Certificate No:
TAS0000348

TYPE APPROVAL CERTIFICATE

This is to certify:

That the lifting set component for offshore containers and portable offshore units

with type designation(s)
Offshore chain

Issued to
J.D. Theile GmbH & Co. KG
Schwerte, Nordrhein-Westfalen, Germany

is found to comply with
DNV GL standard DNVGL-ST-E271 – 2.7-1 Offshore containers, January 2021
DNV GL standard DNVGL-ST-E273 – 2.7-3 Portable offshore units, December 2016
ISO 10855-2:2018 Offshore containers and associated liftings sets – Part 2: Design, manufacture and testing of lifting sets
IMO/MSC Circular 860
EN 818-2 Short link chain for lifting purposes – Safety – Part 2: Medium tolerance chain for chain for chain slings – Grade 8

Application :

Grade 8 short link chain for lifting sets for offshore containers and portable offshore units

Issued at **Aberdeen** on **2021-11-03**
This Certificate is valid until **2026-11-02** .
DNV local unit: **Essen**

Approval Engineer: **Elisabeth Legg**

for **DNV**

Brendan Ward
Senior Engineer

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

This approval covers chain for use in lifting sets for units certified in accordance with DNVGL-ST-E271 or DNVGL-ST-E273.

Detailed product information of the range of certified products covered by this type approval are listed in Appendix 1 of this type approval certificate.

Application/Limitation

Selection of the correct dimensions of lifting sets and/or lifting set components shall be carried out in accordance with the requirements for lifting sets of offshore containers in DNVGL-ST-E271 section 8.

Tests to be carried out:

- Production testing: in accordance with DNVGL-ST-E271 and EN 818-2, in agreement with the DNV surveyor.
- Material to be impact tested by Charpy impact method in accordance with DNVGL-ST-E271 section 8.4.

The manufacturer shall issue product certificates in accordance with DNVGL-ST-E271 section 8.5, using the certificate form FQW32 Rev. 0. This certificate form shall only be used for links certified in accordance with this type approval.

For chain manufactured in accordance with DNVGL-ST-E271
The required working load limit (WLL) for a given container rating should be determined in accordance with DNVGL-ST-E271 Table 8-1 and J.D. Theile GmbH & Co. KG procedure. In no case shall an offshore container lifting set WLL be less than 7.0 tonnes.

For chain manufactured in accordance with DNVGL-ST-E273
Prior to selection of chain, the minimum required working load limit (WLL) shall be determined in accordance with the strength requirements for lifting sets on portable offshore units as given in DNVGL-ST-E273 section 7.3.5 and must be approved by DNV. Resultant sling force (RSF) can be found in the design verification report (DVR) issued by DNV for the portable offshore unit.

Type Approval documentation

Tests carried out
Prototype testing shall be carried out in accordance with DNVGL-ST-E271.

Marking of product
Components shall be marked in accordance with EN 818-2 clause 7, DNVGL-ST-E271 section 8 or DNVGL-ST-E273 section 7, as appropriate.

Periodical assessment
In order to maintain the validity of the type approval certificate, periodical assessments should be carried out by a DNV surveyor every 12 months.

END OF CERTIFICATE

Appendix 1

Product description and details:

Chain:

Type	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
K13	13	5.3	133	212
K16	16	8.0	201	322
K22	22	15.0	380	608
K26	26	21.2	531	849