



1333 NW Eastman Parkway, Gresham, Oregon 97030-3813
Phone 503-618-2355 • Fax 503-666-8330
www.greshamoregon.gov/fire

Freeze Protection for CPVC Fire Sprinkler Piping Guide

This guide outlines the method for installing freeze protection to fire sprinkler systems in accordance with 2016 NFPA 13D – 9.1.1 & A.9.1.1 (Residential Type Systems) and 2016 NFPA 13R – 6.7.2 (Residential Occupancies up to and Including 4 Stories).

A wet pipe system shall be used where piping is installed in areas maintained above 40° F. Fire sprinkler piping shall be protected against freezing when installed in areas subject to freezing.

The 2019 Oregon Fire Code (OFC) and the 2016 National Fire Protection Association (NFPA) 13 Standard for the installation of Fire Sprinkler Systems have been adopted by the GFES as the authority having jurisdiction.

General Requirements:

- Insulation shall be foil-backed or approved paper backed, with an R-value of R11 (3.5 inches) or higher.
- Insulation shall be stapled to the top of the bottom cord of the truss or rafter member over the sprinkler piping. Staples shall be placed at least every 6 inches along the edge per the manufacturer's installation manual. See Appendix I
- There shall be a minimum of two feet of insulation on both sides of the sprinkler pipe and at least one foot past the end of the pipe. See Appendix II
- All pipes shall be covered; any gaps where the insulation is not tight against the previous section of insulation, additional insulation will be required over the gap and stapled to the truss.
- For piping in exterior walls the insulation shall be secured between the piping and the exterior sheeting. See Appendix III
- If the sprinkler riser is in an unheated space, insulation shall be provided to protect the riser and valves from freezing.
- All garages with fire sprinklers shall be fully insulated with a minimum R-11 (3.5 inches) Batted or blown in insulation *or* as required by the Oregon Residential & Structural Specialty Codes. Batted insulation shall **also** be installed over the sprinkler piping as noted above prior to garage insulation installation.
- Temperature in the house shall be maintained at a level to prevent freezing of the sprinkler piping.
- Any time the insulation is removed or disturbed and loses its insulation value it shall be re-insulated in a manner approved by the fire code official.

Insulation covering the sprinkler piping shall not be covered with sheet rock or any other material until a fire sprinkler cover inspection (rough-in) has been completed and an approved inspection slip has been provided by GFES.

Please contact GFES at 503-618-2355 for any additional information.

Appendix I



Appendix II



Appendix III

