Aluminium Alloy 5754

Aluminium 5754 has excellent corrosion resistance especially to seawater and industrially polluted atmospheres.
It has higher strength than 5251. This high strength makes 5754 highly suited to flooring applications.

Applications

5754 is typically used in:

- Treadplate
- Shipbuilding
- Vehicle bodies
- Rivets
- Fishing industry equipment
- Food processing
- Welded chemical and nuclear structures

Chemical Composition

Element	% Present
Si	0.4%
Fe	0.4%
Mn	0.5%
Mg	2.6-3.2%
Al	Balance

Temper

Alloy 5754 is most commonly supplied in plate form with a H111 temper. H111 refers to some work hardening being imparted by shaping processes but less than that required for a H11 temper.

Mechanical Properties

Temper	H22	H24	H26	O/H111
Proof Stress 0.2% (MPa)	185	215	245	100
Tensile Strength (MPa)	245	270	290	215
Shear Strength (MPa)	150	160	170	140
Elongation A5 (%)	15	14	10	25
Hardness Vickers (HV)	75	80	85	55

Welding

Alloy 5754 has excellent weldability. The recommended filler alloy is 5356.

Physical Properties

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

Fabrication

Process	Rating
Workability – Cold	Very good
Machinability	Average
Weldability – Gas	Excellent
Weldability – Arc	Excellent
Weldability – Resistance	Excellent
Brazability	Poor
Solderability	

Alloy Designations

Aluminium alloy 5754 also corresponds to the following standard designations and specifications:

A95754	Al Mg3
Al 3.1Mg Mn Cr	AW-5754

Supplied Forms

5754 is typically supplied by Aalco as either 5-bar treadplate or rice grain treadplate.

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