

Subject: Exterior Building Enclosure News
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From: Richard Keleher <kel@rkeleher.com>
To: Richard Keleher kel@rkeleher.com
Conversation: Exterior Building Enclosure News

Hi all, Richard here ...

As I know you're interested in Building Envelope issues, I'm sending you my bi-monthly newsletter. I also value your privacy and if you would prefer not to receive this newsletter, please hit reply and change the subject line to "Delete from newsletter list" As always, I'd be glad to discuss your concerns and comments on these issues.

Tip of the Month: It's the Interface

Windows, curtain walls, metal panel systems and other veneers, metal studs, sheathings, air and vapor barriers, and even flashings are described extensively by nationally recognized standards that are usually called out in the specifications. We often say that, "the devil is in the details." And that is because we often have conditions that are not covered by those standards or that are too complicated for it to be understood by the installers how the standards are to be applied to them. In other words, the systems, by and large, are well covered by the industry conventions and it is most often the intersections, the interfaces between systems, that become the problems. For example, ganged and stacked windows are almost always a problem because the window manufacturer takes no responsibility for the ganged and stacked conditions. And these conditions are usually very tight with hard to understand geometries. So hard to understand that the architect doesn't draw them (or can't, due to the complexities). And if you can't draw it, how is the builder to build it? Perhaps by trial and error, but how many jobs can readily accommodate that.

There are four solutions to this dilemma:

1. Avoid such details (e.g. Don't use stacked or ganged windows).
2. Specify lab or field testing of mock-ups of these conditions to enable the contractor to work them out in the field.
3. Engage a consultant to develop the details (do we want to give up design control?).
4. Assign a detailer to do these details that is experienced and has the time to develop the full complexity of the detailing required, including very large-scale details and axonometrics at all conditions.

The bottom line is that the architect is responsible for describing how the systems join together and we need to pay very close attention to this in the development of our projects.

Product of the Month: Hot, Fluid-Applied Fabric-Reinforced Rubberized Asphalt Waterproofing

This membrane is recognized by many experts in the field as being the premiere waterproofing product, especially for waterproofing under plaza decks where the overburden is expensive to remove and the spaces beneath are of importance. This material is also often used beneath green roofs. In fact, several waterproofing manufacturers will give a warrantee on the whole system (except the plantings), including removal of overburden, when this product is used. Sometimes they will only warrant materials that they provide themselves; so specify that they are to provide all of the materials. It also is a very good idea to flood test (or even better, use electronic field vector mapping – more on that in a later newsletter) to ensure a watertight installation.

This product is also available in environmentally-favorable formulations that include 25% recycled content.

Add to your specs: Hot, fluid-applied fabric-reinforced rubberized asphalt membrane 215 mils thick waterproofing system. Provide a 10-year total system warrantee, including removal of the overburden. Coordinate with manufacturer and whether or not they are to provide all of the materials.

Products:

- American Hydrotech Monolithic Membrane 6125.
- Tremco Tremproof 150 HR
- Henry Company 790-11 EV

News of the Month:

I will be presenting my annual talk on Pressure-Equalized Rainscreen Claddings at Build Boston. The link to the Registration page is: <https://www.xpressreg.net/register/BBOS115/start.asp>. Here is the announcement on the Build Boston website:

C83 Rainscreen cladding systems

Sponsored by: the BSA's Building Enclosure Council

Richard Keleher AIA, Richard Keleher, Architect, Concord, MA

Drained and back-ventilated cladding originated centuries ago in Norway. It was first used on high-rise buildings in the 1950s in the U.S. in response to the difficulty of sealing curtain wall cladding systems. Although the concept of pressure equalization was developed by American and Canadian national associations in the early 1970s, it has seen limited use in the U.S. The rainscreen principle can be used to improve the performance of exterior cladding systems. We describe the history of this approach and how it was used on the Big Dig. A case study is reviewed and practical details provided demonstrating how rainscreen cladding can provide maintenance-free cladding for your projects.

More next month!

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Richard



Richard Keleher **AIA, CSI, LEED AP**

ARCHITECT 460 Powder Mill Road, Concord, MA 01742
Phone: 978.369.4550 Cell: 978.944.2734 kel@rkeleher.com

www.kel@rkeleher.com