

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Low Voltage Cable

with type designation(s)
HEW-TPE-Ox-Single Core

Issued to

HEW-Kabel GmbH
Wipperfürth, Nordrhein-Westfalen, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Special cable according Application/Limitation on page 2 of this certificate.

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

Voltage (V) 600 AC / 900 DC

Temp. class (°C) 90

Issued at **Høvik** on **2023-12-08**

This Certificate is valid until **2028-12-07**.

for **DNV**

DNV local unit: **Essen**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

HEW-TPE-Ox-Single Core

Type Y- t.p.c. (0,75 – 6) mm²

Maximum operating voltage: 600V AC / 900V DC
Temperature range: -40° C up to +120° C (20000h)
Conductor: Flexible stranded, tinned copper conductor
Insulation: TPE-Ox

Number of cores /Cross-sectional area:

1 x 0,75 mm², 1 x 1,0 mm², 1 x 1,5 mm², 1 x 2,5 mm², 1 x 4,0 mm², 1 x 6,0 mm²,

Application/Limitation

Special cable designed for elevated temperatures on combustion engines.

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
VG 95218-20A	2020-06	Electrical cables and insulated wires — Part 20: Single core insulated wires	partly
IEC 60228	2004-11	Conductors of insulated cables	
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	

Marking of product

Example: HEW-KABEL - Y - size - 600V - Batch Number + week-year - Wärtsilä part no. - IEC 60332-1-2

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