



Date: September 5, 2025

Subject: Foam Fire Extinguisher Solutions and Water Quality

Background on Foam Solution Testing

The 2022 edition of NFPA-10 (§ 7.8.2.3.1) requires that premixed foam agents in pressurized extinguishers be replaced per the manufacturer's instructions, with intervals not to exceed the five-year hydrostatic test cycle. This was a change from earlier NFPA guidance, which mandated three-year replacement for AFFF and FFFP premix solutions in *pressurized* units.

Previous requirements created inconsistencies between pressurized and unpressurized extinguishers, as some wheeled extinguishers using the same premix in *unpressurized* containers were subject to annual internal examinations and agent analysis which regularly demonstrated an acceptable solution shelf life up to the 12-year cylinder hydrostatic test interval.

Recognizing this technical disparity, NFPA-10 updated the premix foam solution requirements in 2022 for properly charged and sealed stored pressure foam extinguishers to allow manufacturers to determine the solution replacement up to matching the established five-year hydrostatic service interval.

New Options in Firefighting Foam

Industry practices are shifting on firefighting foam use due to growing environmental and regulatory restrictions on PFAS (PFOS and PFOA) chemicals found in legacy AFFF and FFFP formulations. While "non-fluorine" foam formulas have existed for over 75 years, the enhanced surface spreading characteristics often associated with the fluorine additives in AFFF/FFFP formulations have made them preferred choices. However, recent advances in Synthetic Fluorine-Free Foam (SFFF) formulations along with hardware enhancements can now provide the same firefighting performance objectives necessary for meeting established fire extinguisher code compliance requirements.

RELY NU-FOAM® SFFF is the first fluorine-free foam solution formulation designed for hand portable stored pressure fire extinguishers. While field data currently covers only two years of agent aging, accelerated testing indicates no reduction in performance and supports a five-year premix shelf life expectation. The most critical factor affecting solution stability is the quality of recharge water used. Rely strongly recommends using only clean, fresh, potable water during servicing to minimize microbial growth.

To further ensure and extend the shelf life of NUFOAM® premixed solution to meet the full five-year service cycle, Rely additionally recommends the use of a 597 mg Aqua-Tab™ water purification tablet during recharge. The use of a purification tablet ensures bacterial control, extends shelf life, and maintains compliance with NFPA standards. The utilization of bacteria-free fresh water during recharge helps extend the shelf life of premixed foam agent solutions within the properly recharged and stored Rely P2.5SFFF extinguisher model.

Per RELY FX Service Manual 4096-024, during recharge one 597 mg Aqua-Tab™ tablet may be placed into the extinguisher with the designated 2.4 gallons of clean, fresh, potable water charge prior to adding the RELY NU-FOAM® SFFF concentrate charge 4096-106 to help minimize any bacteria-related concerns. Only the fresh water purification tablets identified in this bulletin have been tested and are permitted to be used in Rely FX extinguishers.

Should you have any questions or need additional information, contact NFE customer service at 1-800-8508.