DNV·GL

Certificate No:
TAE00003MA

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
MPRX 331 0,6/1 kV, MPRX 331 FLEXISHIP

Issued to
NEXANS FRANCE
Mehun Sur Yevre, Cher, France

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Type	Rated voltage (kV)	Temp. class (°C)
MPRX 331 0,6/1 kV	0,6/1	90
MPRX 331 FLEXISHIP	0,6/1	90

This Certificate is valid until **2024-07-05**.

Issued at **Høvik** on **2019-07-06**

DNV GL local station: **France CMC**

for **DNV GL**

Approval Engineer: **Ivar Bull**

Trond Sjåvåg
Head of Section

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.

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Job Id: **262.1-006567-22**
Certificate No: **TAE00003MA**

Product description

MPRX 331 0,6/1 kV, MPRX FLEXISHIP 0,6/1 kV
Construction:
Conductors: Plain or tinned, stranded copper
Core insulation: Mica tape + HF XLPE
Sheath: SHF 1

Number of cores	Cross sectional area mm²
1	1,5 2,5 4 6 10 16 25 35 50 70 95 120 150 185 240 300
2	1,5 2,5 4 6 10 16 25 50
3	1,5 2,5 4 6 10 16 25 35 50 70 95 120 150 185 240
4	1,5 2,5 4 6 10 16 25 35 50 70 95 120 150
5	1,5 2,5 4 6 10 16 25 35 50 70 95 120
7,10,12,14,19,24,27,30,37	1,5 2,5
7	4

Application/Limitation

This cable is fire resistant according to IEC 60331.

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

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2014-08	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-360	2014-04	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60092-353	2011-08	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	0,6/1 kV
IEC 60331-1	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 1: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter exceeding 20 mm	Minimum 90 min
IEC 60331-21	1999-04	Tests for electric cables under fire conditions – Circuit integrity – Part 21: Procedures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV	90 min. test
IEC 60332-3-22	2018-07	Tests on electric 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.

IEC 60684-2	2011-08	Flexible insulating sleeving – Part 2: Methods of test	Low Halogen: <0,1% Halogen
IEC 60754-1	2011-11	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	2011-11	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

Marking of product

NEXANS 279 - MPRX 331 - size - 0,6/1 kV – IEC 60332-3-22 – IEC 60331-1 - IEC 60331-21 – batch no.

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) checked (if not available tests according to RT to 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