

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Lifting set for Offshore containers and Portable Offshore Units**

with type designation(s)

**Wire Rope Slings for Offshore Containers or Portable Offshore Units**

Issued to

**Gator Rigging Inspection  
Morgan City LA, United States**

is found to comply with

**DNV 2.7-1 Offshore Containers (2013)****DNV Standard for Certification No. 2.7-3 Portable Offshore Units (2011)****EN 12079-2 Offshore containers and associated lifting sets – Part 2: Lifting sets Design,  
manufacture and marking****EN13414-1 Wire rope slings****IMO/MSC Circular 860****Application :****1-, 2-, 3- & 4-Part Lifting Sets, with forerunner where fitted, for Lifting of Offshore Containers  
with Maximum Gross Mass 0 - 25.000 kg or Portable Offshore Units**This Certificate is valid until **2020-04-07**.Issued at **Høvik** on **2016-04-08**for **DNV GL**DNV GL local station: **New Orleans**Approval Engineer: **Igor Antonijevic**

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**Inger-Helene Hals  
Head of Section**

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.



Job Id: **262.1-020697-1**  
 Certificate No: **TAS00000DG**

## Product description

The Type Approval Certificate covers wire rope slings from 12.7mm to 44.45mm (½" to 1 ¾") assembled with flemish eye and steel ferrule by Gator Rigging Inspection, according to DNV 2.7-1 Offshore Containers or DNV 2.7-3 Portable Offshore Units.

The wire rope slings assembled by Gator Rigging Inspection to consist of components from the following sub suppliers:

Component	Sub supplier (DNV GL to be informed and review new sub suppliers)	DNV GL TA Cert. number	Component certificate form
Master link & Quad assembly	- Gunnebo Johnson - William Hackett - Crosby Group	S-7154 S-7732 S-8016	001 GEN-TST-001-F-02-00 271
Wire rope <sup>1)</sup>	- Kiswire - Manho Wire Rope - Chung Woo Rope Co. LTD - Usha Martin Limited - Cosmo Wire Ltd	N/A N/A N/A N/A N/A	- - - - -
Shackles <sup>2)</sup>	- Gunnebo Johnson - Crosby Group - Van Beest - William Hackett - Van Beest	S-7601 S-8357 S-7593 S-8059 S-7649	GL Form. TA 1-1 271 KF-10-17-B QF-009-017 KF-10-17-B
Ferrules <sup>3)</sup>	- Wirop - Muncy - Crosby	N/A N/A N/A	- - -
Thimbles <sup>4)</sup>	- Sealand - Kulkoni - Muncy	N/A N/A N/A	- - -

<sup>1)</sup> Wire ropes, fore runner and bottom leg, that will be used in lifting slings assembled by Gator Rigging Inspection have to be 6x36 IWRC. Type 6x19 IWRC has not been tested yet and the TAC will become valid for this type after prototype testing has been carried out and the test reports submitted to us.

<sup>2)</sup> Shackles are only considered part of sling if captive (i.e. can not be removed after assembly of sling).

<sup>3)</sup> Ferrules/sleeves: According to EN 13411-3 or equivalent and to manufacturer's specification.

<sup>4)</sup> Thimbles: Federal Specification FF-T-276b, Type III, or equivalent.

Components should be delivered with the following certificates:

- Master Links, Quad assemblies and Shackles: Certificates based on DNV GL Type Approval.
- Wire Ropes: To be supplied with traceable product certificates according to EN 10204, inspection certificate, type 3.1.
- Thimbles and ferrules: To be supplied with a material certificate to EN 10204, test report, type 2.2.

## Application/Limitation

The minimum length of plain rope between the inside ends or ferrules terminating a sling leg shall be 20 times the nominal rope diameter.

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 sling set certificate where that wire is used.

All production testing should be done according Gator Rigging Inspection internal procedures and to be agreed with local DNV GL office.

The manufacturer shall issue product certificate according to Section 8.5 in DNV 2.7-1, using the certificate form Gator-DNV-GL 001 Rev:0. This certificate form is only to be used for slings certified according to this Type Approval Certificate.

**For slings manufactured according to DNV 2.7-1 Offshore Containers**

Lifting sets shall be assembled according to the strength requirements for lifting sets on Offshore Containers as described in DNV 2.7-1 Offshore Containers, Section 8. The angle of the sling legs from vertical shall be taken into account when choosing slings. This angle should normally be 45°, but smaller angles can be used.

Special slings, assembled according to the principles described in DNV 2.7-1 Offshore Containers, Section 8 and Appendix E, are also covered by this Type Approval. However, if unsymmetrical slings are to be assembled, local DNV GL office are to be contacted for reviewing in each case, unless otherwise is agreed with local DNV GL office.

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

The WLL to be used in certificates and marked on lifting sets shall be the maximum rating of an offshore container on which the sling can be used, at the given sling leg angle.

**For slings manufactured according to DNV 2.7-3 Portable Offshore Units**

Prior to selection of sling set the minimum required working load limit (WLL) shall be decided according to the strength requirements for lifting sets on portable offshore units as given in DNV 2.7-3, Section 7.3.2 and must be approved by DNV GL. Resulting sling force (RSF) can be found in the Design Verification Report (DVR) issued by DNV GL for the Portable Offshore Unit. The DVR shall be available for the sling manufacturer.

**Type Approval documentation**

Document No.	Rev.	Title
-	-	Quality manual, revision level 007, printed 10-26-2015
15091	-	ISO 9001 Certificate
-	-	Component and Supplier List
-	-	DNV-GL Sling Fabrication Procedure, Rev.000
-	-	Sling inspection procedure
1651309-TS-CT-01	0	Test Certificate from Stress Engineering Services Inc dated 2016-01-20
1651309-TS-CT-02	0	Test Certificate from Stress Engineering Services Inc dated 2016-02-16
1651309-TS-CT-03	0	Test Certificate from Stress Engineering Services Inc dated 2016-02-16
1651309-TS-CT-04	0	Test Certificate from Stress Engineering Services Inc dated 2016-02-16
Gator-DNV-GL 001	0	Certificate of testing
-	-	Certificate of testing (4 sheets) dated 12/16/15
-	-	Certificate of testing (6 sheets) dated 12/17/15

For calculating the correct sizes the excel sheet was provided and found to be acceptable.

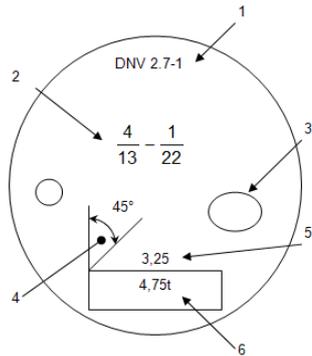
**Tests carried out**

Prototype test to Breaking Load of wire rope sling leg.

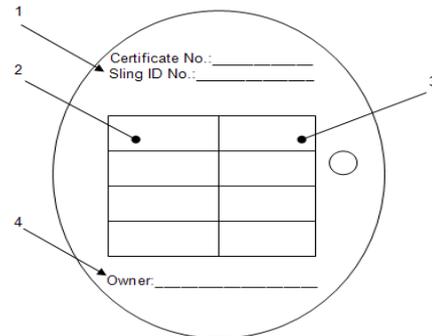
## Marking of product

### For slings manufactured according to DNV 2.7-1 Offshore Containers

Slings are to be marked with certification tag according to DNV 2.7-1 Offshore Containers, Section 8, as shown below:



Example of identification tag for a wire rope sling – Front



Example of identification tag for a wire rope sling – Back

- 1) CE mark and Reference to DNV 2.7-1
- 2) 4 legs of 13 mm, 1 forerunner of 22 mm (example)
- 3) Manufacturer's mark
- 4) Sling angle
- 5) Shackle size
- 6) WLL

- 1) Certificate number (and unique identification number if applicable)
- 2) Column 1: inspectors mark, inspection suffix and date of periodic inspections (shall be of format YY-MM-DD)
- 3) Column 2: shackle ID number
- 4) The owner's name may optionally be included

### For slings manufactured according to DNV 2.7-3 Portable Offshore Units

Each item to be marked according to DNV 2.7-3, Section 7.6.

## Periodical assessment

In order to maintain the validity of this type approval, certificate retention surveys are to be carried out according to DNV 2.7-1. Intervals are not to exceed 3 months.

END OF CERTIFICATE