

# SAMPLING AND TESTING PROCEDURES FOR FIRE FIGHTING FOAM CONCENTRATES

## WHY TAKE FOAM CONCENTRATE SAMPLES?

For the most part, foam concentrates stored under satisfactory storage conditions and manufactured by reputable companies such as Buckeye Fire Equipment Company should provide years of trouble-free service.

However, even under the most rigid of condition and even with the best choice of foam concentrates, deterioration could occur. Degradation of the foam concentrate could happen due to a number of circumstances and as such periodic maintenance of the foam concentrate is warranted.

At least annually, samples of foam concentrate should be taken and analyzed as specified in N F PA Pamphlet II Standard for Low Expansion Foam, to verify their continued use and to check for the following conditions:

- a) To check the foam concentrate for an indication of dilution or evaporation.
- b) To check the foam concentrate for the effect of freezing.

- c) To check the foam concentrate for the possible effects of elevated temperatures.
- d) To check that the container material is suitable for long-term foam concentrate storage.
- e) To check that the foam concentrate has not been contaminated with other inferior or incompatible foam concentrates.
- f.) To check that the foam concentrate has not been affected by unsuitable storage conditions.

## FOAM CONCENTRATE SAMPLES SHOULD BE TAKEN REGULARLY.

Frequent sampling of foam concentrates can detect slow degradation and accumulation of sediment in low-lying areas. Early detection of these problems can eliminate potential proportioning or fire performance deficiencies.

It is not recommended to store alcohol resistant A.F.F.F. concentrates in carbon steel containers. In the event this situa-

tion is found, more frequent testing is likely to be required.

## LABORATORY TESTING OF FOAM CONCENTRATES

Buckeye Fire Equipment Company offers an analysis service for any foam concentrate irrespective of manufacture.

Samples for testing should be sent to our Technical Services Department in Kings Mountain, NC. A copy of the "Request for Analysis" form should be completed and sent along with each sample.

A series of tests are conducted and these would include the following:

Specific Gravity  
pH value  
Sediment  
Expansion Ratio (Lab Expansion)  
(.25%) Drain time.

A standard charge applies for these tests.

Additional testing, including a laboratory scale fire test is available at extra cost, if any foam concentrate sample is found to have "borderline" performance.

## SAMPLING PROCEDURES

It is important to take samples that are representative of the foam concentrate stored in the vessel. This ensures that a proper evaluation of the sample is achieved.

Consider the following conditions before taking a sample:

- a.) Circulate the contents of the tank for 5-7 minutes before taking the sample.
- b.) If circulation is impractical (in the base of a bladder tank) try to take a number of samples from different locations:
  1. Top of the tank
  2. Middle of the tank.
  3. Bottom of the tank.

If it is not possible to take three samples, take at least one each from the top and bottom of the tank.

- c.) If only one sample of foam concentrate is taken, it must be understood that this may not be a representative sample of the tank contents.

## IMPORTANT:

***When using foam concentrate tank drain valves, be sure to drain off and flush-out at least 1.0 gallon (4 liters) of concentrate before taking the actual sample for testing.***

## Instructions for taking foam concentrate samples and sending them to Buckeye Fire Equipment Company

If possible circulate the tank contents before taking the foam concentrate sample.

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

The samples must be suitably packed for shipping to prevent leakage. Each sample container must be clearly and indelibly marked with the following information.

**Company name Type of foam concentrate i.e. 3% A.F.F.F. etc. Location of where sample was taken i.e. bottom, top etc.**

Complete all of the columns on the "Request For Analysis" form. Additional electronic or hard copies of this form are available upon request.

If possible, for any Buckeye foam concentrates provide the Lot No. and date of manufacture.

Provide details of any special conditions or problems observed during the sampling procedure.

Provide specific details about the foam concentrate storage container.