

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
TOXFREE MARINE PLUS XTCuZ1-K (AS+) 0,6/1kV

Issued to

TOP CABLE, S.A.
Rubi Barcelona, Spain

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft
DNV GL class programme DNVGL-CP-0399 – Type approval – Electric cables

Application :

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

Rated voltage (kV) 0,6/1
Temp. class (°C) 90

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**

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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.



Job Id: **262.1-007672-6**
Certificate No: **TAE00002AF**

Product description

Type: TOXFREE MARINE XTCuZ1-K (AS+) 0,6/1kV

Construction:	
Conductors:	Annealed, stranded copper class 5
Core insulation:	Mica tape + HF XLPE
Inner covering:	Halogen free filler
Metal covering:	Copper wire braid
Outer sheath:	SHF1

Number of cores	Cross-section
1	2,5 4 6 10 16 25 35 50 70 95 120 150 185 240 300
2	1,5 2,5 4 6 10 16
3 4	1,5 2,5 4 6 10 16 25 35 50 70 95 120 150 185 240
5	1,5 2,5 4 6 10 16 25 35 50
7 12 19 27	1,5 2,5
10 14 16 24	1,5

Application/Limitation

General power and lighting. Halogen free. Low smoke. Fire resistant. Flame retardant Cat. A.

This type of cable is fire resistant in accordance with IEC Publication 60331.

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

Tests carried out

Type tests according to IEC 60092-350, IEC 60092-353, IEC 60331-1, IEC 60331-21, IEC 60332-3-22.

Marking of product

TOP CABLE - TOXFREE MARINE PLUS XTCuZ1-K (AS+) - 0,6/1 kV - size - IEC 60092-353 - IEC 60332-3 - IEC 60331.

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