

TYPE APPROVAL CERTIFICATE

This is to certify:**That the NDur Anchor Shackle**

with type designation(s)

KANF0076.4.5-18TA**KANF0084.4.5-18TA****KANF89.90.4.5-18TA****KANF0105.4.5-18TA****KANF0140.4.5-18TA**

Issued to

Schmiedestück-Vertrieb Feuerstein GmbH
Hattingen, Nordrhein-Westfalen, Germany

is found to comply with

DNVGL-OS-E302 – Offshore mooring chain, Edition July 2018**Application :****To be used for Temporary and Mobile Mooring****as defined in DNVGL-OS-E301, Position Mooring, July 2018**Issued at **Høvik** on **2019-02-27**This Certificate is valid until **2024-02-26**.for **DNV GL**DNV GL local station: **Essen**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: **262.1-029175-1**
Certificate No: **TAS00001YC**

Product description

Non-standard and assymetric slim Kenter Shackles, with 4 tooth locking mechanism and locking stone with 4 noses, to connect mooring chains to anchor shackles.

This approval covers sizes 76, 84, 89/90, 105 and 140 mm in R4, R4S and R5 grades.

Application/Limitation

The approval is conditional that the manufacturer is approved by DNVGL to make R4, R4S and R5 grade material of designations given in the type approval drawings.

The shackles are to be used in connection with mooring lines for Temporary and Mobile Mooring as defined in Offshore Standard DNVGL-OS-E301 "Position Mooring" July 2018.

The shackles shall be manufactured and tested in accordance with Offshore Standard DNVGL-OS-E302 "Offshore Mooring Chain" July 2018.

Individual Product Certificate is to be issued for each delivery.

Type Approval documentation



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Tests carried out

Fatigue tests with DNVGL Surveyors were performed for this type approval.
For every order, testing shall be carried out according to DNVGL-OS-E302 July 2018.

Marking of product

Each shackle shall be marked according to Offshore Standard DNVGL-OS-E302 "Mooring Chain" July 2018 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.