



Marine Grade Aluminum 5086 - Haomei Aluminium

Marine grade aluminum 5086 is structural alloy, which offers users strong corrosion resistance and high electrical conductivity. Offering higher strength levels than 5052 or 5083, Aluminum 5086 becomes stronger with strain hardening and cold working, all while remaining a cost-effective choice. It can be welded with conventional methods, though electric arc welding is preferred.

Alloy 5086 aluminum plate have even higher strength than 5052 or 5083 and its mechanical properties vary significantly with hardening and temperature. It is not strengthened by heat treatment; instead, it becomes stronger due to strain hardening or cold working of the material. This alloy can be readily welded, retaining most of its mechanical strength. The good results with welding and good corrosion properties in seawater make alloy 5086 extremely popular in marine applications.

5086 marine grade aluminum specification

Alloy	Typical Temper	Thickness(MM)	Width(MM)	Length(MM)
5086	O,H111,H112, H116, H321	3.0~600	1000~3800	500-38000

In order to consider Aluminum 5086, an alloy must be made of a certain chemical composition that includes but is not limited to:

5086 Aluminum Chemical Composition

Cu	Mg	Mn	Fe	Si	Zn	Ti	Cr	Other	Al
0.1	3.5~4.5	0.20~0.70	0.5	0.4	0.25	0.15	0.05~0.25	0.15	Remainder

5086 alloys Mechanical Properties

Alloy	Tensile Strength σ_b (Mpa)	Yield Strength $\sigma_{0.2}$ (Mpa)	Elongation (δ_5 %)
5086	Min.240	Min.100	Min.12

Temper	Tensile Strength (KSI)	Yield Strength σ (KSI)	Elongation (δ_5 %)
O (annealed)	44	14	16
H32	47	28	12
H112	35	14	14

Application for Aluminum 5086 include the following applications:

Shipyards

Tank cars

Superstructures

Patrol and workboat hulls

Armor plating

TV towers



Drilling rigs

Transportation equipment

Cryogenics

Missile components

Marine components

Performance advantage of 5086 alloys:

- With High corrosion resistance,
- With good weldability
- With moderate strength
- Low density
- 5086 aluminum tensile strength
- 5086 aluminum yield strength
- No oil, waves, scratches,
- Uniform cutting edges and burr;

5086 Aluminum plate packaging and shipping

1. Standard seaworthy export packing, wooden pallets with plastics protection for the aluminum product;
2. The other packing can be made based on the customer requirement;

