

# TYPE APPROVAL CERTIFICATE

## This is to certify:

That the **Lifting set for offshore containers and portable offshore units**

with type designation(s)  
**Chain sling assemblies - OSWDNVxxxxxxx**

Issued to  
**SCAW SA (PTY) Ltd –Chain Division**  
**Cape Town, South Africa**

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, December 2016**  
**ISO 10855-2:2018 Offshore containers and associated liftings sets – Part 2: Design, manufacture and testing of lifting sets**  
**IMO/MSC Circular 860**  
**EN 818-4 Short link chain for lifting purposes – Safety – Part 4: Chain slings – Grade 8**

## Application :

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

Issued at **Aberdeen** on **2021-07-01**

for **DNV**

This Certificate is valid until **2026-06-30** .

DNV local unit: **Rotterdam**

Approval Engineer: **Elisabeth Legg**

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**Brendan Ward**  
**Delivery Lead - Containers**

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 TAS000013X.

This approval covers chain lifting sets for units certified in accordance with DNVGL-ST-E271 or DNVGL-ST-E273.

The chain liftings sets will be assembled from Scaw type approved products as listed in Appendix 1 of this type approval certificate.

DNV has accepted some components with internal dimensions smaller than those specified in EN 1677-4 Table 2. These are marked with \* in Appendix 1.

## Application/Limitation

All production testing shall be carried out in accordance with EN 818-4 and Scaw internal procedure. Testing shall be agreed with local DNV office and be in accordance with DNVGL-ST-E271 section 8 and Appendix F.

The manufacturer shall issue product certificates, in accordance with DNV GL-ST-E271 section 8.5 and DNVGL-ST-E273 Section 7.5, using the certificate form GEN-TST-001-F-01-02. These certificates shall only be used for lifting sets certified in accordance with this type approval certificate.

The Working Load Limit (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 DNVGL-ST-E271, at the given sling leg angle.

### For lifting sets manufactured in accordance with DNVGL-ST-E271

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

The required Working Load Limit (WLL) for a given container rating should be determined in accordance with DNVGL-ST-E271 Table 8-1 and Scaw procedure. In no case should an offshore container lifting set WLL be less than 7.0 tonnes.

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.*

### For lifting sets manufactured in accordance with DNVGL-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**

Document No.	Rev.	Title
CAT 8006-F	18	Gr8 DNV oblong master link
CAT 8006(1)-F	18	Gr8 max-alloy DNV oblong master link
CAT 8006(2)-F	18	Gr8 max-alloy DNV oblong master link
CAT 8053(1)-C	11	MAX-ALLOY - Grade 8 Short Link Smooth Weld Chain
CAT 8059-F	2	Gr8 DNV welded intermediate links
DNV 001/12		Documentation for liftings sets type approval renewal June 2021 (8 pages)
GEN-TST-001-F-01-02		DNV Type Testing and witnessing by DNV on OML250DNV and OSA250DNV Certificate form named: Inspection Certificate – Type Approved Chain Slings for Offshore Containers
693076		Survey report from DNV Johannesburg, ord. No. 693076, Ref MBUYs dated 1999.06.22
Q037		new test reports for masterlinks and quad assemblies No. Q037 dated 2004-06-27
CA4583		New test reports for master links and quad assemblies No. CA4583 dated 2004-06-30
No. 13-1947 A to C		Test reports for master links OSA250DNV, No. 13-1947 A to C witnessed by DNV Cape Town, Dated 2013-06-20 Prototype test report for OML280DNV witnessed by DNV GL Cape Town, dated 2016-11-21 Prototype test report of OML/OSA600DNV/ZT & OML/OSA700DNV/ZT witnessed by DNV GL Cape Town – dated 2017-12-08 Type testing report by Scaw of Intermediate links for chain sling assembly dated 2017-12-08 – witnessed by DNV GL
CSIR/MSM/LM/ER/2018/004/B		Fatigue test report of intermediate links by CSIR – dated February 2018 Prototype test report for increase of WLL on links and chain, witnessed by DNV GL Cape Town dated 2018-08-16 stamped 2018-09-03. TEST REPORT: Updating of TAS000013X, TAS000013X Rev 2 and TAS00001BN Rev 1 as well as a new TA for Zinc Tough chain slings – dated 2018-08-16 (39 pages)
139019		Assessment report endorsed by DNV GL Cape Town Dated 2017-12-11 Assessment report by DNV Cape Town dated 2021-05-25

**Tests carried out**

Prototype testing shall be carried out in accordance with DNVGL-ST-E271 and EN 818-4.

**Marking of product**

Components shall be marked in accordance with EN 818-4 chapter 7, DNVGL-ST-E271 section 8 or DNVGL-ST-E273 section 7, as appropriate.

**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.

**END OF CERTIFICATE**

## Appendix 1

Product description and details:

The values of the working load limit (WLL) specified below are nominal for each component and the correct selection shall be made in accordance with DNVGL-ST-E271 section 8.

### Master links:

Type	Description GP / HA / MA...	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
OML160DNV **	-16ML 8 OS+	16	4.1	101	201
OML220SDNV *	-22MLS 8 OS+	22	11	270	540
OML220DNV	-22ML 8 OS+	22	7.0	172	343
OML250DNV	-25ML 8 OS+	25.5	9.3	229	456
OML280SDNV *	-28MLS 8 OS+	28	19.5	479	956
OML280DNV	-28ML 8 OS+	28	14.5	356	711
OML320DNV	-32ML 8 OS+	32	19.0	466	932
OML360DNV	-36ML 8 OS+	36	26.0	638	1275
OML400DNV	-40ML 8 OS+	40	30.5	749	1496
OML450DNV	-45ML 8 OS+	45	40.0	981	1962
OML450LDNV	-45MLL 8 OS+	45	24.7	606	1211
OML500DNV	-50ML 8 OS+	50	51.0	1251	2502
OML600DNV	-65ML 8 OS+	65	75.0	1840	3679
OML700DNV	-75ML 8 OS+	75	100.0	2453	4905

\*) Non-standard sizes, see comment under Product description.

\*\*) This size is only to be used for portable offshore units.

### Intermediate links:

Type	Description	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
IML145DNV	HA-145IL 8 OS	14.5	3.7	91	146
IML160DNV	HA-16IL 8 OS	16	5.3	130	208
IML200DNV	HA-20IL 8 OS	20	8.6	212	339
IML220DNV	HA-22IL 8 OS	22	11.0	269	432
IML260DNV	HA-26IL 8 OS	26	15.6	384	615
IML320DNV	HA-32IL 8 OS	32	24.8	610	976
IML360DNV	HA-36IL 8 OS	36	31.8	780	1249

**Chain:**

Type	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
C8A 060 SLS **	6.0	1.2	28.3	47
C8A 070 SLS **	7.0	1.6	39.0	62.8
C8A 080 SLS **	8.0	2.0	50.3	80.5
C8A 100 SLS ***	10.0	3.2	79.0	126
C8A 130 SLS ***	13.0	5.4	133	213
C8A 160 SLS	16.0	8.2	201	322
C8A 200 SLS	20.0	12.8	315	503
C8A 220 SLS	22.0	15.5	380	609
C8A 260 SLS	26.0	21.6	531	850
C8A 320 SLS	32.0	32.8	804	1290
C8A 360 SLS	36.0	41.5	1018	1630
C8A 400 SLS	40.0	51.2	1257	2011
C8A 450 SLS	45.0	64.8	1590	2545

\*\* ) This size is only to be used for portable offshore units.

\*\*\* ) This size can only be used for offshore container sling legs, not forerunner