Certificate No:
**TAE00004GR**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Cable Ties**

with type designation(s)
**JZGS, FZGSP, FZLSP, FZLSJ**

Issued to
## Zhejiang Fengfan Cable Fittings Co. Ltd.
**Shaoxing City, Zhejiang, China**

is found to comply with
**DNV 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.**

| | |
|---|---|
| **Material** | **Metallic** |
| **Suitable for open deck** | **Yes** |

Issued at **Hamburg** on **2022-05-09**
This Certificate is valid until **2027-05-08**.
DNV local station: **Ningbo CMC**

Approval Engineer: **Carsten Hunsalz**

for **DNV**

**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.

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.

## Product description

| | |
|---|---|
| Type: | JZGS |
| Material: | Metallic<br>Stainless steel<br>304 / 316 |

| Article | Length [mm] | Width [mm] | Thickness [mm] | Diameter Range [mm] | Loop Tensile Strength [N] |
|---|---|---|---|---|---|
| JZGS-4.6 | 100-800 | 4,6 | 0.26 | 12.7 to 193 | 1000 |
| JZGS-7.9 | 100-800 | 7,9 | 0.26 | 12.7 to 193 | 2220 |

Details according manufacturer`s specification

Classification according to IEC 62275:

| | |
|---|---|
| 6.1 Material: | Metallic |
| 6.2 Loop tensile strength: | Type 2: Retains 100% strength after testing |
| 6.3 Temperature: | Maximum operation temperature [°C]: 300°C<br>Minimum operation temperature [°C]: -60°C<br>Minimum installation temperature [°C]: -60°C |
| 6.4 Contribution to fire: | Non-flame propagating |
| 6.5.1 Resistance to UV light: | resistant |
| 6.5.2 Resistance to corrosion: | resistant |

| | |
|---|---|
| Type: | FZGSP |
| Material: | Metallic-Coated<br>Stainless steel<br>304 / 316 |

| Article | Length [mm] | Width [mm] | Thickness [mm] | Diameter Range [mm] | Loop Tensile Strength [N] |
|---|---|---|---|---|---|
| FZGSP-4.6 | 100-800 | 4,6 | 0.38 | 12.7 to 193 | 710 |
| FZGSP-7.9 | 100-800 | 7,9 | 0.38 | 12.7 to 193 | 1112 |

Details according manufacturer`s specification

Classification according to IEC 62275:

| | |
|---|---|
| 6.1 Material: | Metallic Polyester / Epoxy coated |
| 6.2 Loop tensile strength: | Type 2: Retains 100% strength after testing |
| 6.3 Temperature: | Maximum operation temperature [°C]: 150°C<br>Minimum operation temperature [°C]: -40°C<br>Minimum installation temperature [°C]: -40°C |
| 6.4 Contribution to fire: | Non-flame propagating |
| 6.5.1 Resistance to UV light: | resistant |
| 6.5.2 Resistance to corrosion: | resistant |

| | |
|---|---|
| Type: | FZLSP |
| Material: | Metallic-Coated<br>Stainless steel<br>304 / 316 |

| Article | Length [mm] | Width [mm] | Thickness [mm] | Diameter Range [mm] | Loop Tensile Strength [N] |
|---|---|---|---|---|---|
| FZLSP-12 | 150-1000 | 12 | 0.5 | 25.4 to 310 | 2800 |
| FZLSP-15 | 150-1000 | 15 | 0.5 | 25.4 to 310 | 3500 |

Details according manufacturer`s specification

Classification according to IEC 62275:

| | |
|---|---|
| 6.1 Material: | Metallic Polyester / Epoxy coated |
| 6.2 Loop tensile strength: | Type 2: Retains 100% strength after testing |
| 6.3 Temperature: | Maximum operation temperature [°C]: 150°C<br>Minimum operation temperature [°C]: -40°C<br>Minimum installation temperature [°C]: -40°C |
| 6.4 Contribution to fire: | Non-flame propagating |
| 6.5.1 Resistance to UV light: | resistant |
| 6.5.2 Resistance to corrosion: | resistant |

| | |
|---|---|
| Type: | FZLSJ |
| Material: | Metallic-Coated<br>Stainless steel<br>304 / 316 |

| Article | Length [mm] | Width [mm] | Thickness [mm] | Diameter Range [mm] | Loop Tensile Strength [N] |
|---|---|---|---|---|---|
| FZLSJ-9 | 150-1000 | 9 | 1.0 | 12.7 to 284 | 2000 |
| FZLSJ-13 | 150-1000 | 13 | 1.1 | 25.4 to 284 | 3000 |
| FZLSJ-16 | 150-1000 | 16 | 1.1 | 25.4 to 284 | 3500 |

Details according manufacturer`s specification

Classification according to IEC 62275:

| | |
|---|---|
| 6.1 Material: | Metallic PVC coated |
| 6.2 Loop tensile strength: | Type 2: Retains 100% strength after testing |
| 6.3 Temperature: | Maximum operation temperature [°C]: 85°C<br>Minimum operation temperature [°C]: -40°C<br>Minimum installation temperature [°C]: -40°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 rules.

## Type Approval documentation

## Tests carried out

Mandatory tests for metallic types according to type approval programme DNV-CP-0407 and IEC 62275 2018-08

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