

Low and high- expansion foams for fire-fighting

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Foams used for fire-fighting are gas-filled bubbles formed from aqueous solutions from liquid forming agents. Essentially, there are three categories of foam characterized by the volume of foam created: low, medium and high-expansion. The first kind has a maximum expansion factor of 20 while medium expansion ranges from 20-200. High expansion foams can have expansion factors as high as 1100. Our concern is on the low and high expansion types.

High expansion foams have very low water content making it suitable to use in settings where damage to equipment by water is highly probable. It is also this characteristic that results in a minimum amount of residue thus minimizing post-fire clean-up requirements. The National Fire Protection Association has stipulated that this type of systems should completely fill and engulf an area where the fire is occurring thus making it suitable in settings where quick suppression is required. The high water content of low expansion foams makes it heavy and possible to be projected to burn material at safe distances. It also has a very high flow index and its wetting effect makes it more suitable in extinguishing fires in burning solid materials.