

Aluminium Alloy

1050A H14

Description

Alloy 1050, an aluminum alloy, is widely utilized in general sheet metal applications when a modest level of strength is necessary. It is renowned for its exceptional resistance to corrosion, remarkable ductility, and a finish that reflects light superbly. Applications typically include chemical process plant equipment, food industry containers, pyrotechnic powder, architectural flashings, lamp reflectors and cable sheathing.

Alloy Designations

Aluminum alloy 1050A can be cross-referenced with the following standard designations and specifications, although they may not be exact equivalents:

- AA1050
- S1B
- A91050

Fabrication

Workability, Cold:	Excellent
Machinability:	Poor
Weldability, Gas:	Excellent
Weldability, Arc:	Excellent
Weldability, Resistance:	Excellent
Brazability:	Excellent
Solderability:	Excellent

Chemical Composition

BS EN 573-3:2009 - Alloy 1050A

Element	% Present
Iron (Fe)	0.0 - 0.40
Silicon (Si)	0.0 - 0.25
Zinc (Zn)	0.0 - 0.07
Magnesium (Mg)	0.0 - 0.05
Titanium (Ti)	0.0 - 0.05
Manganese (Mn)	0.0 - 0.05
Copper (Cu)	0.0 - 0.05
Other (Each)	0.0 - 0.03
Aluminium (Al)	Balance

Weldability

When joining 1050 aluminum to either another 1050 alloy or one within the same subgroup, it's advisable to use 1100 filler wire. When welding with alloys like 5083 and 5086 or those from the 7XXX series, it's recommended to utilize 5356 filler wire. For all other alloy combinations, it's best to employ 4043 filler wire.

Temper Types

The most common tempers for 1050 aluminium are:
H14 - Work hardened by rolling to half hard, not annealed after rolling

Supplied Forms

- Plain sheet
- Plain sheet with a PVC coating on one side
- Stucco sheet
- Stucco sheet with a PVC coating on one side
- Shate
- Sheet

Physical Properties

Property	Value
Density	2.71 g/cm ³
Melting Point	650 °C
Thermal Expansion	24 x10-6 /K
Modulus of Elasticity	71 GPa
Thermal Conductivity	222 W/m.K
Electrical Resistivity	0.0282 x10-6 Ω .m

Mechanical Properties

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

Property	Value
Proof Stress	85 Min MPa
Tensile Strength	105 - 145 MPa
Hardness Brinell	34 HB
Elongation A	12 Min %



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Contact

Tel: 01279 434422 • email: enquiries@orionalloys.com • www.orionalloys.com

Orion Alloys Ltd, Unit A1, Riverway Industrial Estate, Riverway, Harlow, Essex, CM20 2DP