



## TECHNICAL DATA SHEET

### CHEMICAL COMPOSITION

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Each	Total	Al
Min				0.40	4.0	0.05					
Max	0.40	0.40	0.10	1.0	4.9	0.25	0.25	0.15	0.05	0.15	Remainder

### MECHANICAL PROPERTIES

over	up to	R <sub>m</sub> (Mpa)		R <sub>p</sub> 0,2 (Mpa)		Elongation Min.		Bend radius		Hardness HB
		Min	Max	Min	Max	A <sub>50 mm</sub>	A	180°	90°	
6,0	12,5	275	350	125		16			2,5	75
12,5	50,0	275	350	125		15				75
50,0	80,0	270	345	115		14				73
80,0	120,0	260		110		12				69

### PHYSICAL PROPERTIES

Density/Specific gravity . . . . .	2,66 g/cm <sup>3</sup>
Melting Range . . . . .	570 - 640°C
Boiling Point . . . . .	2320°C
Coefficient of linear expansion (0-100°C) . . . . .	23,8 x 10 <sup>-6</sup> K <sup>-1</sup>
Modulus of elasticity . . . . .	71000 MPa
Ultimate Bearing Stress. . . . .	550 Mpa
Ultimate Shear Stress. . . . .	160 Mpa
Torsion modulus . . . . .	26,000 MPa
Poisson's ratio . . . . .	0,33
Thermal Conductivity (0-100°C). . . . .	120 W/m K
Electrical conductivity at 20°C . . . . .	15-17 m/Ωmm <sup>2</sup>
Resistivity at 20°C . . . . .	0,059
Specific heat (0-100°C) . . . . .	960 J kg <sup>-1</sup> °C <sup>-1</sup>

## CHARACTERISTICS

Resistance to Marine corrosion . . . . .	Very Good.
Production Control . . . . .	Complete operation, melting, casting, rolling, annealing and milling, all under one roof giving unrivalled process control.
Integrity . . . . .	Fine grain, absence of pores, good impact values.
Stability. . . . .	Very low residual stresses owing to special rolling process. Both transverse and longitudinal rolling followed by heat treatment gives characteristics that rival cast tooling plate.
Protection. . . . .	All plates are supplied with 100 $\mu$ m plastic foil on both sides

## DIMENSIONAL TOLERANCES

Surface Roughness . . . . .	R <sub>a</sub> max. 0.6 $\mu$ m
Thickness Tolerance . . . . .	+/- 0.1 mm
Flatness Deviation . . . . .	< 15 mm thickness max. 0.35 mm/M > 15 mm thickness max. 0.20 mm/M
Tolerance length and width . . . . .	+/- 0,2 mm

## PROCESSING

Machining . . . . .	High machining speeds is recommended when cutting TITAN plate and sintered carbide cutting tools are ideally suited for this product.
Welding. . . . .	Very good for both MIG and TIG processes.
Drilling . . . . .	Straight flute drills are more efficient for aluminium alloys of this grade, however twist drills that have been carefully sharpened and polished also provide a simple operation.
Cutting . . . . .	Sintered carbide blade with cutting speeds of 2500m/min recommended.
Anodising. . . . .	Good technical properties for general anodising, decorative results are feasible but this alloy is not guaranteed for decorative finishes. Good results are also achieved using hard-anodising process.
Tapping. . . . .	There are two methods of tapping either by chip removal or upsetting. Upsetting offers several advantages and is, therefore, the preferred choice.

## SIZE RANGE\*

Thickness	Width	Length
6 mm up to 50 mm	1250 mm	2500 mm
60 mm	900 mm	1000 mm
70 mm	750 mm	1000 mm
80 mm	650 mm	1000 mm
90 mm	600 mm	1000 mm
100 mm	500 mm	1000 mm

\* Maximum producible sizes, intermediate thickness, lengths and/or widths available in all common shapes including circles.

**IMPACT**            Rolled machined plate has better impact values than cast plate.

**WELDING**        Not only easier to weld but weld properties are superior.

**THREADS**        Significantly better grip and Heli-coil inserts only required when assemblies are frequently dismantled.

