

Methods for Mitigating Sprinkler Pipe Freezes

Sprinkler pipe freezes are a common occurrence, especially in New England. In 2022, there were 13 evacuations at our Long-Term Care Facilities in Connecticut, Massachusetts, and Rhode Island. 11 of these evacuations were due to freezing sprinkler pipes. These evacuations cause major disruptions to the normal functions of the facilities and can result in costly and lengthy repairs. Three methods were identified to aid in the mitigation of sprinkler pipe freezes : Supplemental, Replacement, and Maintenance Program Strategies.



FIRE PROTECTION SYSTEM SUPPLEMENTATION

System supplementation can provide successful protection against pipe freezes while offering a more cost-effective approach by adding elements to existing systems.

- + Antifreeze solutions
- + Heat tracing



FIRE PROTECTION SYSTEM REPLACEMENT

For high-risk systems, system replacement could present an alternative solution.

- + Dry-pipe sprinkler system
- + Pre-action sprinkler system



MAINTENANCE PROGRAM STRATEGIES

Maintenance program strategies can significantly reduce the risk of sprinkler pipe freezes by implementing proper inspection, testing, and maintenance procedures.

- + NFPA 25, Standard for the Installation, Testing, and Maintenance of Water-Based Fire Protection Systems
- + Periodic staff training
- + Temperature monitoring



About Us

At Jensen Hughes our team of engineers, scientists and consultants work as one team to address the complexities of safety and security to help our clients protect what matters. Mitigating the factors that could put lives, property and reputations at risk has been our objective for over 80 years. We're dedicated to advancing the science of safety through technology, knowledge and best-in-class research and development.

Sources

<https://www.warmup.com/blog/sprinkler-system-freeze-protection>
<https://blog.qrfs.com/213-fire-sprinkler-accidents-the-top-5-causes-of-discharges-and-leaks/>

<https://blog.qrfs.com/107-the-use-of-antifreeze-in-fire-protection-systems/#:~:text=Antifreeze%20in%20fire%20sprinkler%20systems,-You%20use%20it&text=These%20antifreeze%20solutions%20typically%20contain,at%20a%20high%20enough%20concentration>

<https://nfsa.org/2022/09/28/antifreeze-and-the-sunset-date/>

<https://blog.qrfs.com/157-heat-tracing-fire-sprinkler-systems-when-where-and-how/>

<https://www.wareinc.com/helpful-resources/blog/electric-heat-tracing-vs-steam-heat-tracing>

<https://www.wareinc.com/helpful-resources/blog/electric-heat-tracing-vs-steam-heat-tracing>

<https://www.wsfp.com/wet-vs-dry-sprinkler-systems/>

<https://www.vfpfire.com/systems-pre-action.php>

<https://www.brothersfireandsecurity.com/blog/nfpa-25-guide-to-testing-and-inspecting-fire-sprinklers>

<https://ifra.org/wp-content/uploads/Preventing-Sprinkler-Freeze-V1.pdf>