

### SPECIFICATIONS

|            |                 |
|------------|-----------------|
| Commercial | 7075 - OBSOLETE |
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#### Applications:

Aircraft and military highly stressed structural components. Rolling stock for machine parts and tools (for rubber and plastics). Screws and bolts, nuts. Rivets. Nuclear applications.

#### Characteristic Properties:

Heat treatable very high strength alloy with a strength slightly lower than 7010. Very high fatigue strength. Joining preferably by rivets, adhesives or screws. Corrosion protection is recommended also in outdoor atmosphere.

#### Precautions and Warnings:

Care to be taken when selecting temper (and other thermal treatment) for balance of properties. May be clad with 7072 for better protection against stress corrosion cracking.

### CHEMICAL COMPOSITION

| BS 2L95(1971)<br>Alloy L95   |            |
|------------------------------|------------|
| Element                      | % Present  |
| Zinc (Zn)                    | 5.1 - 6.4  |
| Magnesium (Mg)               | 2.1 - 2.9  |
| Copper (Cu)                  | 1.2 - 2    |
| Iron (Fe)                    | 0.5 max    |
| Silicon (Si)                 | 0.4 max    |
| Manganese (Mn)               | 0.3 max    |
| Chromium (Cr)                | 0.1 - 0.25 |
| Titanium + Zirconium (Ti+Zr) | 0.2 max    |
| Others (Total)               | 0.15 max   |
| Other (Each)                 | 0.05 max   |
| Tin (Sn)                     | 0.05 max   |
| Nickel (Ni)                  | 0.05 max   |
| Lead (Pb)                    | 0.05 max   |
| Aluminium (Al)               | Balance    |

### ALLOY DESIGNATIONS

Aluminium alloy L95 - 7075 is covered by standard BS 2L95 (1971). BS2L95 (1971) was superseded by BS EN 2126 on 15 October 1996.

### TEMPER TYPES

The most common temper for L95 - 7075 aluminium is:

- T651 - Solution heat treated, stress relieved by stretching then artificially aged

### SUPPLIED FORMS

L93 - 7075 aluminium is supplied in Plate

- Plate

### GENERIC PHYSICAL PROPERTIES

| Property               | Value                     |
|------------------------|---------------------------|
| Density                | 2.81 g/cm <sup>3</sup>    |
| Melting Point          | 635 °C                    |
| Thermal Expansion      | 23.5 x10 <sup>-6</sup> /K |
| Modulus of Elasticity  | 72 GPa                    |
| Thermal Conductivity   | 134-160 W/m.K             |
| Electrical Resistivity | 40 % IACS                 |

*'Typical' Physical Properties are given*

### MECHANICAL PROPERTIES

These Mechanical properties are for Plate in the T651 temper

| Thickness (mm)             | Proof Strength (Min) | Tensile Strength (Min) | Elongation % (Min) |
|----------------------------|----------------------|------------------------|--------------------|
| Over 6 to & incl. 12.5     | 450                  | 530                    | 8                  |
| Over 12.5 up to & incl. 25 | 450                  | 530                    | 6                  |
| Over 25 up to & incl. 40   | 450                  | 530                    | 5                  |
| Over 40 up to & incl. 63   | 440                  | 510                    | 5                  |
| Over 63 up to & incl. 90   | 410                  | 500                    | 5                  |

## CONTACT

|          |   |
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## REVISION HISTORY

|                   |                 |
|-------------------|-----------------|
| Datasheet Updated | 09 January 2014 |
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