# TYPE APPROVAL CERTIFICATE

Certificate no.:
**TAE00002B1**
Revision No:
**6**

## This is to certify:

**that the Low Voltage Cable**

with type designation(s)
**AFUMEX NAU e-senS XOTCUA,**
**AFUMEX NAU e-senS XHTCUA,**
**AFUMEX NAU e-senS XTCUA,**
**AFUMEX NAU e-senS XAOTCUA**

issued to
**PRYSMIAN CABLES SPAIN, S.A.**
**Vilanova i la Geltrú**, **Spain**

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

## Application:

**Control and instrumentation.**
**Products approved by this certificate are accepted for installation on all vessels classed by DNV.**

| Type | Rated voltage (V) | Temp. class (°C) |
|---|---|---|
| AFUMEX NAU e-senS XOTCUA | 150/250 | 90 |
| AFUMEX NAU e-senS XHTCUA | 150/250 | 90 |
| AFUMEX NAU e-senS XTCUA | 150/250 | 90 |
| AFUMEX NAU e-senS XAOTCUA | 150/250 | 90 |

Issued at **Høvik** on **2026-11-11**

This Certificate is valid until **2029-12-21**.
DNV local unit: **Area NB/CMC Iberia**

Approval Engineer: **Ivar Bull**

for **DNV**
**This document has been digitally signed and will therefore not have handwritten signature**

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 USD 300 000.

## Product description

Types : AFUMEX NAU e-senS XOTCUA,
AFUMEX NAU e-senS XHTCUA,
AFUMEX NAU e-senS XTCUA,
AFUMEX NAU e-senS XAOTCUA

| | |
|---|---|
| Construction: | (Type designation letters in brackets) |
| Conductors: | Plain or tinned, stranded copper. Class 2 or class 5 |
| Core insulation: | HF XLPE (X) |
| Screen: | Individual or collective screen of Al/PE tape with tinned copper drain wire<br>Overall screen may be made of copper tape<br>O=overall screen<br>H=individual screen |
| Inner covering: | Tape or Halogen free compound (A) |
| Metal covering: | Plain or tinned copper wire braid (TCU) |
| Outer sheath: | SHF1 (A) |

| No of Elements: | Cross sectional area [$mm^2$] |
|---|---|
| 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 19,20, 24, 27, 28, 29, 30, 31, 32 Single cores | 0,75, 1,0 1,5 2,5 |
| 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 pairs | 0,75 1,0 1,5 |
| 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 triples | 0,75 1,0 1,5 |

## Application/Limitation

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 sheets: HOM-8-A Dated 09/11 and HOM-7-A Dated 09/11
Dimensional data sheet NAU - XTCUA 250 V Rev. 00 dated 10/08
AFUMEX NAU e-senS datasheets Rev 0 dated 5-June 2026

Test reports: DET-01/0808 dated March 2008
DI 5952 dated 2008-11-28
DI 5953 dated 2008-11-28
RT & PST dated 13/1-2014

## Tests carried out

| Standard | Release | General description | Limitation |
|---|---|---|---|
| DNV CP-0399 | 2021-08 | Electric cables. | |
| IEC 60092-350 | 2020-01 | Electrical installations in ships - Part 350: General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications | |
| IEC 60092-360 | 2021-01 | Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables | |
| IEC 60092-376 | 2017-05 | Cables for control and instrumentation circuits 150/250 V (300 V) | |
| IEC 60332-1-2(2004) AMD1(2015) | 2015-07 | Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable. | Flame retardant small scale. Distance between the lower edge of the top support and the onset of charring > 50 mm and charring not to extend downwards > 540 mm from the lower edge of the top support. |
| IEC 60332-3-22 | 2018-07 | Tests on electric and optical fibre cables under fire conditions - Part 3-22: Test for vertical flame spread of vertically mounted bunched wires or cables - Category A | Charred portion of sample does not exceed 2,5m above bottom edge of burner. |

| Standard | Release | General description | Limitation |
|---|---|---|---|
| IEC 60754-1 | 2019-11 | Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content | Low Halogen:<br><0,5% Halogen |
| IEC 60754-2 | 2019-11 | Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity | Halogen free:<br>pH > 4,3<br>Conductivity < 10µS/mm |
| IEC 61034-1/2 | 2019-11 | Measurement of smoke density of cables burning under defined conditions –<br>Part 1: Test apparatus<br>Part 2: Test procedure and requirements | Low smoke<br>Light transmittance >60% |

## Marking of product

PRYSMIAN SAP - AFUMEX NAU e-senS XOTCUA or XHTCUA or XTCUA or XAOTCUA - 150/250 V - size –150/250V – IEC 60332-3/A - Lot No. or

SAP = Santa Perpetua Plant.

## 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) and selected type tests (ref. to applicable class programs) checked (if not available these tests shall 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