DNV·GL

Certificate No:
TAK00001C9

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)
Polyamide Ropes, 6- and 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 1140:2012 "Fibre ropes – Polyamide – 3-, 4-, 8- and 12-strand 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 **2023-10-14**.
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

6- and 12-strand Polyamide Ropes
Fibre material: 1680D, 1870 dtex, breaking strength 7.2 cN/dtex, 14-28% elongation at break

6- and 12-strand braided synthetic fibre ropes (Ref. Q/321023WSL01-2016 and ISO 1140:2012):
- Specific gravity: 1,14 (sinks in seawater)
- Elongation at break: >18%

ROPE CHARACTERISTICS		
Diameter, mm	**Nominal linear mass, kg/m**	**Minimum Breaking Load (MBL), kN (12-strand)**
28	0,490	160
30	0,560	180
32	0,640	212
36	0,810	265
40	1,000	315
44	1,210	375
48	1,440	450
52	1,700	530
56	1,970	600
60	2,260	670
64	2,570	750
72	3,250	950
80	4,010	1 180
88	4,860	1 400
96	5,780	1 700
104	6,780	1 900
112	7,870	2 240
120	9,030	2 500

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.

ROPE CHARACTERISTICS		
Diameter, mm	**Nominal linear mass, kg/m**	**Minimum Breaking Load (MBL), kN (6-strand, mono-filament)**
28	0,484	149.0
30	0,556	169.7
32	0,632	192.0
36	0,800	240.0
40	0,987	294.0
44	1,190	351.0
48	1,420	412.0
52	1,670	479.0
56	1,930	550.0
60	2,220	627.0
64	2,530	709.0
72	3,200	887.0

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. The table is based on manufacturer's standard no. Q/321023WSL01-2016.

Application/Limitation

The Type Approval covers ropes with diameter from 28 mm to and including 120 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 1140:2012 "*Fibre ropes - Polyester - 3-, 4-, 8- and 12-strand ropes*".
- Manufacturer's standard no. Q/321023WSL01-2016 (for the 6-strand rope).

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 DNV GL Type Approval Certificate.

END OF CERTIFICATE