DNV·GL

Certificate No:
TAS00001X8

TYPE APPROVAL CERTIFICATE

This is to certify:

That the type of Lifting Gear

with type designation(s)
Green Pin Tycan® Lifting Chain,
Article numbers FCHLIFT-1115, FCHLIFT-1120, FCHLIFT-1525 and FCHLIFT-1330

Issued to
Van Beest B.V.
Sliedrecht, Zuid-Holland, Netherlands

is found to comply with
requirements to design and manufacturing according to DNVGL-OS-E303 – Offshore fibre ropes, Edition July 2018

Application :

Loose gear for cargo lifting within the qualified limits for use, ref. the applicable Statement of qualified technology or product certificates in accordance with DNVGL-OS-E303.

Synthetic chains with product certificates according to DNVGL-OS-E303 can be used in compliance with DNVGL-ST-0377 and DNVGL-ST-0378 for use on (i) onshore lifting appliances, (ii) shipboard lifting appliances, (iii) offshore and platform lifting appliances.

Issued at **Høvik** on **2019-03-01**
This Certificate is valid until **2024-02-29**.
DNV GL local station: **Rotterdam**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

Rikard Törnqvist
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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Job Id: **262.1-030708-1**
Certificate No: **TAS00001X8**

Product description

Green Pin Tycan® Lifting Chain

Green Pin Tycan® Lifting Chain is made of synthetic fibers developed by DSM Dyneema B.V. They are built up by woven webbing that is turned into Möbius loop, forming a link of the chain.

The warp (load bearing) fibre is made of Dyneema® DM20 DTEX1760 TZ25. The weft fibre is made of Dyneema® SK60 DTEX880 TZ40. Edge or catch fibres (retention) are made of Dyneema® SK75 DTEX440.

Green Pin Tycan® Lifting Chain article numbers:

Article no.	WLL [T]	Capacity, MBL [T]	Link size (t x w x l) [mm]	No. of layers [#]	Link weight [g]	No. of links [#/m]	Elongation at MBL [%]	Chain weight [kg/m]
FCHLIFT1115	2.5	10.4	11 x 15 x 100	6	31.9	10	5	0.319
FCHLIFT1120	4.0	16.0	11 x 20 x 100	6	47.3	10	5	0.473
FCHLIFT1525	5.0	20.0	15 x 25 x 100	8	60.0	10	5	0.600
FCHLIFT1330	6.8	27.2	13 x 30 x 125	7	75.4	8	5	0.754

Notes:
t x w x l = thickness x width x length inside

Load safety factor: 4 (MBL = 4 x WLL)

Operational temperature range of the chain: -40°C up to +70°C

Operational temperature range of the working environment: The same as for people

Manufactured by

DNV GL Client ID: 10484755

Responsibilities

The Company (stated on the front page of this certificate) takes the responsibility that both design and manufacture are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

The Company takes responsibility to deliver synthetic chains with DNV GL product certificates (as stated on the front page of this certificate).

Green Pin Tycan® Lifting Chain is produced at the manufacturer under a license from Van Beest B.V.

Limitations

This type approval covers design and manufacturing for the product types and article numbers listed in the table above.

The products are designed to work with designated end-terminations as stated on DNV GL product certificates or on applicable DNV GL *Statement of qualified technology*.

End-terminations are not covered by this type approval.

The qualified limits for use shall be established in compliance with DNVGL-OS-E303 *Offshore fibre ropes* and expressed on the appropriate DNV GL product certificate with reference to this type approval or on the applicable DNV GL *Statement of qualified technology* with reference to the Green Pin Tycan® user manual.

Reference is made to the applicable DNV GL *Statement of qualified technology* for the compliance of the respective article numbers with the Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery.

Lift configurations:
Green Pin Tycan® Lifting Chain can be used in different lift configurations in compliance with the qualified limits for use, such as vertical, choker and basket hitches.

For further details, refer to the applicable DNV GL product certificate for the lifting chain (or the DNV GL *Statement of qualified technology*).

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Scope of testing for product certification is specified in the applicable Approval of Manufacturer (AoM) Certificate issued to the company Van Beest B.V.

Marking of product

The marking of the product shall be in compliance with DNVGL-OS-E303 *Offshore fibre ropes*.

The marking is to be carried out in such a way that it is visible, legible and indelible.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

On condition that the Manufacturer holds a valid Approval of Manufacturer (AoM) certificate the mentioned periodical assessments connected to this Type Approval certificate may be omitted and the assessments can be done during renewal of the AoM Certificate. The company Van Beest B.V. to be assessed as per above intervals.

The main elements of the Periodical Assessment are to:
- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE