Certificate No: LR2004608TA
Issue Date: 01/07/2020
Expiry Date: 30/06/2025

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer **Yong Woo Inc.**

Address 30, Greengongdan 3-gil, Yangsan-si, Yangsan-Si, Gyeongnam, 50540, Korea, Republic of

Type Composite wood laminate for use in support structures for LNG and LPG tanks

Trade Name YONGWOODEN 2005S

Application Use in support structures for LNG and LPG tanks

Specified Standard ISO 604, ISO 62, C518, ASTM E 222-11, IEC 61061-2 (Shear)

Ratings

Strength (N/mm^2)	Parallel to lamination	Perpendicular to lamination
Compressive @ 20°C:	160	240
Compressive (after ageing in water)	159.14	183.40
Compressive after ageing in oil	N/A	244
Shear @ 20°C:	30	70

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Mayur Jogia

Lead Specialist - Non-Metallics to Lloyd's Register EMEA
A member of the Lloyd's Register Group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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Min, density (g/cm^3)	1.3522
Max. water adsorption (%)	0.5
Max. oil adsorption(%)	0.03

Other Conditions This approval relates to the material properties of the wood laminate only. Actual dimensions and tolerances of finished blocks for use as LNG/LPG tank supports on ships Classed by LR are to be submitted for approval as part of ships plans.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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