

ATI Allegheny Ludlum Alloy 255 Stainless Steel, UNS S32550

Category : Metal , Ferrous Metal , Stainless Steel

Material Notes:

Alloy 255 is a 25% chromium duplex ferritic-austenitic stainless steel designed to provide a superior combination of high strength and excellent corrosion resistance for a wide variety of applications. The alloy possesses a microstructure which is a balanced mixture of austenite and ferrite. The combination of these phases develops the unique combination of strength and chloride stress-corrosion cracking resistance of this alloy. The alloy finds applications in marine corrosion areas, equipment for phosphoric acid and fertilizer industry, pollutions control equipment, the pulp and paper industry and the petrochemical industry. Information provided by Allegheny Ludlum

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-Alloy-255-Stainless-Steel-UNS-S32550.php

Physical Properties	Metric	English	Comments
Density	7.728 g/cc	0.2792 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	<= 302	<= 302	
Hardness, Rockwell C	<= 32	<= 32	
Tensile Strength, Ultimate	>= 758 MPa	>= 110000 psi	
Tensile Strength, Yield	>= 552 MPa @Strain 0.200 %	>= 80100 psi @Strain 0.200 %	
Elongation at Break	>= 15 %	>= 15 %	in 2"
Charpy Impact	191 - 212 J	141 - 156 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear	12.1 µm/m-°C	6.72 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	12.9 µm/m-°C	7.17 µin/in-°F	
	@Temperature 23.0 - 250 °C	@Temperature 73.4 - 482 °F	
	13.8 µm/m-°C	7.67 µin/in-°F	
	@Temperature 23.0 - 500 °C	@Temperature 73.4 - 932 °F	
Specific Heat Capacity	0.481 J/g-°C	0.115 BTU/lb-°F	
	@Temperature 52.0 °C	@Temperature 126 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.040 %	0.040 %	
Chromium, Cr	24 - 27 %	24 - 27 %	
Copper, Cu	1.5 - 2.5 %	1.5 - 2.5 %	
Iron, Fe	57 - 64 %	57 - 64 %	as balance
Manganese, Mn	1.5 %	1.5 %	
Molybdenum, Mo	2.9 - 3.9 %	2.9 - 3.9 %	
Nickel, Ni	4.5 - 6.5 %	4.5 - 6.5 %	
Nitrogen, N	0.10 - 0.25 %	0.10 - 0.25 %	
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	0.0000821 ohm-cm	0.0000821 ohm-cm	

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