
Listed Heat Tracing Systems Used for Protection of Standpipes and Sprinkler Piping Against Freezing

This bulletin clarifies the use of heat tracing systems for protection of the standpipes and sprinkler piping against freezing. This bulletin replaces Bulletin 2000-044-EL and Bulletin 2000-016-EL/PL/SP.

Background

For protection of the wet sprinkler piping and standpipe system piping against freezing:

1. NFPA 13 permits the use of listed heat tracing systems as the alternate methods of freeze prevention, and references that the heat tracing system shall be specifically listed for use on branch lines,
2. NFPA 14 references that the listed heat tracing shall be permitted to be used for protection from freezing, and where heat tracing is utilized, it shall be specifically listed for use on fire suppression systems,
3. NFPA 13R permits the use of listed heat tracing systems and references that where listed heat tracing is utilized for branch lines, it shall be specifically listed for use on branch lines, and
4. NFPA 13D requires listed heat tracing, provided that it is installed and insulated in accordance with manufacturer's instructions, specifically heat tracing used on branch lines is listed for branch lines of fire sprinkler systems.

Discussion

In 2019, UL has issued the first certification for heating cable systems for use with a fire sprinkler system including the installation on sprinkler branch lines under the Category VGJ7 for Canada. This new certification complements the requirements in the NFPA 13 for protecting fire sprinkler piping from freezing.

Direction

CSA-C22.1, "Canadian Electrical Code", Part I requires that electrical equipment used in electrical installations, are to be approved and to be of a kind or type and rating approved for the specific purpose for which it is to be employed.

Appendix A of the CE Code lists safety standards for electrical equipment, to which such equipment must be certified/approved. There are no "system standards" referenced in the CE Code for certification purpose.

However, as UL has developed a certification program under the Category VGJ7 for a complete heat tracing system, for the purpose of compliance with the above referenced NFPA standards, the complete heat tracing systems is permitted for use in accordance with the CE Code, provided that

1. the heat tracing system is certified by UL under the UL listing Category VGJ7,

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2. installation of the listed heat tracing system is performed in accordance with the manufacturer's installation instructions, and
3. the entire listed heat tracing system including its installation in accordance with the manufacturer's instruction, is verified by the Professional Mechanical Engineer of BC, and the verification report indicating compliance of the heat tracing system with the UL listing and with manufacturer's installation requirements, is provided to the office of the Chief Building Official upon completion of each installation of the listed heat tracing system.

For purpose of the UL Category VGNJ7, it is important to note that the IEEE 515.1 and manufacturer's installation instructions have specific control, monitoring, design and installation requirements for the listed heating cable systems to be provided with backup power and monitored by fire alarm control panel for the specific conditions, to comply with the UL approval as a listed system, these requirements are also required to be met.

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