Aluminium Alloy
4L60 H12/H22 Sheet

GOULD ALLOYS
THE LEADING EDGE IN METALS

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

Property	Value
Elongation A50 mm	5 Min %
Tensile Strength	120 Min - 145 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.

[1 OF 2] CONTINUED

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REVISION HISTORY

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