

Consultant's Corner

Condo Commandos

The Best Defense Against Legal Claims Made Against Condominiums

Other than avoiding work on condominiums altogether, how does one protect himself from the seemingly inevitable legal claim by condominium associations?

Anyone providing windows and sliding glass doors to condominiums is well aware of the high probability that a claim may be made by the condominium association against the developer. Undoubtedly, the claim would include window and sliding glass door deficiencies, such as design faults, workmanship in assembly and/or installation and, most likely, water leakage.

Protecting Yourself

With the threat of claims around every corner, it is important to protect yourself on all fronts. This includes selecting the right products, installation contractors and legal representatives. The latter point is important to remember since working with condominium associations on these claims often means negotiating with consultants and attorneys who specialize in maximizing a cash settlement from the developer. The consultant will often create a typical report with language like the following:

Window Installation

Condition: The windows in the units inspected are not aligned properly in many locations and may allow water infiltration, in violation of good architectural design and construction practice.

Criteria: Proper design and construction practice dictates the building envelope and its features be watertight and resist the elements.

Result: Eventual water intrusion into the building interiors will occur, damaging the wall and floor finishes. During extreme weather conditions, the glazing is subject to damage and possible dislodging from its position.

Recommendation: Submit approved window shop drawings for review. Testing procedures for water tightness and wind resistance, complying with the codes, should also be submitted for review.



A typical spray rack is used to spray water on the exterior of a test specimen, per ASTM's standard.

ASTM Test Method

The number one defense against a claim is to provide properly designed, manufactured and installed products to the project. To support the products, another proven defense against claims is to have the installed windows and doors tested by an independent testing agency during construction and before any claims are made.

ASTM E1105, Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls, and Doors by Uniform or Cyclic Static Air Pressure Difference is the industry standard test method. We recommend that the subcontractor have his work tested whether or not the architect or the contract requires it—especially on condominium projects.

Testing of typical installations early in the project accomplishes two things:

1. Should failure occur, you have the ability to diagnose and correct any problems before other trades conceal your work. Corrective measures can be selected carefully and implemented to the balance of the project as the Windows and doors are installed.
2. Passing test reports have been used successfully to counter condominium association claims of deficient windows and doors. The test report will confirm that the installed windows and doors satisfactorily met the specified performance criteria for water penetration resistance.

The ASTM E 1105 test procedure is a field version of the laboratory test used to qualify products. Testing is typically non-destructive and can be completed in one day. A rigid wooden test chamber with clear vinyl encasement is mounted to the interior side of the test specimen and sealed to restrict air leakage. Required test pressure differential is achieved by evacuating air from within the test chamber using a controllable blower exhaust system. The pressure differential is measured in psf with a manometer.

Simultaneously, a pre-calibrated spray rack consisting of a uniform grid of PVC plastic pipe and spray nozzles

equipped with a pressure gage (graduated in pounds per square inch) and a pressure adjusting valve is used to spray water at a rate of 5 gal/ft²/hr on the exterior of the test specimen per the ASTM standard. The standard specifies a test period of 15 minutes.

Testing Procedures

Prior to testing, the following should be determined/agreed with the architect/general contractor and the testing agency:

1. Identify/confirm the water test pressure differential. The industry standard is 15 percent of the maximum positive test pressure. (Although the positive design pressure typically increases with the building height, it is customary to test to the maximum test pressure for each window type rather than at different pressures at different floors.)
2. The test pressure differential must be measured between the inside of the test chamber and the exterior side of the test specimen. Often this is achieved by opening another exterior window in the room where testing is performed to equalize the pressure within the room with the exterior of the building.
3. A minimum of one of each type of window and door should be tested although up to three per type is common. The architect usually makes selection of test specimen location or pre approves the location selected by the subcontractor.
4. Confirm that the spray rack was calibrated within the past six months (ASTM requirements) and that the spray rack is providing uniform coverage of the specimen.
5. Prior to testing, establish the definition of water leakage. ASTM provides a default definition, but often the architect will specify stricter standards. The ASTM definition is: "The collection of up to one-half ounce of water in the 15-minute test period on top of an interior horizontal window surface that does not spill on to adjacent finishes or materials; a small amount of percolation (less than ten drops) through meeting rails or over sills that is visible on adjacent finishes or materials."
6. Don't test in extreme weather conditions, gusting winds or heavy rain. It is better to postpone testing than have to deal with a failure that may or may not be caused by excess pressure differential or water spray resulting from the weather.
7. Allow adequate time for sealants to cure prior to testing.

It is also important for a technical representative from the window manufacturer to be present during the test. If failure should occur, the manufacturing representative has the opportunity to observe the leakage first-hand and provide instantaneous feedback as to the probable cause and can provide remedial repair recommendations. Often repairs can be made and the test repeated on the same day, saving both time and expense of reconvening all of the interested parties.



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