

Aleris Weldural Aluminum Alloy, 100 mm Thickness

Category : Metal , Nonferrous Metal , Aluminum Alloy , 2000 Series Aluminum Alloy

Material Notes:

Sample treatment not specified for property data. Applications include precise mechanical parts with high dimensional stability, machine components, molds, and refrigeration engineering. Good weldability and machinability. Fair corrosion resistance.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Aleris-Weldural-Aluminum-Alloy-100-mm-Thickness.php

Physical Properties	Metric	English	Comments
Density	2.84 g/cc	0.103 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	130	130	
Hardness, Knoop	163	163	Estimated from Brinell
Hardness, Rockwell A	49.4	49.4	Estimated from Brinell
Hardness, Rockwell B	79	79	Estimated from Brinell
Hardness, Vickers	149	149	Estimated from Brinell
Tensile Strength, Ultimate	>= 415 MPa	>= 60200 psi	Minimum
	455 MPa	66000 psi	Typical
	105 MPa @Temperature 300 °C	15200 psi @Temperature 572 °F	Typical, after 10,000 hours
	185 MPa @Temperature 250 °C	26800 psi @Temperature 482 °F	Typical, after 10,000 hours
	240 MPa @Temperature 200 °C	34800 psi @Temperature 392 °F	Typical, after 10,000 hours
	320 MPa @Temperature 150 °C	46400 psi @Temperature 302 °F	Typical, after 10,000 hours
	380 MPa @Temperature 100 °C	55100 psi @Temperature 212 °F	Typical, after 10,000 hours
Tensile Strength, Yield	>= 305 MPa	>= 44200 psi	Minimum
	@Strain 0.200 %	@Strain 0.200 %	
	350 MPa	50800 psi	

Mechanical Properties	Metric @ Strain 0.200 %	English @ Strain 0.200 %	Typical Comments
Elongation at Break	>= 5.0 %	>= 5.0 %	Minimum
	7.5 %	7.5 %	Typical
Modulus of Elasticity	73.8 GPa	10700 ksi	
Machinability	70 %	70 %	
Shear Strength	267 MPa	38700 psi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	22.5 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	12.5 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@ Temperature 20.0 - 100 $^\circ\text{C}$	@ Temperature 68.0 - 212 $^\circ\text{F}$	
Thermal Conductivity	130 W/m-K	902 BTU-in/hr-ft ² - $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	93 %	93 %	
Copper, Cu	5.8 - 6.8 %	5.8 - 6.8 %	
Iron, Fe	<= 0.40 %	<= 0.40 %	
Magnesium, Mg	<= 0.10 %	<= 0.10 %	
Manganese, Mn	0.20 - 0.40 %	0.20 - 0.40 %	
Other, total	<= 0.15 %	<= 0.15 %	
Silicon, Si	<= 0.30 %	<= 0.30 %	
Titanium, Ti	0.020 - 0.10 %	0.020 - 0.10 %	
Zinc, Zn	<= 0.10 %	<= 0.10 %	
Zirconium, Zr	0.10 - 0.25 %	0.10 - 0.25 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000590 ohm-cm	0.00000590 ohm-cm	

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