

Aluminium alloy L81 – 5251 is a medium strength alloy possessing good ductility and therefore good formability. Alloy 5251 is known for work hardening rapidly and is readily weldable. It also possesses high corrosion resistance particularly in marine environments.

Chemical Composition

Element	% Present
Si	0.4 Max
Fe	0.5 Max
Cu	0.15 Max
Mn	0.1-0.5
Cr	0.15 Max
Mg	1.7-2.4
Zn	0.15 Max
Ti	0.15 Max
Al	Balance

Alloy Designations

Aluminium alloy L81 has similarities to the following standard designations and specifications: 5251

Physical Properties

Property	Value
Density	2.69 g/cm ³
Melting Point	650 °C
Modulus of Elasticity	70 GPa
Electrical Conductivity	37.5% IACS
Thermal Conductivity	149 W/m.K
Thermal Expansion	23.6 x10 ⁻⁶ /K

Mechanical Properties

Temper	H16/H26
Proof Stress 0.2% (MPa)	175 Min
Tensile Strength (MPa)	225-275
Shear Strength (MPa)	145
Elongation A5 (%)	3 Min
Hardness Vickers (HV)	75

Temper

The most common tempers for L81 – 5251 aluminium are:

- ◆ H16 – Work hardened by rolling to three-quarter hard
- ◆ H26 – Work hardened by rolling then annealed to three-quarter hard

Supplied Forms

L81-5251 aluminium is supplied in Sheet and Strip. ■

This Data is indicative only and must not be seen as a substitute for the full specification from which it is drawn.

In particular, the mechanical property requirements vary widely with temper, product and product dimensions.

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