

## ATI Allegheny Ludlum AL 403™ Martensitic Stainless Steel

Category : Metal , Ferrous Metal , Martensitic , Stainless Steel , T S40000 Series Stainless Steel

### Material Notes:

Characteristics: corrosion resistant, heat resistant, oxidation resistant up to 1400°F. Information provided by Allegheny Ludlum

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_ATI-Allegheny-Ludlum-AL-403-Martensitic-Stainless-Steel.php](http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-AL-403-Martensitic-Stainless-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.64 g/cc	0.276 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	<= 96	<= 96	Annealed
	93 - 100	93 - 100	Hardened and Tempered
Tensile Strength, Ultimate	>= 483 MPa	>= 70100 psi	Annealed
	>= 689 MPa	>= 99900 psi	Hardened and Tempered
Tensile Strength, Yield	>= 207 MPa	>= 30000 psi	Annealed
	>= 483 MPa	>= 70100 psi	Hardened and Tempered
Elongation at Break	>= 18 %	>= 18 %	Hardened and Tempered
	>= 25 %	>= 25 %	Annealed
	>= 20 % @Thickness <=12.7 mm	>= 20 % @Thickness <=0.500 in	Annealed

Thermal Properties	Metric	English	Comments
CTE, linear	9.90 μm/m-°C	5.50 μin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	11.2 μm/m-°C	6.22 μin/in-°F	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	11.9 μm/m-°C	6.61 μin/in-°F	
	@Temperature 20.0 - 787 °C	@Temperature 68.0 - 1450 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
	@Temperature 0.000 -	@Temperature 32.0 -	

Thermal Properties	100 °C Metric	212 °F English	Comments
Thermal Conductivity	25.0 W/m-K	174 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 100 °C	@Temperature 212 °F	
	28.8 W/m-K	200 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 500 °C	@Temperature 932 °F	
Melting Point	1495 °C	2723 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.15 %	<= 0.15 %	
Chromium, Cr	11.5 - 13 %	11.5 - 13 %	
Iron, Fe	>= 84.68 %	>= 84.68 %	As Remainder
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nickel, Ni	<= 0.60 %	<= 0.60 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 0.50 %	<= 0.50 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000570 ohm-cm	0.0000570 ohm-cm	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.0000640 ohm-cm	0.0000640 ohm-cm	
	@Temperature 100 °C	@Temperature 212 °F	
	0.0000720 ohm-cm	0.0000720 ohm-cm	
	@Temperature 200 °C	@Temperature 392 °F	
	0.0000880 ohm-cm	0.0000880 ohm-cm	
	@Temperature 400 °C	@Temperature 752 °F	
	0.0001035 ohm-cm	0.0001035 ohm-cm	
	@Temperature 600 °C	@Temperature 1110 °F	
	0.000111 ohm-cm	0.000111 ohm-cm	
	@Temperature 700 °C	@Temperature 1290 °F	
Magnetic Permeability	900	900	Maximum for annealed alloy. Alloy is

Electrical Properties	Metric	English	ferromagnetic in all conditions. Comments
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## Contact Songhan Plastic Technology Co.,Ltd.

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