Certificate No:
TAK000028E

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)
12-Strand UHMWPE Rope (Mooring Line),
12-Strand UHMWPE Rope with Polyester Jacket (Mooring Line)

Issued to
Jiuli Rope Co., Ltd
YANGZHOU, JIANGSU, China

is found to comply with
DNV class programme DNV-CP-0100 – Type approval – Synthetic fibre ropes for towing, mooring and anchoring
ISO 10325:2018 "Fibre ropes – High modulus polyethylene – 8-strand braided ropes, 12-strand braided ropes and covered ropes"
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 **2023-06-05**
This Certificate is valid until **2028-06-04**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Gisle Hersvik**

for **DNV**

Thorsten Lohmann
Head of Section

Product description

12-Strand UHMWPE Rope (Mooring Line): 12-strand braided synthetic rope
12-Strand UHMWPE Rope with Polyester Jacket (Mooring Line): 12-strand braided synthetic rope with PES jacket

- *Fibre material: 1600D UHMWPE (Ultra High Molecular Weight Polyethylene)*
- *Jacket material: PES (Polyester)*
- *Specific gravity: 0.97 (floats in sea water)*
- *Elongation at break: 2.7 %*

Compliance with OCIMF Mooring Equipment Guidelines (MEG4)

Mooring Line Base Design Certificates – for UHMWPE Rope 24 mm and 64 mm
Certificate No.: **JL-DNV-MEG4-LBDS-23-01** Issue date: **2023-04-12**
Certificate No.: **JL-DNV-MEG4-LBDS-23-02** Issue date: **2023-04-12**
Mooring Line Certificate will be issued with reference to mooring line base design certificate.

Jiuli Rope 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 density given in the tables.

Linear Density are tabulated on the following pages.

Breaking load values are given for spliced ropes. The LDBF (Line Design Break Force) is the value for spliced rope.

12-Strand UHMWPE Rope:

Reference number/Size		Linear density	Line Design Break Force (LDBF)	
Diameter [mm]	Circ [Inch]	[ktex]	[kN]	[Ton]
24	3	331	520	53.1
26	3-1/4	386	600	61.2
28	3-1/2	445	685	69.9
30	3-3/4	508	775	79.1
32	4	575	865	88.3
34	4-1/4	646	965	98.5
36	4-1/2	722	1070	109.2
38	4-3/4	801	1175	119.9
40	5	884	1285	131.1
42	5-1/4	973	1405	143.4
44	5-1/2	1062	1525	155.6
46	5-3/4	1160	1650	168.4
48	6	1255	1775	181.1
50	6-1/4	1367	1910	194.9
52	6-1/2	1464	2045	208.7
54	6-3/4	1576	2188	223.3
56	7	1688	2330	237.8
58	7-1/4	1808	2483	253.4
60	7-1/2	1928	2635	268.9
62	7-3/4	2056	2793	285
64	8	2183	2950	301

Note: Performance parameters of other specifications in this range can be calculated by interpolation.

12-Strand UHMWPE Rope with Polyester Jacket:

Reference number/Size		Linear density	Line Design Break Force (LDBF)	
Diameter [mm]	Circ [Inch]	[ktex]	[kN]	[Ton]
24	3	340	402	41.0
26	3-1/4	400	471	48.1
28	3-1/2	460	549	56
30	3-3/4	530	637	65
32	4	600	736	75.1
34	4-1/4	680	824	84.1
36	4-1/2	770	912	93.1
38	4-3/4	850	1010	103.1
40	5	940	1140	116.3
42	5-1/4	1045	1260	128.6
44	5-1/2	1150	1380	140.8
46	5-3/4	1255	1495	152.6
48	6	1360	1610	164.3
50	6-1/4	1480	1765	180.1
52	6-1/2	1600	1920	195.9
54	6-3/4	1725	2055	209.7
56	7	1850	2190	223.5
58	7-1/4	1986	2355	240.3
60	7-1/2	2121	2520	257.1
62	7-3/4	2261	2700	275.5
64	8	2400	2880	293.9

Note: Performance parameters of other specifications in this range can be calculated by interpolation.

Application/Limitation

The approval range covers ropes with diameter from 24 mm to and including 64 mm.

The OCIMF MEG4 approval range covers ropes with diameter from 24 mm to and including 64 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].
- DNV-CP-0100.

The fibre ropes are manufactured in accordance with:
- Rope Specification: 12-Strand UHMWPE Rope
- Rope Specification: 12-Strand UHMWPE Rope with Polyester Jacketed
- ISO 10325:2018 – Fibre Ropes – High Modulus Polyethylene – 8-strand braided, 12-strand braided ropes and covered ropes
- ISO 9554:2019 – Fibre ropes — General specifications

Marking of product

Product shall be marked with *manufacturer's name*; **Jiuli Rope Co., Ltd**, *place of production* and *type designation, diameter, product code* and *strength*.

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