

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Electric Heating Cable**

with type designation(s)  
**KTV, XTV**

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
KTV	110/120, 230/240/277	T2		Yes (see page 2)
XTV	110/120, 230/240/277	T3/T2		Yes (see page 2)

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

for **DNV GL**

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

DNV GL 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.



Job Id: **262.1-004839-11**  
Certificate No: **TAE00000TV**  
Revision No: **2**

## Product description

Type: XTV and KTV

Construction:	XTV, KTV
Conductors:	2,3 mm <sup>2</sup> stranded copper
Heating element:	Self-regulating conductive fibres
Inner sheath:	Fluoropolymer insulation
Metal covering:	Tinned copper braid
Outer sheath:	Fluoropolymer jacket

Type	Voltage	W/m at 10°C
5XTV1-CT-T3	110/120	16,4
10XTV1-CT-T3	110/120	32,7
15XTV1-CT-T2	110/120	49,1
20XTV1-CT-T2	110/120	65,5
4XTV2-CT-T3	230/240/277	12,3
5XTV2-CT-T3	230/240/277	16,4
8XTV2-CT-T3	230/240/277	24,8
10XTV2-CT-T3	230/240/277	32,7
12XTV2-CT-T3	230/240/277	37,5
15XTV2-CT-T3	230/240/277	46,9
20XTV2-CT-T2	230/240/277	63,2
5KTV1-CT	110/120	15,5
8KTV1-CT	110/120	25,1
15KTV1-CT	110/120	46,5
20KTV1-CT	110/120	64,8
5KTV2-CT	230/240/277	15,5
8KTV2-CT	230/240/277	25,1
15KTV2-CT	230/240/277	46,5
20KTV2-CT	230/240/277	64,8

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	XTV, KTV
Connection system:	C25-21, C25-100, JBS-100-A/E/L-EP, JBU-100-E/L-EP, JBM-100-A/E/L-EP, C-150-E
Penetration kit:	IEK-25-04, IEK-16-24
Splice kit:	S-40, S-150
End seal kit:	E-40, E-100, E-100-L, E-150
Tee kit:	T-100

## 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 Thermal verified 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 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

Catalogue data sheets XTV and KTV  
RAYCHEM-DS-EU1636-E20E40-EN  
RAYCHEM-DS-EU1637-S20S40-EN

SGS Certificates: XTV: SGS20ATEX0049X  
KTV: SGS20ATEX0051X

IECEX Certificates: XTV: IECEX BAS 20.0012 Issue 0 dated 2020-10-26  
KTV: IECEX BAS 20.0014X Issue 0 dated 2020-10-26

PTB ATEX Certificates: PTB 20 ATEX 1008 U (JBS- 100-xx-x, JBM-100-xx-x, JBU-100-xx-x, T-100)  
PTB 09 ATEX 1060 U Iss1 (E-100-E)

SIRA ATEX Certificate: SIRA 14 ATEX3015X (E-100-L)


IECEX PTB Certificates: IECEX PTB 20.0014U (JBXXX-XX)  
IECEX PTB 09.0038U (E-100-E)

IECEX SIRA Certificate: IECEX SIR 14.0007X (E-100-L),

## Marking of product

Product marking: nVent Thermal LLC -Type designation - Voltage.

## Periodical assessment



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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