

## ATI Allegheny Ludlum Altemp® A286 Iron-Base Superalloy, UNS S66286

Category : Metal , Ferrous Metal , Stainless Steel , Superalloy , Iron Base

### Material Notes:

Allegheny Ludlum Altemp A286 alloy is an iron-base superalloy useful for applications requiring high strength and corrosion resistance up to 704 degrees Celsius and for lower stress applications at high temperatures. Specific uses include jet engine nacelles, parts, and fasteners. Allegheny Ludlum Altemp A286 alloy is a heat and corrosion resistant austenitic iron-base material which can be age hardened to a high strength level. The alloy is also used for low temperature applications requiring a ductile, non-magnetic high strength material at temperatures ranging from above room temperature down to -196 degrees Celsius. The alloy may be used for moderate corrosion applications in aqueous solutions. This alloy can be produced by AOD refining or vacuum induction melting. Vacuum arc or electroslag remelting procedures may be used to further refine the material. Information provided by Allegheny Ludlum

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_ATI-Allegheny-Ludlum-Altemp-A286-Iron-Base-Superalloy-UNS-S66286.php](http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-Altemp-A286-Iron-Base-Superalloy-UNS-S66286.php)

Physical Properties	Metric	English	Comments
Density	7.92 g/cc	0.286 lb/in <sup>3</sup>	Solution Treated

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	85	85	Typical Annealed
Tensile Strength, Ultimate	620 MPa	89900 psi	Solution Treated (Typical)
Tensile Strength, Yield	275 MPa	39900 psi	Solution Treated (Typical)
Elongation at Break	40 %	40 %	Solution Treated (Typical)
Modulus of Elasticity	201 GPa	29200 ksi	Dynamic
Poissons Ratio	0.30	0.30	
Shear Modulus	77.0 GPa	11200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	16.5 μm/m-°C	9.17 μin/in-°F	
	@Temperature 20.0 - 93.0 °C	@Temperature 68.0 - 199 °F	
	17.0 μm/m-°C	9.44 μin/in-°F	
	@Temperature 20.0 - 315 °C	@Temperature 68.0 - 599 °F	
	17.6 μm/m-°C	9.78 μin/in-°F	
	@Temperature 20.0 - 538 °C	@Temperature 68.0 - 1000 °F	

Specific Heat Capacity Thermal Properties	0.420 J/g-°C Metric	0.100 BTU/lb-°F English	Comments
Thermal Conductivity	15.1 W/m-K @Temperature 150 °C	105 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 302 °F	
Melting Point	1370 - 1430 °C	2500 - 2610 °F	
Solidus	1370 °C	2500 °F	
Liquidus	1430 °C	2610 °F	
Maximum Service Temperature, Air	816 °C	1500 °F	Continuous service
	982 °C	1800 °F	Intermittent

Component Elements Properties	Metric	English	Comments
Aluminum, Al	0.15 %	0.15 %	
Boron, B	0.0060 %	0.0060 %	
Carbon, C	0.040 %	0.040 %	
Chromium, Cr	14.5 %	14.5 %	
Iron, Fe	56 %	56 %	as balance
Manganese, Mn	0.20 %	0.20 %	
Molybdenum, Mo	1.25 %	1.25 %	
Nickel, Ni	25 %	25 %	
Phosphorous, P	0.015 %	0.015 %	
Silicon, Si	0.20 %	0.20 %	
Sulfur, S	0.0020 %	0.0020 %	
Titanium, Ti	2.1 %	2.1 %	
Vanadium, V	0.30 %	0.30 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000910 ohm-cm	0.0000910 ohm-cm	
Magnetic Permeability	1.01	1.01	Solution Treated

**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