

Aluminium Alloy 1050

Aluminium alloy 1050 is a popular grade of aluminium for general sheet metal work where moderate strength is required.

Alloy 1050 is known for its excellent corrosion resistance, high ductility and highly reflective finish.

Applications

Alloy 1050 is typically used for:

- ◆ Chemical process plant equipment
- ◆ Food industry containers
- ◆ Pyrotechnic powder
- ◆ Architectural flashings
- ◆ Lamp reflectors
- ◆ Cable sheathing

Chemical Composition

Element	% Present
Cu	0.05%
Mg	0.05%
Si	0.25%
Fe	0.4%
Mn	0.05%
Zn	0.07%
Ti	0.05%
Al	Balance

Alloy Designations

Aluminium alloy 1050 also corresponds to the following designations:

AA1050A S1B
A91050

Physical Properties

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

Temper

Alloy 1050 is most commonly supplied in sheet form with a H14 temper. H14 refers to work hardening of the alloy to a half hard temper

Mechanical Properties

Temper	H12	H14	H16	H18	O
Proof Stress 0.2% (MPa)	85	105	120	140	35
Tensile Strength (MPa)	100	115	130	150	80
Shear Strength (MPa)	60	70	80	85	50
Elongation A5 (%)	12	10	7	6	42
Hardness Vickers (HV)	30	36	-	44	20

Welding

When welding 1050 to itself or an alloy from the same subgroup the recommended filler wire is 1100. For welding to alloys 5083 and 5086 or alloys from the 7XXX series, the recommend wire is 5356. For other alloys use 4043 filler wire.

Fabrication

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

Supplied Forms

Alloy 1050-H14 is typically supplied as:

- ◆ Plain sheet
- ◆ Stucco sheet
- ◆ Shate

All Data is indicative only and must not be seen as a substitute for the full specification from which it is drawn. In particular, the mechanical property requirements vary widely with temper, product form and product dimensions. For more complete details please refer to the relevant specification – The BS EN Specifications for aluminium are listed on a separate Datasheet.



Amari is a registered trademark of Amari Metals Ltd

© Copyright: Amari Metals Ltd, 25 High Street, Cobham, Surrey, KT11 3DH

All Data is indicative only and must not be seen as a substitute for the full specification from which it is drawn. In particular, the mechanical property requirements vary widely with temper, product form and product dimensions. For more complete details please refer to the relevant specification – The BS EN Specifications for aluminium are listed on a separate Datasheet.

This information is based on our present knowledge and is given in good faith. However, no liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon. As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose. Any advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. Any contract between the Company and a customer will be subject to the Company's Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.



Amari is a registered trademark of Amari Metals Ltd

© Copyright: Amari Metals Ltd, 25 High Street, Cobham, Surrey, KT11 3DH

All Data is indicative only and must not be seen as a substitute for the full specification from which it is drawn. In particular, the mechanical property requirements vary widely with temper, product form and product dimensions. For more complete details please refer to the relevant specification – The BS EN Specifications for aluminium are listed on a separate Datasheet.