

## SPECIFICATIONS

Commercial 3103

### Applications:

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

### 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 4L60(1985)  
Alloy 4L60

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
Chromium (Cr)	0.1 max
Titanium + Zirconium (Ti+Zr)	0.1 max
Other (Each)	0.05 max
Aluminium (Al)	Balance

The material shall be supplied cold rolled (H12) or cold rolled and partially annealed (H22).

## ALLOY DESIGNATIONS

Aluminium alloy 4L60 - 3103 is covered by standard BS EN 4L60 (1985)

## TEMPER TYPES

The most common tempers for 4L60 - 3103 aluminium are:

- H12 - Work hardened by rolling to quarter hard, not annealed after rolling
- H22 - Work hardened by rolling then annealed to quarter hard

## SUPPLIED FORMS

4L60 - 3103 aluminium is supplied in the following forms:

- Sheet
- Strip

## GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.73 g/cm <sup>3</sup>
Melting Point	655 °C
Thermal Expansion	23.1 x10 <sup>-6</sup> /K
Modulus of Elasticity	69.5 GPa
Thermal Conductivity	160 W/m.K
Electrical Resistivity	42 % IACS

## MECHANICAL PROPERTIES

BS 4L60(1985)  
Sheet  
0.4mm to 0.8mm

Property	Value
Elongation A50 mm	5 Min %
Tensile Strength	120 Min - 145 Max N/mm <sup>2</sup>

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

Datasheet Updated	09 January 2014
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