

## 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 <sup>3</sup>        |
| Melting Point          | 605 °C                        |
| Thermal Expansion      | 23.7 x10 <sup>-6</sup> /K     |
| Modulus of Elasticity  | 70 GPa                        |
| Thermal Conductivity   | 138 W/m.K                     |
| Electrical Resistivity | 0.0495 x10 <sup>-6</sup> Ω .m |

## MECHANICAL PROPERTIES

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

| 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

## CONTACT

**Address:** Please make contact directly with your local service centre, which can be found via the Locations page of our web site  
**Web:** [www.aalco.co.uk](http://www.aalco.co.uk)

## REVISION HISTORY

**Datasheet Updated** 13 November 2018

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