Aluminium Alloy
L59 H16 or H26 Sheet

Aero Metals Alliance

SPECIFICATIONS

Commercial	3103

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/cm³
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/mm2

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.

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REVISION HISTORY

Datasheet Updated	09 January 2014

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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.

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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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