Constellium Certal® Thick Aluminum Plate

Category : Metal , Nonferrous Metal , Aluminum Alloy , 7000 Series Aluminum Alloy

Material Notes:

Certal® thick plates have been optimized to provide excellent machinability, shape stability and high strength. Certal® is therefore ideal for industrial tools. Applications include injection and blow-moulds for plastic bottles, containers, shoes as well as heating plates, guides, tooling supports, jigs and fixtures.Information provided by manufacturer

Order this product through the following link:
http://www.lookpolymers.com/polymer_Constellium-Certal-Thick-Aluminum-Plate.php

Physical Properties	Metric	English	Comments
Density	2.76 g/cc	0.0997 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	165 @Thickness 25.0 - 100 mm	165 @Thickness 0.984 - 3.94 in	
	165 @Thickness 100 - 140 mm	165 @Thickness 3.94 - 5.51 in	
	170 @Thickness 7.90 - 25.0 mm	170 @Thickness 0.311 - 0.984 in	
Tensile Strength	>= 490 MPa @Thickness 100 - 140 mm	>= 71100 psi @Thickness 3.94 - 5.51 in	Temper T651
	>= 500 MPa @Thickness 50.0 - 100 mm	>= 72500 psi @Thickness 1.97 - 3.94 in	Temper T651
	>= 530 MPa @Thickness 25.0 - 50.0 mm	>= 76900 psi @Thickness 0.984 - 1.97 in	Temper T651
	>= 540 MPa @Thickness 7.90 - 12.5 mm	>= 78300 psi @Thickness 0.311 - 0.492 in	Temper T651
	>= 540 MPa @Thickness 12.5 - 25.0 mm	>= 78300 psi @Thickness 0.492 - 0.984 in	Temper T651

Mechanical Properties	Metric	English	Comments
	545 MPa @Thickness 100 - 140 mm	79000 psi @Thickness 3.94 - 5.51 in	Typical Strength
	550 MPa @Thickness 25.0 - 100 mm	79800 psi @Thickness 0.984 - 3.94 in	Typical Strength
	555 MPa @Thickness 7.90 - 25.0 mm	80500 psi @Thickness 0.311 - 0.984 in	Typical Strength
Tensile Strength, Yield	>= 400 MPa @Strain 0.200 %, Thickness 100 - 140 mm	>= 58000 psi @Strain 0.200 %, Thickness 3.94 - 5.51 in	Temper T651
	>= 420 MPa @Strain 0.200 %, Thickness 50.0 - 100 mm	>= 60900 psi @Strain 0.200 %, Thickness 1.97 - 3.94 in	Temper T651
	>= 460 MPa @Strain 0.200 %, Thickness 7.90 - 12.5 mm	>= 66700 psi @Strain 0.200 %, Thickness 0.311 - 0.492 in	Temper T651
	>= 460 MPa @Strain 0.200 %, Thickness 12.5 - 25.0 mm	>= 66700 psi @Strain 0.200 %, Thickness 0.492 - 0.984 in	Temper T651
	>= 460 MPa @Strain 0.200 %, Thickness 25.0 - 50.0 mm	>= 66700 psi @Strain 0.200 %, Thickness 0.984 - 1.97 in	Temper T651
	490 MPa @Strain 0.200 %, Thickness 100 - 140 mm	71100 psi @Strain 0.200 %, Thickness 3.94 - 5.51 in	Typical Strength
	495 MPa @Strain 0.200 %, Thickness 7.90 - 25.0 mm	71800 psi @Strain 0.200 %, Thickness 0.311 - 0.984 in	Typical Strength
	495 MPa @Strain 0.200 %, Thickness 25.0 - 100 mm	71800 psi @Strain 0.200 %, Thickness 0.984 - 3.94 in	Typical Strength
	>= 6.0 %	>= 6.0 %	

Mechanical Properties	Metric	English	Comments
	@Thickness 50.0 - 100 mm	@Thickness 1.97 - 3.94 in	
	>= 6.0 % @Thickness 100 - 140 mm	>= 6.0 % @Thickness 3.94 - 5.51 in	Temper T651
	>= 7.0 % @Thickness 25.0 - 50.0 mm	>= 7.0 % @Thickness 0.984 - 1.97 in	Temper T651
	7.0 % @Thickness 100 - 140 mm	7.0 % @Thickness 3.94 - 5.51 in	Typical Elongation
	8.0 % @Thickness 25.0 - 100 mm	8.0 % @Thickness 0.984 - 3.94 in	Typical Elongation
	>= 8.0 % @Thickness 7.90 - 12.5 mm	>= 8.0 % @Thickness 0.311 - 0.492 in	Temper T651
	>= 8.0 % @Thickness 12.5 - 25.0 mm	>= 8.0 % @Thickness 0.492 - 0.984 in	Temper T651
	9.0 % @Thickness 7.90 - 25.0 mm	9.0 % @Thickness 0.311 - 0.984 in	Typical Elongation
Modulus of Elasticity	72.0 GPa	10400 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.6 µm/m-°C @Temperature 20.0 - 100 °C	13.1 µin/in-°F @Temperature 68.0 - 212 °F	
Thermal Conductivity	120 - 150 W/m-K	833 - 1040 BTU-in/hr-ft²-°F	Temper T651

Component Elements Properties	Metric	English	Comments
Aluminum, Al	88.2 - 92.4 %	88.2 - 92.4 %	as balance
Chromium, Cr	0.10 - 0.30 %	0.10 - 0.30 %	
Copper, Cu	0.50 - 1.0 %	0.50 - 1.0 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	<= 0.50 %	<= 0.50 %	
Magnesium, Mg	2.6 - 3.7 %	2.6 - 3.7 %	
Manganese, Mn	0.10 - 0.40 %	0.10 - 0.40 %	
Silicon, Si	<= 0.50 %	<= 0.50 %	
Zinc, Zn	4.3 - 5.2 %	4.3 - 5.2 %	
Zr+Ti	<= 0.20 %	<= 0.20 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000450 - 0.00000550 ohm-cm	0.00000450 - 0.00000550 ohm-cm	Temper T651

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