

## Alcoa Deltalloy® 4032-T651 Aluminum

Category : Metal , Nonferrous Metal , Aluminum Alloy , 4000 Series Aluminum Alloy

### Material Notes:

Weldability = B; Stress Corrosion Cracking Resistance = B; General Corrosion Resistance = C (A = best; E = worst). General 4032 characteristics and uses: Good machinability and drilling characteristics when using single point or multi-spindle screw machines. Excellent surface finish using polycrystalline or carbide tooling. Superior wear resistance, eliminated the need for hard coat anodizing. High strength, low thermal expansion. Uses: Master brake cylinders, transmission valves, copier parts, bushings for rack and pinion steering systems, sound recording devices, bearings and hydraulic applications, forged pistons. Data supplied by the manufacturer, Alcoa.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Alcoa-Deltalloy-4032-T651-Aluminum.php](http://www.lookpolymers.com/polymer_Alcoa-Deltalloy-4032-T651-Aluminum.php)

Physical Properties	Metric	English	Comments
Density	2.68 g/cc	0.0968 lb/in <sup>3</sup>	

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	>= 359 MPa	>= 52100 psi	
Tensile Strength, Yield	>= 331 MPa	>= 48000 psi	
Elongation at Break	4.0 %	4.0 %	
Modulus of Elasticity	79.0 GPa	11500 ksi	
Fatigue Strength	110 MPa @# of Cycles 5.00e+8	16000 psi @# of Cycles 5.00e+8	completely reversed; R. R. Moore Machine and specimen.
Machinability	70 %	70 %	0-100 Scale (A=90; B=70; C=50; D=30; E=10)
Shear Strength	262 MPa	38000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	19.4 μm/m-°C @Temperature 20.0 - 100 °C	10.8 μin/in-°F @Temperature 68.0 - 212 °F	average

Thermal Properties	Metric	English	Comments
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Component Elements Properties	Metric	English	Comments
Aluminum, Al	85 %	85 %	
Chromium, Cr	<= 0.10 %	<= 0.10 %	
Copper, Cu	0.50 - 1.3 %	0.50 - 1.3 %	
Iron, Fe	<= 1.0 %	<= 1.0 %	
Magnesium, Mg	0.80 - 1.3 %	0.80 - 1.3 %	
Nickel, Ni	0.50 - 1.3 %	0.50 - 1.3 %	
Silicon, Si	11 - 13.5 %	11 - 13.5 %	
Zinc, Zn	<= 0.25 %	<= 0.25 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000450 ohm-cm	0.00000450 ohm-cm	

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