Aluminium Alloy
L109 T4 Sheet

GOULD ALLOYS
THE LEADING EDGE IN METALS

SPECIFICATIONS

Commercial	2024 CLAD 1050A

Applications:
High strength fabricated or machined items in aircraft industries, general engineering, machinery, military equipment, truck wheels. Screw machine products. Structural applications. Rivets.

Characteristic Properties:
Heat treatable alloy. Very good machining characteristics. High strength alloy with a strength slightly higher than 2014(A) and 2017A and 2030. High fatigue strength. Suitable for welding only by resistance welding. Corrosion resistance only with cladding or other protection.

CHEMICAL COMPOSITION

BS L109(1971)
Alloy L109

Element	% Present
Copper (Cu)	3.8 - 4.9
Magnesium (Mg)	1.2 - 1.8
Manganese (Mn)	0.3 - 0.9
Iron (Fe)	0.5 max
Silicon (Si)	0.5 max
Zinc (Zn)	0.2 max
Titanium + Zirconium (Ti+Zr)	0.2 max
Chromium (Cr)	0.1 max
Nickel (Ni)	0.05 max
Lead (Pb)	0.05 max
Tin (Sn)	0.05 max
Aluminium (Al)	Balance

Heat Treatment:
Material shall be supplied solution treated, straightened and aged at room temperature.
Material shall be heat treated as follows:
1. Solution treat by heating at a temperature of 495 +/- 5Cand quenching in water at a temperature not exceeding 40C.
2. Age at room temperature for not less than 48 hours.

ALLOY DESIGNATIONS

Aluminium alloy L109 - 2024 clad 1050A is covered by standard BS L109 (1971)

TEMPER TYPES

The most common temper for L109 - 2024 clad 1050A aluminium is:

- T4 - Solution heat treated and naturally aged to a substantially stable condition

SUPPLIED FORMS

L109 - 2024 CLADd 1050A aluminium is as sheet an strip

- Sheet
- Strip

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.79 g/cm³
Melting Point	640 °C
Thermal Expansion	23.1 x10^{-6} /K
Modulus of Elasticity	73 GPa
Thermal Conductivity	121-193 W/m.K

MECHANICAL PROPERTIES

BS L109(1971)
Sheet
0.4mm to 0.8mm

Property	Value
Elongation A50 mm	12 Min %
Tensile Strength	405 Min N/mm2
Elongation A	%
0.2% Proof Stress	270 Min N/mm2

This specification covers aluminium-coated sheet and strip of aluminium-copper-magnesium-manganese alloy.
The cladding material shall comply with the international designation 1050A.
Mechanical property values relate to material with a nominal thickness of 0.4 up to and including 0.8mm. This specification contains other values for different material thicknesses.

[1 OF 2] CONTINUED

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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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