DNV·GL

Certificate No:
TAS00001U6

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Lifting set for Offshore containers and Portable Offshore Units

with type designation(s)
Master Link Serie F
Intermediate Link Serie M
Master Link Assembly Serie FM

Issued to
KITO CHAIN ITALIA S.R.L.
Tarvisio, UD, Italy

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
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
Design temperature: -40°C

Issued at **Høvik** on **2018-12-11**
This Certificate is valid until **2023-06-30**.
DNV GL local station: **Venice**

Approval Engineer: **Igor Antonijevic**

for **DNV GL**

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.

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Product description

This Type Approval Certificate replaces certificate S-8072.
The Type Approval Certificate covers links for use in Lifting Sets certified to DNV GL standard DNV GL-ST-E271 - 2.7-1 Offshore Containers (DNV GL 2.7-1) or DNV GL standard DNVGL-ST-E273 - 2.7-3 Portable Offshore Units (DNV GL 2.7-3).
Detailed product information and range of certified products covered by this Type Approval are listed in Appendix 1 of this Type Approval Certificate.
DNV GL has accepted some components with internal dimension smaller than in table 2 in EN 1677-4. These are marked in Appendix 1.

Application/Limitation

Tests to be carried out:

- Production testing: According to DNV GL 2.7-1 and EN standard EN 1677-4 and in agreement with the DNV GL surveyor.
- Material to be impact tested by Charpy impact method according to DNV GL 2.7-1, Section 8.4.

For application of links the minimum working load limit (WLL) shall be decided according to the strength requirements for lifting sets on offshore containers as given in DNV GL 2.7-1, Section 8 and internal procedure as listed in Type Approval Documentation. In no case should the WLL of Lifting Sets for Offshore Containers be less than 7.0 tonnes.
The manufacturer shall issue product certificates in accordance with Section 8.5 in DNV GL 2.7-1, using the certificate form UCQ.08.02.13.MOD rev.2. This certificate form is only to be used for links certified according to this Type approval Certificate.
For links manufactured according to DNV GL 2.7-3
Prior to selection of links and quad assembly the minimum required working load limit (WLL) shall be decided according to the strength requirements for master links on portable offshore units as given in DNV GL 2.7-3, Section 7.3.5. 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

Type Testing was performed in accordance with DNV GL 2.7-1 and EN 1677-4.

Marking of product

Marking shall be according to DNV GL 2.7-1, Section 8 or DNV GL 2.7-3, Section 7 and EN 1677-4.

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform an assesment 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

Master links serie F

Type	Diameter [mm]	Size designation [mm]	WLL [t]	MPF [kN]	Min. BF[3)] [kN]
F22[2)]	23	23 x 140 x 270	6.7	164	329
F25	25	25 x 140 x 270	8.9	218	437
F28	27	27 x 140 x 270	14.5	356	711
F32[1)]	33	33 x 140 x 270	24.15	592	1185
F36	36	36 x 140 x 270	28.91	709	1418
F40	40	40 x 150 x 275	34.29	841	1682
F45	45	45 x 180 x 340	38.3	939	1878
F50	50	50 x 190 x 350	50.56	1240	2480
F60	60	60 x 230 x 430	67	1643	3286
F70	70	70 x 260 x 480	85	2085	4169

Intermediate links serie M

Type	Diameter [mm]	Size designation [mm]	WLL [t]	MPF [kN]	Min. BF[3)] [kN]
M16[2)]	17	17 x 80 x 140	5.06	124	248
M18[2)]	19	19 x 75 x 135	6.7	165	330
M20	20	20 x 75 x 135	8.99	220.5	441
M22	23	23 x 100 x 180	10.94	268	537
M26	27	27 x 100 x 180	13.0	320	639
M30	30	30 x 110 x 190	18.57	455	911
M32	33	33 x 110 x 200	21.4	525	1050
M36	36	36 x 125 x 225	29.1	716	1431
F40	40	40 x 150 x 275	34.29	841	1682
F50	50	50 x 190 x 350	50.56	1240	2480
M56	56	56 x 200 x 400	67.0	1643	3286

Master link assemblies serie FM

Type	Diameter [mm]	WLL [t]	MPF [kN]	Min. BF[3)] [kN]
F22M16[2)]	23/17	6.7	164	329
F25M18	25/19	8.9	218	437
F28M20	27/20	11.8	290	579
F28M22	27/23	14.5	356	711
F32M26[1)]	33/27	17.1	420	839
F36M30	36/30	24.1	591	1182
F40M32	40/33	28.1	689	1378
F45M36	45/36	38.3	939	1878
F50F40	50/40	45.0	1104	2207
F60F50	60/50	67.0	1643	3286
F70M56	70/56	85.0	2085	4169

1) this size has smaller dimensions than table 2 in EN 1677-4.
2) this size is only to be used with portable Offshore Units according to DNV GL 2.7-3.
3) breaking force is based on safety factor 5