TYPE APPROVAL CERTIFICATE

Certificate no.:
TAE00002B1
Revision No:
4

This is to certify:

that the Low Voltage Cable

with type designation(s)
AFUMEX NAU XOTCUA,
AFUMEX NAU XHTCUA,
AFUMEX NAU XTCUA

issued to
PRYSMIAN CABLES SPAIN, S.A.
Vilanova i la Geltrú, Barcelona, 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 XOTCUA	150/250	90
AFUMEX NAU XHTCUA	150/250	90
AFUMEX NAU XTCUA	150/250	90

Issued at **Høvik** on **2024-12-19**

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

Approval Engineer: **Ivar Bull**

for **DNV**
Digitally Signed By: Sneen, Ståle
Location: DNV Høvik, Norway

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.

Product description

Types : AFUMEX NAU XOTCUA, AFUMEX NAU XHTCUA, AFUMEX NAU XTCUA

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 O=overall screen H=individual screen
Inner covering:	Tape or Halogen free compound
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
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: <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: pH > 4,3 Conductivity < 10µS/mm
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Part 1: Test apparatus Part 2: Test procedure and requirements	Low smoke Light transmittance >60%

Marking of product

PRYSMIAN SAP - AFUMEX NAU XOTCUA or XHTCUA or XTCUA - 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