

Aluminium Alloy 5052-H32

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

Element	% Present
Si	</= 0.25
Fe	</= 0.40
Cu	</= 0.10
Mn	</= 0.10
Mg	2.2 - 2.8
Zn	</= 0.10
Other	</= 0.15
Cr	0.15 -0.35
Al	Balance

Temper

The most common temper for 5052 is:

- ◆ H32 – Work hardened and stabilised with a quarter hard temper.

Mechanical Properties (Typical)

Temper	H32
Proof Stress 0.2% (MPa)	175
Tensile Strength (MPa)	210
Shear Strength (MPa)	135
Elongation A5 (%)	14
Hardness Vickers (HV)	70

Physical Properties

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

Fabrication

Process	Rating
Workability – Cold	Good
Machinability	Acceptable
Weldability – Gas	Good
Weldability – Arc	Very Good
Weldability – Resistance	Very Good
Brazability	Acceptable
Solderability	Not recommended

Alloy Designations

Alloy 5052 also corresponds to the following standard designations and specifications:

Al 2.5Mg Cr

Al Mg2,5

Supplied Forms

Alloy 5052 is supplied in Aalco TripleGrip pattern treadplate and may also be supplied in sheet, plate, tube and extruded shapes.

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