



COLORADO SPRINGS FIRE DEPARTMENT
Division of the Fire Marshal
Administrative Ruling



Number:	2024-1		
Subject:	Antifreeze replacement for Fire Sprinkler Systems		
Reference:	2021 International Fire Code & 2023 NFPA 25, 5.3.4.4.1		
Effective Date:	01/01/2024	Issued By:	Chip Taylor, Senior Fire Protection Engineer
Revision Date:		Revised By:	
Approval Date:	01/01/2024	Approved By:	Brett Lacey, Fire Marshal 

PURPOSE: Replacement of non-listed antifreeze in existing fire sprinkler systems.

SCOPE: This ruling applies to all existing NFPA 13R and NFPA 13 fire sprinkler systems utilizing an antifreeze solution.

DESCRIPTION OF ISSUE: Changes to the 2023 edition of NFPA 25 only allow antifreeze concentrations of 30% propylene glycol and 38% glycerin by volume. These permissible concentrations do not meet the -20° F historical maximum freeze temperature for Colorado Springs.

DECISION: NFPA 25 Section 5.3.4.4.1 has been amended to allow the replacement of non-listed antifreeze with listed antifreeze outside its listing as long as the temperature range limitations are not exceeded. This means that non-listed antifreeze can be replaced with listed antifreeze without having to meet the volume limitations and hydraulic calculation requirements specified in the listed antifreeze's product data. This new allowance for listed antifreeze use is to avoid the higher concentrations of non-listed antifreeze which has been shown to propagate a fire per NFPA 25, Annex H.

Based on the new requirements of NFPA 25, Colorado Springs Fire Department will require that existing antifreeze fire sprinkler systems utilizing non-listed antifreeze be changed to listed antifreeze per NFPA 25, Section 5.3.4.2.1 and that it meets a minimum freeze temperature of -20° F.

When the existing non-listed antifreeze solution no longer meets the minimum freeze temperature required for Colorado Springs it shall be replaced with listed antifreeze. The fire sprinkler system shall be completely drained of the non-listed antifreeze solution prior to introduction of the new listed antifreeze solution. Test valves to test the new listed antifreeze solution shall be provided per the antifreeze manufacturer's

recommendations. Once the antifreeze has been replaced, the fire sprinkler system shall be properly tagged per NFPA 25 and manufacturer's requirements.