

Constellium Alumold® 350 Aluminum

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

Material Notes:

Alumold-350® has been specifically developed to achieve the best combination of strength at low and high temperatures, together with a good shape stability and machinability. Alumold-350® is particularly suitable for plastic forming machinery operating at temperatures up to 200°C, which is the temperature for molding of rubber and other elastomers. Information provided by manufacturer

Order this product through the following link:

http://www.lookpolymers.com/polymer_Constellium-Alumold-350-Aluminum.php

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

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	110	110	
	@Thickness 254 - 305 mm	@Thickness 10.0 - 12.0 in	
	120	120	
	@Thickness 203.2 - 254 mm	@Thickness 8.000 - 10.0 in	
	125	125	
	@Thickness 152.4 - 203.2 mm	@Thickness 6.000 - 8.000 in	
	135	135	
	@Thickness 127 - 152.4 mm	@Thickness 5.00 - 6.000 in	
	140	140	
	@Thickness 101.6 - 127 mm	@Thickness 4.000 - 5.00 in	
	145	145	
	@Thickness 7.90 - 50.8 mm	@Thickness 0.311 - 2.00 in	
	145	145	
	@Thickness 50.8 - 76.2 mm	@Thickness 2.00 - 3.00 in	
	145	145	
	@Thickness 76.2 - 101.6 mm	@Thickness 3.00 - 4.000 in	

Mechanical Properties Tensile Strength	>= 320 MPa Metric	>= 46400 psi English	Comments Temper T851/T852)
	@Thickness 254 - 305 mm	@Thickness 10.0 - 12.0 in	
	>= 355 MPa	>= 51500 psi	Temper T851/T852)
	@Thickness 203.2 - 254 mm	@Thickness 8.000 - 10.0 in	
	360 MPa	52200 psi	Typical Strength
	@Thickness 254 - 305 mm	@Thickness 10.0 - 12.0 in	
	>= 380 MPa	>= 55100 psi	Temper T851/T852)
	@Thickness 152.4 - 203.2 mm	@Thickness 6.000 - 8.000 in	
	390 MPa	56600 psi	Typical Strength
	@Thickness 203.2 - 254 mm	@Thickness 8.000 - 10.0 in	
	>= 393 MPa	>= 57000 psi	Temper T851/T852)
	@Thickness 127 - 152.4 mm	@Thickness 5.00 - 6.000 in	
	>= 407 MPa	>= 59000 psi	Temper T851/T852)
	@Thickness 101.6 - 127 mm	@Thickness 4.000 - 5.00 in	
	>= 414 MPa	>= 60000 psi	Temper T851/T852)
	@Thickness 76.2 - 101.6 mm	@Thickness 3.00 - 4.000 in	
	420 MPa	60900 psi	Typical Strength
	@Thickness 152.4 - 203.2 mm	@Thickness 6.000 - 8.000 in	
	>= 428 MPa	>= 62100 psi	Temper T851/T852)
	@Thickness 7.90 - 50.8 mm	@Thickness 0.311 - 2.00 in	
	>= 428 MPa	>= 62100 psi	Temper T851/T852)
	@Thickness 50.8 - 76.2 mm	@Thickness 2.00 - 3.00 in	
	455 MPa	66000 psi	Typical Strength
	@Thickness 127 - 152.4 mm	@Thickness 5.00 - 6.000 in	
	465 MPa	67400 psi	Typical Strength
	@Thickness 7.90 - 50.8 mm	@Thickness 0.311 -	

Mechanical Properties	^{mm} Metric	^{2.00 in} English	Comments
	465 MPa	67400 psi	
	@Thickness 50.8 - 76.2 mm	@Thickness 2.00 - 3.00 in	Typical Strength
	465 MPa	67400 psi	
	@Thickness 76.2 - 101.6 mm	@Thickness 3.00 - 4.000 in	Typical Strength
	480 MPa	69600 psi	
	@Thickness 101.6 - 127 mm	@Thickness 4.000 - 5.00 in	Typical Strength
Tensile Strength, Yield	>= 240 MPa	>= 34800 psi	
	@Strain 0.200 %, Thickness 254 - 305 mm	@Strain 0.200 %, Thickness 10.0 - 12.0 in	Tempers T851/T852
	>= 270 MPa	>= 39200 psi	
	@Strain 0.200 %, Thickness 203.2 - 254 mm	@Strain 0.200 %, Thickness 8.000 - 10.0 in	Tempers T851/T852
	>= 280 MPa	>= 40600 psi	
	@Strain 0.200 %, Thickness 152.4 - 203.2 mm	@Strain 0.200 %, Thickness 6.000 - 8.000 in	Tempers T851/T852
	>= 290 MPa	>= 42100 psi	
	@Strain 0.200 %, Thickness 127 - 152.4 mm	@Strain 0.200 %, Thickness 5.00 - 6.000 in	Tempers T851/T852
	>= 297 MPa	>= 43100 psi	
	@Strain 0.200 %, Thickness 101.6 - 127 mm	@Strain 0.200 %, Thickness 4.000 - 5.00 in	Tempers T851/T852
	>= 304 MPa	>= 44100 psi	
	@Strain 0.200 %, Thickness 76.2 - 101.6 mm	@Strain 0.200 %, Thickness 3.00 - 4.000 in	Tempers T851/T852
	>= 310 MPa	>= 45000 psi	
	@Strain 0.200 %, Thickness 50.8 - 76.2 mm	@Strain 0.200 %, Thickness 2.00 - 3.00 in	Tempers T851/T852
	310 MPa	45000 psi	
	@Strain 0.200 %, Thickness 254 - 305 mm	@Strain 0.200 %, Thickness 10.0 - 12.0 in	Typical Strength

Mechanical Properties	mm Metric	English	Comments
	315 MPa	45700 psi	
	@Strain 0.200 %, Thickness 203.2 - 254 mm	@Strain 0.200 %, Thickness 8.000 - 10.0 in	Typical Strength
	>= 317 MPa	>= 46000 psi	
	@Strain 0.200 %, Thickness 7.90 - 50.8 mm	@Strain 0.200 %, Thickness 0.311 - 2.00 in	Tempers T851/T852
	330 MPa	47900 psi	
	@Strain 0.200 %, Thickness 152.4 - 203.2 mm	@Strain 0.200 %, Thickness 6.000 - 8.000 in	Typical Strength
	360 MPa	52200 psi	
	@Strain 0.200 %, Thickness 127 - 152.4 mm	@Strain 0.200 %, Thickness 5.00 - 6.000 in	Typical Strength
	365 MPa	52900 psi	
	@Strain 0.200 %, Thickness 101.6 - 127 mm	@Strain 0.200 %, Thickness 4.000 - 5.00 in	Typical Strength
	366 MPa	53100 psi	
	@Strain 0.200 %, Thickness 7.90 - 50.8 mm	@Strain 0.200 %, Thickness 0.311 - 2.00 in	Typical Strength
	366 MPa	53100 psi	
	@Strain 0.200 %, Thickness 50.8 - 76.2 mm	@Strain 0.200 %, Thickness 2.00 - 3.00 in	Typical Strength
	366 MPa	53100 psi	
	@Strain 0.200 %, Thickness 76.2 - 101.6 mm	@Strain 0.200 %, Thickness 3.00 - 4.000 in	Typical Strength
Elongation at Break	>= 0.50 %	>= 0.50 %	
	@Thickness 254 - 305 mm	@Thickness 10.0 - 12.0 in	Tempers T851/T852)
	>= 1.0 %	>= 1.0 %	
	@Thickness 203.2 - 254 mm	@Thickness 8.000 - 10.0 in	Tempers T851/T852)
	>= 2.0 %	>= 2.0 %	
	@Thickness 152.4 - 203.2 mm	@Thickness 6.000 - 8.000 in	Tempers T851/T852)

Mechanical Properties	Metric	English	Comments
	@Thickness 254 - 305 mm	@Thickness 10.0 - 12.0 in	Typical Elongation
	3.0 %	3.0 %	
	@Thickness 203.2 - 254 mm	@Thickness 8.000 - 10.0 in	Typical Elongation
	4.0 %	4.0 %	
	@Thickness 152.4 - 203.2 mm	@Thickness 6.000 - 8.000 in	Typical Elongation
	>= 4.0 %	>= 4.0 %	
	@Thickness 127 - 152.4 mm	@Thickness 5.00 - 6.000 in	Tempers T851/T852)
	>= 5.0 %	>= 5.0 %	
	@Thickness 76.2 - 101.6 mm	@Thickness 3.00 - 4.000 in	Tempers T851/T852)
	>= 5.0 %	>= 5.0 %	
	@Thickness 101.6 - 127 mm	@Thickness 4.000 - 5.00 in	Tempers T851/T852)
	6.0 %	6.0 %	
	@Thickness 127 - 152.4 mm	@Thickness 5.00 - 6.000 in	Typical Elongation
	>= 6.0 %	>= 6.0 %	
	@Thickness 50.8 - 76.2 mm	@Thickness 2.00 - 3.00 in	Tempers T851/T852)
	>= 7.0 %	>= 7.0 %	
	@Thickness 7.90 - 50.8 mm	@Thickness 0.311 - 2.00 in	Tempers T851/T852)
	7.0 %	7.0 %	
	@Thickness 101.6 - 127 mm	@Thickness 4.000 - 5.00 in	Typical Elongation
	8.0 %	8.0 %	
	@Thickness 76.2 - 101.6 mm	@Thickness 3.00 - 4.000 in	Typical Elongation
	9.0 %	9.0 %	
	@Thickness 7.90 - 50.8 mm	@Thickness 0.311 - 2.00 in	Typical Elongation
	9.0 %	9.0 %	
	@Thickness 50.8 - 76.2	@Thickness 2.00 - 3.00	Typical Elongation

Mechanical Properties	^{mm} Metric	ⁱⁿ English	Comments
Modulus of Elasticity	72.4 GPa	10500 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	22.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	12.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@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 - $^{\circ}\text{F}$	Temper T851

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000550 ohm-cm	0.00000550 ohm-cm	Temper T851

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