



Class A Foam Expansion¹



Expansion is one way to evaluate how a Class A foam performs with respect to different aerator settings. Our laboratory uses 4 different regulator settings to determine optimal expansion. Expansion values listed are based upon a multiplier of the original volume used to prepare the foam. An expansion result of 5.00 demonstrates that the product would produce 5.00X (times) the volume of foam; 1 gallon of mixed foam can be aerated into 5 gallons of foam. WFCS uses a 4500mL container for these studies.

Greater expansion values may allow the user to apply to a greater surface area when used in structure protection scenarios. When foams are being procured and used for mop-up scenarios, it may be more useful to compare performance using our [Wetting Ability](#) results available on our website. General trends for expansion (with respect to source water) are described as:

- Colder source water will result in less expansion. Warmer water will provide more expansion.
- Foams prepared with harder water show less expansion than foams prepared with soft water.
- Regulator settings can be manipulated to produce a dry or wet foam depending on user needs or end use of the product.
- Other source water variables may affect expansion results

Expansion is only performed on Class A foams for informational purposes. Two water qualities and temperatures are provided in the table for comparison.

Product Performance Data on next page



Expansion¹
Class A Foam mixed at 1.0%



Product	Deionized Water ²	Tap Water ³
FireFoam 103B	21.93	15.59
Phos-Chek WD 881	17.65	13.83
Pyrocap B-136	11.80	2.90
Phos-Chek WD 881-C	18.92	15.05
National Foam KnockDown	15.91	14.21
FlameOut	4.83	3.21
Angus Hi-Combat A	18.47	13.58
Buckeye Platinum Class A	17.68	12.40
Solberg Fire-Brake 3150A	9.81	6.45
First Response	9.09	7.68
Silv-Ex Plus	9.86	6.53
1% Bushmaster	10.83	2.55
Phos-Chek WD881A	11.22	8.75
Fomtec Enviro Class A	12.32	6.84
Bio-Ex Ecopol-F	13.95	10.72

Notes:

1	Values given are as a multiplier of the original volume. See introduction section (above) for a more detailed description.
2	Deionized water is mixed with the foam solution at a temperature of 70°F (± 2°F).
3	Missoula Tap water (180 ppm) is mixed with the foam solution at a temperature of 40°F (± 2°F).