

# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAE0000SF**  
Revision No:  
**3**

## This is to certify:

That the **Electric Heating Cable**

with type designation(s)

**5VPL2-CT, 10VPL2-CT, 15VPL2-CT, 20VPL2-CT, 5VPL4-CT, 10VPL4-CT, 15VPL4-CT, 20VPL4-CT**

Issued to

**nVent Thermal LLC**  
**Houston, TX, USA**

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.

Type	Rated voltage (V)	Temp. class (°C)	Power [W/m] @ref. temp.	Suitable for Hazardous areas
5VPL2-CT	230/277	230/225	15 at 10°C	yes
10VPL2-CT	230/254	210/200	30 at 10°C	yes
15VPL2-CT	230/254	180/145	45 at 10°C	yes
20VPL2-CT	230/ -	150/ -	61 at 10°C	yes
5VPL4-CT	480	230/225	15 at 10°C	yes
10VPL4-CT	480	210/200	30 at 10°C	yes
15VPL4-CT	480	180/145	45 at 10°C	yes
20VPL4-CT	480	150/ -	61 at 10°C	yes

Issued at **Hamburg** on **2021-03-01**

for **DNV**

This Certificate is valid until **2026-02-28**.

DNV local station: **Long Beach**

Approval Engineer: **Maik Gagern**

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**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.

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

Type: VPL

Each trace heating unit comprises:

- The active heating cable
- An end seal for terminating the remote end of the unit
- A cable gland for connecting the powered end of the unit to a suitable terminal enclosure, or alternative integrated power connection systems.

Construction:	VPL
Conductors:	3,3 mm <sup>2</sup> nickel plated stranded copper
Heating element:	Parallel circuit power limiting type
Inner sheath:	Fluoropolymer insulation
Metal covering:	Metal braid
Outer sheath:	Fluoropolymer jacket
Ex class:	II GD Ex 60079-30-1 eb IIC T*Gb Ex 60079-30-1 tb IIIC IP66 T**°C Db * and ** (see schedule in corresponding Ex certificate) *Temperature class to be determined by use of nVent Thermal engineering software such as TraceCalc software which allows temperature ratings up to T2, taking into account relevant parameters for the actual installation onboard.
Maximum withstand temperature	260 °C (T2).

Type	Nominal Voltage	W/m at 10°C	Thickness [mm]	With [mm]	Heating zone length [mm]	Weight [g/m]
5VPL2-CT	230V	15	7,9	11,7	1219	200
10VPL2-CT	230V	30	7,9	11,7	914	200
15VPL2-CT	230V	45	7,9	11,7	610	200
20VPL2-CT	230V	61	7,9	11,7	508	200
5VPL4-CT	400V	12	7,9	11,7	2400	200
10VPL4-CT	400V	24	7,9	11,7	1700	200
15VPL4-CT	400V	36	7,9	11,7	1300	200
20VPL4-CT	400V	49	7,9	11,7	1100	200

## Application/Limitation

Manufacturers instructions to be followed when relevant. Please observe special conditions for safe use given in EC-type examination certificate.

Note: All details about electrical explosion protection mentioned in this certificate are for information only. For relevant binding information the corresponding Certificate of Conformity with regard to electrical explosion protection, issued by a recognised Authority, shall be observed.

Maximum surface temperature is determined by cable design and use referring to the concept of stabilized design as described in IEC IEEE 60079-30-1. nVent engineering software such as TraceCalc software to be used to assure that maximum allowable sheath temperatures are adequately below the auto-ignition temperature of the gases in the area. The user of the software should be experienced with the design of heat tracing applications.

Applications where Ex certified equipment is required will in general be subject to approval case by case based on documentation as required in DNV GL Rules.

Heating cables are not to be installed in contact with woodwork or other combustible material. If installed close to such materials, a separation by means of a non-flammable material may be required.

## Type Approval documentation

**Data sheets:**

Catalogue from manufacturer DOC2210 Rev.1911  
Catalogue sheet VPL from manufacturer H56825 09/13  
907269-A, Rev. W

IECEX\_BAS\_20.0008X\_001 – VPL  
SGS20ATEX0045X Iss 0 to 1 - VPL

**Test reports:**

Test reports are stored in correspondence under J42.

## Marking of product

The marking of the product shall include the following:

<ex> II GD Ex 60079-30-1 eb IIC T\*Gb Ex 60079-30-1 tb IIIC IP66 T\*\*°C

\* and \*\* (see schedule in corresponding Ex certificate)

Note: Temperature class to be determined by use of nVent engineering software such as TraceCalc software, taking into account relevant parameters for the actual installation onboard. The determined maximum temperature / temperature class to be marked on the specific cable installation according to IEC 60079-0.

Product marking shall be in accordance with specification in drawing No. 907269-A Rev. W dated 04/30/20.

## 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