Constellium PLAN 6082 Aluminum Rolled Plate

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

Material Notes:

Rolled plates in 6082 PLAN are optimized for minimum residual stress and improved dimensional tolerances. 6082 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-6082-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	105 @Thickness 4.00 - 8.00 mm	105 @Thickness 0.157 - 0.315 in	
	105 @Thickness 8.00 - 25.0 mm	105 @Thickness 0.315 - 0.984 in	
	105 @Thickness 25.0 - 60.0 mm	105 @Thickness 0.984 - 2.36 in	
	105 @Thickness 60.0 - 150 mm	105 @Thickness 2.36 - 5.91 in	
Tensile Strength	>= 275 MPa @Thickness 100 - 150 mm	>= 39900 psi @Thickness 3.94 - 5.91 in	Temper T651; Standard EN 485-2
	>= 295 MPa @Thickness 12.5 - 60.0 mm	>= 42800 psi @Thickness 0.492 - 2.36 in	Temper T651; Standard EN 485-2
	>= 295 MPa @Thickness 60.0 - 100 mm	>= 42800 psi @Thickness 2.36 - 3.94 in	Temper T651; Standard EN 485-2
	>= 300 MPa @Thickness 6.00 - 12.5 mm	>= 43500 psi @Thickness 0.236 - 0.492 in	Temper T651; Standard EN 485-2

Mechanical Properties	Metric	English	Comments
	>= 310 MPa @Thickness 4.00 - 6.00 mm	>= 45000 psi @Thickness 0.157 - 0.236 in	Temper T651; Standard EN 485-2
	335 MPa @Thickness 4.00 - 8.00 mm	48600 psi @Thickness 0.157 - 0.315 in	Typical Strength; Standard EN 485-2
	350 MPa @Thickness 8.00 - 25.0 mm	50800 psi @Thickness 0.315 - 0.984 in	Typical Strength; Standard EN 485-2
	350 MPa @Thickness 25.0 - 60.0 mm	50800 psi @Thickness 0.984 - 2.36 in	Typical Strength; Standard EN 485-2
	350 MPa @Thickness 60.0 - 150 mm	50800 psi @Thickness 2.36 - 5.91 in	Typical Strength; Standard EN 485-2
Tensile Strength, Yield	>= 240 MPa @Strain 0.200 %, Thickness 12.5 - 60.0 mm	>= 34800 psi @Strain 0.200 %, Thickness 0.492 - 2.36 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %, Thickness 60.0 - 100 mm	>= 34800 psi @Strain 0.200 %, Thickness 2.36 - 3.94 in	Temper T651; Standard EN 485-2
	>= 240 MPa @Strain 0.200 %, Thickness 100 - 150 mm	>= 34800 psi @Strain 0.200 %, Thickness 3.94 - 5.91 in	Temper T651; Standard EN 485-2
	>= 255 MPa @Strain 0.200 %, Thickness 6.00 - 12.5 mm	>= 37000 psi @Strain 0.200 %, Thickness 0.236 - 0.492 in	Temper T651; Standard EN 485-2
	>= 260 MPa @Strain 0.200 %, Thickness 4.00 - 6.00 mm	>= 37700 psi @Strain 0.200 %, Thickness 0.157 - 0.236 in	Temper T651; Standard EN 485-2
	300 MPa @Strain 0.200 %, Thickness 4.00 - 8.00 mm	43500 psi @Strain 0.200 %, Thickness 0.157 - 0.315 in	Typical Strength; Standard EN 485-2
	305 MPa	44200 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 0.200 %, Thickness 8.00 - 25.0 mm	@Strain 0.200 %, Thickness 0.315 - 0.984 in	Typical Strength; Standard EN 485-2
	310 MPa @Strain 0.200 %, Thickness 25.0 - 60.0 mm	45000 psi @Strain 0.200 %, Thickness 0.984 - 2.36 in	Typical Strength; Standard EN 485-2
	310 MPa @Strain 0.200 %, Thickness 60.0 - 150 mm	45000 psi @Strain 0.200 %, Thickness 2.36 - 5.91 in	Typical Strength; Standard EN 485-2
Elongation at Break	>= 6.0 % @Thickness 100 - 150 mm	>= 6.0 % @Thickness 3.94 - 5.91 in	Temper T651; Standard EN 485-2
	>= 7.0 % @Thickness 60.0 - 100 mm	>= 7.0 % @Thickness 2.36 - 3.94 in	Temper T651; Standard EN 485-2
	>= 8.0 % @Thickness 12.5 - 60.0 mm	>= 8.0 % @Thickness 0.492 - 2.36 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 4.00 - 6.00 mm	>= 10 % @Thickness 0.157 - 0.236 in	Temper T651; Standard EN 485-2
	11 % @Thickness 8.00 - 25.0 mm	11 % @Thickness 0.315 - 0.984 in	Typical Elongation; Standard EN 485-2
	11 % @Thickness 25.0 - 60.0 mm	11 % @Thickness 0.984 - 2.36 in	Typical Elongation; Standard EN 485-2
	11 % @Thickness 60.0 - 150 mm	11 % @Thickness 2.36 - 5.91 in	Typical Elongation; Standard EN 485-2
	14 % @Thickness 4.00 - 8.00 mm	14 % @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	95.3 - 98.3 %	95.3 - 98.3 %	as balance
Chromium, Cr	<= 0.25 %	<= 0.25 %	
Copper, Cu	<= 0.10 %	<= 0.10 %	
Iron, Fe	<= 0.50 %	<= 0.50 %	
Magnesium, Mg	0.60 - 1.2 %	0.60 - 1.2 %	
Manganese, Mn	0.40 - 1.0 %	0.40 - 1.0 %	
Silicon, Si	0.70 - 1.3 %	0.70 - 1.3 %	
Zinc, Zn	<= 0.20 %	<= 0.20 %	
Zr+Ti	<= 0.15 %	<= 0.15 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000360 - 0.00000420 ohm-cm	0.00000360 - 0.00000420 ohm-cm	Temper T651

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