



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAS00001U6**  
Revision No:  
**1**

## This is to certify:

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

with type designation(s)

**Master Link Series F**

**Intermediate Link Series M**

**Master Link Assembly Series FM**

Issued to

**KITO CHAIN ITALIA S.R.L.**

**Tarvisio, UD, Italy**

is found to comply with

**DNV standard DNV-ST-E271 – 2.7-1 Offshore containers, March 2023**

**DNV standard DNV-ST-E273 – 2.7-3 Portable offshore units, April 2016 (Amended October 2021)**

**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 **2023-06-26**

for **DNV**

This Certificate is valid until **2028-06-25** .

DNV local unit: **Venice**

Approval Engineer: **Elisabeth Legg**

**Satya Shyamala Kuppili**  
**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.



Form code: TA 281

Revision: 2022-12

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## Product description

This type approval certificate replaces previous revisions of TAS00001U6.

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

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

## Application/Limitation

Design temperature: - 40°C

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 DNV-ST-E271 section 8.

Tests to be carried out:

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

Kito Chain Italia S.r.l shall issue product certificates, in accordance with DNV-ST-E271 section 8.5, using the certificate form UCQ.08.02.13.MOD rev.2. This certificate form shall only be used for links certified in accordance with this type approval.

### For links manufactured in accordance with DNV-ST-E271

The required working load limit (WLL) for a given container rating should be determined in accordance with DNV-ST-E271 Table 8-1 and Kito Chain Italia S.r.l procedure. In no case shall an offshore container lifting set WLL be less than 7.0 tonnes.

### For links manufactured in accordance with DNV-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 DNV-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

Document No.	Rev.	Title
UCQ.08.02.13.MOD	2	Product certificate
UGQ.07.05.52.SCP	4	Scheda di controllo e produzione (heat treatment record)
Page 1 of 1	-	Heat treatment (additional information)
Page 1 of 6	4	Offshore Lifting Set Components – Links - Grade 8 Master Link serie F
Page 2 of 6	4	Offshore Lifting Set Components – Links - Grade 8 Intermediate Link serie M
Page 3 of 6	4	Offshore Lifting Set Components – Links - Grade 8 Master Link Assembly (Quad Assembly) serie FM
Page 4 of 6	4	Offshore Lifting Set Components – Links - Manufacturing Procedure
Page 5 of 6	4	Offshore Lifting Set Components – Links - Testing Procedure
Page 6 of 6	4	Offshore Lifting Set Components – Links – Type Test
Page 1 of 1	1	Production, laboratory and testing facilities (Offshore lifting set components – Links-)
STF06/799	4	Hot rolled round steel bars 6758 (23MnNiMoCr5-4)

Test reports witnessed by DNV:

2012 - 01/OF/2012, 02/OF/2012, 06/OF/2012, 07/OF/2012, 09/OF/2012  
 2014 -, 01/OF/2014, 02/OF/2014, 03/OF/2014, 04/OF/2014, 05/OF/2014,  
 06/OF/2014, 07/OF/2014, 10/OF/2014, 11/OF/2014  
 2017 - 01/OF/2017, 02/OF/2017, 03/OF/2017, 04/OF/2017

In addition the following documents are used as information:

- DNV type approval assessment reports and checklists



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### **Tests carried out**

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

### **Marking of product**

Components shall be marked in accordance with EN 1677-4 clause 7.1, DNV-ST-E271 section 8 or DNV-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 in accordance with DNV-SE-0284. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

## 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 DNV-ST-E271 section 8.

### Master Link Series F

Type	Diameter [mm]	Size designation [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) <sup>3</sup> [kN]
F22 <sup>2)</sup>	23	23 x 140 x 270	6.70	164	329
F25	25	25 x 140 x 270	8.90	218	437
F28	27	27 x 140 x 270	14.50	356	711
F32 <sup>1)</sup>	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	38.30	939	1878
F50	50	50 x 190 x 350	50.56	1240	2480
F60	60	60 x 230 x 430	67.00	1643	3286
F70	70	70 x 260 x 480	85.00	2085	4169

### Intermediate Link Serie M

Type	Diameter [mm]	Size designation [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) <sup>3</sup> [kN]
M16 <sup>2)</sup>	17	17 x 80 x 140	5.06	124	248
M18 <sup>2)</sup>	19	19 x 75 x 135	6.70	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	13.00	320	639
M30	30	30 x 110 x 190	18.57	455	911
M32	33	33 x 110 x 200	21.40	525	1050
M36	36	36 x 125 x 225	29.10	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	67.00	1643	3286

**Master Link Assembly Serie FM**

Type	Diameter (Master/Intermediate) [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) <sup>3)</sup> [kN]
F22M16 <sup>2)</sup>	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 <sup>1)</sup>	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 specified in EN 1677-4 Table 2.  
 2) This size shall only to be used for portable offshore units.  
 3) Minimum breaking force is based on safety factor of 5