

Handbook for Foam Products

By
Vic Aleshire

This handbook will give you pertinent information necessary for the use of single and two part foam products. Situations and conditions will vary affecting the use of the products but the criteria for use will remain the same. Manufacturers include a wealth of information within the shipping manuals with additional information available upon request that will aid you as the installer. Safety for yourself and your customers is always the first priority therefore it is extremely important that you as the installer are completely versed in your product and follow all manufacturer suggested procedures.

One-part Foam

This product is found in most hardware stores and lumberyards. Builders, homeowners, plumbers and any other person who wanted to fill a crack, gap or hole quickly have used it. There are variations of this product that will expand at different rates and at different densities. There also is closed cell and open cell type foam products. All these variations have a common thread in the curing process. They all cure by air contact or better yet the curing agent is activated by and proportionately affected by the amount of moisture that is readily available, this poses a problem for installers in different climates. The average complete curing time is 2 hours to 24 hours. The material is usually tack free within 20 minutes. Those in arid climates will have to increase the relative humidity within the immediate area for the product to adhere and also for it to cure. Those in humid climates will notice the outer surface of the product curing before the inner product has expanded creating a moist center with no R-value. This material while uncured is searching for moisture. It will seek moisture from any readily available source such as wood products and additional atmospheric conditions. This usually is not a problem unless the material has been confined or restricted from any additional growth. When confined this material will add pressure to the surrounding surfaces and will cause windows and doorframes to swell not allowing the apparatus to function as designed.

Two-part Foam

This product is found only through distributors and should not be used by untrained personnel. It consists of two separate tanks containing different chemical components. When these components are mixed together in a frothing chamber the resulting chemical reaction creates a closed cell product that expands at 300 times the dispensing rate. There are byproducts to the expansion process. These byproducts include heat and organic vapors. Curing is a controlled chemical process and the complete curing process is under two minutes. The material is pressurized within the two containers and the resulting spray will disperse unwanted dust and debris from most surfaces that allows the material to readily attach its self to most surfaces. The quick expansion and curing time of this product allows the operator to test the area for leakage in a short period of time. The adhesion of this product allows application on most surfaces other than visqueen products

that have the potential of movement. There is an assortment of tank sizes available as well as different hose lengths that allow the contractor flexibility for the use of the product.

Applications

One-part foam

This material can be purchase in either individual cans with an attached applicator or cans that are attached to gun appliances. There is a host of different types foam and use of the appropriate material is critical for performance. One-part foam is ideal for closing small cracks and gaps. Especially in areas such as:

- Plumbing penetrations
 - Soil stacks
 - Extrusion pipes
 - Drain line penetrations
- Electrical penetrations
 - Wiring chases
 - Outlet and switch boxes
 - Ceiling penetrations
- Open wall tops with small openings
- Windows and doors

This can only be done with caution and requires multiple passes.

The point of application will have to be prepared so that the material will readily attach to the adjacent materials to create a seal. Often the material will **WALK** down the wall. This is often due to dirt and debris within the application site or there often is not enough moisture present in the area for the material to adhere to the application surface. Expansion rates can be controlled with additional moisture being added to the product during the growth process. Extreme care needs to be used when controlling the expansion rate as it will create a soft center and the possibility of losing the air seal is very great as well as losing all r-value in that area.

Two-part foam

This material can be purchased in single use applicator systems or in bulk systems that may be used at more than one site. Two-part foams are ideal for sealing and insulating larger cracks and gaps. They provide exceptional R-values in the range of R-6 or better per inch, they also create a moisture barrier as well as providing an air barrier in one application. When necessary to increase the R-value additional passes are required to allow for accurate curing rates. Application sites for this material are:

- Plumbing penetrations
 - Tub bottoms

- Soil stack penetrations
- Large drain line penetrations
- Electrical penetrations
 - Wiring chase ways
 - Behind panel boxes
 - Fire-rated recessed light covers
 - Fire-rated vent fan covers
- Framing
 - Windows and doors with caution
 - Open wall tops
 - Drywall junctions at wall tops
 - Kneewall floor junctions
 - Corner assemblies
 - Band joist junctures
- Ductwork
 - Sealing in conditioned areas
 - Sealing and insulating in unconditioned areas
 - Sound deadening
 - Moisture control

Note Check with code officials prior to implementing

It is best to prepare a large area for application prior to commencement. By preparing an area the installer may move at a rapid rate. It is better to make more passes over the target area than it is to apply a large amount on the first pass. There is an assortment of different tips that are designed for different applications. These tips will control the rate of disbursement as well as the pattern of the spray. Check the pattern and amounts prior to application.

Care and Storing

One-part foam

Can products are normally considered single use products. There are times however when there will be large quantities of product left in the container. Allow the material to set in the tube applicator. Do not remove the applicator, as it will allow air to contact the valve. Once the material has cured at the tip it will create a seal. Trim the set up section from the tip while at the next application site and use the product. Time and temperature are the enemies of this product while open. The residual product will need to be used in a short time frame while the container retains the propellant.

Gun applicators are different from single use products. There should at all times be a container with foam product on the assembly. The gun tip has to be cleaned after use and petroleum jelly applied to the tip to prevent air from coming in contact with the tip. The valve assembly needs to be shut when not in use.

When storing one-part products it is important to keep track of the shelf life. This is very important when using single use cans. There is always the possibility of the cans losing

propellant while being stored. It is also advantageous to keep the products at room temperature. This aids in the expansion process and makes the product more effective. Gun assemblies need to always have a can mounted in the bracket once they have been put into use. The tips need to be cleaned after use and sealed with a non-staining petroleum jelly; valve assemblies have to shut at the end of use, this further seals out air contamination.

Two-part foam

This product is shipped in individual containers that will need to have hose and gun assemblies appropriate to application attached. The gun assemblies have different tips that contain the frothing chamber. The product does not mix within the gun assembly itself but rather in the disposable tip. This allows the hose assembly to be reused. To store the hose assembly it is important to keep the old used tip at the end of the day. This setup tip has already created a partial air seal. Remove the old tip from the assembly and scrape out the uncured portion of product in both the tip and gun. Apply a generous portion of petroleum jelly to the surfaces and reattach the tip to the gun. This will create an air seal and allow the gun to be reused. The tanks once turned on should not be turned off until empty and a new set is attached to the hose assembly. When time to reuse the assembly check the spray quantities to ensure equal amounts of material being dispersed and add a new tip to begin applying.

This product is temperature sensitive as are most foam products. The storage area has to be able to maintain a 55-degree temperature in the winter months. This also includes transportation to and from the site. Shelf life is normally not a concern because the product will store for over a year.

General Rules

1. Follow all safety protocols.
2. Prepare your area for the material you are using.
3. Always clean up over sprays and hangers.
4. Trim product for a neat appearance.
5. Work with code officials to understand foam products and usage.

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