



February 20, 2023

## ANTIFREEZE IN WET PIPE SPRINKLER SYSTEMS

Dear Recipient,

You are receiving this letter because you have a fire sprinkler system that may contain antifreeze in your building. If you are uncertain whether your fire sprinkler system has antifreeze installed, contact your fire sprinkler maintenance contractor and have them assist in determining that for you. If you have antifreeze installed within your fire sprinkler system, please read the following information that is vital to maintaining compliance with the fire code.

In 2010 it was identified that antifreeze solutions within wet pipe fire sprinkler systems can pose a hazard due to the combustibility of the antifreeze solutions used. The National Fire Protection Association (NFPA) instituted interim changes to reduce this hazard, which included maximum percentages of antifreeze to water solutions and that the solution needed to be pre-mixed prior to installation into the fire sprinkler system. **The time in which those interim changes were allowed are expiring on September 30, 2022.**

Based on state of Colorado 8CCR 1507-101 the requirements for new and existing antifreeze shall meet the following requirements:

1. Except as permitted by 5.3.4.4.1 and 5.3.4.4.3, all antifreeze systems shall utilize listed antifreeze solutions.
2. For systems installed prior to September 30, 2012, listed antifreeze solutions shall not be required where one of the following conditions is met:
  - i. The concentration of the antifreeze solution shall be limited to 30 percent factory premixed propylene glycol by volume or 38 percent factory premixed glycerine by volume.
3. Antifreeze systems with concentrations in excess of 30 percent but not more than 40 percent factory premixed propylene glycol by volume and 38 percent, but not more than 50 percent factory premixed glycerine by volume shall be permitted based upon an approved deterministic risk assessment prepared by a qualified person approved by the authority having jurisdiction.
4. Newly introduced solutions shall be factory premixed antifreeze solutions (chemically pure or United States Pharmacopeia 96.5 percent).
5. Premixed antifreeze solutions of propylene glycol exceeding 30 percent concentration by volume shall be permitted for use with ESFR sprinklers where the ESFR sprinklers are listed for such use in a specific application.

The Colorado Division of Fire Prevention and Control promulgates rules and regulations for fire suppression systems per 8 CCR 1507-11, which the Arvada Fire Protection District (AFPD) must follow as a "qualified fire department". These rules adopted the 2020 edition of NFPA 25, which requires what has been outlined above and will be enforced by the AFPD. The AFPD understands the challenges and potential costs associated with this requirement and will work alongside you to ensure you are able to maintain a compliant fire sprinkler system.



**ARVADA FIRE**

Sincerely,

A handwritten signature in black ink, appearing to read "S. Parker", with a long horizontal flourish extending to the right.

**Steven Parker, EFO, FM**  
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