

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAS00001RF
Revision No:
5

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

Kolos Lifting & Inspection AS
Sola, Norway

is found to comply with

DNV standard DNV-ST-E271 – 2.7-1 Offshore containers, March 2023
DNV standard DNV-ST-E273 – 2.7-3 Portable offshore units, April 2016 (Amended May 2022)
ISO 10855-2:2018 Offshore containers and associated liftings sets – Part 2: Design, manufacture and testing of lifting sets
EN 13414-1 Wire rope slings
IMO/MSC Circular 860

Application:

1, 2, 3 and 4 leg lifting sets, with forerunner where fitted, for lifting of:
- offshore container, with Maximum Gross Mass 0 to 25,000 kg
- portable offshore units

Issued at **Aberdeen** on **2024-02-14**

This Certificate is valid until **2028-12-20**.

DNV local unit: **Stavanger**

Approval Engineer: **Elisabeth Legg**

for **DNV**



Digitally signed by Ward,
Brendan
Location: DNV Aberdeen, UK
Contact Info: DNV UK Limited
Date: 2024.02.14
08:00:27Z00'00'

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 type approval certificate replaces previous revisions of TAS00001RF.

This type approval certificate covers wire rope lifting sets from 13 mm to 83 mm diameter assembled with turn back eye by Kolos Lifting & Inspection AS, in accordance with DNV-ST-E271 and DNV-ST-E273.

The wire rope lifting sets assembled by Kolos Lifting & Inspection AS consist of components from the following sub suppliers:

Component	Sub supplier (DNV to be informed and review new sub suppliers)	DNV TAC number
Master Links & Quad Assemblies	Gunnebo Industrier Aktiebolag Nøsted & AS Pewag Austria GmbH	TAS00002VZ TAS00002US TAS00002JU
Wire rope ¹⁾	Bansal Aradhya Steel Private Limited Bedmutha Industries Limited Bharat Wire Ropes Ltd. Chung Woo Rope Co., LTD DSR Wire Corp HAS ÇELİK ve HALAT SAN. A.Ş KISWIRE Europe BV Usha Brunton Wolf / Usha Martin YoungWire Co. Ltd.	N/A
Shackles ²⁾	Gunnebo-Anja Industrier AS Van Beest B.V.	TAS00001B8 TAS000033J
Ferrules ³⁾	Talurit AB	N/A
Thimbles ⁴⁾	AS Einar Kunst GN Rope Fittings (Grofsmederij Nieuwkoop B.V.) Talurit AB	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 grade 1960 N/mm², 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 Kolos Lifting & Inspection AS procedures, to be agreed with the local DNV office.

The manufacturer shall issue product certificates, in accordance with DNV-ST-E271 Section 8.5 using the Kolos Lifting & Inspection AS certificate FORM 271 and DNV-ST-E273 Section 7.5, using the Kolos Lifting & Inspection AS certificate FORM 273. These certificates shall only be used for lifting sets certified in accordance with this type approval certificate.

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 DNV-ST-E271 section 8 and appendix E, are also covered by this type approval. Kolos Lifting & Inspection AS are permitted to assemble unsymmetrical slings in accordance with the details found in L-KS-PVT.110 Revision: 03.

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.

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 DNV-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

Document No.	Rev.	Title
43424-XD-001		Forerunner Lifting Slings
43424-XD-002		2-Part Lifting Set
43424-XD-003		3-Part Lifting Set
43424-XD-004		4-Part Lifting Set
43424-XD-005		2-Part Lifting set With Forerunner
43424-XD-006		3-Part Lifting set With Forerunner
43424-XD-007		4-Part Lifting set With Forerunner
FORM 271		Certificate for Offshore Container Lifting Slings
FORM 273		Certificate for Portable Offshore Unit
L-KS-PVT.110	03	Prosedyre for sammenstilling av ståltau løfteredskap
L-KS-PVT.113	03	Teknisk arbeidsprosedyre for pressing av ståltau
L-KS-PVT.114	01	Prosedyre for testing av ståltau med endefeste
		Assessment for type approval DNV-ST-E271 (8 pages)
	5	Dimensjonsberegning (calculation program)

In addition, the following documents are also used as information:

- Prototype break test reports
- Sample calculations
- DNV assessment report

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 8.7.

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 in accordance with DNV-SE-0284. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>