

August 17, 2009

Volume 1. Issue 3

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# Compass

Let Us Help Set Your Course For  
Navigating Water Intrusion Problems

HCI recommends building Owners and other construction decision makers demand the performance that's been represented. Also obtain No Dollar Limit (NDL) warranty coverage to guard against inflation. Further, the longest warranty term coverage is advisable.

Ben Hixson

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

See next issue:  
**Getting Optimal Value Warranties**

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## Field Chamber Water Testing Windows – Don't Be Mislead By: Greg L. Cunningham

This article will point out industry thinking regarding the current field chamber water testing procedure for windows; specifically high-performance commercial windows. Initially, we must accept that many times the issues associated with testing windows are not about the window but involve the window opening surrounding the window.

Are windows designed for laboratory testing or designed to perform in commercial type projects?

### What's in the best interest of the general contractor, architect and Owner?

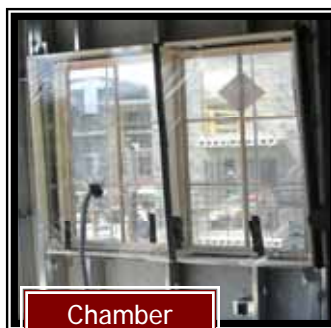
The manufacturer promotes energy-saving performance and sustainability to attract architects and Owners. To the Owner, the bottom line is value for the dollar; performance correlating to cost.

The window industry has laboratory chamber testing guidelines allowing them to advertise the performance of a product. After shipping the product to their jobsite their stated performance expectations change. For example, a window advertised to perform to **twelve pounds per square foot** water pressure in the laboratory to their thinking should only be field chamber water tested at two-thirds this pressure. The manufacturer indicates that the field conditions vary from those in the laboratory; improperly dictating testing at a lower water pressure. The installed example window can only be tested to **eight pounds per square foot** water pressure which is validating a performance level well below the Owner's expectations, warranted performance and what was achieved in the laboratory test.

Over the years, we've seen many changes in the way exterior walls are being constructed. More efficient flashing products are being

used in the window openings. However, at times these products are not used in the proper manner or the products aren't compatible with the other components used within the window opening. The only effective way to determine if the installed window and the window surround are performing to meet performance criteria in a new construction project is field chamber water testing using the proper method with rated pressures.

Field hose nozzle testing is an acceptable method for determining perimeter leak problems and any water migration in copings, flashings, precast concrete construction, and some storefronts. However, field hose nozzle testing isn't as definitive as the results of field chamber water testing. **Ideally, chamber testing should be scheduled to begin early in the construction phase before the interior finishes are installed and the building is occupied.**



Chamber

While performing field chamber water testing access to the interior side of the wall is critical not only to provide the best vantage point, but to allow the chamber to encase the structure and perimeter around the window tightly. If done properly, field chamber water testing can identify most flaws within the window, the perimeter and any sur-

rounding materials. Surrounding materials may include flashing membrane, sealant and cladding.

The initial cost to perform field chamber water testing is a fraction of what the cost can be to locate the source of water intrusion problems at a later date. This is not taking into consideration the damage to the building, the cost of repairs and the loss of confidence by the building Owner. After the building is completed and occupied, locating leaks usually means tearing out installed products to locate the problem or problems.

### Don't be misled about industry standard terms and the performance expectations of windows.

Demand the performance you're paying for in advertised high-performance windows. Demand the best performing product for your project and obtain the quality needed to meet today's demanding construction market.

*"Man is the only animal that can be skinned more than once."*

**Jimmy Durante**

*The comments and opinions in this article are solely the opinion of Hixson Consultants, Inc. We welcome constructive discussions about this article.*



Simulated Rain

**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.**