

## Not All Windows Leak

To the Editor:

In the article "Water-Managed Wall Systems" (3/03), Joseph Lstiburek states, "In America, we build as if windows don't leak" and "All windows leak at the joints." He cites "a survey of over 3,500 vinyl windows that were less than two years old" in which "20% had already begun to leak." My concern is that the general public reading this article might conclude that all windows and doors leak, when in fact this is not necessarily the case. This leakage problem might be true with vinyl windows and doors. However, at Pella Corporation, every window and door gets tested for air and water infiltration before it leaves the factory.

As the director of product support for the New Hampshire and Maine branch of Pella Windows & Doors, I teach contractors how to properly install windows and doors, stressing the water-management system, specifically the "rainscreen" principle and how it relates to a window-wall.

Chuck Kaskiewicz  
Pella Windows & Doors

## Brick Veneer No-No

To the Editor:

In the article "Water-Managed Wall Systems," the brick veneer drawing on page 57 shows galvanized or stainless-steel nails or screws as brick ties. This is a real no-no!

All building codes that I am aware of require corrugated metal ties for veneer over wood studs. The attachment of these ties must be into the studs.

A nail or screw would not provide the proper amount of bond area. Also, to install a nail over a freshly laid course of brick would be very hard. Plus, a nail or screw would not have a drip bend, which would lead to water being drawn into the interior.

We recommend a minimum 2-inch

air space and use stainless-steel wall ties with stainless-steel screws. On any veneer over 10 feet high, we use adjustable wire ties.

At the base of the cavity, we install Mortar Net. On stone veneer, we use Inka or Hydroduct drainage mat in the cavity for the entire height.

Michael DeBlasio  
Masonry contractor for 31 years  
Littleton, Mass.

## Fast and Loose

To the Editor:

The article "Water-Managed Wall Systems" by Joe Lstiburek addresses an area of intense interest in the construction industry and has a lot of useful information. However, there are parts of it that play a little fast and loose with technical details.

For example, the author uses, seemingly interchangeably, the terms "tarpaper," "cheap felt paper," "paper," and "felt paper" several times. I assume he is referring to asphalt-saturated organic felt. In other places he refers to "Type D coated paper," which I assume to mean asphalt-treated kraft paper. Asphalt-saturated organic felt is the only material specifically described to be used as a "water resistive barrier" in the *International Building Code*, and it is one of two materials specifically described in the *Uniform Building Code* and the *California Building Code*, kraft waterproof building paper being the other.

Drainage of a wall is an important water management technique, but drying by evaporation can be equally effective. Creating air spaces by furring out wood clapboards may result in better drainage, but it also creates a fire hazard by introducing an unblocked chimney into the exterior wall system. It may actually violate Section 708.3 of the *Uniform Building Code*. Finally, it is largely unproven

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**Mailing Address:**

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186 Allen Brook Lane

Williston, VT 05495

802/879-3335

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## Letters

whether this is really necessary to create a wall system that can adequately manage water.

In the section on window leakage, vinyl windows may have been an unrepresentative choice because they have unique problems, particularly when used with stucco. The coefficient of thermal expansion of vinyl (PVC) is nearly 4 times that of aluminum and nearly 14 times that of wood. When used with stucco, which tends to shrink slightly as it cures, vinyl frames appear to contract sufficiently to provide a small but significant gap around window perimeters. Water intrusion into the gap may be sufficient to cause fairly quick degradation of paper-based weather-resistant barriers, resulting in wetting of framing and sheathing. Even when plastic or all-bituminous flashings are used, it appears that water intrusion can reach and deteriorate the surrounding paper-based weather-resistant barriers. A similar gap occurs around aluminum and even wood windows, but it is so comparatively small that water intrusion is not typically a problem unless other flaws exist. It appears that the difference between aluminum and vinyl is enough to enable aluminum windows to function successfully while vinyl may not, even though the detailing and

installation are the same.

I want to emphasize that Dr. Lstiburek is doing a great service by providing this type of information. I just want to see a little more rigor in the terminology and technology.

Thomas K. Butt, FAIA  
Interactive Resources  
Point Richmond, Calif.

### Housewrap Maker Counters

To the Editor:

Dr. Lstiburek (“Water-Managed Wall Systems”) offers an excellent discussion about proper installation of materials to shed water and concludes that design alone will not keep all moisture out of a wall system. It follows that successful water management must depend upon durability and performance of the building materials, including weather resistive barriers. This is contrary to his point that “the difference between one building paper and another is really a minor issue.”

Tyvek is made from spunbonded polyethylene fibers, a unique structure offering an effective combination of durability, water and air holdout, and breathability. In addition, Tyvek does not absorb water, is not a food source for mold, and will not degrade in the presence of water, in contrast to building paper.

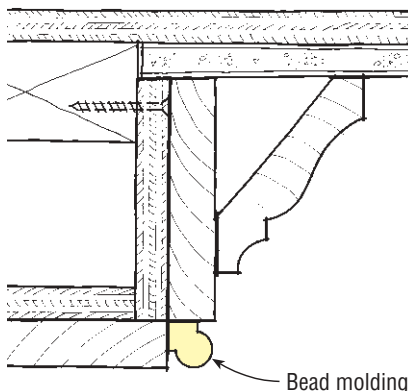
In a field study of stucco walls,

### Coffered Ceiling Details

To the Editor:

Regarding the article “Building a Coffered Ceiling” (4/03): Note the outside corner molding used by early craftsmen. This molding installs quickly, provides a shadow line, and conceals gaps while allowing for expansion and contraction in the adjoining boards — resulting in fewer callbacks.

Richard Alexander  
New Market, Md.



## Letters

weather membranes were removed and tested to measure loss in water resistance. Not only was the initial water resistance of Tyvek significantly higher than that of building paper, there was no deterioration in the water resistance of Tyvek compared to building paper, which lost repellency. Also implied is that the transfer of the print from the Tyvek to the stucco is an indication of bonding, destroying water repellency. Concluding that stucco should never be used with a housewrap is inaccurate. As applied, stucco contains significant amounts of water; the ink is water soluble, so transfer may occur but does not indicate physical adhesion.

DuPont will continue to support product performance. As a science-based company, we believe in rigorous testing, and we appreciate the opportunity to share our data.

Catherine M. Wilson  
Stucco Market Manager  
DuPont Tyvek Weatherization Systems

### Home Shows Rule

To the Editor:

I thoroughly enjoyed Tom Peterson's article "Marketing by Home Show" (*Business*, 4/03). I am the organizer of a small local co-op home show, and many of our exhibitors are looking for information like this.

Having organized six shows, I can say that this article was right on target. Many others involved in the home industry could benefit from

exhibiting in a home show. Half of my new business comes from our show. The other half comes from our show's website. I am busier than I have ever been. Our builders' association receives a substantial part of its funding from the admissions charged. They also supply the staff to operate the show, which is a great way for the association to connect with the community. Many of the exhibitors network with each other, while seminars provide consumers with valuable knowledge. Home shows are a lot of work, but they are by far the best marketing tool I have seen for the construction industry.

Richard C. MacCrea  
Mountain House Plans  
via e-mail

### KEEP 'EM COMING!

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