

Aluminum For LNG Tanker - Haomei Aluminium

Liquefied natural gas (LNG), which is transported by ship at temperatures of minus 162 ° C, is considered a clean energy source. The super wide aluminum plate are widely used for LNG storage tanks. These **aluminum plate for LNG tanker** must be resistant to becoming brittle at low temperatures and be lightweight, corrosion- resistant and workable to ensure safety during ocean transport.

Specification of Aluminum For LNG Tanker:

Alloy No.		Thickness (mm)	Width (mm)	Length (mm)
5083	Min.	4	1000	2000
	Max.	8	2800	12600
5182	Min.	4	1000	2000
	Max.	8	2800	12600
5454	Min.	4	1000	2000
	Max.	8	2800	12600

LNG tanker cross-section and typical size of LNG materials

Part	Alloy	Typical size (mm)
Spherical shell	5083-0	60×4,030×16,350
Equator	5083-0	190×1,530×16,350
Skirt	5083-H321	70×2,100×16,350

Chemical Composition of Aluminum Plate For LNG Tanker:

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others(%)	
									Each	Sum
5083	0.20	0.35	0.15	0.20-0.50	4.0-5.0	0.10	0.25	0.10	0.05	0.15
5754	0.40	0.40	0.10	0.05	2.6-3.6	0.30	0.20	0.15	0.05	0.15
5454	0.25	0.40	0.10	0.50-1.0	2.4-3.0	0.05-0.20	0.25	0.20	0.05	0.15
5182	0.20	0.35	0.15	0.20-0.50	4.0-5.0	0.10	0.25	0.10	0.05	0.15
5059	0.25	0.40	0.10	0.10	2.2-2.8	0.15-0.35	0.10	/	/	/

Mechanical Properties of Aluminium Plate For LNG Tanker:

Alloy Series	Temper	Yield Strength Rp(Mpa)	Tensile Strength Rm(Mpa)	Elongation A(%)
5083	O, H111, H112	≥125	270-350	≥15
		≥125	≥275	≥12



5182	O, H111	≥110	255-315	≥16
5454	O, H111, H112, H32	≥85 ≥125 ≥180	215-275 ≥220 250-305	≥17 ≥8 ≥8

Advantages of Aluminum Sheet For LNG Tanker:

- 1, 5083 alloy has superior strength at low temperatures, such as LNG temperatures.
- 2, They can be produced at maximum sizes of 4 m wide by 16 m long.
- 3, Irregular shapes, such as trapezoids and rhombuses, are available.
- 4, We have received plant certification by a classification society (Nippon Kaiji Kyokai) for superior production quality.
- 5, Plates of other shipping register qualities are also available, such as DNV, LR and ABS.

Application of Aluminium Sheet For LNG Tanker:

Large spherical tanks for LNG transport

Low-temperature storage tanks

