



About Delta-Therm Corporation

Since 1968 heat trace installers have trusted our inventive designs, quality products, and responsive services.

Known for our dedication to customer needs, we start with listening and documenting your project requirements. We will review design options and discuss product benefits to provide a solution that exceeds your expectations.

Our customer service team ensures accurate specification and project proposals are provided. We are committed to servicing the engineering and contractor community by providing systems that meet recognized design and installation standards.

All Delta-Therm Tier One vendors are ISO 9001 certified. Appropriate documentation is maintained and reviewed annually. Materials are lot tested to verify they meet our specifications and standards. All controls are functionally tested.

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Fire Marshall Check List

Stephen J. DiGiovanni,
Fire Protection Engineer,
Clark County Fire Department,
Las Vegas, NV.

- Installation Detail - including how the heat trace cable is being attached to the pipe, how much insulation is being applied around the pipe, the location of the monitoring panel, and the location of the thermostat.
- Technical datasheet for the monitoring panel and the heat trace cable.
- The correct N.R.T.L. product listing for the monitoring panel and the heat trace cable.
- A design and operation narrative stating the set-point temperature (example: if it's suppose to maintain pipe temperature at 40°F, at what temperature will the heating cable turn on?) and how the pipe temperature is going to be monitored.

DELTA-THERM'S
QUARTERLY
NEWSLETTER

HeatSource



Case Study
Fire Marshall Check
CSA and UL Standards
Design Tips

Don't Get Hosed By Branch Sprinkler Lines

Projects involving pipe trace are pretty cut and dried. But when you're dealing with fire suppression pipe trace, it can be one of the most confusing and controversial installations.

PROCEED WITH CAUTION

Delta-Therm electrical engineer Ed Witte recently explained why sales reps need to proceed with caution on these projects. At least a half dozen times, an AHJ has contacted him about Delta-Therm's **specific listing for heat tracing fire suppression branch sprinkler lines**. The answer is: Delta-Therm doesn't have a specific listing for this product application.

In fact, no Nationally Recognized Testing Labs (N.R.T.L) have a standard for testing heat trace cable on branch lines and sprinkler heads, no manufacturers have a specific listing, and Delta-Therm is not planning on pushing for a specific N.R.T.L. standard and listing any time soon.

RECENT HISTORY

Back in 2007, the NFPA 13 technical committee added a sentence that said branch lines can be heat traced, but only if the heat trace system is specifically listed for branch lines, said Witte.

Sales reps should find out what's needed to heat trace fire suppression branch lines and sprinkler heads, such as a monitoring panel and detailed directions of how the system is going to be installed, according to fire protection engineer Stephen J. DiGiovanni of Clark County Fire Department in Las Vegas, NV.

"I would say be cognizant of the codes that are required," he said. "If the codes require a panel and your sales order does not include that panel, there could be problems."

On a recent condo project in unincorporated Clark County, DiGiovanni had to stop installation of the heat trace system on a sprinkler system's branch lines. "The first think I noticed is that it didn't have a monitoring panel which is required by the sprinkler code," he said.

DiGiovanni looks for how the heat trace cable is being attached to the pipe and how much insulation is being wrapped around it. Main pipes aren't usually the issue, he said, but the branch lines that feed the actual sprinkler heads are.

The condo sprinkler system's heat trace cable represented a \$5,000 material order. The electrical contractor



What Does CSA Standard C22.2 No. 130-03 State?

CSA Standard C22.2 No. 130-03 Requirements for Electric Resistance Heating Cable and Heating Device Sets

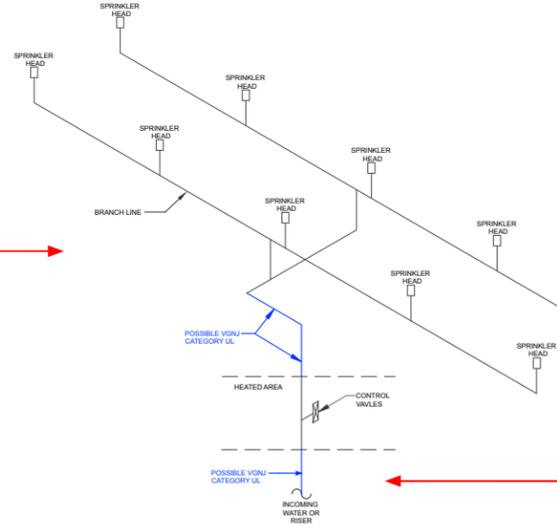
Table 1 Marking to Indicate Conformance with Supplementary Tests includes the usage marking - G*

- G denotes General Use. The * denotes that products carrying this designation are also suitable for freeze protection of fire suppression systems.

The general use designation is applied to products that pass conformity tests for freeze protection applications.

What this means is that all heat trace cables with the -G listing are suitable for fire suppression systems.

This -G listing designation may or may not be accepted by the local Fire Marshall because it doesn't state that the listing is specific to branch lines.



FIRE SUPPRESSION

Don't get hosed by branch sprinkler lines. (cont'd from pg. 1)

ended up paying a \$934.00 restocking fee to return the material. "Sales reps don't always know the product application, as was the case with the condo order, but still may be left with a very unhappy customer when they learn about the restock fee, so there's the potential to not only lose the sale but a customer too," explained Ada Cryer.

"The contractor has to show the heat trace system on their plans," said DiGiovanni. "We told him that the cable would be fine but he'd have to meet NFPA 13 requirements for monitoring as well. Delta-Therm has a monitoring panel, but [having to add] that panel caused the end user to go in a different direction."

After all the information regarding listings, codes, and equipment was received, a decision was made. In the end, antifreeze was used to treat the branch lines.

DiGiovanni said the initial paperwork describing the project simply indicated, "heat trace to be provided." Much more information is needed for fire

suppression pipe trace, which is why DiGiovanni ended up communicating with Witte, who then spent hours on the phone and through email to verify that the contractor was supplying the correct application design and products.

THE PROBLEM
The problem is that "people have a misconception about this application," said Witte. "Some marketing material can lead you to believe that heat tracing cable will be viewed as acceptable by an AHJ."

Codes vary depending on area, and what may get approved in one case might not in another. The message is clear to sales reps. Talk to the Fire Marshall first, who is the overriding authority with the power to say yes or no to this application.

The Fire Marshall's concern, added Cryer, "is that the fire suppression system is there for safety and the fear is that if something happens - the cable is installed improperly or dam-

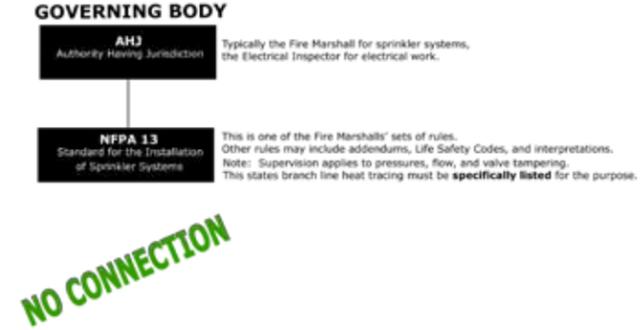
ages the sprinkler heads - somebody is going to get hurt."

Involvement in technical committee has proven to Witte just how passionate some folks can be about the issue of treating fire suppression branch sprinkler lines with heat trace cables.

"When you look at how complex the testing procedures UL performs for listing sprinkler systems, you can see how placing cable and insulation over branch lines and sprinkler heads will be an issue," said Witte.

Delta-Therm has created a presentation on fire suppression heat trace systems and conducted webinars with sales reps to educate them on the potential problems their customers might run into. This summer Delta-Therm staff are preparing for lunch 'n learn presentations at A&E firms to educate specifiers on heat tracing fire suppression systems.

"The first thing that I noticed is that it didn't have a monitoring panel"



What Does UL Category VGNJ Standard State?

VGNJ.GuidInfo Heating Cable System for use on Fire Protection System Piping.

Use and Installation

This category covers heating cable systems intended for use on water-based fire protection system piping to protect the piping when exposed to freezing conditions.

These pipe heating cable systems are **intended for use on piping between the system control valve and the system branch lines**. The cable systems are intended to be installed in accordance with the manufacturer's installation instructions, which include requirements for permanent connection to a power supply, supervision of the power circuit, the means of attachment of the cable, insulation and covering to piping, and specific applications limitations.

This listing specifically states that it does not cover branch lines.



I.E.E.E. 515.1

I.E.E.E. 515.1 is not a code or a product listing. I.E.E.E. 515.1 is a standard for the Testing, Design, Installation, and Maintenance of Electric Resistance Heating Tracing for Commercial applications. IEEE isn't code and does not list, approve, or certify. It is a standard and contains sprinkler supervision recommendations. **It has no affiliation with NFPA 13.**

I.E.E.E. 515.1 is the document that the N.R.T.L.'s refer to when developing their own standards and tests for product listings.

N.E.C.

The N.E.C. is written by the NFPA 72 technical committee and it contains the minimum recommendations for a safe electrical system. It is not code unless adopted by local municipalities as their code.

The electrical inspector is not the AHJ for fire suppression systems. The fire marshal is the AHJ for fire suppression systems.

N.F.P.A. 13

N.F.P.A. 13 is the Standard for the Installation of Sprinkler Systems and is written by the N.F.P.A. 13 technical committee. It is only one of the standards that Fire Marshalls must adhere to.

The N.F.P.A. 13 standard states that branch sprinkler line heat tracing systems must be specifically listed for this purpose.

Tips for Heat Tracing Fire Suppression Systems



Q: What do I need to know when designing a freeze protection system for sprinkler lines?

A: First you'll want to know if you are being asked to design a heat tracing system for the trunk/main lines, for the branch lines, or for both?

If you are being asked to design a heat tracing system for the trunk lines you will design a standard freeze

protection heat trace system.

If you are being asked to design a heat trace system for the branch lines you will need to find out if Delta-Therm's CSA listing and monitoring equipment will be accepted by the Fire Marshall.

Please refer to the Fire Marshall check list on page 1 for the information you may need to present for the system to be accepted for the application. Additionally you may want to contact your local Fire Marshall for any additional information required.