

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Synthetic Fibre Ropes**with type designation(s)
8- and 12-strand HMPE Ropes

Issued to

Juli Sling Co., Ltd.
Baoding City, Hebei, 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"**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 **Hamburg** on **2019-04-04**This Certificate is valid until **2024-04-03**.DNV GL local station: **Tianjin**for **DNV GL**Approval Engineer: **Joachim Rehbein**

Thorsten Lohmann
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.



Product description

High Modulus PolyEthylene (HMPE) Ropes; 8- and 12-strand braided synthetic fibre ropes.

- Specific gravity : 0,97 (floats in seawater)

ROPE CHARACTERISTICS			
Diameter, mm	Nominal linear mass, kg/m	Minimum Breaking Load (MBL),	
		kN (unspliced rope)	kN (rope with eye spliced terminations)
6	0,023,0	36,7	33,0
8	0,040,0	65,3	58,7
10	0,061,0	102	92,0
12	0,087,0	147	132
14	0,117	200	180
16	0,151	260	235
18	0,190	310	283
20	0,232	380	340
22	0,281	450	400
24	0,331	520	470
26	0,384	600	540
28	0,445	680	610
30	0,506	770	690
32	0,575	870	780
34	0,648	960	860
36	0,720	1 040	940
38	0,798	1 160	1 040
40	0,881	1 260	1 130
44	1,060	1 460	1 310
48	1,250	1 700	1 530
52	1,460	1 970	1 770
56	1,690	2 260	2 030
60	1,930	2 530	2 280
64	2,200	2 840	2 560
68	2,480	3 170	2 850
72	2,780	3 520	3 170
76	3,090	3 890	3 500
80	3,430	4 300	3 870
88	4,170	5 200	4 680
96	4,970	6 180	5 560

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

Application/Limitation

The Type Approval covers ropes with diameter from 6 mm to and including 96 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*; **Juli Sling Co., Ltd. Baoding, Hebei, China**, *production plant* and *type designation* and *diameter*.

Additionally, the rope shall be marked using one orange yarn along in one of the visible strands.

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

A condition for retention of the TA certificate in its validity period is that periodical assessments are successfully carried out.

The objective of the periodical assessment is to verify that the conditions for the TA have not been altered.

The main scope of the periodical assessment will normally include:

- verification of the TA applicant's production and quality system with relation to ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products
- review of the TA documentation and that this is still used as basis for the production
- review of possible changes to the design, the material and the performance of the product
- verification of the product marking.

Periodical assessments will be required after two years and after 3.5 years (retention survey) and for renewal after 5 years (renewal survey).