



# TYPE APPROVAL CERTIFICATE

Certificate no.:  
**TAS00002J3**  
Revision No:  
**1**

## This is to certify:

**that the lifting set for offshore containers**

with type designation(s)  
**wire rope lifting sets**

issued to

**SIVA INDUSTRIA E COMERCIO DE ARTEFATOS DE ARAME E ACO  
LTDA**

**Itaquaquecetuba, SP, Brazil**

is found to comply with

**DNV standard DNV-ST-E271 – 2.7-1 Offshore containers, March 2023 (Amended December 2024)**  
**ISO 10855-2:2024 Offshore containers and associated lifting sets – Part 2: Design, manufacture and marking  
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**

Issued at **Aberdeen** on **2025-08-01**

for **DNV**

This Certificate is valid until **2030-07-31**.

DNV local unit: **Macaé**

Approval Engineer: **Elisabeth Legg**

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 replaces all previous revisions of TAS00002J3.

This type approval covers wire rope lifting sets with wire rope diameter from 16 mm (5/8") to 38 mm (1-1/2") diameter, assembled with Flemish eyes by Siva Industria e Comercio de Artefatos de Arame e ACO Ltda. in accordance with DNV-ST-E271.

The wire rope lifting sets assembled by Siva Industria e Comercio de Artefatos de Arame e ACO Ltda. 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 and Quad assembly	Gunnebo Industrier Aktiebolag McKinnon Chain South Africa (Pty) Ltd Nøsted & AS Thiele GmbH & Co. KG	TAS00002VZ TAS0000337 TAS00002US TAS00001JS
Wire rope <sup>1)</sup>	Siva Industria e Comercio de Artefatos de Arame e ACO Ltda.	N/A
Shackles <sup>2)</sup>	Gunnebo-Anja Industrier AS Royal Van Beest Group B.V. Thiele GmbH & Co. KG Yoke Industrial Corp.	TAS00001B8 TAS000033J TAS00000XJ TAS0000241
Ferrules <sup>3)</sup>	Qingdao Highton Machinery Co. Ltd. Presstécnica Industria e Comercio Ltda	N/A
Thimbles <sup>4)</sup>	Qingdao Highton Machinery Co. Ltd. Presstécnica Industria e Comercio Ltda	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<sup>2</sup> or 1960 N/mm<sup>2</sup>, in accordance with EN 12385-4, 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 Siva Industria e Comercio de Artefatos de Arame e ACO Ltda. 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.

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.

The manufacturer shall issue product certificates, in accordance with DNV-ST-E271 section 8.5, using Siva Industria e Comercio de Artefatos de Arame e ACO Ltda. certificate form F-01 Rev. 02. This certificate shall only be used for lifting sets certified in accordance with this type approval certificate.

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.*

## Type Approval documentation

Document No.	Rev.	Title
F-01	02	Certificate for offshore container lifting slings
IO-034	02	EMIC DL 100th tensile testing machine
IO-035	00	Prensa Wirop 300 t e 600 t
ME-009	02	Determination of the breaking load of cables and ropes
ME-022	03	Visual and dimensional inspection of cables and ropes (self-control)
ME-025	02	Visual and dimensional inspection of wire rope slings (self-control)
PIT-007 (22 pages)	04	Sizing, inspection and testing of slings and accessories for use in offshore containers
PIT-007 Annex A	04	Manufacture of offshore container slings DNV-ST-E271, 2.7-1 offshore containers
TB-008 (10 pages)	02	Manual de construção de lingas (Sling construction manual) Relatório de ensaio (break test report)

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

- Prototype break test reports.
- DNV periodic assessment reports.
- Sample calculations.
- Material certificates for wire rope.

## 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.

## 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** in accordance with DNV-SE-0284. Periodical assessments will, where possible, be harmonised with other surveys and audits conducted by DNV.

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>