Certificate no.:
TAK00002CA

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Synthetic Fibre Ropes

with type designation(s)
UHMWPE 12-strand braided Mooring Lines,
UHMWPE 12-strand double braided Mooring Lines

issued to
Yancheng Shenli Rope-Making Co., Ltd.
Yancheng, **China**

is found to comply with
DNV class programme DNV-CP-0100 – Type approval – Synthetic fibre ropes for towing, mooring and anchoring
OCIMF Mooring Equipment Guidelines (MEG4), Fourth Edition 2018 [test requirements]

Application:

Mooring and Towing of Ships and HSLCs.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2024-04-18**
This Certificate is valid until **2029-04-17**.
DNV local unit: **Nantong**

for **DNV**

Approval Engineer: **Gisle Hersvik**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

UHMWPE 12-strand braided mooring lines
UHMWPE 12-strand double braided mooring lines with UHMWPE jacket

- Fibre material - core: UHMWPE
- Fibre material - jacket: UHMWPE
- Specific gravity: 0.97 (floats in seawater)

Compliance with OCIMF Mooring Equipment Guidelines (MEG4)

Mooring Line Base Design Certificate – For UHMWPE 12-strand 24 mm and 80 mm
Certificate No.: BDC-Line-01 Rev.0 **[Issue date: 2024-03-20]**
Mooring Line Certificate will be issued with reference to Mooring Line Base Design Certificate.

Mooring Line Base Design Certificate – For UHMWPE 12-strand double braided 24 mm and 80 mm
Certificate No.: BDC-Line-02 Rev.0 **[Issue date: 2024-03-20]**
Mooring Line Certificate will be issued with reference to Mooring Line Base Design Certificate.

Yancheng Shenli Rope-Making Co., Ltd. has performed the full test scenario as per OCIMF MEG4.

Rope Characteristics

The Rope characteristics are tabulated on the next page observing the following:

Fibre ropes are to be delivered with a linear mass ±5% of the nominal linear mass given in the table.

All LDBF (Line Design Break Force) values are given for the spliced ropes.

UHMWPE 12-strand braided mooring lines

Ref. Number / Diameter [mm]	Linear Density -rope [ktex]	LDBF [kN]
24	331	470
26	386	540
28	445	615
30	508	700
32	575	780
34	646	870
36	722	965
38	801	1060
40	884	1155
44	1062	1375
48	1255	1600
52	1464	1840
56	1688	2095
60	1928	2370
64	2183	2655
68	2453	2955
72	2738	3270
76	3038	3600
80	3353	3940

UHMWPE 12-strand double braided mooring lines with UHMWPE jacket

Ref. Number / Diameter [mm]	Linear Density -rope [ktex]	LDBF [kN]
24	340	362
26	400	424
28	460	494
30	530	573
32	600	662
34	680	742
36	770	821
38	850	909
40	940	1030
44	1150	1240
48	1360	1450
52	1600	1730
56	1850	1970
60	2120	2270
64	2400	2590
68	2720	2930
72	3070	3270
76	3400	3620
80	3750	4060

Application/Limitation

The OCIMF MEG4 approval range covers ropes with diameter from 24 mm to and including 80 mm.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, and according to:

- OCIMF's Mooring Equipment Guidelines (MEG4) [requirements to testing], including:
  - CI1500A-2015, Test Methods for Fiber Rope – Physical Properties
  - CI1500B-2015, Test Methods for Fiber Rope – Performance Properties
  - Guidelines for the Purchasing and Testing of SPM Hawsers (OCIMF, 2000).
- DNV-CP-0100.

The fibre ropes are manufactured in accordance with:

- Product Specification (UHMWPE Rope)

Marking of product

Product shall be marked with *manufacturer's name*: **Yancheng Shenli Rope-Making Co., Ltd., China**, *type designation* and *diameter*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical assessments (for Certificate Retention / Certificate Renewal) shall be performed according to DNV-CP-0338.

This certificate is only valid if required Periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE