DNV·GL

Certificate No:
TAE000037W

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Ties

with type designation(s)
LH-ST-M, LH-ST-I, LH-ST-S, LH-ST-HD

Issued to
Wenzhou Longhua Daily Electron Co., Ltd.
Wenzhou, China

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Material	**Composite**
Suitable for open deck	**Yes**

Issued at **Hamburg** on **2018-10-25**
This Certificate is valid until **2023-10-24**.
DNV GL local station: **Ningbo**

Approval Engineer: **Carsten Hunsalz**

for **DNV GL**

Arne Schaarmann
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

Type:	LH-ST-M, LH-ST-I, LH-ST-S, LH-ST-HD
Material:	Nylon 66 with stainless steel teeth

Article	Length [mm]	Width [mm]	Thickness [mm]	Diameter Range [mm]	Loop Tensile Strength [N]
LH-ST-M-100-4 to LH-ST-M-200-8	100-200	2,5	1,00	3 to 52,5	180
LH-ST-I-140-5 to LH-ST-I-370-15	140-370	3,6	1,10	3,5 to 106	250
LH-ST-S-200-8 to LH-ST-S-370-15	200-370	4,8	1,20	3,5 to 103,5	360
LH-ST-HD-220-9 to LH-ST-HD-762-30	220-762	7,6	1,60	3,5 to 226	780

Details according manufacturer`s specification

Classification according to IEC 62275:

6.1 Material:	Composite component
6.2 Loop tensile strength:	Type 2: Retains 100% strength after testing
6.3 Temperature:	Maximum operation temperature [°C]: 85°C Minimum operation temperature [°C]: -40°C Minimum installation temperature [°C]: -10°C
6.4 Contribution to fire:	Non-flame propagating
6.5.1 Resistance to UV light:	resistant
6.5.2 Resistance to corrosion:	resistant

Application/Limitation

For fixing of cables, outdoor and indoor, onboard ships and mobile offshore units.

To be installed according with the manufacturer`s instructions and DNV GL rules.

Type Approval documentation

Specification: Wenzhou Longhua Daily Electron Co., Ltd., dated 2018

Test Report: Wenzhou Longhua Daily Electron Co., Ltd., dated 2018

Tests carried out

Mandatory tests for non metallic types according to type approval programme DNVGL-CP-0407 and IEC 62275 2013-11

Loop tensile strength for ties retaining 100% strength after testing.

Marking of product

The smallest package is to be marked with the following:

- Manufacturer's name / trade mark & catalog type designation
- Manufacturer's rated load (tensile strength) as per catalogue
- Dimensions
- Type of product
- Maximum bundle diameter
- Temperature conditions

Periodical assessment

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

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE