Certificate No:
TAS0000337

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 (standard) - OMLxxxDNV
Intermediate links (standard) - IMLxxxDNV
Sub assemblies (standard) - OSAxxxDNV,

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 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** .
DNV local unit: **Rotterdam**

Approval Engineer: **Elisabeth Legg**

for **DNV**

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 TAS000013Z.

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.

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

Sub assemblies:

Type	Description GP / HA / MA…	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
OSA160DNV **	-16 QA 8 OS+	16 / 14.5	4.1	101	201
OSA220SDNV *	-22 QAS 8 OS+	22 / 22	11	270	540
OSA220DNV	-23 QA 8 OS+	22 / 22	7.0	172	343
OSA250DNV	-25 QA 8 OS+	25.5 / 22	9.3	229	456
OSA280SDNV *	-28 QAS 8 OS+	28 / 22	14.5	356	711
OSA280DNV	-26 QA 8 OS+	28 / 22	14.5	356	711
OSA320DNV	-32 QA 8 OS+	32 / 28	19.0	466	932
OSA360DNV	-36 QA 8 OS+	36 / 28	26.0	638	1275
OSA400DNV	-40 QA 8 OS+	40 / 32	30.5	749	1496
OSA450DNV	-45 QA 8 OS+	45 / 36	40.0	981	1962
OSA450LDNV	-45 QAL 8 OS+	45 / 30	24.7	606	1211
OSA500DNV	-50 QA 8 OS+	50 / 45	51.0	1251	2502
OSA600DNV	-65 QA 8 OS+	65 / 50	75.0	1840	3679
OSA700DNV	-75 QA 8 OS+	75 / 65	100.0	2453	4905

*) Non-standard sizes, see comment under Product description.
**) This size is only to be used for portable offshore units.