: nydia@aluminumhm.com 0086 18137889531

Aluminum Plate For Shipbuilding - Haomei Aluminium

The corrosive nature of water and saltwater dictates the use of special materials for shipbuilding, off-shore drilling platforms, and more. Due to its many beneficial properties, marine grade aluminum is eminently suitable for building seafaring vessels and structures, as well as the machinery and components used within them.

As ships travel at sea, the quality of aluminum plates used in ships must be guaranteed. There are also several types and uses of marine aluminum plates, and different marine application scenarios are different. What are the types of marine aluminum alloys? The commonly used alloys for marine grade aluminum plate for shipbuilding are mainly 5000 series and 6000 alloys, 5083, 5086, 6061 aluminum plates and other alloys. Most of the alloys are H111/H112/H321, and the common thickness is 1/2/3/4/5 mm.

Haomei Aluminum supplies several grades of marine grade **aluminum for shipbuilding** in a variety of stock forms, including plate, sheet, coil, pipe, tube, bars, and extrusions We can also provide them with varying degrees of temper. The grades we can provide include:

5083. 5083 marine-grade aluminum is ideal for applications that need superlative corrosion resistance in hostile environments. 5083 is the strongest non-heat treatable aluminum alloy and maintains its strength even after welding.
5086. This alloy is highly conductive with superior corrosion resistance. 5086 can be strengthened through strain hardening and cold working until it is even stronger than in 5083. Though compatible with multiple welding methods, electric arc welding is preferred for this alloy.
5454. The beneficial properties of 5454 include high strength, superior corrosion resistance, and good formability and weldability.
5456. Widely used for structural applications, 5456 is well-suited to the extrusion process. It is also amenable to forming operations like rolling and forging. 5456 can be made stronger through cold working, but the process reduces its ductility.
5754. Its superior resistance to corrosion makes 5754 very suitable for the marine industry and other industrial applications possessing corrosive operating environments. It is also suitable for flooring applications due to its high strength.

Aluminum Grade Temper	General	Yield strength (psi)	Ultimate Tensile Strength (psi)	Workability	Weldability
5052-H32	Marine grade. Most suited for forming operations, very good corrosion resistance. Suitable for fresh water and	28,000	33,000 12% elong.	Fair	Good

	trailered boats.				
5083-H321 (Interchangeable With: H111 H116)	Marine grade. The highest strength non-heat-treatable aluminum alloy in commercial use. It retains excellent tensile strength in the weld zone. Excellent corrosion resistance. Suitable for salt water or fresh.	33,000	46,000 16% elong.	Good	Excellent
5086-H32	Marine grade. Medium to high strength non-heat-treatable alloy. More formable than 5083. Excellent corrosion resistance. Most often used to build boat hulls (in addition to 5052 or 6061) due to stress corrosion cracking resistance. Best alloy for salt water.	30,000	42,000 12% elong.	Excellent	Good
6061-T6	Marine grade, often used as stiffeners to build boat hulls and other components. The most often used aluminum alloy for its strength, heat treatability, workability and weldability.	40,000	45,000 17% elong.	Good	Good
6063-T52	Softer and lower strength than 6061, good for forming, high surface finish, excellent for anodizing. Good for railings, gunnels etc. where forming is required.	21,000	27,000	Good	Good
6262-T6511	Used when significant machining is required, it contains lead and bismuth to partially lubricate the cutting tool. Good strength and corrosion resistance. High surface finish possible.	27,600	31,900	Excellent	Good

What are the Benefits of Using Aluminum in Marine Applications?

Marine grade aluminum for shipbuilding is specifically developed to make it ideal for use in marine environments. As such, it possesses a number of properties required in these applications. Some of these properties include:

Superior corrosion resistance

Lightweight with a high strength-to-weight ratio

Compatibility with a variety of fabrication processes

Wide availability in sheets, extrusions, and plates

Large specification

High precision

Good fatigue resistance

Application of Aluminum Plate for Shipbuilding

: nydia@aluminumhm.com 0086 18137889531

1. Marine plate
2. Inner and outer siding
3. Ship Structural Part
4. Side of ship
5. External board of ship bottom
6. Operation room funnel
7. Ship deck
8. ide wall or top of the container