

TYPE APPROVAL CERTIFICATE

This is to certify:**That the LTM D-Shackle MBL 1250/1400 ton**with type designation(s)
32160180

Issued to

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

is found to comply with

DNVGL-OS-E302 – Offshore mooring chain, Edition July 2015**Application :****to be used for Temporary, Mobile and Long Term Mooring
as defined in DNVGL-OS-E301, Position Mooring, July 2015**Issued at **Høvik** on **2018-06-29**This Certificate is valid until **2023-06-30**.DNV GL local station: **Rotterdam**for **DNV GL**Approval Engineer: **Pierre-Eric Moulia**

**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: **262.1-017485-1**
Certificate No: **TAS00001HT**

Certificate TAS00001HT replaces S-8098 that expired on 2018-06-30

Product description

D shackle for mooring chains with sizes up to grade NV R4 120 mm diameter (13573 kN).

Application/Limitation

The D shackle is to be used in Temporary, Mobile and Long Term Mooring lines as defined in Offshore Standard DNVGL-OS-E301 Position Mooring July 2015.

The D shackle shall be manufactured and tested in accordance with Offshore Standard DNVGL-OS-E302 Offshore Mooring Chain July 2015.

The approval is conditional that 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

For every order, testing shall be carried out according to DNVGL-OS-E302 July 2015.

Marking of product

Each shackle shall be marked according to Offshore Standard DNVGL-OS-E302 July 2015 Ch2 Sec2 §1.4 & §3.9.

Periodical assessment

For retention of the Type Approval, a DNVGL surveyor shall perform a survey after 2 years and another one after 3,5 years (+/- 90 days), to verify that the type approval is complied with