

### SPECIFICATIONS

Commercial	5251 - Obsolete
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#### Applications:

Nameplates, traffic (road) signs, architectural paneling. Welded tubes, chemical industry, irrigation. Offshore applications, welded structures. Pressure vessels, boilermaking.

#### Characteristic Properties:

Very good corrosion resistance to seawater and marine and industrial atmosphere. Very good weldability. Medium to high strength alloy for sheet products slightly lower than 5086. Medium high fatigue strength. Good cold formability.

### CHEMICAL COMPOSITION

BS 3L81(1985)  
Alloy L81

Element	% Present
Magnesium (Mg)	1.7 - 2.4
Iron (Fe)	0.5 max
Manganese (Mn)	0.1 - 0.5
Silicon (Si)	0.4 max
Others (Total)	0.15 max
Titanium (Ti)	0.15 max
Chromium (Cr)	0.15 max
Copper (Cu)	0.15 max
Zinc (Zn)	0.15 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 BS L81 - 5251 is covered by standard BS EN 3L81 (1985)

### TEMPER TYPES

The most common tempers for L81 - 5251 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

L81 - 5251 is supplied in the following forms:

- Sheet
- Strip

### GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.69 g/cm <sup>3</sup>
Melting Point	650 °C
Thermal Expansion	23.6 x10 <sup>-6</sup> /K
Thermal Conductivity	149 W/m.K
Modulus of Elasticity	70.0 GPa
Electrical Resistivity	37.5 % IACS

### MECHANICAL PROPERTIES

BS 3L81(1985)  
Sheet  
0.4mm to 0.8mm

Property	Value
Elongation A50 mm	3 Min %
Tensile Strength	225 Min - 275 Max N/mm <sup>2</sup>
0.2% Proof Stress	175 Min 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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