



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 _m (Mpa) | | R _p 0,2 (Mpa) | | Elongation Min. | | Bend radius | | Hardness HB |
|------|-------|----------------------|-----|--------------------------|-----|--------------------|---|-------------|-----|-------------|
| | | Min | Max | Min | Max | A _{50 mm} | 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 ³ |
| Melting Range | 570 - 640°C |
| Boiling Point | 2320°C |
| Coefficient of linear expansion (0-100°C) | 23,8 x 10 ⁻⁶ K ⁻¹ |
| 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 ² |
| Resistivity at 20°C | 0,059 |
| Specific heat (0-100°C) | 960 J kg ⁻¹ °C ⁻¹ |

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 μ m plastic foil on both sides |

DIMENSIONAL TOLERANCES

| | |
|--------------------------------------|----------------------------------------------------------------------|
| Surface Roughness | R _a max. 0.6 μ 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.

