

# SAMPLING AND TESTING PROCEDURE FOR FOAM CONCENTRATES

NFC960

- Request for Analysis Form
- NFPA-11 Recommends That All Foam Systems Shall Be Thoroughly Inspected And Checked For Proper Operation Annually
- Regular Sampling And Evaluation Can Detect Deterioration Of The Foam Concentrate And Accumulation Of Sediment In Low Areas



## Why Take Foam Samples

Under normal circumstances and under satisfactory storage conditions, foam concentrates manufactured by reputable companies should maintain their quality for years. However, no matter how good the foam concentrate, deterioration can take place in a number of ways and it is therefore recommended to monitor the quality. Summarized below are some of the causes of foam concentrate degradation:

- Dilution or evaporation
- Topping off with inferior or incompatible products
- Excessively high or low storage temperatures
- Unsuitable storage conditions

NFPA-11 recommends that all foam systems shall be thoroughly inspected and checked for proper operation annually. The inspection shall include performance evaluation of the foam concentrate or premix solution quality.

## Regular Sampling and Evaluation Can Detect:

- Deterioration of the foam concentrate
- Accumulation of sediment in low areas, which could possibly cause proportioning problems when the system is activated

## Laboratory Analysis

National Foam Technical Service Laboratory has offered a premier foam analysis service for many decades.

An unbiased analysis of the foam samples is provided for the user's consideration. The recommended method for evaluating the condition of foam concentrate is to complete the tests listed below. These are part of the lab analysis:

- Specific Gravity
- pH Value
- Sediment
- Expansion Ratio
- Quarter Drainage

## Procedures for Taking Samples

Samples taken from the installation should be representative of the foam concentrates stored so that an accurate evaluation can be made.

1. To ensure a uniform sample, if the system design permits, circulate the system back to the storage tank for the appropriate time prior to sampling.

If circulation is not possible for any reason, take samples from the top, middle, and bottom of the tank.

If it is not possible to take three samples, due to the construction of the vessel or other reasons, then take one sample from the top of the tank and a second sample from the bottom.

**NOTE:** SUBMIT ONE COMPOSITE SAMPLE ONLY, made by mixing the samples taken from the tank.

If it is only possible to take one sample from a storage vessel that

has not been circulated, it should be understood that this may not be truly representative of the complete contents of the storage tank.

**NOTE:** When using drain-off points, ensure that sufficient fluid is allowed to flush through the pipework to clear any accumulation of sludge, and provide a representative sample.

2. The sample must be at least 500 ml (approximately 1 pint) in volume and shipped in a clean, tightly sealed container made of polyethylene.

3. The container label (do not use gummed labels) or container must be marked with a waterproof pen showing the following information:

- Name of company
- Type of concentrate; e.g., AFFF 3%, etc. (samples that are not identified with the type of foam and % will not be tested)
- Source of sample; e.g., B5 Foam Room - Tank #1

4. Complete the Request for Analysis Form on the next page.

**NOTE:** Indicate the type of foam and lot number, if known. Be specific in storage container identification; e.g., 1500-gallon tank located in B5 Foam Room - Tank #1. Note any special conditions or problems.

5. Sample containers must be packaged to avoid damage during shipment. Ship the samples to National Foam's Technical Service Lab at the address listed on the Request for Analysis Form.

