

Aluminium Alloy

5754 - H111 Treadplate

Description

Aluminum alloy 5754 demonstrates outstanding corrosion resistance, particularly in environments exposed to seawater and industrial pollutants. It possesses superior strength when compared to 5251, and this elevated strength level makes 5754 particularly well-suited for flooring applications. It is supplied as plate, sheet and treadplate/patterned sheet

Applications

Alloy 5754 is commonly employed in various applications, including:

- Treadplate
- Shipbuilding
- Vehicle bodies
- Rivets
- Equipment for the fishing industry
- Food processing
- Welded chemical and nuclear structures

Please be aware that the provided mechanical properties are specific to the H111 temper.

Weldability

Weldability, Gas:	Excellent
Weldability, Arc:	Excellent
Weldability, Resistance:	Excellent
Brazability:	Excellent

Chemical Composition

BS EN 573-3:2009. Alloy 5754

Element	% Present
Magnesium (Mg)	2.60 - 3.60
Manganese + Chromium (Mn+Cr)	0.10 - 0.60
Manganese (Mn)	0.0 - 0.50
Silicon (Si)	0.0 - 0.40
Iron (Fe)	0.0 - 0.40
Chromium (Cr)	0.0 - 0.30
Zinc (Zn)	0.0 - 0.20
Titanium (Ti)	0.0 - 0.15
Others (Total)	0.0 - 0.15
Copper (Cu)	0.0 - 0.10
Other (Each)	0.0 - 0.05
Aluminium (Al)	Balance

Designations

Aluminum alloy 5754 can be cross-referenced with the following standard designations and specifications, although it may not be an exact equivalent: A95754, Al Mg3, Al 3.1Mg Mn Cr, AW-5754

Temper Types

The most common tempers for 5754 aluminum are as follows, with H114 and H111 being the most prevalent for treadplate applications:

- O: Soft
- H111: Some work hardening introduced by shaping processes but less than what's required for H11 temper.
- H22: Work-hardened by rolling and subsequently annealed to a quarter-hard state.
- H24: Work-hardened by rolling and subsequently annealed to a half-hard state.
- H26: Work-hardened by rolling and subsequently annealed to a three-quarter hard state.
- H114: Specifically mentioned as a common treadplate temper.

Fabrication

Workability, Cold:	Very Good
Machinability:	Average

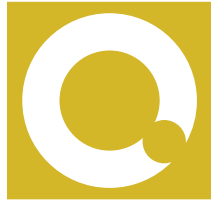
Physical Properties

Property	Value
Density	2.66 g/cm ³
Melting Point	600 °C
Thermal Expansion	24 x10 ⁻⁶ /K
Modulus of Elasticity	68 GPa
Thermal Conductivity	147 W/m.K
Electrical Resistivity	0.049 x10 ⁻⁶ Ω .m

Mechanical Properties

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

Property	Value
Proof Stress	60 Min MPa
Tensile Strength	160 - 200 MPa
Elongation A50 mm	12 Min %
Hardness Brinell	44 HB



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Disclaimer

This data serves as an indicative reference and should not be used as a substitute for the full specification. Mechanical properties can vary significantly depending on the temper, product, and its dimensions. All the information provided is based on our current knowledge and is given in good faith. The company bears no responsibility for any actions taken by third parties based on this information.

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