

## ATI Allegheny Ludlum 430 Ferritic Stainless Steel

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

### Material Notes:

Characteristics:oxidation resistant at elevated temperatures, corrosion resistance approaching nickel-bearing stainless steels in mildly corrosive environments, ductile, does not work harden readily. Forms:plates, sheets, strip, foil.Applications:interior and exterior trim, sinks, counter tops, dish washers, range hoods, flatware, roofing, siding, and restaurant equipment.Information provided by Allegheny Ludlum

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_ATI-Allegheny-Ludlum-430-Ferritic-Stainless-Steel.php](http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-430-Ferritic-Stainless-Steel.php)

Physical Properties	Metric	English	Comments
Specific Gravity	7.70 g/cc	7.70 g/cc	
Density	7.70 g/cc	0.278 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	75 - 83	75 - 83	
	@Thickness 1.02 - 2.92 mm	@Thickness 0.0400 - 0.115 in	
Hardness, Rockwell 30T	62 - 70	62 - 70	
	@Thickness 0.508 - 1.52 mm	@Thickness 0.0200 - 0.0600 in	
Tensile Strength, Ultimate	455 - 538 MPa	66000 - 78000 psi	
	@Thickness 1.02 - 2.92 mm	@Thickness 0.0400 - 0.115 in	
Tensile Strength, Yield	483 - 545 MPa	70100 - 79000 psi	
	@Thickness 0.508 - 1.52 mm	@Thickness 0.0200 - 0.0600 in	
Tensile Strength, Yield	303 - 372 MPa	43900 - 54000 psi	
	@Strain 0.200 %, Thickness 0.508 - 1.52 mm	@Strain 0.200 %, Thickness 0.0200 - 0.0600 in	
Tensile Strength, Yield	296 - 386 MPa	42900 - 56000 psi	
	@Strain 0.200 %, Thickness 1.02 - 2.92 mm	@Strain 0.200 %, Thickness 0.0400 - 0.115 in	
Elongation at Break	21 - 34 %	21 - 34 %	
	@Thickness 0.508 - 1.52 mm	@Thickness 0.0200 - 0.0600 in	
	23 - 37 %	23 - 37 %	

Mechanical Properties	Metric	English	Comments
	@ Thickness 1.02 - 2.92 mm	@ Thickness 0.0400 - 0.115 in	
Creep Strength	6.90 MPa	1000 psi	
	@Temperature 760 °C, Time 3.60e+7 sec	@Temperature 1400 °F, Time 10000 hour	
Fatigue Strength	69.0 MPa	10000 psi	
	@Temperature 538 °C, Time 3.60e+7 sec	@Temperature 1000 °F, Time 10000 hour	
Fatigue Strength	159 - 243 MPa	23100 - 35200 psi	
	@# of Cycles 1.00e+7	@# of Cycles 1.00e+7	

Thermal Properties	Metric	English	Comments
CTE, linear	10.3 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.72 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	11.2 $\mu\text{m}/\text{m}\cdot\text{°C}$	6.22 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Specific Heat Capacity	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	11.9 $\mu\text{m}/\text{m}\cdot\text{°C}$	6.61 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Specific Heat Capacity	@Temperature 20.0 - 787 °C	@Temperature 68.0 - 1450 °F	
	0.460 J/g-°C	0.110 BTU/lb-°F	
Thermal Conductivity	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	23.86 W/m-K	165.6 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	25.96 W/m-K	180.2 BTU-in/hr-ft <sup>2</sup> -°F	
Solidus	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	1425 - 1510 °C	2597 - 2750 °F	
Liquidus	1425 °C	2597 °F	
	1510 °C	2750 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.12 %	<= 0.12 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	>= 79.31 %	>= 79.31 %	As Remainder
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Molybdenum, Mo	<= 0.50 %	<= 0.50 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000600 ohm-cm	0.0000600 ohm-cm	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.0000675 ohm-cm	0.0000675 ohm-cm	
	@Temperature 100 °C	@Temperature 212 °F	
	0.0000770 ohm-cm	0.0000770 ohm-cm	
	@Temperature 200 °C	@Temperature 392 °F	
	0.0000925 ohm-cm	0.0000925 ohm-cm	
	@Temperature 400 °C	@Temperature 752 °F	
	0.000105 ohm-cm	0.000105 ohm-cm	
	@Temperature 600 °C	@Temperature 1110 °F	
	0.000115 ohm-cm	0.000115 ohm-cm	
	@Temperature 800 °C	@Temperature 1470 °F	

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