

Aluminium
L111 T6511 Bar & Extrusion
Datasheet Updated
05 August 2021

SPECIFICATIONS

| | |
|------------|------------|
| Commercial | 6082 |
| Aerospace | L111 T6511 |

Heat treatable aerospace aluminium alloy with very good corrosion resistance and weldability.

CHEMICAL COMPOSITION
BS L111 (1971)
Alloy L111

| Element | % Present |
|----------------|-------------|
| Manganese (Mn) | 0.40 - 1.00 |
| Silicon (Si) | 0.70 - 1.30 |
| Magnesium (Mg) | 0.50 - 1.20 |
| Copper (Cu) | 0.00 - 0.10 |
| Iron (Fe) | 0.00 - 0.50 |
| Tin (Sn) | 0.00 - 0.05 |
| Chromium (Cr) | 0.00 - 0.25 |
| Nickel (Ni) | 0.00 - 0.10 |
| Lead (Pb) | 0.00 - 0.05 |
| Titanium (Ti) | 0.00 - 0.20 |
| Zinc (Zn) | 0.00 - 0.20 |
| Aluminium (Al) | Balance |

TEMPER TYPES

The most common temper for L111-6082 aluminium are:

- T5
- T4
- T6511
- T6

SUPPLIED FORMS

- Bar
- Extrusions

APPLICATIONS

- Aerospace components
- High technology applications

CHARACTERISTICS

- Very good corrosion resistance
- Very good weldability (lowered strength values in the weld zone)
- Good machinability
- Good cold formability in T4 temper after a stabilizing heat treatment.
- Heat treatable medium high strength construction
- Medium high fatigue strength

MECHANICAL PROPERTIES
BS L111 (1971)
Alloy L111 - Mechanical Properties T6511 Temper for Various Dimensions

| Property | Value |
|--------------------------------|---------|
| >20mm Proof Strength | 255 Min |
| >20mm Tensile Strength | 295 Min |
| >20mm Elongation | 7% min |
| 20mm - 150mm Proof Stress | 270 min |
| 20mm - 150mm Tensile Strength | 310 Min |
| 20mm - 150mm Elongation | 8% min |
| 150mm - 200mm Proof Stress | 240 Min |
| 150mm - 200mm Tensile Strength | 280 Min |
| 150mm - 200mm Elongation | 5% Min |

DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon. Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources. Material supplied by the Company may vary significantly from this data but will conform to all relevant and applicable standards. As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied. Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.