DNV·GL

Certificate No:
TAS00002SZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the lifting set components for offshore containers and portable offshore units

with type designation(s)
Master Link - Type DA-001
Master Link - Type DA-001F
Master Link Assembly - Type DA-007
Master Link Assembly - Type DA-007F

Issued to
Yoke Industrial Corp. Ltd.
Taichung, Taiwan

is found to comply with
DNV GL standard DNVGL-ST-E271 – 2.7-1 Offshore containers, August 2017
DNV GL standard DNVGL-ST-E273 – 2.7-3 Portable offshore units, December 2016
EN 1677-4 Components for slings – Safety – Part 4: Links, Grade 8
ISO 10855-2:2018 Offshore containers and associated liftings sets – Part 2: Design, manufacture and testing of lifting sets
IMO/MSC Circular 860

Application :

Grade 8 links for lifting sets for offshore containers or portable offshore units

Issued at **Aberdeen** on **2020-11-09**
This Certificate is valid until **2025-11-08** .
DNV GL local unit: **Kaohsiung**

Approval Engineer: **Alex Doig**

for **DNV GL**

Elisabeth Legg
Principal Engineer

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Product description

This type approval replaces TAS000005Z.

This Type Approval Certificate covers master links and master link assemblies for use in lifting sets certified to DNVGL-ST-E271 or DNVGL-ST-E273 in accordance with EN 1677-4.

Detailed product information of products covered by this type approval are listed in Appendix 1.

DNV GL has accepted some components with internal dimensions smaller than those stated in EN 1677-4 table 2. These are identified in Appendix 1.

The following products are covered by this type approval:

- Master Links, Type DA-001 and DA-001F
- Master Link Assemblies, Type DA-007 and DA-007F

Application/Limitation

Minimum design temperature: -40°C

All production testing shall be carried out in accordance with DNVGL-ST-E271, EN 1677-4, Yoke's internal procedures and in agreement with the DNV GL surveyor. Material shall be impact tested by Charpy impact method in accordance with DNVGL-ST-E271 section 8.4.

For application of links, the minimum working load limit (WLL) shall be decided in accordance with the strength requirements for lifting sets as given in DNVGL-ST-E271 section 8.

The manufacturer shall issue product certificates in accordance with DNVGL-ST-E271 section 8.5 or DNVGL-ST-273 section 7.5, using the certificate form QF-009-021 03 for master links and QF-009-022 03 for master link assembly. These certificate forms shall only be used for products certified in accordance with this type approval.

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 DNVGL-ST-E273 section 7.3.5 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 link manufacturer.

Type Approval documentation

Tests carried out
Prototype strength tested in accordance with DNVGL-ST-E271 and EN 1677-4.

Marking of product
Components shall be marked in accordance with DNVGL-ST-E271 section 8 or DNVGL-ST-E273 section 7 and EN 1677-4 Section 7.

Periodical assessment
For retention of the Type Approval Certificate, a DNV GL surveyor shall perform an assessment every 6 months and before the expiry date of this certificate to verify that the type approval is complied with.

END OF CERTIFICATE

Appendix 1

Product description and details:

The working load limit values specified below are nominal for each component. See Application/Limitation in this certificate and DNVGL-ST-E271 section 8.

Master Links type DA-001

Type	Dia. [mm]	WLL [t]	MPF [kN]	Min. BF[1)] [kN]
DA-001-13 [2)]	13	2.8	68.6	137.3
DA-001-16 [2)]	16	4	98.1	196.1
DA-001-19	19	7	171.6	343.2
DA-001-223 [2)]	22	6.3	154.5	308.9
DA-001-22	22	8.9	218.2	436.4
DA-001-221	22	8.9	218.2	436.4
DA-001-25	25	11.5	281.9	563.9
DA-001-251	25	11.5	281.9	563.9
DA-001-28	28	13	318.7	637.4
DA-001-32	32	17.1	419.2	838.5
DA-001-36	36	24	588.4	1176.8
DA-001-40	40	28.1	688.9	1377.8
DA-001-45	45	38.3	939.0	1878.0
DA-001-50	50	45	1103.2	2206.5

Master Links type DA-001F

Type	Dia. [mm]	WLL [t]	MPF [kN]	Min. BF[1)] [kN]
DA-001F-19	19	7	171.6	343.2
DA-001F-22	22	8.9	218.2	436.4
DA-001F-251	25	11.5	281.9	563.9
DA-001F-28	28	13	318.7	637.4
DA-001F-32	32	17.1	419.2	838.5

Quad Assemblies type DA-007

Type	WLL [t]	MPF [kN]	Min. BF[1)] [kN]	MASTER LINK	INT. LINK
DA-007-16 [2)]	4.1	100.5	201.0	DA-001-161	DA-001-131
DA-007-221 [2)]	6.3	154.5	308.9	DA-001-223	DA-001-161
DA-007-22 [3)]	8.9	218.2	436.4	DA-001-222	DA-001-191
DA-007-25	8.9	218.2	436.4	DA-001-251	DA-001-19
DA-007-28	12.9	316.3	632.5	DA-001-28	DA-001-22
DA-007-281 [3)]	14.5	355.5	711.0	DA-001-282	DA-001-221
DA-007-32	17.0	416.8	833.6	DA-001-32	DA-001-25
DA-007-36 [3)]	23.6	578.6	1157.2	DA-001-361	DA-001-281
DA-007-40	28.1	688.9	1377.8	DA-001-40	DA-001-32
DA-007-45	38.3	939.0	1878.0	DA-001-45	DA-001-36
DA-007-50	45.0	1103.2	2206.5	DA-001-50	DA-001-401

Quad Assemblies type DA-007F

Type	WLL [t]	MPF [kN]	Min. BF[1)] [kN]	MASTER LINK	INT. LINK
DA-007F-25	8.9	218.2	436.4	DA-001-251	DA-001F-19
DA-007F-28	12.9	316.3	632.5	DA-001-28	DA-001F-22
DA-007F-32	17.0	416.8	833.6	DA-001-32	DA-001F-25
DA-007F-40	28.1	688.9	1377.8	DA-001-40	DA-001F-32

[1)] Breaking force is based on safety factor 5.
[2)] This size shall only be used for portable offshore unit lifting sets.
[3)] Non-standard sizes, see comment under Product Description.