

MARINE DIVISION

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Certificate number: 09512/B0 BV

File number : ACE 01/076/03

Product code : 25011

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

CABLES (LOW VOLTAGE)

0.6/1 kV AFUMEX Series

NAU-XA, FIRS NAU XA, NAU XTCuA, FIRS NAU XTCuA.

Regulations and standards :

BUREAU VERITAS Rules for the Classification of Steel Ships.

IEC 60092-350/351/353/359 - IEC 60228, IEC 60331 - IEC 60332-3 Cat. A, IEC 61034-1/2, IEC 60754-1.

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 : 06 Nov 2011

At Paris la Défense, on : 06 Nov 2006

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV MADRID
Surveyor : A. Banta Villamil


J. BENOIT



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 :

Fire resistant (FIRS Type), Flame retardant, Halogen Free and Low Smoke Power, lighting and Control Cables.

1.1 - Specifications:

Rated Voltage: 0.6/1 kV
 Temperature Class: 90°C
 Flame retardant: IEC 60332-3 Cat.A
 Fire Resistant: IEC 60331 (FIRS Type only)
 Halogen Free: IEC 60754-1
 Low Smoke: IEC 61034-1/2

1.2 - Construction:

Conductor: Annealed stranded copper
 Fire resisting layer: Mica tape (FIRS type only)
 Insulation: Cross-Linked PolyEthylene - XLPE
 Filler: Halogen free material
 Armour: Copper wire braid (TCu type only)
 Outer sheath: Halogen Free Thermoplastic Polyolefin (SHF1)

1.3 - Product Range:

Type	No of Cores x Cond. Size N x S (mm ²)	Remark
AFUMEX:	1 x 1.5 to 300	Halogen Free cables based on strict compliance of Sheating and Filling materials with IEC 60754-1.
NAU XA	2 x 1.5 to 120	
FIRS NAU XA	3 x 1.5 to 185	
NAU XTCuA	4 x 1.5 to 120	
FIRS NAU XTCuA	5 to 27 x 1.5 to 2.5	

2. DOCUMENTS AND DRAWINGS :

According to manufacturer's technical specifications in conformity of which the cables subject to recognition tests (ref. at 3) have been manufactured.

3. TEST REPORTS :

- 3.1 - 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).
 3.2 - 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.
 3.3 - Pirelli test report dated Jan. 2003. The tests were witnessed by a BV Surveyor.

4. APPLICATION / LIMITATION :

According to BV Rules for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS :

Arrangement should be made for a Society's Surveyor to inspect at the Manufacturer's works the cables of types referred to in this certificate and intended for use on Bureau Veritas registered ships.

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**, 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° 09512/A5 BV issued on 02/05/2003 by the Society.

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