Certificate No:
TAS00003AZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the lifting set for offshore containers and portable offshore units

with type designation(s)
wire rope lifting sets

Issued to
Hendrik Veder Group Norway AS
STAVANGER, **Norway**

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, April 2016 (Amended January 2020)
ISO 10855-2:2018 Offshore containers and associated liftings sets – Part 2: Design, manufacture and testing of lifting sets
IMO/MSC Circular 860
EN 13414-1 Wire rope slings

Application :

1, 2, 3, and 4 leg lifting sets, with forerunner where fitted, for lifting of:
- offshore container, with maximum gross mass 0 to 25000 kg,
- portable offshore units

Issued at **Aberdeen** on **2022-01-18**
This Certificate is valid until **2027-01-17** .
DNV local unit: **Stavanger**

Approval Engineer: **Elisabeth Legg**

for **DNV**

Brendan Ward
Senior Engineer

Product description

This type approval covers wire rope lifting sets assembled with turnback and Flemish eyes by Hendrik Veder Group Norway AS in accordance with DNV-ST-E271 and DNV-ST-E273.

The wire rope lifting sets assembled by Hendrik Veder Group Norway AS consist of components from the following sub suppliers:

Component	**Sub supplier** *(DNV to be informed and review new sub suppliers)*	**DNV Type Approval reference**
Master link & quad assembly	Nøsted & AS Scaw South Africa (Pty) Limited - McKinnon Chain	TAS00002US TAS000013Z
Wire rope [1)]	Hendrik Veder Group B.V.	N/A
Shackles [2)]	Van Beest B.V Gunnebo-Anja Industrier AS	TAS000033J TAS00001B8
Ferrules [3)]	Wirop Europe Crosby Group LLC Talurit AB Van Beest B.V. Gerro	N/A
Thimbles [4)]	GN Rope Fittngs – Grofsmederij Nieuwkoop B.V. Van Beest B V. ASEKE Einar Kunsts Frederik Höppe GmbH Crosby Group LLC	N/A

1) Wire ropes used in forerunner and bottom legs of lifting sets shall be 6-stranded and of type 6x19 or 6x36 and may be fibre cored or steel cored, with wire rope grades 1770 N/mm^2 or 1960 N/mm^2, in accordance with EN 12385, or equivalent.
2) Shackles are only considered part of the lifting set if captive (i.e. can not be removed after assembly of lifting set).
3) Ferrules/sleeves shall be in accordance with EN 13411-3, or equivalent.
4) Thimbles shall be in accordance with EN 13411-1, or equivalent.

Components shall be delivered with the following certificates:

- Master Links, Quad assemblies and Shackles: Certificates based on DNV type approval.
- Wire Ropes: To be supplied with traceable material certificates in accordance with EN 10204, inspection certificate, type 3.1.
- Thimbles and ferrules: To be supplied with a material certificate in accordance with EN 10204, test report, type 2.2.

Application/Limitation

For each delivered drum of wire rope, a test leg with one eye in each end shall be prepared and tested to breaking. A reference should be made to the wire drum test report in each sling set certificate where that wire is used.

All production testing should be carried out in accordance with Hendrik Veder Group Group AS internal procedures, to be agreed with the local DNV office.

The WLL to be referenced in certificates and marked on lifting sets shall be the maximum working load limit (WLL) of the lifting set, as per the definition in DNV-ST-E271.

For lifting sets manufactured in accordance with DNV-ST-E271
Lifting sets shall be assembled in accordance with the strength requirements described in DNV-ST-E271 section 8. The angle of the sling legs from vertical should be taken into account when choosing slings. This angle should normally be 45°, but smaller angles may be used.

Special lifting sets, assembled in accordance with the principles described in DNVGL-ST-E271 section 8 and appendix E, are also covered by this type approval. If unsymmetrical slings are to be assembled, the local DNV office shall be contacted to review each case, unless otherwise agreed in advance.

> *Note: The sling leg is not necessarily the weakest part of the lifting set. Master Link assemblies selected for lifting sets with legs at 45˚ may not be suitable for lifting sets with a smaller angle.*

The manufacturer shall issue product certificates, in accordance with DNV-ST-E271 section 8.5, using Hendrik Veder Group Norway AS document F13-001. This certificate shall only be used for lifting sets certified in accordance with this type approval certificate.

For lifting sets manufactured in accordance with DNV-ST-E273
Prior to selection of the lifting set, the minimum required working load limit (WLL) shall be calculated in accordance with the strength requirements in DNVGL-ST-E273 section 7.3. The resultant sling force (RSF) is provided in the DNV design verification report (DVR) for the portable offshore unit. The DVR should be made available for the lifting set manufacturer.

Type Approval documentation

Tests carried out
Prototype breaking load test of assembled wire rope sling leg.

Marking of product
For lifting sets manufactured in accordance with DNV-ST-E271: refer to section 8.
For lifting sets manufactured in accordance with DNV-ST-E273: refer to section 7.6.

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

END OF CERTIFICATE