## Question: What's the deal with spray foam insulation?

RAFTY OLD HOUSES ARE losing their charm, that is for certain. With continuous concerns for energy efficiency and making our older buildings as "tight" as possible, owners are explor-

ing all their options. Enter the hot market for spray foam insulation. Spray foam has actually been around for quite some time. It's the kind in a can that we buy at our local hardware store to seal the gaps between window and door moldings, spaces between foundation materials, and the various other air leaks that

building materials entering their one hundreth-plus year create. During the last decade or so, spray foam insulation has been widely introduced for its ability to cover much larger areas. So is it a good idea or not?

The kind in the can aside, let's look at the options for larger cavity insulation. The first distinction that needs to be made is the difference between open cell and closed cell foam. Open cell is just that: open membranes that will allow air passage, consequently moisture passage, through the material. Closed cell expands to purportedly create a completely closed compound, thus creating its own vapor barrier. Vapor barriers are always a good thing, provided

they are blocking moisture vapors from traveling into our buildings or onto wooden framing members.

Both systems are applied in similar fashions; pump kits combine two-part mixtures that, when heated to

application temperatures, expand to completely fill the cavities they are sprayed into. Open cell's vulnerability to allow moisture vapors to travel through the insulation means they should only be applied in situations where moisture is of no concern (if you can find me an old house with no moisture concerns,

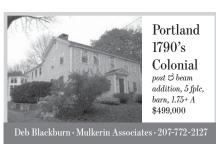
please let me know!). Both types of products do indeed *expand*, meaning they can push framings and stud walls out of alignment. They also make a big mess and time is of the essence during application. The very savvy doit-yourselfer can certainly apply this material, but significance of temperature control for product flow and the concern for damaging framework may mean professional application is a better choice.

Regardless, the major concerns from a preservation, as well as a safety, standpoint are that areas should never be completely covered. Insulation should be applied between framing timbers, not covering them, so that wood can always breathe. Also, no plumbing or electrical system components should be covered, thus impeding access and repairs in the future. Finally, this stuff pretty much glues itself in place, so if reversibility is important for future preservation or restoration, then this product is not appropriate.

Like many preservationists, I am still waiting for a verdict on this one. Reversibility is always a concern, not only to avoid covering important historic materials, but because the reality of older buildings involves repairs and upgrades, which requires access. I also believe newer products should be tested and proven before our fine old buildings are used as test subjects. Skepticism aside, closed cell spray foam insulation certainly has its application in less historically important areas, where there are no systems elements, and in other inconspicuous areas, such as basements, where other insulation options would be less effective.

Special thanks to my colleague Richard Eagan, Building Contractor & Project Manager, for his technical assistance with this column.

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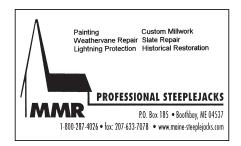
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