

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Roll Thimble

with type designation(s)
18010690 MBL 1096 ton

Issued to

GN Rope Fittings - Grofsmederij Nieuwkoop B.V.
Nieuwkoop, Netherlands

is found to comply with
DNVGL-OS-E303 – Offshore fibre ropes, Edition July 2015

Application :

to be used for Temporary, Mobile and Long Term Mooring
as defined in Offshore Standard DNVGL-OS-E301 'Position Mooring' July 2015

This Certificate is valid until **2021-09-18**.

Issued at **Høvik** on **2016-09-19**

DNV GL local station: **Rotterdam**

Approval Engineer: **Pierre-Eric Moulia**

for **DNV GL**

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.

Job Id: **262.1-023883-1**
Certificate No: **TAS00000NY**

Product description

MBL 1096 ton roll thimble for Offshore Mooring Fibre Rope to be installed in mooring lines with sizes up to grade NV R4 105 mm diameter (10 754 kN) and with polyester rope sizes up to 190 mm diameter.

Application/Limitation

The thimbles are to be used in connection with chains for Temporary, Mobile and Long Term Mooring as defined in Offshore Standard DNVGL-OS-E301 Position Mooring July 2015.

The thimble shall be manufactured and tested in accordance with Offshore Standard DNVGL-OS-E303 'Offshore Fibre Rope' July 2015, except for MBL and cyclic endurance test.

The approval is conditional that thimble material manufacturer is holding an Approval of Manufacturer DNVGL Certificate.

Individual Product Certificate is to be issued for each delivery.

Type Approval documentation

Tests carried out

The materials shall satisfy a Charpy V-notch energy of 50 J at -20°C. Yield is min 265 Mpa. Tensile is min 450 MPa.

Although waiver is granted for break load test and cyclic endurance testing of the thimble (ref Ch 2 § 4.6.6), DNVGL still recommend to use, whenever it is possible, thimbles from the actual deliveries for fibre ropes break load and cyclic endurance tests.

Marking of product

Thimble shall be marked with product designation as stated on the certificate, and with unique identifier traceable to the product certificate

Periodical assessment

For retention of the Type Approval, a DNVGL surveyor shall perform a survey every 2 ½ year and before the expiry date of this certificate, to verify that the type approval is complied