THAMES STOCKHOLDERS
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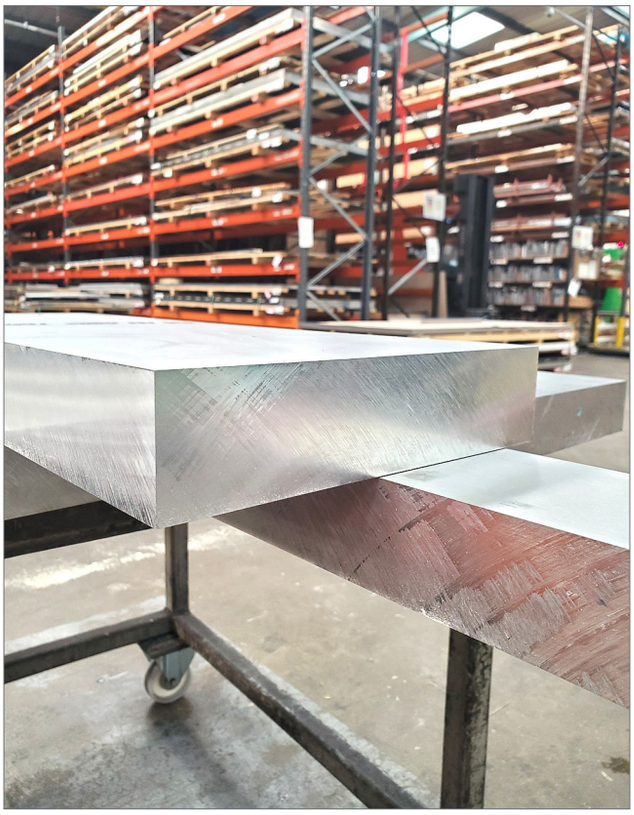
M82 Aluminium

PRECISION ALUMINIUM PLATE



Product Overview

M82 aluminium represents a precision plate product produced in 6082 T651 aluminium. The heat-treatable alloy affords a broad range of attractive performance characteristics compared to the alloy it derives from (standard 6082).

The alloy offers a combination of excellent machinability and stability.

M82 is continuously machinable from one batch to another without costly setup changes. The wastage from component manufacture is considerably less, too, because the alloy is manufactured to much tighter tolerances. The end product is consistent, accurate and highly cost-effective, resulting in an attractive product for engineering machine shops.

Typical Applications

- All forms of component manufacture
- Precision tooling

Key Benefits

- Manufactured to tight tolerances
- Outstanding machinability
- Aesthetically pleasing surface finish
- Highly cost-effective
- Good corrosion resistance
- Efficiently machined with little wastage
- Developed for consistent machining ops

Available Sizes:

Thickness:	5.0 mm to 60.0 mm
Width:	1270 mm to 1520 mm
Length:	2520 mm to 3020 mm

Processing:

To add further value, we offer our customer in-house processing services where we cut your aluminium plates to your size requirements using dedicated CNC saws.

We also keep stock of pre-cut planks which may reduce the number of cutting operations your require.

Excellent Flatness

The impressive flatness characteristics of M82 aluminium alloy are achieved by stretching operations and levelling.

Surface Finish

We supply M82 aluminium plates with a bright, linished finish on both sides, which results in an impressive finish. The alloy is also suitable for anodising.

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Chemical Composition (weight, %)

	Cu	Mg	Si	Fe	Mn	Zn	Ti	Cr	Al
Min.		0.60	0.70		0.40				Bal
Max.	0.10	1.20	1.30	0.50	1.00	0.20	0.10	0.25	Bal

* Properties as per BS EN 573-3

Mechanical & Physical Properties

Properties:	5mm - 12.5mm	Over 12.5mm	Unit
Ultimate Tensile Strength (min)	300	295	MPa
0.2% Yield Strength (min)	255	240	MPa
Elongation (min)	9	8	%
Typical Fatigue Strength	110	110	MPa
Typical Hardness Brinell	95	95	HB
Density	2.70	2.70	g/cm^3
Thermal Conductivity at 100°C	180 - 189	180 - 189	W/m°C
Electrical Resistivity at 20°C	0.038×10^{-6}	0.038×10^{-6}	Ωm
Modulus of Elasticity	70	70	GPa
Coefficient of thermal expansion	24×10^{-6}	24×10^{-6}	°C
Melting Range	555 - 650	555 - 650	°C

Thickness

Metric	Imperial	Tolerance	Metric	Imperial	Tolerance
5.0mm		+/- 0.21	30mm		+/- 0.53
6.0mm		+/- 0.22	31.75mm	1¼"	+/- 0.55
8.0mm		+/- 0.28	35.0mm		+/- 0.60
10.0mm		+/- 0.32	38.1mm	1½"	+/- 0.60
12.7mm	½"	+/- 0.42	40.0mm		+/- 0.60
16.0mm		+/- 0.42	45.0mm		+/- 0.70
19.05mm	¾"	+/- 0.49	50.0mm		+/- 0.75
20.0mm		+/- 0.49	50.8mm	2"	+/- 0.80
25.0mm		+/- 0.53	55.0mm		+/- 0.82
25.4mm	1"	+/- 0.53	60.0mm		+/- 0.90

All tolerances guaranteed before and after sawing
All plates linished on top and bottom surfaces
Plates comply with BS EN 573-3, BS EN 485-2, BSEN 485-3.

Thickness tolerances are produced to 0.7 x EN specification for thicknesses up to and including 25.4mm thick. Thicknesses above 25.4mm are produced at EN tolerances. (EN485-3).

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