



HENAN FLAIT ALUMINUM CO., LTD.

Flait Aluminum is committed to product R&D, production, sales and service.

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Marine Grade Aluminum Sheet Plate

[Marine grade aluminum plates](#) are mainly 5xxx and 6xxx series aluminum alloys, especially 5083 aluminum sheet plate, 5086 aluminum sheet plate, 5454 aluminum sheet plate, 5754 aluminum sheet plate, 5052 aluminum sheet plate and 6061 aluminum sheet plate. Common tempers are H111, H112, H321, H116, etc.

Marine grade aluminum plates have good corrosion resistance, weldability, plasticity, and certain tensile strength, yield strength, elongation, impact resistance and other properties, mainly used in ship decks, engine pedestals, ship sides, bottom outer plates and other components.

Our marine aluminum plates have passed CCS, DNV, BV, ABS classification certifications. The product's mechanical properties, welding performance and corrosion resistance are up to the ship standards.



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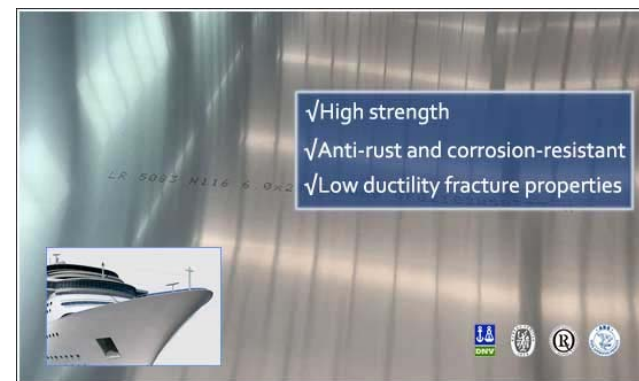
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5083 Marine aluminum sheet plate

5083 aluminum plate is the strongest non-heat treatable aluminum alloy that maintains its strength even after welding, has high strength and low ductility fracture properties and is highly corrosion resistant and good anti-rust function, can resist the corrosion of the hull by sea water, marine climate and harsh environments, reduce maintenance costs such as oiling, is great significance to the safety and life of ships. 5083 marine aluminum sheet plate is mainly used for decks, engine bases, ship sides, bottom outer plates, keels, and hull structural materials. The common tempers of 5083 aluminum sheet plate for shipbuilding are O, H111, H112, H116 and H321. 5083-H116 and 5083-H321 aluminum sheets plates have better corrosion resistance and are more suitable for the marine underwater environment than H111 and H112 tempers.



5086 Marine aluminum sheet plate



5086 aluminum plate is a typical anti-rust aluminum, which is widely used in occasions that require high corrosion resistance, good weldability, and medium strength, such as weldable parts for ships and automobiles. 5086 aluminum sheet has high electrical conductivity and excellent corrosion resistance. 5086 aluminum sheet can be strengthened by strain hardening and cold working until it is stronger than 5083. While 5086 aluminum sheet is compatible with several welding methods, arc welding is the alloy of choice. 5083 and 5086 aluminum plates are commonly used in ship hull structures and decks, ship sides, bottom outer plates, etc. 5086 aluminum plate for the ship can achieve energy saving, emission reduction and improve ship performance.



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5052 Marine aluminum sheet plate

5052 aluminum plate is a common marine grade aluminum plate. It has excellent weldability, good corrosion resistance, cold workability, medium strength, good formability and fatigue resistance; is suitable for manufacturing economical aluminum ships. 5052 Marine grade aluminum plate is the material of choice for high-speed ships such as fast ferries, yachts and offshore work boats. It is widely used in the manufacture of ship sheet metal parts, bottom plates, portholes, bottoms, and side plate of shipbuilding containers. 5052-H32 aluminum sheet plate and 5052-O aluminum sheet plate for small freshwater lake yachts hulls, because fresh water is not as corrosive as seawater.



5454 Marine aluminum sheet plate



5454 aluminum plate has very good corrosion resistance, rust resistance and weldability, especially to seawater and general environmental conditions. 5454 Aluminum plate is a non-heat-treatable alloy that can be strengthened by cold working. Its strength is 20% higher than medium-strength 5052 aluminum plate. 5454 Marine grade aluminum and 5083 marine grade aluminum are sister alloy, has lower stress corrosion levels when operating in the 150°F to 300°F range. It has excellent anti-rust properties, high fatigue strength and excellent weldability. 5454 Aluminum sheet plate is usually used in environments with high rust prevention requirements, such as marine facility pipelines, aluminum tank car bodies, automobile wheels, ships and other welded structures. The commonly used alloy is 5454-H32 aluminum plate.





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5754 Marine aluminum sheet plate

5754 aluminum sheet is a low magnesium marine aluminum alloy used in the shipbuilding industry, has superior corrosion resistance, good weldability and moderate strength, and is ideal for marine industry and other industrial applications with corrosive operating environments. 5754 Aluminum alloy is stronger than 5251. This high strength makes 5754 aluminum sheet plate ideally suited for marine applications requiring a combination of strength and resistance to seawater corrosion. 5754 Marine grade aluminum plate is commonly used in shipbuilding, marine applications, finishing industry equipment. The common tempers of 5754 aluminum sheet plate are H22, H32, H111.



Advantages

1. Excellent corrosion resistance
2. Excellent weldability
3. High yield strength
4. Good tensile strength, good impact resistance and other properties



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Product Specification

Alloy	Temper	Thickness (mm)	Width (mm)	Length (mm)
5083	O,H111,H112,H116, H24,H32,H321	1.50-120	≤3100	1000-16000
5086	O,H111,H112,H116,H321	1.50-120	≤3100	1000-16000
5052	O,H111,H112,H24,H32,H34,H36	1.50-120	≤3100	1000-16000
5754	O,H111,H112,H24,H32,H34,H36,H38	1.50-120	≤3100	1000-16000
5454	O,H111,H112,H24,H32,H34,H36,H38	1.50-120	≤3100	1000-16000
5456	O/H111/H112/H116/H321	1.50-120	≤3100	1000-16000
5154	O,H111,H112,H24,H32,H34,H36	1.50-120	≤3100	1000-16000
6061	O,T4,T6,T651	≤60	≤3100	1000-16000
6063	T5/T6	≤60	≤3100	1000-16000
Standard	GB/T 3880, EN14286, EN485, ASTM B209, or according to customer's special requirements			
Certification	DNV, GL, ABS, CCS, BV, LR			





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Chemical Composition

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Zr	Al
5083	0.40	0.40	0.10	0.40-1.00	4.00-4.90	0.05-0.25	-	0.25	0.15	-	Remainder
5086	0.40	0.50	0.10	0.20-0.70	3.50-4.50	0.05-0.25	-	0.25	0.15	-	Remainder
5052	0.25	0.40	0.10	0.10	2.20-2.80	0.15-0.35	-	0.10	-	-	Remainder
5754	0.40	0.40	0.10	0.50	2.60-3.60	0.30	-	0.20	0.15	-	Remainder
5454	0.25	0.40	0.10	0.50-1.00	2.40-3.00	0.05-0.20	-	0.25	0.20	-	Remainder
5456	0.25	0.40	0.10	0.50-1.00	4.70-5.50	0.05-0.20	-	0.25	0.20	-	Remainder
5154	0.50	0.50	0.10	0.50	3.10-3.90	0.25	-	0.20	0.20	-	Remainder
6061	0.40-0.80	0.70	0.15-0.40	0.15	0.80-1.20	0.04-0.35	-	0.25	0.15	-	Remainder
6063	0.20-0.60	0.35	0.10	0.10	0.45-0.90	0.10	-	0.10	0.10	-	Remainder





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Mechanical Properties				
Alloy	Temper	Tensile strength Rm(Mpa)	Yield strength Rp0.2(MPa)	ElongationA(%)
5083	O/H111/H112	≥275	≥125	≥16
	H116	≥305	≥215	≥10
	H321	305-385	215-295	≥12
5086	O/H111	204-305	≥95	≥16
	H112	≥250	≥125	≥8
	H116	≥275	≥195	≥10
5052	O/H111	170-215	≥65	≥18
	H32	210-260	≥130	≥10
5754	O/H111	190-240	≥80	≥18
	H32	220-270	≥130	≥11
5454	O/H111	215-285	≥85	≥19
	H32	250-305	≥180	≥12





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5456	O/H111	285-360	125-205	≥16
	H112	≥290	≥130	≥12
	H116/H321	315-405	230-315	≥12
5154	O/H111	215-275	≥85	≥12
	H112	215-220	≥90	≥8
6061	T6	≥260	≥240	≥9
	T651	≥290	≥240	≥9
6063	T6	≥205	≥170	≥10

Application

- 1.5083, 5052 and 5086 aluminum plates can be used on the ship's side and the outside of the bottom, they can better resist the erosion of seawater and prolong the service life of the ship.
- 2.3003, 3004 and 5052 aluminum plates can be used for the roof and side plates of offshore ships, which can effectively reduce the corrosion of the roof to a certain extent.
- 3.5052 and 5083 aluminum plates can be used in the wheelhouse, because the aluminum plate is non-magnetic, the compass will not be affected, which can ensure the correct direction of the ship when sailing.
- 4.6061 aluminum checker plate can be used for ship stairs and boards.





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Aluminum Alloys	Application
5083, 5086, 5456, 5052	Side/bottom shell
5083	Keel
5083	Ribs
5083,6061	Ribs/Partitions
5083	Engine pedestal
5052, 5083, 5086, 5456, 5454, 7039	Deck
5083, 6N01, 5052	Wheelhouse
5083	Bulwark
5083, 5052	Chimney
3003, 3004, 5052	Top and side panels of marine vessel containers
5052, 5083, 6063, AC7A	Portholes





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5052, 5083, 6063, 6061	Gangway
5052, 5083, 6063, 6061	Mast
6063,6061,7003	Structural materials for marine vessels
Product Type: Plates, Profiles, Tubes, Rods, Forgings	



The above mentioned aluminum product is produced according to national standard specifications. Please contact us for a free quote!

-----THIS IS THE END-----



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