

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

**NEADE INDUSTRIA E COMERCIO DE PRODUTOS PARA ELEVACAO E
MOVIMENTACAO DE CARGAS LTDA**
São Paulo, Brazil

is found to comply with

DNV standard DNV-ST-E271 – 2.7-1 Offshore containers, January 2021 (Amended October 2021)
**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 25,000 kg**

Issued at **Aberdeen** on **2022-09-30**

This Certificate is valid until **2027-09-29** .

DNV local unit: **Macaé**

for **DNV**

Approval Engineer: **Brendan Ward**

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Elisabeth Legg
Principal 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 type approval covers wire rope lifting sets from 19 mm to 51 mm diameter assembled with flemish eyes by NEADE in accordance with DNV-ST-E271.

The wire rope lifting sets assembled by NEADE consist of components from the following sub suppliers:

Component	Sub supplier <i>(DNV to be informed and review all new sub suppliers)</i>	DNV type approval No.
Master link & quad assembly	Crosby Group LLC Gunnebo Industrier AB	TAS00001D6 TAS00002VZ
Wire rope ¹⁾	Bridon Bekaert BBRG Osasco Cabos Ltda.	NA
Shackles ²⁾	Crosby Group LLC Van Beest B.V.	TAS00002SS TAS00002T2 TAS00001D0 TAS000033J
Ferrules ³⁾	NEADE Presstécnica (Esperença)	NA
Thimbles ⁴⁾	Coforja Correntes e Acessórios Brasil Ltda. Fischer Industria Mecânica Ltda.	NA

- 1) Wire ropes used in fore runner 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 ISO 2408, 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 NBR 11900-3, or equivalent.
- 4) Thimbles shall be in accordance with NBR 11900-1, 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 to be prepared and tested to breaking. A reference should be made to the wire drum test report in each lifting set certificate where that wire is used.

All production testing should be carried out in accordance with NEADE internal 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 certificate FO-PR-07 rev. 1. This certificate form shall only be used for lifting sets certified in accordance with this type approval.

The WLL to be used 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.

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. 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.



Job Id: 262.1-038253-1
Certificate No: TAS00003HE

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 8.7.

Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out every 6 months.

END OF CERTIFICATE