

5083 Aluminum Plate Sheet

GNEE 5083 aluminum plate is a **high-strength, high-quality aluminum alloy**, renowned for its **exceptional corrosion resistance, superior weldability, and reliable performance in extreme conditions**. Thanks to its excellent **strength-to-weight ratio and durability**, it is widely applied across **marine, automotive, aerospace, and industrial sectors**.

GNEE 5083 marine aluminum plate strictly follows **international standards such as ASTM B209 and EN 485**, ensuring consistent chemical composition and reliable mechanical properties. It has been **certified by classification societies including CCS, BV, and LR**, making it ideal for demanding marine engineering applications.

Standard Specifications for GNEE 5083 Aluminum Plate

QQ-A250/6

ASTM B928

ASTM B209

GNEE 5083 aluminum plate is available in **various thicknesses, widths, and lengths**, meeting ASTM B209 standards.

Available Tempers and Their Applications

H116: Specially treated for 5xxx series alloys with magnesium $\geq 4.0\%$, offering **stable mechanical properties and excellent resistance to stress corrosion cracking**, especially in marine environments.

H321: Stabilized via thermal treatment, resistant to intergranular corrosion after welding, with properties similar to H116.

O (Annealed): Fully annealed, softest condition with maximum ductility, ideal for deep drawing and complex forming.

H111: Slightly strain-hardened after annealing, retaining good ductility with slightly higher strength than O temper.

H112: Hot-worked condition without strict mechanical property limits; provides reliable corrosion resistance.

H131: Designed for ballistic applications, with high strength, toughness, and crack resistance, commonly used in military armor.

For marine applications, H116 and H321 are preferred.

Properties by Temper

Temper	Strength	Corrosion Resistance	Weldability	Typical Use
O	Lowest	Excellent	Good	Fuel tanks, piping, aerospace forming
H111	Slightly higher than O	Good	Good	Pressure vessels, vehicle bodies
H112	Moderate	Good	Good	Marine equipment, LNG tankers
H116	High	Excellent	Excellent	Ship hulls, offshore platforms
H321	High	Excellent	Excellent	Pressure vessels, storage tanks
H131	Very High	Excellent	Excellent	Military armor

Surface Finishes of GNEE 5083 Aluminum Plate

Anodized: Protective oxide layer, increased corrosion and wear resistance; suitable for marine and architectural applications.

Color Coated: Decorative and protective, used in building facades, vehicles, and interiors.

Mirror Finish: High reflectivity, ideal for decorative panels, signage, and interiors.

Brushed: Linear texture for aesthetics and moderate scratch resistance; used in furniture and appliances.

Embossed: Raised patterns for anti-slip and decoration; suitable for flooring and wall panels.

Mill Finish: Natural rolled surface, good corrosion resistance, and mechanical properties.

Checkered: Raised diamond pattern for slip resistance; used in stairs, vehicle floors, and platforms.

PVDF Coated: Superior weather, UV, and chemical resistance; ideal for architectural cladding and roofing.

Painted: Protective/decorative coating; used in signage, facades, and vehicles.

Laminated: Film-laminated for moisture resistance and decoration; used in packaging and interiors.

Polished: Smooth, visually appealing finish; suitable for decorative panels and automotive trim.

Stucco Embossed: Textured for anti-slip and decorative purposes; applied in flooring, stairs, and marine platforms.

Surface Treatment Recommendations

Architectural/Decorative:

Curtain walls & roofs: anodized or powder-coated for weather resistance.

Interiors: brushed, polished, or color-coated for aesthetics.

Marine Applications:

Hulls & decks: multi-layer protective coatings to resist seawater corrosion.

Port facilities: hot-dip zinc/aluminum coatings with anti-fouling treatments.

Food & Medical Equipment:

Food processing: food-grade coatings or electrolytic polishing.

Medical devices: antibacterial or specialized coatings.

Electronic & Electrical Equipment:

Enclosures: conductive or anti-static coatings.

Electrical equipment: insulation coatings to enhance electrical performance.

GNEE 5083 aluminum plate combines **strength, corrosion resistance, and formability**, making it the ideal choice for **marine, industrial, and high-performance applications**.

5083 Aluminum Plate and Sheet Specifications

Category	Description
Alloy / Temper	5083 Aluminum, 5083 H111, 5083 H116, 5083 H321, 5083 H32, 5083 H34, 5083 H22, 5083 O, AA5083, EN AW 5083, AL 5083 H112, AL 5083 O
Product Type	5083 Aluminum Plate, 5083 Aluminum Sheet, 5083 Tooling Plate, 5083 Cast Aluminum Plate, 5083 Aluminum Tube, 5083 Aluminum Armor Plate
Applications	Welding components, Marine and Shipbuilding, Armor Plate, Tooling and Molds, Structural Components (tubes, frames, panels)
Standards/Certification	ASTM 5083, ASTM B928, EN 5083, EN AW 5083, QQ-A250/6
Thickness (inches)	0.01", 0.118", 0.236", 0.250", 0.5", 1" (customizable 1 mm – 200 mm)
Width (inches)	36", 48", 60", 72"
Length (inches)	48", 96", 118", 120", 144"
Finish	Mill Finish, Anodized, Color Coated, PVDF Coated, Mirror, Brushed, Embossed, Checkered, Stucco Embossed