# CERTIFICATE OF CONFORMITY

FM Approvals

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM17US0321X**
3. **Equipment:**
   **(Type Reference and Name)** **LBTV2-CT**
   **Electrical Heat Trace Cable Systems**
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:

   3015222 dated 26th August 2002

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 3611:2004, FM 3810:2018, ANSI/ISA S12.0.01:1998, ANSI/ISA S12.16.01:1998, ANSI/NEMA 250:1991, ANSI/IEEE 515:2004

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:

    Increased safety for Class I, Zone 1, AEx e II; Suitable for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, Division 2, Groups F and G; Class III, Division 1, hazardous (classified) locations, indoors and outdoors (Type 4X) with a T6 operating temperature code rating.

**Certificate issued by:**

J.E. Marquedant

03/23/2026

J.E. Marquedant
VP, Manager - Electrical Systems

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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11. The marking of the equipment shall include:

    Class I, Zone 1, AEx e II T6

    Class I, Division 2, Groups A, B, C and D T6

    Class II, Division 2, Groups F and G T6

    Class III, Division 1 T6

12. **Description of Equipment:**

    **General** - The LBTV self-regulating heating cables provide freeze protection and low-temperature maintenance for longline applications. The LBTV heating cables maintain process temperatures up to 150°F (65°C) and can withstand intermittent exposure to temperatures up to 185°F (85°C). The cables are configured for use in nonhazardous and hazardous locations, including areas where corrosives may be present. The LBTV heating cables provide long circuit length capability. They can be used for continuous circuit lengths up to 1,250 feet (381 m) powered from a single source. LBTV cables are especially well suited for tracing long pipelines containing temperature-sensitive fluids or where high reliability is required.

    The JBM-100-LBTV2 is a NEMA Type 4X-rated connection kit. It is designed for use with Raychem LBTV2-CT self-regulating heating cables. The kit can be used to connect one or two heating cables to power, connect two separate heat-trace circuits, or to splice two heating cables.

    The E-100-LBTV2 is a NEMA Type 4X-rated end seal kit for use with Raychem LBTV2-CT heating cables. Once installed, the end seal is easily re-entered for maintenance; the heating cable can be accessed without removing the end seal.

    **Ratings** - The LBTV2-CT Electrical Heat Trace Cable Systems have a minimum installation temperature of -40°C. The supply voltage range is 200-277 Vac and the maximum current rating is 56 A.

    ***LBTV2-CT Electrical Heat Trace Cable Systems***

13. **Specific Conditions of Use:**

    1. For use with FM Approved Type 4X rated JBM-100-LBTV2 and E-100-LBTV2 connection kits.

    2. The maximum maintain temperature is 65°C, while the maximum exposure temperature, 1000 hours (power ON or OFF) is 85°C.

    3. Ambient temperature range for the JBM-100-LBTV2 and E-100-LBTV2 is -75°F (-60°C) to 132°F (56°C).

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

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

15. **Schedule Drawings**



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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 |
|---|---|
| 26 August 2002 | Original Issue. |
| 20 November 2017 | Supplement 3:<br>Report Reference: 3060307 dated 20th November 2017.<br>Description of the Change: Qualification the LBTV2-CT cable with a revised power rating of 5 W/ft and to update the 3611 standard to the 2004 edition. |
| 20 May 2018 | Supplement 4:<br>Report Reference: RR213987 dated 20th May 2018.<br>Description of the Change:<br>1)Name change nVent Thermal LLC.<br>2)Updated the year on FM 3615 and FM 3810 to 2018 due to nontechnical changes in the latest edition of these standards. |
| 2 August 2021 | Supplement 5:<br>Report Reference: RR228412 2nd August 2021.<br>Description of the Change:<br>1)Documentation updates.<br>2) SLBTV2-CT de-listed. |
| 23 March 2026 | Supplement 6:<br>Report Reference: RR249882 dated 23 March 2026.<br>Description of the Change(s):<br>1) Name change to Chemelex LLC.<br>2) Updated the year on FM Class 3600 standard to 2022 due to the nontechnical changes in its latest edition. |



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