

Marine & Offshore

Certificate number: 12422/C1 BV File number: ACE 01/735/02 Product code: 2505H

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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to PRYSMIAN CABLES SPAIN SAU

VILANOVA I LA GELTRÚ(BCN) - SPAIN

for the type of product

INSTRUMENTATION AND COMMUNICATION CABLES

TEOF - RFOU(c), RFOU(i), BFOU(c), BFOU(i) series.

150/250 V

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships. IEC 60092-350 (2014), 376 (2014), 360 (2014), IEC 60228 (2004), IEC 60754-1/2 (2011), IEC 61034-2 (2013), IEC 60331-1/21 (1999), IEC 60332-1-2 (2004), IEC 60332-3-22 Cat.A (2009).

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 25 Jan 2022

For Bureau Veritas Marine & Offshore,

At BV BARCELONA, on 18 Dec 2018, Sergio Julian LOPEZ VIDAL

BUREAU VER PARIS INTE 1828 ATIONAL

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 Marine & Offshore. 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 & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore 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.

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THE SCHEDULE OF APPROVAL

<u>1. PRODUCT DESCRIPTION:</u>

1.1 - Construction:

Conductor:	Tinned or bare stranded copper conductor, Class 2 & 5
Fire resisting layer:	Mica tape (only for BFOU)
Insulation:	EPR, HEPR
Screen:	Al-polyester or Cu-polyester tape w/tinned copper drain wire
Inner sheath:	Halogen free compound
Metal covering:	Copper wire braid or tinned copper
Over sheath:	SHF2

1.2 - Approval range:

Type	Number of cores	Cross Sectional Areas (mm ²)
TEOF RFOU (c) RFOU (i)	Paire (x2) 1, 2, 4, 8, 12, 16, 24	0.75
250V	1, 2, 4, 8, 10, 12, 14, 15, 18, 20, 24	1.0
	1, 2, 4, 8, 12	1.5
	1, 2, 4, 8, 12, 16, 24	2.5
	Triple (x3)	0.75
	1, 8	1.0
	2, 4, 8	1.5
TEOF BFOU (c) BFOU (i)	Paire (x2) 1, 2, 4, 12, 16, 19, 24	0.75
250V	1, 2, 3, 4, 8, 12, 14, 15, 18, 20, 24	1.0
	1, 2, 4, 8, 12	1.5
	1, 2, 4, 8, 12, 16	2.5
	Triple (x3) 1, 2, 4, 8, 12	0.75
	1, 8	1.0
	1, 2, 4	1.5
	16	2.5

2. DOCUMENTS AND DRAWINGS: For C0 version:

Data sheet ref. 16.0247, dated Nov.2016. Data sheet ref. 16.0248, dated Nov.2016. Data sheet ref. 16.0249, dated Nov.2016. Data sheet ref. 16.0246, dated Nov.2016.

The electronic version is available at: http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=kgmsdumum1

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3. TEST REPORTS:

Fercable test report dated August 1992 & December 1992.

For C0 version:

Test report ref. 38110/116, dated 20.Jul.2016.

4. APPLICATION / LIMITATION:

4.1 - BV Rules for the Classification of Steel Ships and IEC 60092 series.

4.2 - Approval valid for units having to comply with IMO Resolution A649 (The "MODU Code").

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The INSTRUMENTATION AND COMMUNICATION CABLES are to be supplied by **PRYSMIAN CABLES SPAIN SAU** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **PRYSMIAN CABLES SPAIN SAU** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **PRYSMIAN CABLES SPAIN SAU** has declared to Bureau Veritas the following production site(s): **PRYSMIAN CABLES SPAIN SAU**

Carretera C-15 - Km. 2 08800 VILANOVA I LA GELTRÚ BARCELONA SPAIN

PRYSMIAN CABLES SPAIN, S.A.U -Planta SANTA PERPETUA DE MOGODA-Carrer Can Vinyalets, 2 08130 SANTA PERPETUA DE MOGODA BARCELONA SPAIN

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:

6.1 - Voltage grade.

6.2 - Cable symbol.

- 6.3 Cable size.
- 6.4 Manufacturer's name or trademark.
- 6.5 Year of manufacture.

7. OTHERS:

7.1 - It is **PRYSMIAN CABLES SPAIN SAU** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
7.2 - This certificate supersedes the Type Approval Certificate No. 12422/C0 BV issued on 25 Jun. 2017 by the Society.

*** END OF CERTIFICATE ***