

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

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

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

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.

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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.

Fabrication

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

Supplied Forms

Aalco typically supplies alloy 1050-H14 as:

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

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