



Marine Grade Aluminum Plate - Haomei Aluminium

Marine grade aluminum plate are widely used in ships and marine facilities, but the most used are: 5052 ship plate, 5454 aluminum plate, 5083 aluminum plate, 5086 aluminum plate, 6061 aluminum plate, 6063 aluminum plate, etc.

The main aluminum varieties are: thick plates, thin plates, strips, foils, profiles, integral extrusions, wall plates, castings, die castings, die forgings, etc. The main tempers of marine aluminum plate are: O, H14, H112, H34, H32, H111, H116, H117, H321, T1, T5, T6, T61, etc. With the enlargement of the hull and the advancement of aluminum extrusion technology, the application of large materials is becoming more and more extensive.

The 5000 series aluminum plate marine grade and 6000 series aluminum sheet for marine produced by Haomei Aluminum have successively passed the certification of China Classification Society (CCS) and Det Norske Veritas (DNV). It has been tested by the market and has outstanding quality. It is the best choice for aluminum for ships.

The specification of marine grade aluminum plate:

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 trailered boats.	28,000	33,000 12% elong.	Fair	Good
5083-H32 1 (Interchangeable)	Marine grade. The highest strength non-heat-treatable aluminum alloy in commercial use. It retains excellent tensile strength in the weld zone. Excellent	33,000	46,000 16% elong.	Good	Excellent



With: H111 & H116)	corrosion resistance. Suitable for salt water or fresh				
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-T65 11	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

Aluminium alloy application in ship building

Application	Alloy Grade	Products classification
Side of the ship, external board of ship bottom	5083,5086,5456,5052	Plate
Rib plate, seperating panel	5083,6061	Plate
Rib, engine pedestal	5083	Plate
Operation room funnel	5083,5052	Plate
Deck	5052 ,5083,5086,5456,5454 ,7039	Plate
Bulwark	5083	Plate

Side wall or top of the container	3033,3034,5052	Plate
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Benefits of Using Aluminum in Marine Applications

Marine grade aluminum plate 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

