

5251 Aluminium Sheet

Smiths Advanced Metals

Rev: SAM/datasheets/aluminium/5251-sheet/feb-2022

Page: 1 of 1

High Corrosion Resistance

Medium strength aluminium sheet

With good ductility and formability, 5251 aluminium sheet finds use in various commercial applications.

The sheet product is a non-heat-treatable aluminium alloy that may be hardened by cold working. Similar to 5052, the corrosion resistance of 5251 in marine environments is excellent, and the material finds extensive use in marine structures and vessels. The alloy displays medium strength with high fatigue strength and good weldability.

The material also combines low density with excellent thermal conductivity, a feature that is common in aluminium alloys.

We stock 5251 aluminium sheets in a broad range of incremental thicknesses and tempers including 0, H22, H26.



Grades / Specifications

- BS L100
- BS L80
- BS L81
- BS EN 573, BS EN 485

Key Applications

- Marine and offshore structures
- Aircraft structural parts
- Military components
- General engineering applications

Chemical Composition (weight %)

| | Si | Fe | Cu | Mn | Mg | Cr | Zn | Ti | Others (ea) | Others (total) | Al |
|------|------|------|------|------|------|------|------|------|-------------|----------------|-----|
| min. | | | | 0.10 | 1.70 | | | | | | Rem |
| max. | 0.40 | 0.50 | 0.15 | 0.50 | 2.40 | 0.15 | 0.15 | 0.15 | 0.05 | 0.15 | |

Corrosion resistance in aluminium

The corrosion resistance of aluminium alloys works in a particular way which means that the alloy is not resistant to all media.

Aluminium is a reactive metal, and when under attack, the alloy develops a thin surface film of aluminium oxide (or hydrated oxide in non-stagnant water), which repairs itself as long as the pH range of the media is relatively stable. However, the protective film will dissolve in highly acidic or alkaline environments.

Further protection of the alloy may be achieved in many cases by anodising to protect the protection layer. Aluminium may also corrode more quickly if electrical contact is made with other metals.

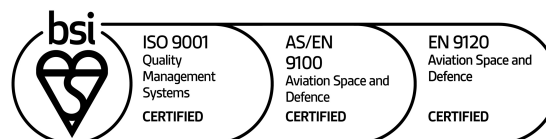


www.smithsadvanced.com

info@smithsadvanced.com



Stratton Business Park,
London Road, Biggleswade,
Bedfordshire SG18 8QB
Tel: +44 (0) 1767 604710



ISO 9001
Quality
Management
Systems
CERTIFIED

AS/EN
9100
Aviation Space and
Defence
CERTIFIED

EN 9120
Aviation Space and
Defence
CERTIFIED



1930