

Aluminium Alloy 5083 Sheet Plate

Aluminum 5083 Sheets & Plates

GNEE Aluminum's 5083 aluminum sheets and plates are made from a chromium-manganese-aluminum alloy. This alloy is strengthened through cold working but cannot be heat-treated, thanks to its naturally high strength. Both 5083 aluminum sheets and plates are highly formable, allowing them to achieve excellent mechanical properties.

GNEE Aluminum is a leading manufacturer and global supplier of 5083 aluminum plates. The company also provides detailed catalogs for available tempers and stock sizes. The **5083-H321** aluminum plate offers excellent corrosion resistance, making it ideal for a wide range of applications, while the **5083-H116** aluminum plate is resistant to aqueous solutions with a pH range of 4–9. This alloy forms a natural protective oxide layer, preventing reactions with oxygen and providing resistance in reducing environments.

However, under harsh conditions, 5083 aluminum plates may be susceptible to exfoliation or galvanic corrosion, as aluminum is a reactive element that can erode easily. To prevent this, a galvanic protective layer is applied.

The alloy is easy to form and fabricate—operations such as blanking and piercing are simple, typically requiring a clearance of 7% of the material thickness. 5083 aluminum can be welded efficiently using MIG and TIG processes with compatible filler alloys. During manufacturing, care is taken to minimize porosity and contamination during welding. GNEE Aluminum provides technical data sheets for clients who require detailed product information and testing documentation. Each product is carefully packaged after inspection to ensure quality upon delivery.

Equivalent Specifications of Aluminum 5083 Sheet & Plate

European Standard	OLD	WNR	UNS	ISO	USA (AA)	GERMANY (DIN)
AW-ALMg4.5Mn0.7	AG4,5MC	3.3547	A95083	AlMg4.5Mn0.7	5083	AlMg4.5Mn

Aluminum Alloy 5083 Sheet & Plate Specifications

Standards: ASTM B209 / ASME SB209

Temper: O, F, H12, H14, H16, H18, H19, H22, H24, H26, H32, H34, H36, H38, H111, H112, H321, T3, T4, T5, T6, T7, T351, T451, T651, T851

Thickness: 0.2–300 mm

Width: 500–2500 mm

Length: 500–10000 mm

Surface Finish: Bright, polished, hairline, brushed, sand-blasted, checkered, embossed, etched, etc.

Finish: Mill finish or custom surface finish

Coating Options: PVC-coated, color-coated, polyester, fluorocarbon, polyurethane, or epoxy coatings

Type: Hot-Rolled (HR) / Cold-Rolled (CR) sheets, plates, strips, coils, or chequered plates

Applicable Standards for Aluminum Alloy 5083 Sheet & Plate

ASTM B209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate

ASTM B632 / B632M – Standard Specification for Aluminum-Alloy Rolled Tread Plate

ASTM B947 – Standard Practice for Hot Rolling Mill Solution Heat Treatment for Aluminum Alloy Plate

ASTM B548 – Standard Test Method for Ultrasonic Inspection of Aluminum-Alloy Plate for Pressure Vessels

AMS 4056 – Aluminum Alloy, Sheet and Plate (4.4 Mg - 0.70 Mn - 0.15 Cr) (5083-O) Annealed

AMS QQ-A-250/6 – Aluminum Alloy 5083, Plate and Sheet

ASME SB209, ANSI H35.1/H35.1(M), EN AW-5083 (AlMg4,5Mn0,7)

Chemical Composition of Aluminum 5083 Sheet & Plate

Element	Al	Si	Fe	Cu	Mn	Cr	Mg	Ti	Zn	Other Each	Others Total
%	Balance	0.40 max	0.40 max	0.10 max	0.40–1.0	0.05–0.25	4.0–4.90	0.15 max	0.25 max	0.05 max	0.15 max

Mechanical Properties of Aluminum 5083 Sheet & Plate

Property	Proof Stress	Tensile Strength	Hardness (Brinell)	Elongation
Value	125 MPa (min)	275–350 MPa	75 HB	12% (min)

GNEE Aluminum ensures every 5083 aluminum sheet and plate meets strict international standards for performance, precision, and durability. With excellent formability, weldability, and corrosion resistance, 5083 aluminum is ideal for marine, cryogenic, and industrial applications.

For more information or to request a quote, please contact **GNEE Aluminum**-your trusted global supplier of high-quality aluminum materials.