TECHNICAL DATA SHEET

Aluminum 5052-H32

Non-Heat-Treatable Magnesium Alloy Aluminum

VTECH MATERIALS LIBRARY

Document Control

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Specification	ASTM B209 / ASTM B928 by product form	**Product Form / UNS**	Sheet and plate / UNS A95052

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

5052-H32 is a non-heat-treatable aluminum-magnesium alloy known for very good corrosion resistance, good formability, and good weldability. It is a common choice for sheet metal, tanks, and marine-adjacent fabricated parts.

2. Chemical Composition (wt%)

Property	Value
Magnesium (Mg)	2.2-2.8
Chromium (Cr)	0.15-0.35
Silicon (Si)	<=0.25
Iron (Fe)	<=0.40
Copper (Cu)	<=0.10
Manganese (Mn)	<=0.10
Zinc (Zn)	<=0.10
Aluminum (Al)	Balance

3. Mechanical Properties

Property	Value
Condition	H32
Ultimate tensile strength	Approx. 228 MPa

Property	Value
0.2% yield strength	Approx. 193 MPa
Elongation	Approx. 12 %
Hardness	Approx. 60 HB typical

4. Physical Properties

Property	Value
Density	2.68 g/cm3
Elastic modulus	70 GPa
Thermal conductivity	138 W/m.K
Melting range	607-649 C

5. Heat Treatment / Processing

5052 is not heat treatable for strength. Strength is developed by strain hardening tempers such as H32.

6. Corrosion / Environmental Performance

Very good resistance in marine and general atmospheric service. Often selected when corrosion resistance and fabrication ease are more important than maximum strength.

7. Key Characteristics

- Excellent formability
- Very good corrosion resistance
- Good weldability
- Good finish quality

8. Typical Applications

- Sheet metal fabrications
- Tanks and enclosures
- Marine panels
- Chemical handling hardware

9. Standards & Equivalents

ASTM B209
UNS A95052
AA 5052

10. Notes & Limitations

Temper, thickness, and weld configuration affect final properties. Confirm code or customer requirements for marine or pressure-containing service.