

MARINE DIVISION

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Certificate number: 05564/D1 BV

File number : ACE 01/003/35

Product code : 2502H

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

NEXANS FRANCE
LYON CEDEX 07 - FRANCE

for the type of product

CABLES (MEDIUM/HIGH VOLTAGE)

3.6/6 & 6/10 kV
Type: MPRXCX & MPRXCX FLEXISHIP

Regulations and standards :

BUREAU VERITAS Rules for the Classification of Steel Ships.

IEC 60092-350/351/359/354, IEC 60228, IEC 60332-1, IEC 60332-3-22 (Cat. A), IEC 60754-1/2, IEC 61034-1/2.

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 : 13 Dec 2012

At Paris la Défense, on : 07 Nov 2008

For **BUREAU VERITAS**,
By order of the Secretary

Approval office

Local office : BV LYON
Surveyor : G. Blanchard

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, low smoke and halogen free Marine and Offshore power cables.

1.1 - Specifications:

Rated voltage: 3.6/6 & 6/10 kV according to IEC 60092-354
 Temperature class: 90°C
 Flame retardant: IEC 60332-1 and IEC 60332-3-22 (Cat. A)
 Halogen Free: IEC 60754-1/2
 Low Smoke: IEC 61034-1/2

1.2 - Construction:

Conductor: Plain or tinned copper - Class 2 or Class 5 (FLEXISHIP)
 Conductor Screening: Semi-conducting compound
 Insulation: Halogen Free Cross-Linked PolyEthylene - HF XLPE
 Insulation Screen: Semi-conducting compound + Bare copper tape or Plain / tinned copper braid
 Inner Covering: HF Polyolefin compound
 Armour: Plain or tinned copper braid
 Outer Sheath: HF Thermoplastic compound - SHF1
 or HF Thermoset compound - SHF2 (Option)

1.3 - Product Range:

Type	Rated Voltage (kV)	Number of Core	Cross-Sect. (mm ²)	Remarks
MPRXCX®	3.6/6	1	25 to 300	Flame Retardant according to: IEC 60332-1 & 60332-3-22 (Cat.A)
MPRXCX® FLEXISHIP	6/10	3	25 to 150	Halogen Free according to IEC 60754-1/2 Low Smoke according to IEC 61034-1/2

2. DOCUMENTS AND DRAWINGS :

Nexans: Manufacturer 's Catalogue and Data Sheets Nexans 205 BE/23/10/2008.

3. TEST REPORTS :

Test reports: - C 09557 of 13 April 1992
 - X 70177 of 07 July 1993
 - For RINA of 08 February 1995.

Nexans:

Test Reports according to IEC 60092-354 No. 10045500 dated 05/07/2004, 101502056 dated 21/07/2005, 101509455 / 10046206 dated 07/12/2005, 101561600 dated 09/11/2006 and 10025555/5 dated 04/12/2007.
 Test Reports No. 08-017 dated 05/05/2008 and No. 08-063 dated 01/10/2008
 Electrical Tests, Report No. 10045596 dated 05.07.2004.

4. APPLICATION / LIMITATION :

- 4.1 - BUREAU VERITAS 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 cables are to be manufactured, examined and tested by NEXANS FRANCE in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
 5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end NEXANS FRANCE has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
 5.3 - NEXANS FRANCE has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site:

NEXANS FRANCE
170 Avenue Jean Jaures
BP 7153
69353 LYON CEDEX 07
FRANCE

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:

- Voltage grade, Cable symbol and Temperature Class
- Applicable standards to flame retardant
- Number of conductors and conductor size
- Manufacturer's name or trade mark, 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:

**NEXANS FRANCE
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FRANCE**

will accept full responsibility for informing shipbuilders, ship-owners 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° 05564/D0 BV issued on 13 December 2007 by the Society.

*** END OF CERTIFICATE ***

