

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Power Cable**with type designation(s)
MPRXCX 331 0,6/1 kV, MPRXCX 331 FLEXISHIP

Issued to

Nexans Deutschland GmbH
Mönchengladbach Nordrhein-Westfalen, Germanyis found to comply with
DNV GL rules for classification – Ships and offshore units
DNV GL class programme DNVGL-CP-0399 – Type approval – Electric cables**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Type	Voltage class (kV)	Temp. class (°C)
MPRXCX 331 0,6/1 kV	0,6/1	90
MPRXCX 331 FLEXISHIP	0,6/1	90

This Certificate is valid until **2022-01-15**.Issued at **Høvik** on **2017-01-16**DNV GL local station: **Essen**Approval Engineer: **Georgy Abramenko**for **DNV GL**

Andreas Kristoffersen
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.

Product description

MPRXCX 331 0,6/1 kV, MPRXCX 331 0,6/1 kV

Construction:

Conductors: Plain or tinned, stranded copper

Core insulation: Mica tape + HF XLPE

Inner covering: Halogen free tape

Metal covering: Plain or tinned copper wire braid

Sheath: SHF 1

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

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

Data sheets: 1061 E MPRXCX331 V1 4, dated 29-01-2008
 1344 E MPRX331 V1 1, dated 29-01-2008
 MG-S-007, dated 19-10-2016
 MG-S-008, dated 22-07-2016

Test report no: Nexans no: 2801164 dated 01-12-11
 Nexans no: 2801162 dated 01-12-11
 STE/DC/IEC 60331/2001/017 dated 01-10-22
 STE/DC/IEC 60331/2001/016 dated 01-10-17
 ETS test report 16092301, dated 03-10-2016
 Emission 1061_15A dated 01.09.2015
 Emission 1067_15A dated 01.09.2015.

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

Job Id: **262.1-010567-2**
Certificate No: **TAE00001A7**

IEC 60331-1	2009-05	Fire resistance / Circuit integrity – Test for method for fire with shock at temperature of at least 830°C for cables rated up to and including 0,6/1 kV	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	2009-02	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Bunch test Category A
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
IEC 60684-2	2011-08	Flexible insulating sleeving – Part 2: Methods of test	Low Halogen: <0,1% Halogen
IEC 61034-1/2	2005-04	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Minimum 60% light transmittance.

Marking of product

| NEXANS | - MPRXCX 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.

Assessment to be performed at least every second year.

END OF CERTIFICATE