

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Synthetic Fibre Ropes**with type designation(s)
3-, 8- and 12-strand Polypropylene 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 1346:2012 "Fibre ropes – Polypropylene split film, monofilament and multifilament (PP2) and polypropylene high-tenacity multifilament (PP3) – 3-, 4-, 8- and 12-strand 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.**This Certificate is valid until **2024-04-03**.Issued at **Hamburg** on **2019-04-04**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.

Certificate No: **TAK00001KH**
File No: **338.20**
Job Id: **262.1-018874-4**

Product description

Polypropylene Ropes; 3-, 8- and 12-strand hawser-laid and braided synthetic fibre rope.

- Specific gravity : 0,91 (floats in seawater)

ROPE CHARACTERISTICS 3-strand hawser-laid rope			
Diameter, mm	Nominal linear mass, kg/m	Minimum Breaking Load (MBL), kN	
		(pp2)	(pp3)
6	0,0163	5,92	6,72
8	0,0289	10,1	11,6
9	0,0366	12,6	14,4
10	0,0452	15,4	17,5
12	0,0651	21,6	24,7
14	0,0886	28,9	32,9
16	0,116	37,0	42,1
18	0,146	46,2	52,5
20	0,181	56,1	64,0
22	0,219	67,1	76,4

ROPE CHARACTERISTICS 8- and 12-strand braided ropes			
Diameter, mm	Nominal linear mass, kg/m	Minimum Breaking Load (MBL), kN	
		(pp2)	(pp3)
20	0,181	56,1	64,0
22	0,219	67,1	76,4
24	0,260	78,8	89,6
26	0,306	91,5	104
28	0,354	105	119
30	0,407	119	136
32	0,463	134	154
36	0,586	167	191
40	0,723	204	233
44	0,875	243	278
48	1,040	286	327
52	1,220	332	379
56	1,420	381	436
60	1,630	433	495
64	1,850	488	558
72	2,340	608	692
80	2,890	740	850
88	3,500	887	1 010
96	4,170	1 040	1 190
104	4,890	1 210	1 380
112	5,670	1 390	1 580
120	6,510	1 580	1 800

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

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Application/Limitation

The Type Approval covers ropes with diameter from 6 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 1346:2012 "Fibre ropes - Polypropylene split film, monofilament and multifilament (pp2) and polypropylene high tenacity multifilament (pp3) - 3-, 4-, 8- and 12-strand 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 brown 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.

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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).

END OF CERTIFICATE