Constellium PLAN 6061 Aluminum Rolled Plate

Category : Metal , Nonferrous Metal , Aluminum Alloy , 6000 Series Aluminum Alloy

Material Notes:

Rolled plates in 6061 PLAN are optimized for minimum residual stress and improved dimensional tolerances. 6061 PLAN is mainly used for medium stressed mechanical components, manufactured by intensive machining. Typical applications include parts for printing and packaging machines, as well as conveying systemsInformation provided by manufacturer

Order this product through the following link:
http://www.lookpolymers.com/polymer_Constellium-PLAN-6061-Aluminum-Rolled-Plate.php

Physical Properties	Metric	English	Comments
Density	2.70 g/cc	0.0975 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	100 @Thickness 4.00 - 8.00 mm	100 @Thickness 0.157 - 0.315 in	
	100 @Thickness 8.00 - 25.0 mm	100 @Thickness 0.315 - 0.984 in	
	100 @Thickness 60.0 - 150 mm	100 @Thickness 2.36 - 5.91 in	
	105 @Thickness 25.0 - 60.0 mm	105 @Thickness 0.984 - 2.36 in	
Tensile Strength	>= 275 MPa @Thickness 100 - 150 mm	>= 39900 psi @Thickness 3.94 - 5.91 in	Temper T651; Standard EN 485-2
	>= 290 MPa @Thickness 3.90 - 6.00 mm	>= 42100 psi @Thickness 0.154 - 0.236 in	Temper T651; Standard EN 485-2
	>= 290 MPa @Thickness 6.00 - 12.5 mm	>= 42100 psi @Thickness 0.236 - 0.492 in	Temper T651; Standard EN 485-2
	>= 290 MPa @Thickness 12.5 - 40.0 mm	>= 42100 psi @Thickness 0.492 - 1.57 in	Temper T651; Standard EN 485-2

Mechanical Properties	Metric	English	Comments
	>= 290 MPa @Thickness 40.0 - 80.0 mm	>= 42100 psi @Thickness 1.57 - 3.15 in	Temper T651; Standard EN 485-2
	>= 290 MPa @Thickness 80.0 - 100 mm	>= 42100 psi @Thickness 3.15 - 3.94 in	Temper T651; Standard EN 485-2
	320 MPa @Thickness 4.00 - 8.00 mm	46400 psi @Thickness 0.157 - 0.315 in	Typical Strength; Standard EN 485-2
	320 MPa @Thickness 60.0 - 150 mm	46400 psi @Thickness 2.36 - 5.91 in	Typical Strength; Standard EN 485-2
	325 MPa @Thickness 8.00 - 25.0 mm	47100 psi @Thickness 0.315 - 0.984 in	Typical Strength; Standard EN 485-2
	330 MPa @Thickness 25.0 - 60.0 mm	47900 psi @Thickness 0.984 - 2.36 in	Typical Strength; Standard EN 485-2
Tensile Strength, Yield	>= 240 MPa @Strain 0.200 %, Thickness 3.90 - 6.00 mm	>= 34800 psi @Strain 0.200 %, Thickness 0.154 - 0.236 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %, Thickness 6.00 - 12.5 mm	>= 34800 psi @Strain 0.200 %, Thickness 0.236 - 0.492 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %, Thickness 12.5 - 40.0 mm	>= 34800 psi @Strain 0.200 %, Thickness 0.492 - 1.57 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %, Thickness 40.0 - 80.0 mm	>= 34800 psi @Strain 0.200 %, Thickness 1.57 - 3.15 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %, Thickness 80.0 - 100 mm	>= 34800 psi @Strain 0.200 %, Thickness 3.15 - 3.94 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %,	>= 34800 psi @Strain 0.200 %,	Temper T651; Standard EN 485-2

Mechanical Properties	Metric	English	Comments
	Thickness 100 - 150 mm	Thickness 3.94 - 5.91 in	
	285 MPa @Strain 0.200 %, Thickness 4.00 - 8.00 mm	41300 psi @Strain 0.200 %, Thickness 0.157 - 0.315 in	Typical Strength; Standard EN 485-2
	285 MPa @Strain 0.200 %, Thickness 60.0 - 150 mm	41300 psi @Strain 0.200 %, Thickness 2.36 - 5.91 in	Typical Strength; Standard EN 485-2
	295 MPa @Strain 0.200 %, Thickness 8.00 - 25.0 mm	42800 psi @Strain 0.200 %, Thickness 0.315 - 0.984 in	Typical Strength; Standard EN 485-2
	295 MPa @Strain 0.200 %, Thickness 25.0 - 60.0 mm	42800 psi @Strain 0.200 %, Thickness 0.984 - 2.36 in	Typical Strength; Standard EN 485-2
Elongation at Break	>= 5.0 % @Thickness 80.0 - 100 mm	>= 5.0 % @Thickness 3.15 - 3.94 in	Temper T651; Standard EN 485-2
	>= 5.0 % @Thickness 100 - 150 mm	>= 5.0 % @Thickness 3.94 - 5.91 in	Temper T651; Standard EN 485-2
	>= 6.0 % @Thickness 40.0 - 80.0 mm	>= 6.0 % @Thickness 1.57 - 3.15 in	Temper T651; Standard EN 485-2
	>= 8.0 % @Thickness 12.5 - 40.0 mm	>= 8.0 % @Thickness 0.492 - 1.57 in	Temper T651; Standard EN 485-2
	>= 9.0 % @Thickness 6.00 - 12.5 mm	>= 9.0 % @Thickness 0.236 - 0.492 in	Temper T651; Standard EN 485-2
	>= 10 % @Thickness 3.90 - 6.00 mm	>= 10 % @Thickness 0.154 - 0.236 in	Temper T651; Standard EN 485-2
	11 % @Thickness 60.0 - 150 mm	11 % @Thickness 2.36 - 5.91 in	Typical Elongation; Standard EN 485-2
	12 %	12 %	Typical Elongation; Standard EN 485-

Mechanical Properties	Metric	English	Comments
	@Thickness 8.00 - 25.0 mm	@Thickness 0.315 - 0.984 in	2
	12 % @Thickness 25.0 - 60.0 mm	12 % @Thickness 0.984 - 2.36 in	Typical Elongation; Standard EN 485-2
	15 % @Thickness 4.00 - 8.00 mm	15 % @Thickness 0.157 - 0.315 in	Typical Elongation; Standard EN 485-2
Modulus of Elasticity	69.0 GPa	10000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.4 µm/m-°C @Temperature 20.0 - 100 °C	13.0 µin/in-°F @Temperature 68.0 - 212 °F	
Thermal Conductivity	150 - 170 W/m-K	1040 - 1180 BTU-in/hr-ft²-°F	Temper T651

Component Elements Properties	Metric	English	Comments
Aluminum, Al	96.15 - 98.61 %	96.15 - 98.61 %	as balance
Chromium, Cr	0.040 - 0.35 %	0.040 - 0.35 %	
Copper, Cu	0.15 - 0.40 %	0.15 - 0.40 %	
Iron, Fe	<= 0.70 %	<= 0.70 %	
Magnesium, Mg	0.80 - 1.2 %	0.80 - 1.2 %	
Manganese, Mn	<= 0.15 %	<= 0.15 %	
Silicon, Si	0.40 - 0.80 %	0.40 - 0.80 %	
Zinc, Zn	<= 0.25 %	<= 0.25 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000380 - 0.00000430 ohm-cm	0.00000380 - 0.00000430 ohm-cm	Temper T651

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