

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Low Voltage Cable

with type designation(s)
YHCXVH - t.p.c.

Issued to

HEW-Kabel GmbH
Wipperfürth, Germany

is found to comply with

DNV GL rules for classification – Ships

DNV GL offshore standards

DNV GL rules for classification – High speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Voltage class (V) 250

Temp. class (°C) 105

This Certificate is valid until **2021-02-01**.

Issued at **Hamburg** on **2016-11-22**

DNV GL local station: **Essen**

Approval Engineer: **Carsten Hunsalz**

for **DNV GL**

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Duy Nam Le
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

HEW - TPE - Control and communication cable with improved characteristics in case of fire

Type YHCXVH - t.p.c.

Rated voltage: 250 V
Temperature range: -40° C up to +105° C
Conductor: Flexible stranded, tinned copper conductor
Insulation: TPE-E-112
Braid/screen: Tinned copper wire braid
Outer sheath: XVH; SHF 1 (HM 4)

Number of cores: Cross-sectional area:

5 x 2 up to 48 x 2 0,5 mm²

Application/Limitation

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

Test report: HEW test report dated of 22.12.2004 and enclosure to HEW test report dated 22.12.2004;
HEW Kabel test report dated of 13.01.2005 and 02.02.2005
VDE test reports 6

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	partly
IEC 60092-376	2003-05	Cables for control and instrumentation circuits 150/250 V (300 V)	partly
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.	partly
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 60754-2	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

Job Id:
Certificate No: **TAE00001CX**

Standard	Release	General description	Limitation
IEC 61034-1/2	2013-07 2013-09	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance ≥60%
DIN VDE 0482 Teil 265-268	1999-04	Common test methods for cables under fire conditions - Test for resistance to vertical flame propagation for a single insulated conductor or cable	

Marking of product

Example: HEW-KABEL - DNV GL No. TAE00001CX – YHCXVH - size – 250 V – IEC 60332-3-22– special text

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