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**S**PFA gets calls regularly from customers, designers, architects and others looking for straight answers to their questions on SPF. Here is a question received recently that our panel of experts addressed:



## Can I apply more than one sprayfoam product using the same rig?

The answer to that question is yes and no. When using both open and closed cell foam, it is better to have a dedicated rig or proportioner system for each material. But, it may be possible to use a foam rig to spray different brands of the same type of foam if caution is used.

Mixing different types of foam (open versus closed cell) or even foams of the same type from different manufacturers may present chemical compatibility problems, resulting in foam failures and equipment problems that may not be supported by your supplier. If foams are improperly mixed by an applicator, the applicator can effectively become an 'on-site formulator' and may end up taking the entire liability for a field failure. While changing foams can be done, certain procedures should be followed to avoid these problems.

When you purchase a system from a supplier or distributor, the chemicals in the A and B side components have been finely tuned by the manufacturer to work together. During the foam reaction,

numerous simultaneous chemical reactions occur. Manufacturers use specific additives to optimize these reactions resulting in properly cured foam that meets the stated performance requirements and coverage rates.

As we know, there are a handful of MDI or A-side suppliers in North America. While the A-side is essentially [MDI]\_\_, there can be small differences between products that may require equipment adjustment

The B-side formulations can have very different chemistries particularly between open and closed cell foams. Each proprietary B-side formulation consists of a customized blend of additives: polyols, blowing agents, flame retardants, catalysts and surfactants. All of these additives are specifically designed to work together during the reaction.

Mixing different B-side formulations together, either through direct mixing by combining partially empty drums, or even following one by another through the proportioner system, may result in a

liquid that can coagulate, precipitate fine particles and have an unknown viscosity – which can damage your equipment. If these mixed B-sides are applied with an A-side chemical during application, the resulting product may be a hybrid foam, neither open-cell or closed-cell with poor physical properties, not fire tested and likely to have strong odors.

For this reason, it is never a good practice to interchange open and closed cell formulations through the same equipment without a complete and thorough flushing procedure, which only takes a few minutes.

## How to Perform a Complete Flush

Changing a rig from open to closed cell foam (or vice-versa) – or using foams of the same type from different manufacturers – will require a complete flush of the system. Always consult your equipment and material supplier for specific instructions and the materials to be used to flush the equipment, NEVER MIX ISO (MDI) with water!

**Step 1.** Flush the proportioner and hoses with a liquid that does not react with the equipment or the A or B side chemicals.

**Step 2.** Follow the flush liquid with another material that can reduce the potential of contamination such as DOP (dioctyl phosphate) or TCP (tricresyl phosphate). This material can stay in the pumps and hoses until the new material can be introduced. Note: this is also a good procedure for long-term shutdown of the foam rig.

**Step 3.** Dispose of flush liquid in accordance with local, state and federal regulations.

There's much more to this process... Consult with your foam and/or equipment supplier for detailed instructions. ○



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