



Trust but Verify: The Windows Version

Accredited Field Testing Can Set Customers' Minds at Ease

BY JASON SEALS

Throughout the fenestration industry, we say that a window's performance is only as good as its installation. After all, even the most robustly conceived and certified design can be compromised by installation errors. In addition, water penetration at or near a fenestration product opening may actually originate from the surrounding construction. This is particularly true in the case of unexpected air infiltration or water penetration—the latter of which can lead to finger-pointing over liability for damages.

The good news is there are steps that can be taken to anticipate such problems by testing fenestration installations for sins of omission or commission before building occupancy.

What are the Standards?

Documents have been developed specifically for the testing of installed fenestration products that standardize the field testing methods. These include:

- **AAMA 501.2-15, *Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing System.*** AAMA 501.2 is a simple, economical water spray quality assurance and diagnostic method for finding leaks in fully installed, permanently closed (non-operable) glazing. It is not appropriate for testing operable windows and doors and does not simulate the effects of wind-driven rain.
- **AAMA 502-12, *Voluntary Specification for Field Testing of Newly Installed Fenestration Products,*** is the proper test method for verifying field air leakage and water penetration resistance of newly installed

operable windows and doors. Based on ASTM E 783, *Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors* and ASTM E 1105, *Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls and Doors by Uniform or Cyclic Static Air Pressure Difference*, AAMA 502-02 describes the use of a sealed test chamber, which is typically applied to the interior side of the window or door. The entire installed fenestration product is tested, along with the adjacent substrate, including the perimeter seals.

- **AAMA 503-14, *Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls and Sloped Glazing Systems,*** is similar to AAMA 502 but applicable to storefronts, curtainwalls and sloped glazing systems as its title indicates. Like AAMA 502, AAMA 503 bases its testing protocols on ASTM E1105 and E783.

Performing the tests as soon as practical on the jobsite can be beneficial in determining if manufacturing, installation and/or perimeter sealing problems are present before a substantial portion of the project is completed.

But there is one more question to be resolved: how does one know that the tester is competent to apply these methods? Historically, the use of these test methods has been limited to AAMA Accredited Independent Laboratories. Other organizations may have had the capability and knowledge to run the testing; however, they were unable to qualify for accreditation. Now, that concern has likely been put to bed by

the new AAMA Field Testing Agency (FTA) Accreditation Program.

FTA Accreditation Program

The program validates that organizations seeking to become recognized as FTAs are capable of testing fenestration products in the field utilizing the 501.2, 502 and 503 field test methods and the ASTM test methods referenced therein. Requirements of the program are detailed in the program's procedural guide, AAMA LAP-3, *Laboratory Accreditation Program Operations Manual — Laboratories and Test Agencies Performing Onsite Testing of Fenestration Products.*

Acceptance into the program requires that AAMA's independent validator, Associated Laboratories Inc. (ALI), establishes through initial and periodic inspections that the applicant has demonstrated compliance with LAP-3. This includes organizational and commercial independence from the manufacturers or suppliers of the products being tested, the ability to perform the prescribed test methods using the actual test equipment used in the field, and adherence to the laboratory management requirements in ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories.* Each FTA must also have a documented Quality Management System (QMS).

Using an accredited laboratory or agency assures that field testing can be performed properly. That gives a project manager or specifier results that are meaningful and defensible. ■

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