

Certificate No: **TAE00002AR**

TYPE APPROVAL CERTIFICATE

| This is to certify: | |
|---|--|
| That the Electric Power Cable | |
| with type designation(s) XTREM H07RN-F Series | |
| TOP CABLE, S.A. Rubi Barcelona, Spain | |
| is found to comply with DNV GL rules for classification – Ships, offshore units, and DNV GL class programme DNVGL-CP-0399 – Type approval | |
| Application: | |
| Product(s) approved by this certificate is/are accepted for by DNV GL. | installation on all vessels classed |
| Rated voltage (kV) 0,6/1 Temp. class (°C) 90 | |
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| | |
| | |
| Issued at Høvik on 2017-10-10 | |
| This Certificate is valid until 2022-10-09 . DNV GL local station: Barcelona | for DNV GL |
| Approval Engineer: Georgy Abramenko | Andreas Kristoffersen 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: **262.1-007672-6** Certificate No: **TAE00002AR**

Product description

Type: XTREM Series 0,6/1kV

| Construction: | |
|------------------|-------------------------------------|
| Conductors: | Annealed, stranded copper class 5 |
| Core insulation: | EPR type according to IEC 60092-360 |
| Outer sheath: | SE1 type according to IEC 60092-360 |

| Number of cores | Cross-section | |
|-----------------|--|--|
| 1 | 1,5 2,5 4 6 10 16 25 35 50 70 95 120 150 185 240 300 | |
| | 400 500 | |
| 2 5 | 1 1,5 2,5 4 6 10 16 25 35 50 70 95 | |
| 3 | 1 1,5 2,5 4 6 10 16 25 35 50 70 95 120 | |
| 4 | 1 1,5 2,5 4 6 10 16 25 35 50 70 95 120 150 | |
| 7 12 | 1,5 2,5 4 | |
| 16 24 | 1,5 2,5 | |

Application/Limitation

General power and lighting. Flame retardant.

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Type Approval documentation

Data sheet: H07RN-F MARINE 0,6/1 kV dated 04.03.2014

Test reports: Top Cable dated April 2014

Tests carried out

Type tests according to IEC 60092-350, IEC 60332-1.

Marking of product

TOP CABLE XTREM H07RN-F - IEC 60092-353 - size - 0,6/1 kV

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

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