

Aluminium Alloy

5052 - H32 Sheet and Treadplate

SPECIFICATIONS

Commercial	5052
EN	5052

Aluminium alloy 5052 in H32 temper has very good corrosion resistance to seawater and marine and industrial atmosphere. It also has very good weldability and good cold formability. It is a medium to high strength alloy with a strength slightly higher than 5251 and a medium to high fatigue strength.

Properties

Alloy 5052-H32 has a range of useful properties:

Decorative Finish
 Hard Wearing
 Non-Slip
 Corrosion Resistant
 Low Maintenance
 Anti-Static
 Light-weight

Applications

Amongst the applications for Alloy 5052 are:

Treadplate
 Boilermaking
 Containers
 Nameplates
 Road Signs
 Architectural Paneling
 Welded Tubes
 Chemical Industry
 Irrigation
 Desalination units
 Pressure Vessels
 Rivets

CHEMICAL COMPOSITION

BS EN 573-3:2009 Alloy 5052	
Element	% Present
Magnesium (Mg)	2.20 - 2.80
Chromium (Cr)	0.15 - 0.35
Iron (Fe)	0.0 - 0.40
Silicon (Si)	0.0 - 0.25
Others (Total)	0.0 - 0.15
Copper (Cu)	0.0 - 0.10
Zinc (Zn)	0.0 - 0.10
Manganese (Mn)	0.0 - 0.10
Other (Each)	0.0 - 0.05
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Alloy 5052 corresponds to the following standard designations and specifications **but may not be a direct equivalent:**

Al Mg 2.5
 Al 2.5Mg Cr

TEMPER TYPES

The most common tempers for 5052 aluminium are:

- H32 - Work hardened by rolling then stabilised by low-temperature heat treatment to quarter hard

SUPPLIED FORMS

The main form supplied of this alloy is TripleGrip Treadplate

- Sheet
- Extrusions
- Plate
- Treadplate/Patterened Sheet

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GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.68 g/cm ³
Melting Point	605 °C
Thermal Expansion	23.7 x10 ⁻⁶ /K
Modulus of Elasticity	70 GPa
Thermal Conductivity	138 W/m.K
Electrical Resistivity	0.0495 x10 ⁻⁶ Ω .m

MECHANICAL PROPERTIES

Property	Value
Proof Stress	130 Min MPa
Tensile Strength	210 - 260 MPa
Hardness Brinell	61 HB

BS EN 485-2:2008
Sheet and Treadplate
0.2mm to 6.00mm

The properties above are for material in the H32 condition

WELDABILITY

Weldability – Gas: Good
Weldability – Arc: Very Good
Weldability – Resistance: Very Good
Brazability: Acceptable
Solderability: Not recommended

FABRICATION

Workability – Cold: Good
Machinability: Acceptable

DISCLAIMER

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