

SPECIFICATIONS

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| Commercial | 3103 |
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Applications:

Equipment for heating and cooling: heat exchangers, air condition evaporators, motor vehicle radiators, aircraft and military components, freezer linings, office equipment. Tubing, piping. Cladding alloy. Pressure vessels.

Characteristic Properties:

Very good resistance to atmospheric corrosion. Very good weldability. Good formability by pressing, drawing and roll forming. Medium strength alloy. Better mechanical properties (in particular at elevated temperatures) than 1xxx-alloys. Properties very close to those of 3003.

Precautions and Warnings:

Actual performance requires careful design of tools, lubrication and metal surface condition.

CHEMICAL COMPOSITION

BS 4L59(1985)
Alloy L59

| Element | % Present |
|------------------------------|-----------|
| Manganese (Mn) | 0.9 - 1.5 |
| Iron (Fe) | 0.7 max |
| Silicon (Si) | 0.5 max |
| Magnesium (Mg) | 0.3 max |
| Zinc (Zn) | 0.2 max |
| Others (Total) | 0.15 max |
| Copper (Cu) | 0.1 max |
| Titanium + Zirconium (Ti+Zr) | 0.1 max |
| Chromium (Cr) | 0.1 max |
| Other (Each) | 0.05 max |
| Aluminium (Al) | Balance |

The material shall be supplied cold rolled (H16) or cold rolled and partially annealed (H26).

ALLOY DESIGNATIONS

Aluminium alloy L59 - 3103 is covered by Standard BS EN 4L59 (1985)

TEMPER TYPES

The most common tempers for L59 - 3103 aluminium are:

- H16 - Work hardened by rolling to three-quarter hard, not annealed after rolling
- H26 - Work hardened by rolling then annealed to three-quarter hard

SUPPLIED FORMS

L59 - 3103 aluminium is supplied in the following forms:

- Sheet
- Strip

GENERIC PHYSICAL PROPERTIES

| Property | Value |
|------------------------|---------------------------|
| Density | 2.61 g/cm ³ |
| Melting Point | 655 °C |
| Thermal Expansion | 23.1 x10 ⁻⁶ /K |
| Modulus of Elasticity | 69.5 GPa |
| Thermal Conductivity | 160 W/m.K |
| Electrical Resistivity | 42 % IACS |

MECHANICAL PROPERTIES

BS 4L59(1985)
Sheet
0.4mm to 0.8mm

| Property | Value |
|-------------------|-------------------------------------|
| Elongation A50 mm | 2 Min % |
| Tensile Strength | 160 Min - 195 Max N/mm ² |

Mechanical properties relate to material with a nominal thickness of 0.4mm up to and including 0.8mm. The specification contains other values for different material thicknesses.

CONTACT

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REVISION HISTORY

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|-------------------|-----------------|
| Datasheet Updated | 09 January 2014 |
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Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards.

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