



Certificate No:
TAS00003AD

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fairleads, Towing/Mooring

with type designation(s)
Fairlead type 1000 RF

Issued to

MacGregor Norway AS
Arendal, Norway

is found to comply with

DNV rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2021-12-16**

This Certificate is valid until **2026-12-15**.

for **DNV**

DNV local station: **Norway CMC, West**

Approval Engineer: **Igor Antonijevic**

Inger-Helene Hals
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.



Form code: TA 251

Revision: 2021-03

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Manufactured by

The fairleads are manufactured at one of the following manufacturers:

Product description

Roller fairlead for Bow Loading, Single Point Mooring and Emergency Towing.

Application/Limitation

The design is found to comply with the following:

- RU-SHIP Pt.6, Ch.4, Sec.1 – Bow loading
- RU-SHIP Pt.6, Ch.5, Sec.12 – Single Point Mooring
- RU-SHIP Pt.5, Ch.5, Sec.2, par 2.2 – Emergency towing and IMO resolution MSC.35(63) for strong point for SWL of 2000kN.
- The fixation and support to the deck structure is not covered by this approval and is assumed covered by separate drawings.
- Panama chock design is not covered by this type approval. Item shall be delivered with separate certificate.

The following design limitations apply:

BLS SWL:	5000 kN
SPM SWL:	2500 kN
Design temperature range:	-20°C to -45°C
BLS Operational angles, horizontally:	-45° to +45°
BLS Operational angles, vertically:	-20° to +20°
SPM/ETS Operational angles, horizontally:	-90° to +90°
SPM/ETS Operational angles, vertically:	-30° to +30°

Type Approval documentation

Tests carried out

The complete installation is to be function tested onboard after installation.



Job Id: **262.1-036082-1**
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Marking of product

Periodical assessment

Periodical assessment will be required after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338. DNV surveyor has the permission to perform Certification Retention Survey at any time during the validity period of this certificate.

END OF CERTIFICATE