



Certificate no.:
TAK00002KA

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Synthetic Fibre Ropes**

with type designation(s)

ES-MIX/FLEX, 8- and 12-strand High Performance Polyester & Polyolefin mixed ropes

issued to

TAIZHOU JUMA ROPE CO.,LTD

Taizhou, Zhejiang Province, China

is found to comply with

DNV class programme DNV-CP-0100 – Type approval – Synthetic fibre ropes for towing, mooring and anchoring

ISO 10556:2009 "Fibre ropes of polyester/polyolefin dual fibres"

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.

Issued at **Hamburg** on **2025-10-08**

This Certificate is valid until **2030-10-07**.

for **DNV**

DNV local unit: **Ningbo CMC**

Approval Engineer: **Gisle Hersvik**

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.



Form code: TA 251

Revision: 2023-09

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Product description

ES-MIX/FLEX, 8- and 12-strand plaited/braided High Performance Polyester & Polyolefin mixed ropes

-Fibre material: Polyester/Polyolefin dual fibres

-Specific gravity: 0.98 (floats in seawater)

Rope Characteristics

The Rope characteristics are tabulated on the next page observing the following:

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

All MBL values are given for the un-spliced ropes.

All LDBF (Line Design Break Force) values are given for the spliced ropes.

ROPE CHARACTERISTICS (ES-MIX/FLEX) High Performance Polyester & Polyolefin mixed ropes					
Diameter [mm]	Circ. [Inch]	Weight [ktex]	Weight [kg/220m]	MBL [kN]	LDBF [kN]
24	3	335	74	123	110
28	3½	460	101	163	147
32	4	595	131	209	188
36	4½	742	163	264	238
40	5	915	201	326	293
44	5½	1090	240	383	345
48	6	1300	286	453	408
52	6½	1500	330	526	473
56	7	1750	385	608	547
60	7½	2005	441	682	614
64	8	2260	497	775	698
72	9	2840	625	971	874
80	10	3490	768	1177	1059
88	11	4200	924	1422	1280
96	12	5000	1100	1687	1519
100	12½	5450	1199	1840	1656

The data in the table is provided by TAIZHOU JUMA ROPE CO.,LTD.

Place of manufacture

TAIZHOU JUMA ROPE CO.,LTD., No.8-1, Yuandong Road, Jiantiao Town, Sanmen County, Taizhou City, Zhejiang Province, P.R. China

Application/Limitation

The approval range covers ropes with diameter from 24 mm to and including 100 mm.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, and according to:

- ISO 10556:2009, Fibre ropes of polyester/polyolefin dual fibres.
- DNV-CP-0100.

The fibre ropes are manufactured in accordance with:

- Product Specification (ES-MIX/FLEX), No. JM-JS-2508-001, Rev. 01.

Marking of product



Job ID: **262.1-044517-1**
Certificate no.: **TAK00002KA**

Product/package shall be marked with *manufacturer's name and address*: **TAIZHOU JUMA ROPE CO.,LTD., China**,
type designation: ES-MIX/FLEX 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