

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)

**PP TECHPLUS 3, PP TECHPLUS 8 and PP TECHPLUS 12 Mooring Lines,
PP TECHPLUS 3, PP TECHPLUS 8 and PP TECHPLUS 12 Mooring Tails**

Issued to

**Kohinoor Ropes Pvt. Ltd.
Mumbai, India**

is found to comply with

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

ISO 10572:2009 "Mixed polyolefin fibre ropes"

OCIMF Mooring Equipment Guidelines (MEG4), Fourth Edition 2018 [test requirements]

OCIMF Guidelines for the Purchasing and Testing of SPM Hawsers (2000)

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 **Høvik** on **2021-06-23**

This Certificate is valid until **2026-06-22**.

DNV local station: **Mumbai NB & CMC**

for **DNV**

Approval Engineer: **Gisle Hersvik**

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**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

PP TECHPLUS 3: 3 Strand plaited / braided synthetic fibre rope
PP TECHPLUS 8: 8 Strand plaited / braided synthetic fibre rope
PP TECHPLUS 12: 12 Strand plaited / braided synthetic fibre rope

- Fibre material: Polypropylene fibres
- Specific gravity: 0.91 (floats in seawater)

Compliance with OCIMF Mooring Equipment Guidelines (MEG4)

Mooring Line Base Design Certificate - For PP TECHPLUS 32 mm and 96 mm

Ref No.: KR/MEG4/TP/ML/21/01

Mooring Line Certificates will be issued with reference to Mooring Line Base Design Certificate.

Mooring Tail Base Design Certificate - For PP TECHPLUS 32 mm and 96 mm

Ref. No.: KR/MEG4/TP/MT/21/01

Mooring Tail Certificates will be issued with reference to Mooring Tail Base Design Certificate.

Kohinoor Ropes Pvt. Ltd. has performed the full test scenario as per OCIMF MEG4.

Compliance with OCIMF 2000, Guidelines for the Purchasing and Testing of SPM Hawsers

Size 4 (32 mm) to Size 12 (96 mm)

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 LDBF (Line Design Break Force) values are given for both un-spliced and spliced ropes.

Reference Number / Size		Rope Linear Density (g/m)	Rope Mass (kg/220 m)	Line Design Break Force (Kgf)	
Circumference (Inch)	Diameter (mm)			Unspliced Line	Eye Spliced Line
4	32	459	101	16800	15120
4-1/2	36	586	129	21000	18900
5	40	718	158	25700	23130
5-1/2	44	882	194	31800	28620
6	48	1041	229	36600	32940
6-1/2	52	1218	268	42100	37890
7	56	1418	312	52000	46800
7-1/2	60	1632	359	59500	53550
8	64	1850	407	67550	60795
8-1/2	68	2100	462	75800	68220
9	72	2341	515	84500	76050
10	80	2900	638	104000	93600
11	88	3518	774	125500	112950
12	96	4182	920	148000	133200

Application/Limitation

The OCIMF MEG4 approval range covers ropes with diameter from 32 mm to and including 96 mm.

The OCIMF 2000 approval range covers ropes with diameter from 32 mm to and including 96 mm.

Type Approval documentation

Tests carried out

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

- OCIMF's Mooring Equipment Guidelines (MEG4) [requirements to testing].
- OCIMF 2000, Guidelines for the Purchasing and Testing of SPM Hawsers (1st Edition 2000) [testing].
- DNVGL-CP-0100.

The fibre ropes are manufactured in accordance with:

- Product Specification (PP TECHPLUS), KR/D/SR/18.

Marking of product

Product shall be marked with *manufacturer's name*; **Kohinoor Ropes Pvt. Ltd, India**, and/or client name, *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.



Job Id: **262.1-032734-1**
Certificate No: **TAK000021N**

Periodical assessments (for Certificate Retention and Certificate Renewal) shall be performed according to DNVGL-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.dnvgl.com>

END OF CERTIFICATE