

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Power Cable**with type designation(s)
MC-210Q, MC-210C, MC-210T

Issued to

Wilson Cables Private Limited
SINGAPORE, Singapore

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Rated voltage (kV) 0,6/1****Temp. class (°C) 90**Issued at **Hamburg** on **2019-11-11**This Certificate is valid until **2024-11-10**.for **DNV GL**DNV GL local station: **Certification of Materials - Singapore**Approval Engineer: **Carsten Hunsalz****Arne Schaarmann**
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.



Job Id: **262.1-030257-1**
Certificate No: **TAE00003SU**

Product description

XLPE insulation and PVC sheathed flame retardant power and control cables with Armour (-20° C)

Rated voltage: 0,6/1kV
Max. Conductor temperature: 90° C
Conductor: Plain annealed, stranded copper (class 2)
Insulation: XLPE
Laying-up: Fillers shall be used (if applicable)
Inner sheath or inner covering: ST2 PVC or tapes
Armour: Q - Galvanized steel wire braided
C - Copper wire braided
T - Tinned copper wire braided
Sheath: ST2 PVC

No. of cores: Nominal cross section mm²

1	1 up to 300
2	1 up to 120
3	1 up to 150
4	1 up to 95
5 to 37	1, 1.5, 2.5
5, 6, 7	4

Application/Limitation

General power and lighting. Control.

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.

Flame retardant Cat. A.

Type Approval documentation

Test report : No. EWCS-08-001; EWCS-08-002;
EWCS-test reports dated of 15./16.12.2008
Specification: Company Standard 2:2004 + Amendment No.1

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 60092-353	2016-09	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
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.	

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Standard	Release	General description	Limitation
IEC 60332-3-22	2018-07	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	

Marking of product

Wilson Cables - MC-210Q or MC-210C or MC-210T – Size - 0,6/1 kV - IEC 60332-3-22 - Job order 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