

MARINE DIVISION

17 bis Place des Reflets - La Défense 2
92400 Courbevoie - France

Tel. 33 1 42 91 52 91
Fax. 33 1 42 91 28 94
www.veristar.com



Certificate number: 09511/B0 BV

File number : ACE 01/076/04

Product code : 2505I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

This certificate is issued to

PRYSMIAN CABLES Y SISTEMAS, S.L. - Planta FERCABLE

Barcelona - SPAIN

for the type of product

INSTRUMENTATION AND COMMUNICATION CABLES

150/250 V - AFUMEX Series

NAU XA, NAU XTCuA, NAU XHTCuA, FIRS NAU XA, FIRS NAU XTCuA, FIRS NAU XHTCuA
NAU XHOA, NAU XOTCuA, FIRS NAU XHOA, FIRS NAU XOTCuA

Regulations and standards :

BUREAU VERITAS Rules for the Classification of Steel Ships.

IEC 60092/350/351/359/376, IEC 60228, IEC 60332-1, IEC 60331-21, IEC 60332-3-22 Cat. A, IEC 61034-1/2, IEC 60754-1/2.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.

This certificate is valid until : 16 Feb 2013

At Paris la Défense, on : 16 Feb 2008

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV MADRID
Surveyor : A. Banta Villamil

L.COURREGELONGUE



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Flame retardant, Fire resistant (FIRS Type only), Halogen Free and Low Smoke Control, Instrumentation and Communication Cables.

1.1 - Common Specifications:

Rated Voltage: 150/250 V according to IEC 60092-376
 Temperature Class: 90°C
 Flame retardant: IEC 60332-1 & IEC 60332-3-22 Cat.A
 Fire Resistant: IEC 60331-21 (FIRS Type only)
 Halogen Free: IEC 60754-1/2
 Low Smoke: IEC 61034-1/2

1.2 - Construction:

Conductor: Bare stranded copper - Class 5 or Class 2 (if required)
 Fire resisting Layer: Mica tape (FIRS type only)
 Insulation: Halogen Free Cross-Linked PolyEthylene - HF XLPE
 Individual Screen: Aluminium / Polyester tape with tinned copper drain wire (H Type)
 Collective Screen: Aluminium / Polyester tape with tinned copper drain wire (O Type)
 Armour: Copper wire braid (TCu Ytype)
 Filler: Halogen free material (upon request)
 Outer sheath: Halogen Free Thermoplastic Polyolefin - SHF1

1.3 - Product Range:

Type	Number of Core	Cross-Sect. area (mm ²)	Remark
AFUMEX:			
NAU XA	1	0.75 to 1.5	Flame retardant according to IEC 60332-1 & 60332-3-22 Cat. A Fire resistant according to IEC 60331-21 (FIRS Type only)
NAU XTCuA	2		
NAU XHTCuA	3		
FIRS NAU XA	4		
FIRS NAU XTCuA	5 to 27		
FIRS NAU XHTCuA			

Type	Number of P/T/Q	Cross-Sect. area (mm ²)	Remark
AFUMEX:			
NAU XHOA	1P,T,Q	0.75 to 2.5	Flame retardant according to IEC 60332-1 & 60332-3-22 Cat. A Fire resistant according to IEC 60331-21 (FIRS Type only)
NAU XOTCuA	2P,T,Q		
FIRS NAU XHOA	3P,T,Q		
FIRS NAU XHOA	4P,T,Q		
FIRS NAU XOTCuA	5 to 27 P,T,Q		

2. DOCUMENTS AND DRAWINGS :

PRYSMIAN Data Sheets:

ECN No. 118A Rev. 02, 134A Rev. 00, 135A Rev. 00, 137A Rev. 00, 138A Rev. 00, 139A Rev. 00 dated 03/07.

ECN No. 119A Rev. 02, 121A Rev. 02, 124A Rev. 02, 125A Rev. 02 dated 03/07.

3. TEST REPORTS :

FERCABLE S.A.: Test reports referring to certification issued by D.N.V. and annexed to FERCABLE S.A. B.V. letter certification request dated on 10.03.1999. (See B.V. Madrid letter MPO/99/591/ESP/SAG).

B.V. Madrid: Letter MPO/99/01551/ESP/MAR dated on 17.09.1999 with annexed report of complementary tests carried out by FERCABLE S.A. on date of 17.06.1999 and stamped by B.V.

Pirelli: Test report dated Jan. 2003. The tests were witnessed by a BV Surveyor.

PRYSMIAN: Test Reports No 4675, 4676, 4677, 4678, 6728, 6730, 6731, 6353, 6354, 6355 dated 27/06/2006.

4. APPLICATION / LIMITATION :

BUREAU VERITAS Rules for the Classification of Steel Ships and IEC 60092-3xx.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The AFUMEX NAU cables are to be manufactured, examined and tested by PRYSMIAN CABLES Y SISTEMAS, S.L. in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure.

6. MARKING OF PRODUCT :

The cable shall be marked on the surface outer sheath, in a durable legible and visible manner, with the following information through the length of cable:

- 1) - Voltage grade.
- 2) - Cable symbol and temperature class.
- 3) - Number of conductors and conductor size.
- 4) - Applicable standard(s) to flame retardant and fire resistance if any.
- 5) - Manufacturer's name or trade mark.
- 6) - Year of manufacture.

7. OTHERS :

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the cables at any time, and that:

PRYSMIAN CABLES Y SISTEMAS, S.L. - Planta FERCABLE
Avda. Torrelles, 15-23
08620 Barcelona
Sant Vicenç dels Horts
SPAIN

will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the cables and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 09511/A4 BV issued on 02/05/2003 by the Society.

***** END OF CERTIFICATE *****