

TechTip G7 – Foam Switchover Procedures

Background

Many SPF contractors install different brands and type of foam for different applications on the same project. For example, closed cell SPF may be used in the crawlspace while open cell SPF goes in the attic. When switching from one type of foam to another there may be chemical compatibility issues that may arise, so precautions should be made.

There are several factors that should be considered when switching from different systems thought the same proportioner. **Foremost, it is best practice to have a dedicated rig for open and closed cell foam.** However, if the company only occasionally switches from one type of foam of another, it may not be practical to have separate rigs.

Purge vs Flush

To change from one material to another, you must perform either a purge or a flush of the system. While they may seem to mean the same thing, they are different. A purge is where the old material is 'pushed' through the system with the new material. With this approach, the old and new materials will make direct contact and can mix.

A flush is where the old material is push through the system with a compatible flushing liquid. After a sufficient amount of flush material goes through the system, new material is introduced. In most cases, a purging operation is less time consuming than a flush operation, and purging is often performed in the field. www.sprayfoam.org

Chemical Compatibility

Before deciding on whether to purge or flush the system, the first step is to contact the manufacturers of both the old and new materials and confirm, in writing, that the old and new materials are compatible. In most cases, foam suppliers will state that their materials should not be mixed with any other materials and that doing so will void any warranty. This means that **if you decide to purge your system, the manufacturer has absolutely no liability for the quality of the sprayed product.**

If you absolutely must purge your system and are willing to accept all liability for the quality of the foam, it is always a good idea to check for chemical compatibility between old and new materials.

NOTES

Mixing of chemicals from different foam products or from different manufacturers (closed-cell with open-cell, or Product X with Product Y) can be risky. Foam created during the transition may have undesirable properties.

Most manufacturers recommend against purging and in these cases, product warranties are void when mixing products outside of a brand. Some manufacturers even prohibit mixing between closed and open-cell foams within their brand.

Always check your material and equipment manufacturers for approval before implementing any purging or flushing procedure.

Check for Compatibility before Purging

Before purging a system check out the liquid material for compatibility. B-sides particularly may not be compatible with other types of B-sides and can create a reaction resulting in particles forming or the material gumming up within the equipment.

In order to determine compatibility, mix a small amount of the two different B-side chemicals together. Notice if there is any reaction (such as particles forming or the material gumming up).

- If there is no reaction, you can load up the new B-side material right after the old. But, remember there will be some material that is half original and half new foam. This material mix typically makes low-quality foam with poor cell structure, dimensional stability and high potential for lingering odors. This material should not be sprayed on the job. Depending on the hose length and diameter, it can vary from a few quarts to a couple of gallons of material.
- If there is a reaction, then the hoses need to be flushed. Contact your SPF supplier for their recommendation on what material to use. Be sure to dispose of the waste material in accordance with local, state and federal regulations.

Repeat the procedure with the old and new A-side materials. While most A-side materials are nearly identical from one manufacturer to the next, some manufacturers may elect to use small amounts of additives that could react with A-side materials from another manufacturer.

Steps to Flush the System

Flushing is always preferred to purging. When properly performed, it can further assure no mixing between incompatible chemicals. Follow these steps to properly flush the spray foam system:

1. Calculate how much liquid material each spray hose holds. Place the drum pump in a clean bucket filled with a flushing solution recommended by your SPF supplier
2. Pump material out of the hoses into another clean bucket stopping well before the

flushing liquid starts to come out of the hose. This material should be good to use again, assuming you calculated correctly how much liquid the hose holds.

3. Continue pumping the flushing liquid into another bucket until it runs clear.
4. Place the drum pump in new material and pump until the flushing liquid is completely displaced.
5. Spray out some test samples to ensure proper foam quality before applying.

Disposing of Unusable A and B Components

Purging and flushing will develop unusable chemical liquids. A-side liquid components are considered hazardous materials and cannot be disposed of in a landfill. If left in their liquid state, the A-side component must be shipped off-site to a permitted hazardous waste treatment, storage or disposal facility (designated by the EPA as a Treatment Storage and Disposal Facility or TSDF). This can be costly depending on the volume of material. A more cost-effective way of disposal is to mix the unusable A-side component with the B-side component to form non-hazardous solids that are not a regulated material and can be disposed in landfills. Contractors are cautioned to check with their state and local regulators before disposing of spent A-side in this way. B-side components are not regulated as hazardous wastes. The best way to dispose of B-side liquids is, again, to mix it with unusable A components to form the non-hazardous solid.

ABOUT THE SPRAY POLYURETHANE FOAM ALLIANCE (SPFA)

Founded in 1987, the Spray Polyurethane Foam Alliance (SPFA) is the voice, educational and technical resource, for the spray polyurethane foam industry. A 501(c)6 trade association, the alliance is composed of contractors; manufacturers and distributors of polyurethane foam, related equipment and protective coatings; and consultants who provide inspections and other services. The organization supports the best practices and the growth of the industry through several core initiatives, which include educational programs and events, the SPFA Professional Installer Certification Program, technical literature and guidelines, legislative advocacy, research, and networking opportunities. For more information, please use the contact information and links provided in this document.

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