Certificate No:
TAK000021M

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Synthetic Fibre Ropes

with type designation(s)
PP PROTECH 8 and PP PROTECH 12 Mooring Lines,
PP PROTECH 8 and PP PROTECH 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 Purchashing 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**

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

PP PROTECH 8: 8 Strand plaited / braided synthetic fibre rope
PP PROTECH 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 PROTECH 32 mm and 96 mm
Ref No.: KR/MEG4/PT/ML/21/01
Mooring Line Certificates will be issued with reference to Mooring Line Base Design Certificate.

Mooring Tail Base Design Certificate - For PP PROTECH 32 mm and 96 mm
Ref. No.: KR/MEG4/PT/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 ±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	464	102	21800	19620
4-1/2	36	586	129	27150	24435
5	40	723	159	32950	29655
5-1/2	44	877	193	39450	35505
6	48	1041	229	46200	41580
6-1/2	52	1223	269	53350	48015
7	56	1418	312	60750	54675
7-1/2	60	1627	358	69350	62415
8	64	1850	407	79000	71100
8-1/2	68	2091	460	89200	80280
9	72	2341	515	98800	88920
10	80	2891	636	121300	109170
11	88	3500	770	145700	131130
12	96	4159	915	173100	155790

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 (PROTECH), 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.

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