

Constellium Fibril® Cast Aluminum Sliced Plate

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

Material Notes:

Fibril® has been specifically developed for low – pressure processing (thermoforming, RTM) of plastics and their composites. The material can also be used for prototype injection moulds. The material properties are enhanced by its stringent casting process which considerably reduces porosity throughout the thickness of the plate. Information provided by manufacturer

Order this product through the following link:

http://www.lookpolymers.com/polymer_Constellium-Fibril-Cast-Aluminum-Sliced-Plate.php

Physical Properties	Metric	English	Comments
Density	2.66 g/cc	0.0961 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	70	70	
	@Thickness 150 - 500 mm	@Thickness 5.91 - 19.7 in	
	70	70	
	@Thickness 500 - 600 mm	@Thickness 19.7 - 23.6 in	
Tensile Strength	>= 210 MPa	>= 30500 psi	Temper 03
	@Thickness 150 - 500 mm	@Thickness 5.91 - 19.7 in	
	>= 210 MPa	>= 30500 psi	Temper 03
	@Thickness 500 - 600 mm	@Thickness 19.7 - 23.6 in	
	235 MPa	34100 psi	Typical Strength
	@Thickness 150 - 500 mm	@Thickness 5.91 - 19.7 in	
	235 MPa	34100 psi	Typical Strength
	@Thickness 500 - 600 mm	@Thickness 19.7 - 23.6 in	
Tensile Strength, Yield	>= 110 MPa	>= 16000 psi	Temper 03
	@Strain 0.200 %, Thickness 150 - 500 mm	@Strain 0.200 %, Thickness 5.91 - 19.7 in	
	>= 110 MPa	>= 16000 psi	Temper 03
	@Strain 0.200 %, Thickness 500 - 600	@Strain 0.200 %, Thickness 19.7 - 23.6 in	

Mechanical Properties	Metric	English	Comments
	115 MPa	16700 psi	
	@Strain 0.200 %, Thickness 150 - 500 mm	@Strain 0.200 %, Thickness 5.91 - 19.7 in	Typical Strength
	115 MPa	16700 psi	
	@Strain 0.200 %, Thickness 500 - 600 mm	@Strain 0.200 %, Thickness 19.7 - 23.6 in	Typical Strength
Elongation at Break	>= 5.0 %	>= 5.0 %	
	@Thickness 150 - 500 mm	@Thickness 5.91 - 19.7 in	Temper 03
	>= 5.0 %	>= 5.0 %	
	@Thickness 500 - 600 mm	@Thickness 19.7 - 23.6 in	Temper 03
	9.5 %	9.5 %	
	@Thickness 150 - 500 mm	@Thickness 5.91 - 19.7 in	Typical Elongation
	9.5 %	9.5 %	
	@Thickness 500 - 600 mm	@Thickness 19.7 - 23.6 in	Typical Elongation
Modulus of Elasticity	71.0 GPa	10300 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.8 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	13.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 100 $^{\circ}\text{C}$	@Temperature 68.0 - 212 $^{\circ}\text{F}$	
Thermal Conductivity	105 - 120 W/m-K	729 - 833 BTU-in/hr-ft ² - $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	92.55 - 95.55 %	92.55 - 95.55 %	as balance
Chromium, Cr	0.050 - 0.25 %	0.050 - 0.25 %	
Copper, Cu	<= 0.10 %	<= 0.10 %	
Iron, Fe	<= 0.40 %	<= 0.40 %	
Magnesium, Mg	4.0 - 4.9 %	4.0 - 4.9 %	
Manganese, Mn	0.40 - 1.0 %	0.40 - 1.0 %	

Component Elements Properties	Metric	English	Comments
Zinc, Zn	<= 0.25 %	<= 0.25 %	
Zr+Ti	<= 0.15 %	<= 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000590 - 0.00000660 ohm-cm	0.00000590 - 0.00000660 ohm-cm	

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