

ATI Allegheny Ludlum AL 409 Cb™ Brazeable Ferritic Stainless Steel, 43.6% Cold Work

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

Material Notes:

AL 409 Cb™ is normally 12.5% chromium ferritic stainless steel with columbium stabilization and with restricted titanium and aluminum contents. As a result of these alloying adjustments, the brazeability of the alloy is markedly improved. The physical, mechanical, and corrosion properties are almost identical to those of AL 409 HP™ - property values below have been taken from AL 409 HP™ where noted. AL 409 Cb alloy is a ferritic (body cubic) steel. Carbonitrides of columbium will be dispersed throughout the structure. Information provided by Allegheny Ludlum Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-AL-409-Cb-Brazeable-Ferritic-Stainless-Steel-436-Cold-Work.php

Physical Properties	Metric	English	Comments
Density	7.76 g/cc	0.280 lb/in ³	409 HP™

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	97.5	97.5	
Tensile Strength, Ultimate	737 MPa	107000 psi	
Tensile Strength, Yield	721 MPa @Strain 0.200 %	105000 psi @Strain 0.200 %	
Elongation at Break	1.8 %	1.8 %	in 2" (50 mm)
Modulus of Elasticity	200 GPa	29000 ksi	409 HP™

Thermal Properties	Metric	English	Comments
CTE, linear	10.52 µm/m-°C @Temperature 20.0 - 100 °C	5.844 µin/in-°F @Temperature 68.0 - 212 °F	409 HP™
	11.11 µm/m-°C @Temperature 20.0 - 260 °C	6.172 µin/in-°F @Temperature 68.0 - 500 °F	409 HP™
	11.88 µm/m-°C @Temperature 20.0 - 482 °C	6.600 µin/in-°F @Temperature 68.0 - 900 °F	409 HP™
Specific Heat Capacity	0.477 J/g-°C	0.114 BTU/lb-°F	409 HP™
Thermal Conductivity	25.0 W/m-K	174 BTU-in/hr-ft ² -°F	409 HP™

Component Elements Properties	Metric	English	Comments
Aluminum, Al	0.010 %	0.010 %	
Carbon, C	0.015 %	0.015 %	
Chromium, Cr	12.3 %	12.3 %	
Iron, Fe	86 %	86 %	as balance
Manganese, Mn	0.35 %	0.35 %	
Molybdenum, Mo	0.040 %	0.040 %	
Nickel, Ni	0.25 %	0.25 %	
Niobium, Nb (Columbium, Cb)	0.45 %	0.45 %	
Nitrogen, N	0.015 %	0.015 %	
Phosphorous, P	0.025 %	0.025 %	
Silicon, Si	0.35 %	0.35 %	
Sulfur, S	0.0050 %	0.0050 %	
Titanium, Ti	0.0050 %	0.0050 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000600 ohm-cm	0.0000600 ohm-cm	409 HP™

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