Aleris Alustar Aluminum Alloy, H321/H116; 20 - 40 mm thickness

Category : Metal , Nonferrous Metal , Aluminum Alloy , 5000 Series Aluminum Alloy

Material Notes:

At least 20% stronger than AA 5083 before and after welding. Bendability and weldability similar to AA 5083. High corrosion resistance. Provides options for ship design and building.Composition differs from standard 5083 and 5383 mainly in terms of higher Mg-content, higher Mn-content, higher Zn-content, and defined Zr-content. The increased Mg-content in the Alustar alloy increases the strength after welding. Together with an increased Mn-content, a higher Mg-content enhances the ductility. To compensate for the deterioration in corrosion resistance caused by the higher Mg-content, an optimal amount of Zn is required. By precipitating Mg-Zn-containing phases in the Al matrix, potential differences between the grain boundaries and grain interiors are eliminated. Zr additions to Alustar alloy cause the formation of a finer grained heat affected zone which leads to a stronger bond in the fusion zone. The effect of Zr is the same in welding wires. Therefore, in addition to the standard filler alloys such as AA5183, Zr-containing filler wires (such as AA 5087) can also be used to weld Alustar alloy plates.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Aleris-Alustar-Aluminum-Alloy-H321H116-20-40-mm-thickness.php

Physical Properties	Metric	English	Comments
Density	2.66 g/cc	0.0961 lb/in³	Aluminum 5083

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 360 MPa	>= 52200 psi	
Tensile Strength, Yield	>= 260 MPa	>= 37700 psi	
Elongation at Break	10 %	10 %	
Shear Strength	215 MPa	31200 psi	Calculated

Component Elements Properties	Metric	English	Comments
Aluminum, Al	93 %	93 %	
Chromium, Cr	<= 0.30 %	<= 0.30 %	
Copper, Cu	<= 0.40 %	<= 0.40 %	
Iron, Fe	<= 0.50 %	<= 0.50 %	
Magnesium, Mg	5.0 - 6.0 %	5.0 - 6.0 %	
Manganese, Mn	0.60 - 1.2 %	0.60 - 1.2 %	
Silicon, Si	<= 0.50 %	<= 0.50 %	
Titanium, Ti	<= 0.20 %	<= 0.20 %	

Component Elements Properties	Metric	English	Comments
Zinc, Zn	0.40 - 1.5 %	0.40 - 1.5 %	
Zirconium, Zr	0.050 - 0.25 %	0.050 - 0.25 %	

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