

## SPECIFICATIONS

|            |                  |
|------------|------------------|
| Commercial | 2014A - Obsolete |
|------------|------------------|

### Applications:

High strength structural components: aircraft (e.g. fittings and wheels), military vehicles and bridges, forgings for trucks and machinery (hydraulic etc.). weapons manufacture, structural applications.

### Characteristic Properties:

Heat treatable alloy. High mechanical strength slightly higher than 2011 and 2017A.

## CHEMICAL COMPOSITION

BS L102(1971)  
Alloy L102

| Element                      | % Present |
|------------------------------|-----------|
| Copper (Cu)                  | 3.9 - 5   |
| Manganese (Mn)               | 0.4 - 1.2 |
| Silicon (Si)                 | 0.5 - 0.9 |
| Magnesium (Mg)               | 0.2 - 0.8 |
| Iron (Fe)                    | 0.5 max   |
| Nickel (Ni)                  | 0.2 max   |
| Zinc (Zn)                    | 0.2 max   |
| Titanium + Zirconium (Ti+Zr) | 0.2 max   |
| Chromium (Cr)                | 0.1 max   |
| Lead (Pb)                    | 0.05 max  |
| Tin (Sn)                     | 0.05 max  |
| Aluminium (Al)               | Balance   |

## ALLOY DESIGNATIONS

Aluminium alloy BS L102 - 2014A is covered by standard BS EN 2L102 (1971)

## TEMPER TYPES

The most common tempers for L102 - 2014A aluminium are:

- T6 - Solution heat treated and artificially aged
- T4 - Solution heat treated and naturally aged to a substantially stable condition
- T4511 - Solution heat treated and stress-relieved by stretching. Equivalent to T4 condition.

## SUPPLIED FORMS

L102 2014A T4511 is supplied as Bar

- Bar

## GENERIC PHYSICAL PROPERTIES

| Property              | Value                     |
|-----------------------|---------------------------|
| Density               | 2800 g/cm <sup>3</sup>    |
| Melting Point         | 640 °C                    |
| Thermal Expansion     | 22.8 x10 <sup>-6</sup> /K |
| Modulus of Elasticity | 73000 GPa                 |
| Thermal Conductivity  | 134 W/m.K                 |

## MECHANICAL PROPERTIES

The following Mechanical Properties relate to T4511 temper material in various diameters:

| Thickness (mm)             | Proof Strength | Tensile Strength | Elongation |
|----------------------------|----------------|------------------|------------|
| Up to & incl. 10           | 235 Min        | 370 Min          | 11% Min    |
| Over 10 up to & incl. 20   | 260 Min        | 400 Min          | 11% Min    |
| Over 20 up to & incl. 75   | 270 Min        | 410 Min          | 14% Min    |
| Over 75 up to & incl. 150  | 260 Min        | 400 Min          | 12% Min    |
| Over 150 up to & incl. 200 | 230 Min        | 370 Min          | 8% Min     |

## CONTACT

|          |                                                                                               |
|----------|-----------------------------------------------------------------------------------------------|
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## REVISION HISTORY

|                   |                 |
|-------------------|-----------------|
| Datasheet Updated | 14 January 2019 |
|-------------------|-----------------|

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