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Compass

Let Us Help Set Your Course For
Navigating Water Intrusion Problems

True sustainability to the building envelope is all about satisfactory long-term service with minimal maintenance using systems in keeping with good stewardship of our environment. We should all be proactive in helping building Owners obtain optimal satisfactory system service life within budget constraints. Optimal is a catchall that includes defining acceptable meaning for cost, schedule and quality from the beginning of a project to project completion.

As building scientists, HCI consultants and technicians work hard to enable the quality minded design and build team move from "A" to "Z" in as close to a straight line as feasible. Just as the shortest distance between two points is a straight line, steady progress in the direction of well defined quality goals can contain costs to within reasonable expectations and facilitate the project schedule.

Ben Hixson

"Think Like Water!"

Newsletter Highlights:

- Window Opening Flashings
- W.R. Grace Perm-a-Barrier
- HCI Offers Seminars

See next issue:
**Field Chamber Water Testing
Windows
(Don't Be Mislead!)**

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www.bedocs.com

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Contact us for educational
generic **SEMINARS** on
green roofing and
sustainability.

Flashings in Window Openings By: Greg L. Cunningham

Window openings, the "weakest link" in exterior wall construction, can be armored with flashings to provide the last line of defense against water entry in these openings. Hixson Consultants, Inc. considers flashing to be one of the most critical elements in preventing water intrusion into buildings. Flashing can be defined as material installed under and sometimes around the window designed to prevent water from entering between the window and any gaps in adjoining building material surfaces.

Flashing types vary depending on the wall construction and the type of window system. A variety of flashings can be configured to accommodate any detail. Wind-driven rainfall can enter even very small spaces between the window frame and the surrounding building materials. In larger commercial buildings these small voids are exaggerated by negative internal pressure allowing water to actually be pulled through these voids into the building's interior.

There are three types of window opening flashing materials: Sheet metal, vinyl, and tape.

Sheet metal varieties are widely used and include aluminum, copper, zinc, galvanized and stainless steel. The metal flashings are the most durable but

take some craftsmanship forming and fitting to the window openings. Stainless steel, galvanized and zinc are the most difficult to work with and each one forms in a different manner due to their metallurgy. Metal flashings generally cost more initially.

Vinyl or PVC flashing is most common; usually very inexpensive, but fragile compared to the other flashing types. Vinyl flashing is not strong and may become brittle in cold weather causing it to snap into pieces. This type of flashing is easily punctured.

Tape flashing, also referred to as self-adhered membrane, is the newest and most versatile. It adheres well to the surrounding building materials especially vapor barriers. When using tape flashings, HCI recommends installing the flashing under the window and up the jambs a minimum of eight inches (8") to protect against moisture intrusion through the corners of the window. Tape flashing may degrade in high temperatures and shouldn't be exposed to ultraviolet light. Compatibility with different types of sealants is another flashing consideration. Silicone sealants usually won't adhere to the tape flashings and some PVC flashings. Therefore, flashing compatibility with sealant is an all impor-

tant factor to consider regarding successful flashing installation within the wall cavity. Designed to collect and divert water out of a window opening, other integral components to the flashing system are end dams and back dams. The back dam is usually a vertical leg on the backside of the flashing intended to divert any water intrusion. End dams placed at each end of the flashing keep water from running out the ends of the flashing.



It's not always possible to use flashings. For instance, a large number of anchoring penetrations in the window wouldn't allow flashing to be feasible or in systems with precast panel construction. Under these conditions, you would generally rely on the weeping system or the sealant perimeter joints to stop water migration. When in doubt contact HCI for our recommendations for the flashing materials and flashing detailing best suited for your project.

Product review is for information only and is not an endorsement from HCI.



Grace Construction Flashings Review

Grace Construction Products, based in Cambridge, MA, is a unit of W. R. Grace & Co. World-headquartered in Columbia, MD, Grace is a leading global supplier of catalysts, silica products, specialty construction chemicals, building materials and container sealants. It is traded on the New York Stock Exchange under the ticker symbol [GRA].

Grace Construction Products offers innovative tape flashings or self-adhered flashings for window openings and special construc-

tion details. Grace Perm-A-Barrier and Grace Vycor products are very versatile and easy to install on most commercial building materials such as wood, plywood, concrete and masonry. Because of the ease of installation these products can be applied to window openings as flashings or to reinforce flashing to ensure the peace of mind that comes with the assurance of maintaining a dry building interior.

We want to share our Building Envelope observations with our valued clients and other individuals who may be interested in receiving our semi-monthly publication. Call HCI today for cost effective solutions customized for your project.