Certificate No: LR25142091TA
Issue Date: 05/07/2025
Expiry Date: 04/07/2030

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	**Yanger (Shanghai) Marine Technology Co., Ltd.**
Address	Room 411, Building 6, No. 399, Jianyun Road, Pudong New Area, Shanghai, 201318, China
Place of Production	Zhilan Technology (Ningbo) Co., Ltd. 3/F, Building 6, No. 258 Kaiyuan Road, High tech Park, Jiangkou Street, Fenghua District, Ningbo City, Zhejiang, 315504, China
Type	fiber optical cable
Description	Marine Optical Fiber Cables
Trade Name	AIAI, AIAU, AIAB, AICI, AICU, AICB, AIOI, AIOU, AIOB, QFAI, QFAU, QFAB, QFCI, QFCU, QFCB, QFOI, QFOU, QFOB
Application	Fixed wiring on ships and offshore installations
Specified Standard	Manufacture's Technical Documents IEC 60794-1-21:2020 IEC 60794-1-22:2017 IEC 60794-1-23:2019 IEC 60794-1-24:2014 IEC 60793-1-40:2019 IEC 60332-1-2:2015 IEC 60332-3-22:2018 IEC 60331-25:1999

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Ning Guan

Electrical & Control Technical Manager - Southeast Asia & Great China to Lloyd's Register Classification Society (China) Co.,

12th Floor, Chong Hing Finance Centre, No. 288 Nanjing West Road, Shanghai, 200003, China

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IEC 60331-2:2018 (Except tight buffered optical fiber cable)
IEC 60754-1/2:2019
IEC 61034-1/2:2019
IEC 60092-360:2021
IEC 60684-2 :2011
NEK TS 606:2022
UL 1581:2020
EN50200:2015(Except tight buffered optical fiber cable)

Ratings

AIA-I/U/B
Tight buffered, dielectric armored fiber optic cable
AIC/O-I/U/B
Tight buffered, metallic armored fiber optic cable
QFA-I/U/B
Single loose tube dielectric armored fiber optic cable Type 1 (without inner jacket)
QFA-I/U/B
Single loose tube dielectric armored fiber optic cable Type 2 (with inner jacket)
QFA-I/U/B
Multi loose tube dielectric armored fiber optic cable
QFC/O-I/U/B
Single loose tube metallic armored fiber optic cable
QFC/O-I/U/B
Multi loose tube metallic armored fiber optic cable

Cable Model Description:
Code for Insulation: QF- Fiber in Loose Tube; AI- Tight Buffer Fiber
Code for Inner sheath: Thermoplastic compound SHF1, Optional for type QFA-I/U/B
Code for Armored: A- Dielectric Strength Yarn;
C-①Galvanized steel wire braid,
②Corrugated Steel Tape, O-Tinned Copper Wire Braid
Code for Outer Sheath: I-Thermoplastic compound SHF1;
U- Thermoset compound SHF2;

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B- SHF2 MUD, Mud Resistance thermoset compound

Type of optical fiber:
Type of optical fiber:
G652D/OS2-B1.3
G657A1-B6_a1
G657A2-B6_a2
G657B3-B6_b3
OM1- A1b
OM2-A1a
OM3-A1a.2
OM4-A1a.3
OM5-A1a.4

Operation Temperature: -40℃ ~ 70℃

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 Classification Society (China) Co., Ltd. of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR25142091TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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