

Alcoa UltrAlloy® 6020-T9 Aluminum

Category : Metal , Nonferrous Metal , Aluminum Alloy , 6000 Series Aluminum Alloy

Material Notes:

Weldability = B; Stress Corrosion Cracking Resistance = A; General Corrosion Resistance = B (A = best; E = worst). General 6020 characteristics and uses: Excellent machinability, high corrosion resistance, good joining characteristics, and excellent response to anodizing. The T8 temper offers excellent residual stress control for applications requiring tight dimensional control after machining. Uses: Automotive transmission valves, brake pistons, air conditioning compressor pistons, CATV connectors, hinge pins, camera parts, tripod fittings. Data supplied by the manufacturer, Alcoa.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Alcoa-UltrAlloy-6020-T9-Aluminum.php

Physical Properties	Metric	English	Comments
Density	2.71 g/cc	0.0979 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	120	120	500 kg load/10 mm ball
Hardness, Knoop	150	150	Estimated from Brinell
Hardness, Rockwell A	46.8	46.8	Estimated from Brinell
Hardness, Rockwell B	75	75	Estimated from Brinell
Hardness, Vickers	136	136	Estimated from Brinell
Tensile Strength, Ultimate	>= 352 MPa	>= 51100 psi	
Tensile Strength, Yield	>= 338 MPa	>= 49000 psi	
Elongation at Break	5.0 %	5.0 %	
Machinability	90 %	90 %	0-100 Scale (A=90; B=70; C=50; D=30; E=10)
Shear Strength	211 MPa	30600 psi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	23.8 µm/m-°C	13.2 µin/in-°F	average
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Thermal Conductivity	171 W/m-K	1190 BTU-in/hr-ft ² -°F	

Component Elements Properties	Metric	English	Comments
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Aluminum, Al Component Elements Properties	96 % Metric	96 % English	Comments
Chromium, Cr	<= 0.15 %	<= 0.15 %	
Copper, Cu	0.30 - 0.90 %	0.30 - 0.90 %	
Iron, Fe	<= 0.50 %	<= 0.50 %	
Magnesium, Mg	0.60 - 1.2 %	0.60 - 1.2 %	
Manganese, Mn	<= 0.35 %	<= 0.35 %	
Silicon, Si	0.40 - 0.90 %	0.40 - 0.90 %	
Tin, Sn	0.90 - 1.5 %	0.90 - 1.5 %	
Titanium, Ti	<= 0.15 %	<= 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000370 ohm-cm	0.00000370 ohm-cm	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China