

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/Patterned Sheet

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

<i>BS EN 485-2:2008 Sheet and Treadplate 0.2mm to 6.00mm</i>	
Property	Value
Proof Stress	130 Min MPa
Tensile Strength	210 - 260 MPa
Hardness Brinell	61 HB

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