

## Constellium ALPLAN® 7075 High-Strength Rolled Precision Aluminum Plate, Milled Both Sides

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

### Material Notes:

ALPLAN® 7075 precision plates combine a good dimensional stability with high mechanical strength. Both the outstanding flatness and the low roughness of the surfaces, protected by a plastic film, make surface milling by the end user superfluous. This combination of properties enables significant cost savings in machining. Applications include reference plates, machine housings, transport tables, jigs, robot arms. Information provided by manufacturer

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Constellium-ALPLAN-7075-High-Strength-Rolled-Precision-Aluminum-Plate-Milled-Both-Sides.php](http://www.lookpolymers.com/polymer_Constellium-ALPLAN-7075-High-Strength-Rolled-Precision-Aluminum-Plate-Milled-Both-Sides.php)

Physical Properties	Metric	English	Comments
Density	2.81 g/cc	0.102 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	175	175	
	@Thickness 9.90 - 25.0 mm	@Thickness 0.390 - 0.984 in	
	175	175	
	@Thickness 25.0 - 60.0 mm	@Thickness 0.984 - 2.36 in	
	175	175	
	@Thickness 60.0 - 80.0 mm	@Thickness 2.36 - 3.15 in	
Tensile Strength	>= 495 MPa	>= 71800 psi	Temper T651; Standard EN 485-2
	@Thickness 60.0 - 80.0 mm	@Thickness 2.36 - 3.15 in	
	>= 525 MPa	>= 76100 psi	Temper T651; Standard EN 485-2
	@Thickness 50.0 - 60.0 mm	@Thickness 1.97 - 2.36 in	
	>= 530 MPa	>= 76900 psi	Temper T651; Standard EN 485-2
	@Thickness 25.0 - 50.0 mm	@Thickness 0.984 - 1.97 in	
	>= 540 MPa	>= 78300 psi	Temper T651; Standard EN 485-2
	@Thickness 9.90 - 12.5 mm	@Thickness 0.390 - 0.492 in	
	>= 540 MPa	>= 78300 psi	

Mechanical Properties	Metric @Thickness 12.5 - 25.0 mm	English @Thickness 0.492 - 0.984 in	Comments Temper T651; Standard EN 485-2
	540 MPa	78300 psi	Typical Strength
	@Thickness 60.0 - 80.0 mm	@Thickness 2.36 - 3.15 in	
	565 MPa	81900 psi	Typical Strength
	@Thickness 25.0 - 60.0 mm	@Thickness 0.984 - 2.36 in	
	575 MPa	83400 psi	Typical Strength
	@Thickness 9.90 - 25.0 mm	@Thickness 0.390 - 0.984 in	
Tensile Strength, Yield	>= 420 MPa	>= 60900 psi	Temper T651; Standard EN 485-2
	@Strain 0.200 %, Thickness 60.0 - 80.0 mm	@Strain 0.200 %, Thickness 2.36 - 3.15 in	
	>= 440 MPa	>= 63800 psi	Temper T651; Standard EN 485-2
	@Strain 0.200 %, Thickness 50.0 - 60.0 mm	@Strain 0.200 %, Thickness 1.97 - 2.36 in	
	>= 460 MPa	>= 66700 psi	Temper T651; Standard EN 485-2
	@Strain 0.200 %, Thickness 9.90 - 12.5 mm	@Strain 0.200 %, Thickness 0.390 - 0.492 in	
	>= 460 MPa	>= 66700 psi	Temper T651; Standard EN 485-2
	@Strain 0.200 %, Thickness 25.0 - 50.0 mm	@Strain 0.200 %, Thickness 0.984 - 1.97 in	
	465 MPa	67400 psi	Typical Strength
	@Strain 0.200 %, Thickness 60.0 - 80.0 mm	@Strain 0.200 %, Thickness 2.36 - 3.15 in	
	>= 470 MPa	>= 68200 psi	Temper T651; Standard EN 485-2
	@Strain 0.200 %, Thickness 12.5 - 25.0 mm	@Strain 0.200 %, Thickness 0.492 - 0.984 in	
	500 MPa	72500 psi	Typical Strength
	@Strain 0.200 %, Thickness 25.0 - 60.0 mm	@Strain 0.200 %, Thickness 0.984 - 2.36 in	
	510 MPa	74000 psi	Typical Strength
	@Strain 0.200 %,	@Strain 0.200 %,	

Mechanical Properties	Thickness 9.90 - 25.0 Metric mm	Thickness 0.390 - 0.984 in English	Comments
Elongation at Break	>= 4.0 %	>= 4.0 %	Temper T651; Standard EN 485-2
	@Thickness 50.0 - 60.0 mm	@Thickness 1.97 - 2.36 in	
	>= 4.0 %	>= 4.0 %	Temper T651; Standard EN 485-2
	@Thickness 60.0 - 80.0 mm	@Thickness 2.36 - 3.15 in	
	>= 5.0 %	>= 5.0 %	Temper T651; Standard EN 485-2
	@Thickness 25.0 - 50.0 mm	@Thickness 0.984 - 1.97 in	
>= 6.0 %	>= 6.0 %	Temper T651; Standard EN 485-2	
@Thickness 12.5 - 25.0 mm	@Thickness 0.492 - 0.984 in		
>= 8.0 %	>= 8.0 %	Temper T651; Standard EN 485-2	
@Thickness 9.90 - 12.5 mm	@Thickness 0.390 - 0.492 in		
	9.0 %	9.0 %	Typical Elongation
	@Thickness 60.0 - 80.0 mm	@Thickness 2.36 - 3.15 in	
	10 %	10 %	Typical Elongation
	@Thickness 9.90 - 25.0 mm	@Thickness 0.390 - 0.984 in	
	10 %	10 %	Typical Elongation
	@Thickness 25.0 - 60.0 mm	@Thickness 0.984 - 2.36 in	
Modulus of Elasticity	72.0 GPa	10400 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.6 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	13.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 100 $^{\circ}\text{C}$	@Temperature 68.0 - 212 $^{\circ}\text{F}$	
Thermal Conductivity	115 - 140 W/m-K	798 - 972 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	Temper T651

Component Elements Properties	Metric	English	Comments
Aluminum, Al	87.32 - 91.42 %	87.32 - 91.42 %	as balance
Chromium, Cr	0.18 - 0.28 %	0.18 - 0.28 %	

Component Elements Properties	Metric	English	Comments
Copper, Cu	1.2 - 2.0 %	1.2 - 2.0 %	
Iron, Fe	<= 0.50 %	<= 0.50 %	
Magnesium, Mg	2.1 - 2.9 %	2.1 - 2.9 %	
Manganese, Mn	<= 0.30 %	<= 0.30 %	
Silicon, Si	<= 0.40 %	<= 0.40 %	
Zinc, Zn	5.1 - 6.1 %	5.1 - 6.1 %	
Zr+Ti	<= 0.20 %	<= 0.20 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000480 - 0.00000590 ohm-cm	0.00000480 - 0.00000590 ohm-cm	Temper T651

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