DNV·GL

Certificate No:
TAK00001CA

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)
Ultra High Molecular Weight PolyEthylene (UHMWPE) Ropes, 12-strand

Issued to
Dragon Rope (YANGZHOU) Int Mfr Co., Ltd
Yangzhou, China

is found to comply with
DNV GL class programme DNVGL-CP-0100 – Type approval – Synthetic fibre ropes for towing, mooring and anchoring
ISO 10325:2009 "Fibre ropes – High modulus polyethylene – 8-strand braided ropes, 12-strand braided ropes and covered ropes"
DNV GL rules for classification – Ships
DNV GL rules for classification – High speed and light craft

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 GL.

Issued at **Høvik** on **2018-10-15**
This Certificate is valid until **2022-10-14**.
DNV GL local station: **Nanjing**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

Rikard Törnqvist
Head of Section

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.

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Product description

12-strand Ultra High Molecular Weight PolyEthylene (UHMWPE) Ropes
Fibre material: 1500D, 1670 dtex, breaking strength 27.0 cN/dtex, 2.8-4.9% elongation at break

12-strand braided UHMWPE synthetic fibre ropes (Ref. ISO 10325:2009):
- Specific gravity: 0,975 (floats in seawater)
- Elongation at break: >3.8%

ROPE CHARACTERISTICS		
Diameter, mm	**Nominal linear mass, kg/m**	**Minimum Breaking Load (MBL), kN (12-strand)**
28	0,445	610
30	0,506	690
32	0,575	780
36	0,720	940
38	0,798	1 040
40	0,881	1 130
44	1,060	1 310
48	1,250	1 530
52	1,460	1 770
56	1,690	2 030
60	1,930	2 280
64	2,200	2 560
72	2,780	3 170
80	3,430	3 870

Fibre ropes are to be delivered with a linear mass within ± 5 % of the nominal linear mass given in the table. MBL data as provided in the manufacturer's specification.

Application/Limitation

The Type Approval covers ropes with diameter from 28 mm to and including 80 mm.

Scope of assessment is limited to evaluation of net mass per metre, type of lay and static strength.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, and according to:
- ISO 2307:2010

Initial setting/cycling of ropes has not been carried out prior to break testing.

The fibre rope is manufactured in accordance with;
- ISO 10325:2009 "*Fibre ropes - High modulus polyethylene - 8-strand braided ropes,12-strand braided ropes and covered ropes*".

Marking of product

Product shall be marked with *manufacturer's name*; **Dragon Rope (YANGZHOU) Int Mfr Co., Ltd, China**, *production plant* and *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 GL 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 Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE