

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 metal: excellent
AA 4043
AA 5356
- by resistance: excellent

Anodisation

- technical: excellent
- decorative: 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" - 4.000"	60.5" x 144.5"
(other dimensions on request)	

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 (over ... to)	Rm [ksi]	Rp0.2 [ksi]	A50 [%]	HB
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