Certificate No:
TAK0000244

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)
8- and 12-strand Polyamide Ropes

Issued to
Hunan Xinhai Co., Ltd.
Yuanjiang, Hunan, China

is found to comply with
DNV class programme DNV-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"

Application :

Mooring and Towing of Ships and HSLCs and Anchoring of HSLCs.

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

Issued at **Høvik** on **2022-04-08**
This Certificate is valid until **2027-04-07**.
DNV local station: **Wuhan NB & CMC**

Approval Engineer: **Gisle Hersvik**

for **DNV**

Gustav Heiberg
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.

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

Polyamide (PA) Ropes; 8- and 12-strand braided synthetic fibre ropes.
- Specific gravity: 1.14 (non-buoyant)

ROPE CHARACTERISTICS						
Reference number [a] [mm]	Linear density[b c]		Minimum Breaking Strength[d e] kN			
			8-strands		12-strands	
	Nominal [Ktex]	Tolerance [%]	Unspliced ropes	Ropes with eye-spliced terminations	Unspliced ropes	Ropes with eye-spliced terminations
32	640	±5	200	180	212	191
36	810		250	225	265	239
40	1000		300	270	315	284
44	1210		355	320	375	338
48	1440		425	383	450	405
52	1700		500	450	530	477
56	1970		560	504	600	540
60	2260		630	567	670	603
64	2570		710	639	750	675
72	3250		900	810	950	855
80	4010		1120	1008	1180	1062
88	4860		1320	1188	1400	1260
96	5780		1600	1440	1700	1530
104	6780		1800	1620	1900	1710
112	7870		2120	1908	2240	2016
120	9030		2360	2124	2500	2250

[a] corresponds to the approximate diameter, in millimeters.
[b] linear density, in kilotex,
[c] corresponds to the net mass per length of rope, expressed in grams per meter or in kilograms per thousand meters.
[d] linear density is under reference tension and is measured as specified in ISO 2307.
[e] breaking forces relate to new dry and wet ropes.

Application/Limitation

The Type Approval covers ropes with diameter from 32 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 according to **Type Approval documentation**, and according to:

- ISO 2307:2019

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 – Polyamide – 3-, 4-, 8- and 12-strand ropes”.

Marking of product

Product shall be marked with *manufacturer’s name*; **Hunan Xinhai 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 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