

GREEN TECH THE SERIES COLUMN FOR JULY 15, 2015
HEADLINE: IS SPRAY FOAM THE ONLY ANSWER?

One of, if not the most important aspect of home assembly today is air sealing. Since the introduction of spray foam in the 80's and its rapid growth in popularity over the past few years in the new home and renovation market, we have been quick to turn to this product; maybe too often in some instances. This week we begin an in depth series on air sealing and spray foam, starting with air sealing.

The use of specialized caulking, sealants and membrane type tape is also rapidly growing in popularity, especially in spots where foam may not inject fully or lacks the necessary movement needed around some installations; wiring comes to mind, here. There are also areas that have been ignored and now are being considered as air leakage locations.

Both Owens Corning and Khauf have introduced a "sprayable caulk." This product has some definite applications. While they advertise the ease of application, their real value is in sealing the edges of a stud bay, thereby sealing this area from any air leakage. The product is promoted for its ability to seal leaks in floors, walls and attics. It can, as well, be used as an air seal in joints and as a gasket along the top plate of walls. The Owens Corning product called "Energy Complete," requires a licensed installer, while the Khauf sealant can be bought by a homeowner for their use.

Both brands emit very low VOC vapours and, in fact, full masks and a complete zippered suit are not needed. Regular work clothes are fine and any other workers on the job do not have to leave, as happens with polyurethane foam. The company recommends that you limit the crack fill capacity to less than 3/8 inch, unless you install backer rod. They did say that wider applications can be used, provided it is properly filled with insulation and then the sprayable sealant can be applied over top. The Knauf product, called "Ecoseal," seems to be somewhat easier to use and does practically the same thing, while not as expensive. It's a one can product, instead of two, cleans up with water and can be used with cellulose insulation, which is not recommended with the "Energy Complete" sealant. The other difference here is the Knauf sprayable sealant cannot be used as a gasket seal and you must use just the right amount. If you overdo it, you must remove the excess. While both products have pros and cons, the largest pro I can see is the value of air seal that they offer.

I wish I had a dollar for every roll of red "Tuck-Tape" I have used over my building career; it would pay for a great vacation! While it started out as a tape

for sealing air barrier and tyvex, it has grown in, not only use, but varied kinds of construction applications. Various North American companies manufacturer sealant tapes, but the best ones seem to come from Europe. Companies like Siga tape and Hanno expandable foam tape are brought in by Canadian Importers, such as Hermann's Timber Frames in Curran Ontario, just east of Ottawa. The Siga lineup is impressive. They have not only sealing tapes, but self-adhesive strips that can be used in many applications where a wide self-adhesive seal is needed. Go to www.herrmannframes.com to see the entire Siga lineup. The import list of sealing tapes is growing steadily for use around windows, or just about any penetration. The North American manufacturers like Dow, 3M, Grace and DuPont are catching up to the European competition with construction sealing and flashing tapes for, not only tyvex, but plywood, rigid foam and even polyethylene. Venture makes two kinds of clear tape with an acrylic adhesive that has been used successfully in this application. Grace makes an excellent butyl based tape, called "Vycor," which comes in 6" wide rolls and is widely known in the industry for sealing OSB.

Another product that is popular in Europe is building gaskets. They have been in use for over 15 years with excellent results. Most of these gaskets are made from EPDM, a popular roof membrane material. The advantages over caulking or construction adhesives are simple; they are never affected by water and will last for years with no deterioration. These gaskets are far better than any caulking or foam gasket for this application. You will see them used around windows today; we used them for the spa windows.

The last product used in air seal is caulking. It seems to have been around the longest of all air seal materials. The word caulking was actually a term used in the wood boat business, while sealant was first marketed for home use. Today, both terms are intertwined and somewhat confusing at times. For use as an air seal, caulking demands the right product. Around small openings like wiring or exhaust vents, it's the right product to use. A recent study crossed my desk where near to real life conditions were duplicated and the results were surprising. The big dollar caulking did not fare much better and in some test results it was not as good as average priced caulking like Dap Dynaflex and even Liquid Nails Construction Adhesive. Tremco TremPro acoustic caulk fared well, also. If you have run out of caulk and have some Siga Rissan or Wigluv tape, it tested very well in this application.

There are products on the market for just about any air seal application that will not break down over time. If you are taking the time and effort to seal your home up properly, find the specific air seal product that your application needs.

As we move ahead on the spa, we are following the international passive house suggestions for air seal. Next week we look at spray foam, by far the most discussed and beneficial method to seal and insulate a home.

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