CERTIFICATE OF CONFORMITY

FM Approvals

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** **FM18US0064X**

3. **Equipment:**
   (Type Reference and Name) **Raychem XTV/XTVR Self-Regulating Heat Trace Cable Systems, including JBS-100-A, JBS-100-A6, JBS-100-L-A, JBS-100- STB, T-100, JBM-100-A, JBM-100-A6, JBM-100-L-A, JBM- 100-STB, E-100-A, E-100-L-A, JBU-100-A, JBU-100-A6, JBU-100-L-A, C75-100-A, E-150, S-150 and HAK-C-100 Connection Kits**

4. **Name of Listing Company:** **Chemelex LLC**

5. **Address of Listing Company:** **899 Broadway St, Redwood City, California 94063-3104, United States of America**

6. The examination and test results are recorded in confidential report number:

   0B8A6.AX dated 20th August 1996

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM 3600:2022, FM 3615:2022, FM 3616:2022, FM 3810:2018, ANSI/UL 60079-30-1:2017

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

    See Annex

11. The marking of the equipment shall include:

    See Annex

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

26 February 2026
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. One Technology Way, Norwood, MA 02062 USA
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12. **Description of Equipment:**

General – Raychem XTV/XTVR-CT family of parallel self-regulating heating cables provide solutions for industrial freeze protection and process temperature maintenance applications with high maximum continuous exposure temperature. The heating cables can withstand temperature up to 250°C and the maximum continuous operating temperature of +150°C. Minimum installation temperature is -60°C. The cables have a minimum braid density of 70%, a minimum bend radius of ½" (12.7 mm) at -60°C and a voltage rating of 90-130 VAC and 190-277 VAC

Construction – The XTV/XTVR-CT heat trace cables are constructed with a self-regulating polymeric-fiber heating element, spacer, fluoropolymer inner and outer jacket, tinned-copper braid and nickel-plated 14 AWG copper bus wires.

The following table shows the connection kits can be used with the XTV/XTVR-CT self-regulating heating cables for Class I, Division 1, Groups B, C, D, T3…T2C; Class II/III, Division 1, Groups E, F, G, T3…T2C installations.

Model	Description	Ambient temperature range	Maximum continuous operating temperature when the kit is installed with XTV/XTVR
HAK-C-100	Termination kit for Division 1 hazardous locations	-40°C to +50°C	+150°C

The following table shows the connection kits can be used with the XTV/XTVR-CT self-regulating heating cables for Class I, Division 2, Groups A, B, C, D, T3…T2C; Class II/III, Division 2, Groups F and G, T3…T2C installations.

Model	Description	Ambient temperature range	Maximum continuous operating temperature when the kit is installed with XTV/XTVR
JBS-100-A	Single entry power connection junction box (maximum conductor size 8 AWG)	-55°C to +56°C	+150°C
JBS-100-A6	Single entry power connection junction box (maximum conductor size 6 AWG)	-55°C to +56°C	+150°C
JBS-100-L-A	Lighted single entry power connection junction box (maximum conductor size 8 AWG)	-40°C to +40°C	+150°C

JBS-100 STB	Single entry power connection junction box (Screw Terminal Block)	-55°C to +56°C	+150°C
T-100	Splice or Tee connection kit	-55°C to +56°C	+150°C
JBM-100-A	Multiple entry power/splice connection junction box (maximum conductor size 8 AWG)	-55°C to +56°C	+150°C
JBM-100-A6	Multiple entry power/splice connection junction box (maximum conductor size 6 AWG)	-55°C to +56°C	+150°C
JBM-100-L-A	Lighted multiple entry power/splice connection junction box	-40°C to +40°C	+150°C
JBM-100-A6	Multiple entry power/splice connection junction box (Screw Terminal Block)	-55°C to +56°C	+150°C
E-100-L-A	Lighted end seal kit	-40°C to +40°C	+150°C
E-100-A	End seal kit Class I Division 2 Group A,B,C and D	-55°C to +56°C	+150°C
JBU-100-A	Off pipe junction box (maximum conductor size 8AWG)	-55°C to +56°C	+150°C
JBU-100-A6	Off pipe junction box (Maximum conductor size 6AWG)	-55°C to +56°C	+150°C
C75-100-A	Heating cable gland kit	-55°C to +56°C	+150°C
S-150	Heat shrinkable under insulation splice kit (integral component)	-60°C to +56°C	+150°C
E-150	Heat shrinkable under insulation end seal Kit (integral component)	-60°C to +56°C	+150°C

13. **Specific Conditions of Use:**

    See Annex

14. **Test and Assessment Procedure and Conditions:**

    This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
20 August 1996	Original Issue.
9 March 2018	Supplement 11: Report Reference: RR212394 dated 9th March 2018. Description of the Change: New format certificate, update Specific Conditions of Use in Listings, update FM Class Standards 3600, 3615, 3810 to 2018 editions due to no required testing.
20 May 2018	Supplement 12: Report Reference: RR213984 dated 20th May 2018. Description of the Change: Name change to nVent Thermal LLC.
1 April 2022	Supplement 13: Report Reference: RR232166 dated 1st April 2022. Description of the Change: 1) Editorial updates to specific conditions of use 2) FM 3600 and FM 3615 updated to 2022 edition.
8 December 2022	Supplement 14: Report Reference: PR463437 dated 8th December 2022. Description of the Change: - Update the FM18US0064X to the latest UL 60079-30-1 - Remove zones. Only Class/Div rating - Remove HXTV. Make XTV, XTVR as Class I/II/III Division 1. - Include XTVR series with the new 3W/ft cable 3XTVR2-CT. - Increase maximum continuous operating temperature to 150°C. - Decrease the minimum installation temperature to -60°C
11 July 2023	Supplement 15: Report Reference: RR237559 dated 11 July 2023. Description of the Change(s): Update to reflect the more conservative T codes for the XTVR series of heat trace cables.
26 February 2026	Supplement 16: Report Reference: RR249845 dated 26 February 2026. Description of the Change(s): Updated to latest format and company name.

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ANNEX

aXTVb-CT

Equipment Ratings:

Electrical Resistance Trace Heater for Class I, Division 1, Groups A, B, C, and D T3…T2C;
Electrical Resistance Trace Heater for Class I, Division 2, Groups A, B, C, and D T3… T2C;
Electrical Resistance Trace Heater for Class II/III, Division 1, Groups E, F, and G T3… T2C;
Electrical Resistance Trace Heater for Class II/III, Division 2, Groups F and G T3… T2C;

Termination Kits Explosionproof for Class I, Division 1, Groups B, C, D T3… T2C;
Termination Kits Dust-ignitionproof for Class II/III, Division 1, Groups E, F, and G T3…T2C;

Markings:

Electrical Resistance Trace Heater
Class I, Division 1, Groups A, B, C, D T3…T2C -40°C, -60°C ≤ Ta ≤+56°C
Class II, Division 1, Groups E, F, G, T3… T2C -60°C ≤ Ta ≤ +56°C
Class I, Division 2, Groups A, B, C, D, T3… T2C -60°C ≤ Ta ≤ +56°C
Class II/III, Division 2, Groups F and G, T3… T2C -60°C ≤ Ta ≤ +56°C

Termination Kits
Class I, Division 1, Groups B, C, D, T3… T2C -40°C ≤ Ta ≤ +50°C
Class II/III, Division 1, Groups E, F, G, T3…T2C -40°C ≤ Ta ≤ +50°C
Class I, Division 2, Groups A, B, C, D, T3… T2C -40°C, -55°C, or -60°C ≤ Ta ≤ +40°C or +56°C
Class II/III, Division 2, Groups F and G, T3…T2C -40°C, -55°C, or -60°C ≤ Ta ≤ +40°C or +56°C Type 4X

Description of Equipment:

aXTVb-CT Self-Regulating Electrical Heat Trace Cable Systems.
a = Output, W/ft @ 50°F: 4, 5, 8, 10, 12, 15 or 20
b = Voltage: 1 (120Vac: 100-130Vac) or 2 (240Vac: 200-277Vac).
[Note: 4, 8 and 12 W/ft are only available at 240Vac]

The following table show the temperature class for the 120Vac XTV-CT cable options.

Electrical Resistance Trace Heater	Temperature Class
5XTV1-CT	T3
10XTV1-CT	T3

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15XTV1-CT	T2D
20XTV1-CT	T2C

The following table show the temperature class for the 240Vac XTV-CT cable options.

Electrical Resistance Trace Heater	Temperature Class
4XTV2-CT	T3
5XTV2-CT	T3
8XTV2-CT	T3
10XTV2-CT	T3
12XTV2-CT	T3
15XTV2-CT	T3
20XTV2-CT	T2C

Specific Conditions of Use:

1. Raychem XTV-CT Series Heating Cables must be installed using nVent Thermal LLC's JBS-100-A, JBS-100-A6, JBS-100- L-A, JBS-100-STB, T-100, JBM-100-A, JBM-100-A6, JBM-100-L-A, JBM-100-STB, E-100-A, E-100-L-A, JBU-100-A, JBU-100-A6, JBU-100-L-A, C75-100-A, S-150, E-150 and HAK-C-100 Connection Kits.
2. Refer to the installation instructions to reduce the potential of an electrostatic charging hazard on the enclosures of the connection kits.
3. The end-user shall mount the equipment per nVent Thermal LLC's instructions at all times

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aXTVRb-CT

Equipment Ratings:

Electrical Resistance Trace Heater for Class I, Division 1, Groups A, B, C, and D T3…T2C;
Electrical Resistance Trace Heater for Class I, Division 2, Groups A, B, C, and D T3… T2C;
Electrical Resistance Trace Heater for Class II/III, Division 1, Groups E, F, and G T3… T2C;
Electrical Resistance Trace Heater for Class II/III, Division 2, Groups F and G T3… T2C;

Termination Kits Explosionproof for Class I, Division 1, Groups B, C, D T3… T2C;
Termination Kits Dust-ignitionproof for Class II/III, Division 1, Groups E, F, and G T3…T2C;

Markings:

Electrical Resistance Trace Heater
Class I, Division 1, Groups A, B, C, D T3…T2C -40°C, -60°C ≤ Ta ≤+56°C
Class II, Division 1, Groups E, F, G, T3… T2C -60°C ≤ Ta ≤ +56°C
Class I, Division 2, Groups A, B, C, D, T3… T2C -60°C ≤ Ta ≤ +56°C
Class II/III, Division 2, Groups F and G, T3… T2C -60°C ≤ Ta ≤ +56°C

Termination Kits
Class I, Division 1, Groups B, C, D, T3… T2C -40°C ≤ Ta ≤ +50°C
Class II/III, Division 1, Groups E, F, G, T3…T2C -40°C ≤ Ta ≤ +50°C
Class I, Division 2, Groups A, B, C, D, T3… T2C -40°C, -55°C, or -60°C ≤ Ta ≤ +40°C or +56°C
Class II/III, Division 2, Groups F and G, T3…T2C -40°C, -55°C, or -60°C ≤ Ta ≤ +40°C or +56°C Type 4X

Description of Equipment:

aXTVRb-CT Self-Regulating Electrical Heat Trace Cable Systems.
a = Output, W/ft @ 50°F: 3, 5, 8, 10, 12, 15 or 20
b = Voltage: 1 (120Vac: 90-130Vac) or 2 (240Vac: 190-277Vac).
[Note: 3, 8 and 12 W/ft are only available at 240Vac]

The following table show the temperature class for the 120Vac XTVR-CT cable options.

Electrical Resistance Trace Heater	Temperature Class
5XTVR1-CT	T3A
10XTVR1-CT	T3
15XTVR1-CT	T2D
20XTVR1-CT	T2D

The following table show the temperature class for the 240Vac XTVR-CT cable options.

Electrical Resistance Trace Heater	Temperature Class
3XTVR2-CT	T3A
5XTVR2-CT	T3A
8XTVR2-CT	T3A
10XTVR2-CT	T3
12XTVR2-CT	T3
15XTVR2-CT	T3

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20XTVR2-CT	T2D

Specific Conditions of Use:

1. Raychem XTVR-CT Series Heating Cables must be installed using nVent Thermal LLC's JBS-100-A, JBS-100-A6, JBS-100- L-A, JBS-100-STB, T-100, JBM-100-A, JBM-100-A6, JBM-100-L-A, JBM-100-STB, E-100-A, E-100-L-A, JBU-100-A, JBU-100-A6, JBU-100-L-A, C75-100-A, S-150, E-150 and HAK-C-100 Connection Kits
2. Refer to the installation instructions to reduce the potential of an electrostatic charging hazard on the enclosures of the connection kits.
3. The end-user shall mount the equipment per nVent Thermal LLC's instructions at all times