

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)

Master links (Zinc Tough) – OMLxxxDNVZT

Intermediate links (Zinc Tough) - IMLxxxDNVZT

Quad assemblies (Zinc Tough) – OSAXxxDNVZT

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 1677-4 Components for slings – Safety – Part 4: Links, Grade 8

Application :

Grade 8 links with corrosion protection for lifting sets for offshore containers and portable offshore units

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

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

for **DNV**

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 TAS00001BN.

This approval covers master links, intermediate links and master link assemblies for use in lifting sets for units certified in accordance with DNVGL-ST-E271 or DNVGL-ST-E273.

Detailed product information of certified products covered by this type approval are 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

Selection of the correct dimensions of lifting sets and/or lifting set components shall be carried out in accordance with the requirements for lifting sets of offshore containers in DNVGL-ST-E271 section 8.

Tests to be carried out:

- Production testing: in accordance with DNVGL-ST-E271 and EN 1677-4, in agreement with the DNV surveyor.
- Material to be impact tested by Charpy impact method in accordance with DNVGL-ST-E271 section 8.4.

The manufacturer shall issue product certificates in accordance with DNVGL-ST-E271 section 8.5, using the certificate form GEN-TST-001-F-02-01. This certificate form shall only be used for links certified in accordance with this type approval.

For links manufactured in accordance with DNVGL-ST-E271

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.

For links manufactured in accordance with DNVGL-ST-E273

Prior to selection of links, the minimum required working load limit (WLL) shall be determined in accordance with the strength requirements for lifting sets on portable offshore units as given in DNVGL-ST-E273 section 7.3.5 and must be approved by DNV. Resultant sling force (RSF) can be found in the design verification report (DVR) issued by DNV for the portable offshore unit.



Job Id: 262.1-024790-3
Certificate No: TAS0000333

Type Approval documentation

Tests carried out

Prototype testing shall be carried out in accordance with DNVGL-ST-E271.

Marking of product

Components shall be marked in accordance with EN 1677-4 chapter 7.1, 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]
OML160DNVZT **	-16 ML 8 OS+ ZT	16	4.1	101	201
OML220SDNVZT *	-22 MLS 8 OS+ ZT	22	11	270	540
OML220DNVZT	-22 ML 8 OS+ ZT	22	7.0	172	343
OML250DNVZT	-25 ML 8 OS+ ZT	25.5	9.3	229	456
OML280SDNVZT *	-28 MLS 8 OS+ ZT	28	19.5	479	956
OML280DNVZT	-28 ML 8 OS+ ZT	28	14.5	356	711
OML320DNVZT	-32 ML 8 OS+ ZT	32	19.0	466	932
OML360DNVZT	-36 ML 8 OS+ ZT	36	26.0	638	1275
OML400DNVZT	-40 ML 8 OS+ ZT	40	30.5	749	1496
OML450DNVZT	-45 ML 8 OS+ ZT	45	40.0	981	1962
OML450LDNVZT	-45 MLL 8 OS+ ZT	45	24.7	606	1211
OML500DNVZT	-50 ML 8 OS+ ZT	50	51.0	1251	2502
OML600DNVZT	-65 ML 8 OS+ ZT	65	75.0	1840	3679
OML700DNVZT	-75 ML 8 OS+ ZT	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]
IML145DNVZT	HA-145IL 8 OS ZT	14.5	3.7	91	146
IML160DNVZT	HA-16IL 8 OS ZT	16	5.3	130	208
IML200DNVZT	HA-20IL 8 OS ZT	20	8.6	212	339
IML220DNVZT	HA-22IL 8 OS ZT	22	11.0	269	432
IML260DNVZT	HA-26IL 8 OS ZT	26	15.6	384	615
IML320DNVZT	HA-32IL 8 OS ZT	32	24.8	610	976
IML360DNVZT	HA-36IL 8 OS ZT	36	31.8	780	1249

Sub assemblies:

Type	Description GP / HA / MA...	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
OSA160DNVZT **	-16 QA 8 OS+ ZT	16 / 14.5	4.1	101	201
OSA220SDNVZT *	-22 QAS 8 OS+ ZT	22 / 22	11	270	540
OSA220DNVZT	-23 QA 8 OS+ ZT	22 / 22	7.0	172	343
OSA250DNVZT	-25 QA 8 OS+ ZT	25.5 / 22	9.3	229	456
OSA280SDNVZT *	-28 QAS 8 OS+ ZT	28 / 22	14.5	356	711
OSA280DNVZT	-26 QA 8 OS+ ZT	28 / 22	14.5	356	711
OSA320DNVZT	-32 QA 8 OS+ ZT	32 / 28	19.0	466	932
OSA360DNVZT	-36 QA 8 OS+ ZT	36 / 28	26.0	638	1275
OSA400DNVZT	-40 QA 8 OS+ ZT	40 / 32	30.5	749	1496
OSA450DNVZT	-45 QA 8 OS+ ZT	45 / 36	40.0	981	1962
OSA450LDNVZT	-45 QAL 8 OS+ ZT	45 / 30	24.7	606	1211
OSA500DNVZT	-50 QA 8 OS+ ZT	50 / 45	51.0	1251	2502
OSA600DNVZT	-65 QA 8 OS+ ZT	65 / 50	75.0	1840	3679
OSA700DNVZT	-75 QA 8 OS+ ZT	75 / 65	100.0	2453	4905

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