Constellium ALPLAN® 5083 Rolled Precision Aluminum Plate, Milled Both Sides

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

Material Notes:

ALPLAN® 5083 precision plates exhibit good dimensional stability. Their low internal stresses reduces the effects of plate deformation during machining, thus saving on extra operations such as rough-milling, furnishing or re-work. Surface milling by the end user is not necessary. Applications include reference plates, control tools, jigs.Information provided by manufacturer

Order this product through the following link:
http://www.lookpolymers.com/polymer_Constellium-ALPLAN-5083-Rolled-Precision-Aluminum-Plate-Milled-Both-Sides.php

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

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	70 @Thickness 120 - 150 mm	70 @Thickness 4.72 - 5.91 in	
	71 @Thickness 20.0 - 120 mm	71 @Thickness 0.787 - 4.72 in	
	73 @Thickness 6.00 - 20.0 mm	73 @Thickness 0.236 - 0.787 in	
Tensile Strength	>= 255 MPa @Thickness 120 - 150 mm	>= 37000 psi @Thickness 4.72 - 5.91 in	Temper H111; Standard EN 485-2
	>= 260 MPa @Thickness 80.0 - 120 mm	>= 37700 psi @Thickness 3.15 - 4.72 in	Temper H111; Standard EN 485-2
	>= 270 MPa @Thickness 6.00 - 12.5 mm	>= 39200 psi @Thickness 0.236 - 0.492 in	Temper H111; Standard EN 485-2
	>= 270 MPa @Thickness 12.5 - 50.0 mm	>= 39200 psi @Thickness 0.492 - 1.97 in	Temper H111; Standard EN 485-2
	>= 270 MPa @Thickness 50.0 - 80.0 mm	>= 39200 psi @Thickness 1.97 - 3.15 in	Temper H111; Standard EN 485-2

Mechanical Properties	Metric	English	Comments
	275 MPa @Thickness 120 - 150 mm	39900 psi @Thickness 4.72 - 5.91 in	Typical Strength
	285 MPa @Thickness 6.00 - 20.0 mm	41300 psi @Thickness 0.236 - 0.787 in	Typical Strength
	285 MPa @Thickness 20.0 - 120 mm	41300 psi @Thickness 0.787 - 4.72 in	Typical Strength
Tensile Strength, Yield	>= 105 MPa @Strain 0.200 %, Thickness 120 - 150 mm	>= 15200 psi @Strain 0.200 %, Thickness 4.72 - 5.91 in	Temper H111; Standard EN 485-2
	>= 110 MPa @Strain 0.200 %, Thickness 80.0 - 120 mm	>= 16000 psi @Strain 0.200 %, Thickness 3.15 - 4.72 in	Temper H111; Standard EN 485-2
	>= 115 MPa @Strain 0.200 %, Thickness 6.00 - 12.5 mm	>= 16700 psi @Strain 0.200 %, Thickness 0.236 - 0.492 in	Temper H111; Standard EN 485-2
	>= 115 MPa @Strain 0.200 %, Thickness 12.5 - 50.0 mm	>= 16700 psi @Strain 0.200 %, Thickness 0.492 - 1.97 in	Temper H111; Standard EN 485-2
	>= 115 MPa @Strain 0.200 %, Thickness 50.0 - 80.0 mm	>= 16700 psi @Strain 0.200 %, Thickness 1.97 - 3.15 in	Temper H111; Standard EN 485-2
	125 MPa @Strain 0.200 %, Thickness 120 - 150 mm	18100 psi @Strain 0.200 %, Thickness 4.72 - 5.91 in	Typical Strength
	135 MPa @Strain 0.200 %, Thickness 20.0 - 120 mm	19600 psi @Strain 0.200 %, Thickness 0.787 - 4.72 in	Typical Strength
	150 MPa @Strain 0.200 %, Thickness 6.00 - 20.0 mm	21800 psi @Strain 0.200 %, Thickness 0.236 - 0.787 in	Typical Strength

Mechanical Properties	Metric	English	Comments
Elongation at Break	>= 12 % @Thickness 80.0 - 120 mm	>= 12 % @Thickness 3.15 - 4.72 in	Temper H111; Standard EN 485-2
	>= 12 % @Thickness 120 - 150 mm	>= 12 % @Thickness 4.72 - 5.91 in	Temper H111; Standard EN 485-2
	>= 14 % @Thickness 50.0 - 80.0 mm	>= 14 % @Thickness 1.97 - 3.15 in	Temper H111; Standard EN 485-2
	>= 15 % @Thickness 12.5 - 50.0 mm	>= 15 % @Thickness 0.492 - 1.97 in	Temper H111; Standard EN 485-2
	>= 16 % @Thickness 6.00 - 12.5 mm	>= 16 % @Thickness 0.236 - 0.492 in	Temper H111; Standard EN 485-2
	22 % @Thickness 120 - 150 mm	22 % @Thickness 4.72 - 5.91 in	Typical Elongation
	24 % @Thickness 6.00 - 20.0 mm	24 % @Thickness 0.236 - 0.787 in	Typical Elongation
	24 % @Thickness 20.0 - 120 mm	24 % @Thickness 0.787 - 4.72 in	Typical Elongation
Modulus of Elasticity	71.0 GPa	10300 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.8 µm/m-°C @Temperature 20.0 - 100 °C	13.2 µin/in-°F @Temperature 68.0 - 212 °F	
Thermal Conductivity	105 - 120 W/m-K	729 - 833 BTU-in/hr-ft²-°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 %	

Component Elements Properties	Metric	English	Comments
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 %	
Silicon, Si	<= 0.40 %	<= 0.40 %	
Zinc, Zn	<= 0.25 %	<= 0.25 %	
Zr+Ti	<= 0.15 %	<= 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000580 - 0.00000660 ohm-cm	0.00000580 - 0.00000660 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