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*** APPLICATOR BULLETIN ***

**SPRAYING POLYURETHANE FOAM TO CPVC AND
OTHER TYPES OF PLASTIC PIPES**

As a result of two separate and extensive studies, the proper application of sprayed polyurethane foam, both open and closed cell, is not an issue from either a chemical compatibility or exposure to exothermic heat during or after the foaming process.

SPFA, system house partners, including NCFI, and Lubrizol (leading supplier to CPVC resins) conducted a joint study that conclusively shows that sprayed polyurethane foam does not have a chemical compatibility issue and does not cause environmental stress cracking (ESC). CPVC pipes can be damaged from mechanical stress and the foam applicator should take all necessary steps to prevent any movement or stress to the pipe itself while working in proximity to pipes.

In a separate study by NCFI and Lubrizol, NCFI Sealite™ and InsulStar® (open and closed-cell spray foams) were applied to over 50 different pipe samples of Blazemaster® sprinkler pipes ranging from ¾" to 1½" diameter and Flow Guard Gold® plumbing pipes from ½" to 1" diameter. Pipes were tested both wet and dry, to pressures well in excess of those seen in the field with foam thicknesses well in excess to recommended application rates. Foam can be applied to any CPVC pipe size, both standard plumbing and sprinkler types.

Based on these and other studies, both NCFI open and closed cell spray foam systems can be applied in contact with PVC, CPVC, ABS, PP-R and PEX plastic pipes. For closed cell foam, plastic pipes must not be pressurized during the foam application. Each closed cell foam pass shall not exceed 2" thick, and a 10 minute cooling/curing time must be allowed between each subsequent pass. For open cell foam, application can be in a single pass thickness not exceeding 6 inches. Multiple passes are permitted to achieve the design R value. For either type of

foam, the total thickness is limited to what is permitted in that area of the building assembly.

When applying foam around sprinkler heads, the head should be masked to prevent any overspray from entering the head area from both a cosmetic and functional view.

If any spray foam is applied off ratio, or any of either A-side or R-side liquids are spilled on any CPVC or other type plastic pipes, remove all the off ratio foam, clean off the residue foam and wipe off any liquid from the pipe surface using a dry cloth. After cleaning the pipe surface, spray foam can then be installed. **WARNING: Ensure all residue and liquid foam chemicals are completely removed.**

Full details of the ESC study are posted at the SPFA website: www.sprayfoam.org
A Compatibility & Exotherm Position statement can be found on the Lubrizol website at: <http://www.lubrizol.com/CPVC/Resources/SystemCompatible/Other-Concerns.html>

Please contact NCFI with any questions at 800-346-8229 or www.NCFI.com