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## Aluminium 6082 data sheet.

6082 is a medium strength alloy with excellent corrosion resistance. In plate form, 6082 is the most commonly used alloy for machining. It also has the highest strength of any alloy in the 6000 series. This strength has meant that 6082 has replaced the older 6061 in many applications.

In the T6 and T651 temper, 6082 machines very well producing tight coils of swarf when chip breakers are used.

6082's properties means it is typically used in...

- High stress applications
- Trusses
- Bridges
- Cranes
- Transport applications
- Ore skips
- Beer barrels
- Milk churns

We stock aluminium 6082 in bars, flats, squares, tubes, plate and various specialised shapes in the following sizes:



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**Bars:**

**From 1/8" dia – 16" dia**

**Flats:**

**From 1/4" x 1/8 – 8" x 1/2"**

**Tubes:**

**From 5/16"OD X 16swg – 12"OD x 1" wall**

**Plate:**

**2000mm x 1000mm x 0.5mm – 2500mm x 1250mm x 100mm**

**Chemical & Physical Properties**

**Typical Chemical Composition**

Elements	Min %	Max %
Al	Remainder	
Cr		0.25
Cu		0.10
Fe		0.50
Mg		1.2
Mn		1.0
Others each		0.05
Others total		0.15
Si		1.3
Ti		0.10
Zn		0.20



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## Typical Mechanical Properties

Property/Unit	Condition	Temp	Size	Min
Brinell Hardness (HB)	T6	RT		95
0.2% Proof Stress (N/mm <sup>2</sup> )	T6	RT	<= 20MM	255
Tensile strength (N/mm <sup>2</sup> )	T6	RT	<= 20MM	295
Elongation in 5.65√ cross sectional area	T6	RT	<= 20MM	9
Elongation in 50mm %	T6	RT	<= 10MM	7
0.2% proof Stress (N/mm <sup>2</sup> )	T6	RT	>20<= 150MM	270
Tensile strength (N/mm <sup>2</sup> )	T6	RT	>20<= 150MM	310
Elongation in 5.65√ cross sectional area	T6	RT	>20<= 150MM	8
0.2% proof Stress (N/mm <sup>2</sup> )	T6	RT	>150MM< = 200MM	240
Tensile strength (N/mm <sup>2</sup> )	T6	RT	>150MM< = 200MM	280
Elongation in 5.65√ cross sectional area	T6	RT	>150MM< = 200MM	5

## Tolerances

### Bar :

Diameter	Tolerance
8mm – 18mm	+/- 0.22mm
18mm – 25mm	+/- 0.25mm
25mm – 40mm	+/- 0.30mm
40mm – 50mm	+/- 0.35mm
50mm – 65mm	+/- 0.40mm
65mm – 80mm	+/- 0.45mm
80mm – 100mm	+/- 0.55mm
100mm – 120mm	+/- 0.65mm
120mm – 150mm	+/- 0.80mm
150mm – 180mm	+/- 1.00mm
180mm – 220mm	+/- 1.15mm
220mm – 270mm	+/- 1.30mm
270mm – 320mm	+/- 1.60mm



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## Plate:

Thickness	Up to 1250mm	1250mm – 1600mm	1600mm – 2000mm
2.5mm – 4mm	+/-0.28mm	+/-0.28mm	+/-0.32mm
4mm – 5mm	+/-0.30mm	+/-0.30mm	+/-0.35mm
5mm – 6mm	+/-0.32mm	+/-0.32mm	+/-0.40mm
6mm – 8mm	+/-0.35mm	+/-0.40mm	+/-0.40mm
8mm – 10mm	+/-0.45mm	+/-0.50mm	+/-0.50mm
10mm – 15mm	+/-0.50mm	+/-0.60mm	+/-0.65mm
15mm – 20mm	+/-0.60mm	+/-0.70mm	+/-0.75mm
20mm – 30mm	+/-0.65mm	+/-0.75mm	+/-0.85mm
30mm – 40mm	+/-0.75mm	+/-0.85mm	+/-1.00mm
40mm – 50mm	+/-0.90mm	+/-1.00mm	+/-1.10mm
50mm – 60mm	+/-1.10mm	+/-1.20mm	+/-1.40mm
60mm – 80mm	+/-1.40mm	+/-1.50mm	+/-1.70mm
80mm – 100mm	+/-1.70mm	+/-1.80mm	+/-1.90mm
100mm – 150mm	+/-2.20mm	+/-2.20mm	+/-2.70mm
150mm – 200mm+/-	+/-2.80mm	+/-2.80mm	+/-3.30mm

The information given above is based on our current knowledge and is given in good faith; however the company will accept no liability in respect of any third party reliance thereon.