Using water and a lab. graduate, mark a 1000 ml. water bottle at 25, 100, 500 and 750 ml. Using a medication syringe or eyedropper add 3 ml. of foam concentrate, then add water to the 100 ml. line You have now made a 3% solution. AFFF will disperse instantly. AR-AFFF will not, due to its sirup or gel-like alcohol resistant polymer it will need to be swirled till 3 ml. of concentrate in the bottom has dissolved.

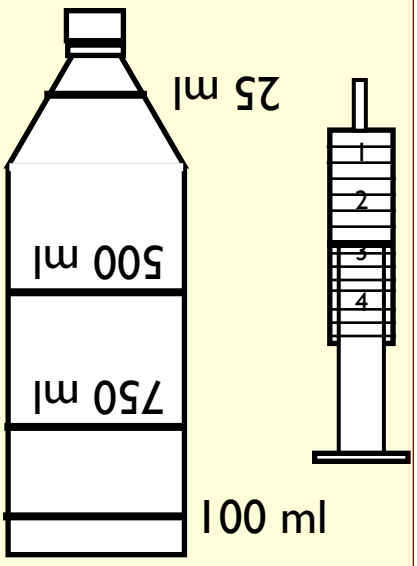
Note: If the eyedropper lifts AR-AFFF foam, so will a foam eductor. All National Foam products are UL listed for use with foam eductors. NOTE: frothy foam tank samples may test lean.

Once dissolved, shake the bottle vigorously for at least twenty seconds; turn the bottle on its cap and start the clock. Lightly tap the capped end on the table or desk and record the expansion ratio. If the foam sample has filled the bottle, you have achieved a 10:1 expansion ratio. Just about what a low expansion foam nozzle or nozzle attachment will achieve. If it goes to 750 you are at 7.5:1 expansion and so on. Record the expansion ratio, water source and its temperature, as water temperature and its clarity may have an effect on the test result. Salt water may cut drain time by 40 - 50%.

When 25 ml. of liquid has accumulated at the capped end, stop the clock; the foam has reached its quarter life. At this point the foam has lost 25% of its vapor suppression ability, which means it's about time for reapplication. Airport foam (regular AFFF) will go in less than five minutes. Universal Gold should go 19-23 minutes @ 3% depending the water source and how accurately you measured the foam concentrate sample. At 6% it will go 45 to 50 minutes. The longer the better as this quarter life business is what that determines foam replacement cost and how much waste needs to be cleaned up.

Let the sample continue to drain. When it's all drained you will still have foam in the bottle, which was almost useless minutes after you reach quarter life.

Re-shake the bottle for twenty seconds and put a dollop of finished foam on some acetone or denatured alcohol. If it disappears as fast as you apply it, it's not alcohol resistant.



Test your foam and system: Take concentrate sample from your engine's foam tank and the water from its booster tank. Do the 3% bottle shake and record the time.

Run your foam system for twenty seconds, capture a solution sample from a hose coupling and put 100 ml. into another bottle, shake it and compare the times. If the system sample is faster, it's lean. If it's slower, it's rich. You can be 1% rich, no lean.

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