



TECHNICAL DATA SHEET

1100 Aluminum

Commercially Pure Aluminum Alloy

VTECH
MATERIALS
LIBRARY

Document Control

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Issue Date	2026-04-08	Owner	Engineering
Specification	ASTM B209 Alloy 1100 / JIS A1100	Product Form / UNS	Sheet, plate, foil, and tubing stock / AA1100

Engineering use note: Starter-library values are intended for engineering screening and template standardization. Verify against the latest governing specification, drawing, PO, and MTR before production release.

1. General Description

1100 is a commercially pure aluminum alloy included in the VTECH library for quick material screening and template standardization.

2. Chemical Composition (wt%)

Property	Value
Aluminum (Al)	>= 99.0
Copper (Cu)	0.05-0.20
Silicon + Iron (Si+Fe)	<= 0.95
Manganese (Mn)	<= 0.05
Zinc (Zn)	<= 0.10
Titanium (Ti)	<= 0.05
Others	Low residuals
Temper note	Properties vary by O/H tempers

3. Mechanical Properties

Property	Value
Condition	O/H14 common sheet tempers
Ultimate tensile strength	~90-150 MPa
Yield strength (0.2% offset)	~35-125 MPa
Elongation	Good, temper dependent
Engineering note	Use temper-specific values for released design

4. Physical Properties

Property	Value
Density	2.71 g/cm3
Elastic modulus	69 GPa
Thermal conductivity	~220 W/m-K
Electrical conductivity	High

5. Heat Treatment / Processing

Non-heat-treatable alloy. Strength is obtained by cold work temper.

6. Corrosion / Environmental Performance

Excellent corrosion resistance and good workability. Frequently used where high conductivity and formability are more important than strength.

7. Key Characteristics

- Excellent formability and weldability
- High thermal and electrical conductivity
- Low structural strength

8. Typical Applications

- Heat exchangers
- Chemical equipment
- Spinning and deep drawing parts
- Signage

9. Standards / Cross-References

ASTM B209 Alloy 1100

JIS A1100

AA1100