of economy plus good mechanical properties and corrosion resistance properties, they have been used in a wide variety of consumer and transportation applications. Balancing of alloying elements (austenitizers versus ferritizer) in Type 201 produces an austenitic structure in the annealed condition even at subzero temperatures. This austenitic structure achieves significant strengthening through cold working of the material to produce the transformation to a stronger martensitic structure. Because of its high work hardening rate, it exhibits a high uniform elongation for improved stretchability for severe forming applications such as washing machine baskets. Typical applications for Types 201 and 201L are cookware bodies/lids, hose clamps, piston rings, transit car structural member, transit car roofing/siding, thermal window spacers, air bag containers, and truck trailer posts and door frames. Information provided by Allegheny Ludlum Corporation.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_ATI-Allegheny-Ludlum-Stainless-Steel-Type-201-Annealed-UNS-S20100.php](http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-Stainless-Steel-Type-201-Annealed-UNS-S20100.php)

Physical Properties	Metric	English	Comments
Density	7.86 g/cc	0.284 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	85	85	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	85	85	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Ultimate	685 MPa	99400 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	696 MPa	101000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	292 MPa	42400 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	301 MPa	43700 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	56 %	56 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	62.5 % Metric	62.5 % English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Modulus of Elasticity	207 GPa	30000 ksi	
Compressive Yield Strength	365 MPa	52900 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	16.6 µm/m-°C	9.22 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	18.0 µm/m-°C	10.0 µin/in-°F	
	@Temperature 20.0 - 316 °C	@Temperature 68.0 - 601 °F	
	18.0 µm/m-°C	10.0 µin/in-°F	
	@Temperature 20.0 - 358 °C	@Temperature 68.0 - 676 °F	
	20.3 µm/m-°C	11.3 µin/in-°F	
	@Temperature 20.0 - 871 °C	@Temperature 68.0 - 1600 °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	16.3 W/m-K	113 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 100 °C	@Temperature 212 °F	
	23.0 W/m-K	160 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 500 °C	@Temperature 932 °F	
Melting Point	1400 - 1455 °C	2550 - 2651 °F	
Solidus	1400 °C	2550 °F	
Liquidus	1455 °C	2651 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.15 %	<= 0.15 %	
Chromium, Cr	16 - 18 %	16 - 18 %	
Iron, Fe	72 %	72 %	as balance
Manganese, Mn	5.5 - 7.5 %	5.5 - 7.5 %	

Component Elements Properties	Metric	English	Comments
Nitrogen, N	<= 0.25 %	<= 0.25 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000670 ohm-cm	0.0000670 ohm-cm	
Magnetic Permeability	1.004	1.004	D.C. Permeability (m at 200 H)

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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