BRIEF DESCRIPTION

Precision plates in ALPLAN[®] 6061 are milled on both sides and have a very low level of residual stress, thus avoiding excessive deformation during machining.

Thanks to its very good dimensional stability and the elimination of surface milling operations, ALPLAN[®] 6061 plates enable to realise significant cost and time savings in machining, when compared to normal rolled plates.

PROCESSING METHODS

Weldability

TIG/MIG filler metalby resistance	excellent AA 4043 AA 5356 excellent
Anodisation • technical • decorative	excellent excellent
Usinabilité	excellent

Corrosion behaviour

- excellent in inland atmosphere
- good in marine atmosphere

AVAILABILITY

ALPLAN[®] 6061 plates are available in temper T651 (quenched - stretched artificially aged) in the following dimensions :

Thickness		Dimensions
0.313" (other dim	- 4.000"	60.5" x 144.5"
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The plates are supplied with a protection film on both sides.

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn
0.40	max.	0.15	max.	0.8	0.04	max.
0.8	0.7	0.40	0.15	1.2	0.35	0.25

PHYSICAL PROPRIÉTÉS (nominal values)

Density	0.098 lbs/in. ³
Elastic Modulus	10.0·10 ⁶ psi
Lin. thermal expansion coefficient (20°-100°C)	13.1 µin./in.°F
Thermal conductivity (Temper T651)	96.5 Btu/ft·h·°F
Electrical conductivity at 20°C (Temper T651)	43 %IACS

MECHANICAL STRENGTH

Min. tensile properties (Temper T651)

Thickness (over to)	Rm [ksi]	Rp0.2 [ksi]	A50 [%]
0.313" - 0.499"	42	35	10
0.499" - 1.000"	42	35	9
1.000" - 2.000"	42	35	8
2.000" - 4.000"	42	35	6

Typical strength for various thicknesses

Thickness	Rm	Rp0.2	A50	HB
(over to)	[ksi]	[ksi]	[%]	
0.313" - 0.984"	47	43	12	100
0.984" - 2.000"	48	43	12	105
2.000" - 4.000"	46	42	10	100

TOLERANCES

Thickness	Thickness tolerance		
All	± 0.0039"		
Thickness	Longitudinal and transverse flatness		
0.313" - 0.591"	0.50 ‰		
0.591" – 4.000"	0.35 ‰		
Thickness	Roughness Ra		
All	max. 0.016 microinches		



Heating the alloy can result in loss of strength of properties or of capability for fabrication, assembly or application in a particular case. Whenever a new application of this alloy is contemplated, and if this application involves special properties such as corrosion resistance, toughness, fatigue strength, it is strongly recommended that the user should consult the producer in order to make a precise and appropriate selection of the material. The information in this publication does not imply a guarantee of properties or of capability for fabrication, assembly or application in a particular case. The appendix to technical datasheets is an integral part of this datasheet. The processing instructions

presented in the appendix shall be taken into account by the user. Constellium Valais Ltd reserves the right to modify this data sheet without prior warning. This edition replaces all previous editions