



Tentative Interim Amendment

## NFPA 13 Standard for the Installation of Sprinkler Systems

2010 Edition

**Reference:** 3.4.1.1 Premixed Antifreeze Solution, 7.6.1.5, 7.6.2, and A.7.6

**TIA 10-2**

*(SC 11-3-3/TIA Log #1015)*

Pursuant to Section 5 of the NFPA Regulations Governing Committee Projects, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2010 edition. The TIA was processed by the Technical Committee on Sprinkler System Installation Criteria and the Technical Correlating Committee on Automatic Sprinkler Systems, and was issued by the Standards Council on March 1, 2011, with an effective date of March 21, 2011.

A Tentative Interim Amendment is tentative because it has not been processed through the entire standards-making procedures. It is interim because it is effective only between editions of the standard. A TIA automatically becomes a proposal of the proponent for the next edition of the standard; as such, it then is subject to all of the procedures of the standards-making process.

1. Add a new definition as 3.4.1.1 to read as follows:

**3.4.1.1 Premixed Antifreeze Solution.** A mixture of an antifreeze material with water that is prepared by the manufacturer with a quality control procedure in place that ensures that the antifreeze solution remains homogeneous.

2. Remove the new section 7.6.1 that was added by issuance of TIA No. 10-1 (Log #1000) and renumber sections.

3. Revise 7.6.1.5 to read as follows:

**7.6.1.5** A placard shall be placed on the antifreeze system main valve that indicates the manufacture type and brand of the antifreeze solution, the concentration by volume of the antifreeze solution used, and the volume of the antifreeze solution used in the system.

4. Revise 7.6.2.1 to read as follows:

**7.6.2.1\*** Antifreeze solutions shall be limited to premixed antifreeze solutions of glycerin (chemically pure or United States Pharmacopoeia 96.5%) at a maximum concentration of 48% by volume, or propylene glycol at a maximum concentration of 38% by volume.

5. Add a new 7.6.2.1.1 to read:

**7.6.2.1.1** Premixed antifreeze solutions of propylene glycol exceeding 40% concentration by volume shall be permitted for use with ESFR sprinklers where the ESFR sprinklers are listed for such use in a specific application.

6. Add new 7.6.2.1.2 to read as follows:

**7.6.2.1.2** Premixed antifreeze solutions other than those described in 7.6.2.1 that are listed for use in sprinkler systems shall be permitted to be used.

7. Add a new 7.6.2.1.3 to read as follows:

7.6.2.1.3 All premixed antifreeze solutions shall be provided with a certificate from the manufacturer indicating the type of antifreeze, concentration by volume, and freezing point.

8. Delete current Table 7.6.2.2 and replace it with the following table in the annex renumbered as Table A.7.6.2.1

A.7.6.2.1 See Table A.7.6.2.1.

**Table A.7.6.2.1 Properties of Glycerin and Propylene Glycol**

Material	Solution (by volume)	Specific Gravity at 77°F (25°C)	Freezing Point	
			°F	°C
Glycerin (C.P. or U.S.P. grade)	0%	1.000	32	0
	5	1.014	31	-0.5
	10	1.029	28	-2.2
	15	1.043	25	-3.9
	20	1.059	20	-6.7
	25	1.071	16	-8.9
	30	1.087	10	-12
	35	1.100	4	-15.5
	40	1.114	-2	-19
	45	1.130	-11	-24
	50%	1.141	-19	-28
Propylene glycol	0	1.000	32	0
	5	1.004	26	-3
	10	1.008	25	-4
	15	1.012	22	-6
	20	1.016	19	-7
	25	1.020	15	-10
	30	1.024	11	-12
	35	1.028	2	-17
	40	1.032	-6	-21

C.P.: Chemically Pure; U.S.P.: United States Pharmacopoeia 96.5%.

8. Delete 7.6.2.3 and Table 7.6.2.3.

9. Revise 7.6.2.4 to read as follows:

7.6.2.4 A premix antifreeze solution with a freezing point below the expected minimum temperature for the locality shall be provided.

10. Delete existing 7.6.2.5 as well as the Figures 7.6.2.5(a), 7.6.2.5(b), and 7.6.2.5(c) and Annex A.7.6.2.5.

11. Delete 7.6.2.6.

12. Add an asterisk to Section 7.6 and a new Annex A.7.6 to read as follows:

A.7.6 In cold climates and areas where the potential for freezing of pipes is a concern, options other than antifreeze are available. Such options include installing the pipe in warm spaces, tenting insulation over the piping (as illustrated in NFPA 13D), listed heat tracing, and the use of dry pipe systems and preaction systems.

13. In A.7.6.2, delete the second paragraph.

A.7.6.2 Listed CPVC sprinkler pipe and fittings should be protected from freezing with glycerine only. The use of diethylene, ethylene, or propylene glycols is specifically prohibited. Laboratory testing shows that glycol-based antifreeze solutions present a chemical environment detrimental to CPVC.

14. Delete existing A.7.6.2.4 and Figure A.7.6.2.4.

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**Effective Date:** March 21, 2011

(Note: For further information on NFPA Codes and Standards, please see [www.nfpa.org/codelist](http://www.nfpa.org/codelist))

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