Multi-panel Door Certification Strategy Nears Completion

More and more, architects are seeking ways to bring the outdoors in, melding a building seamlessly with its outdoor environment. Multi-panel door systems offer an increasingly popular way to accomplish this. Not only do multi-panel door systems offer aesthetic and health benefits due to improved indoor air quality and daylighting, technological improvements also allow these systems to occupy a greater area in the building envelope without compromising overall efficiency and performance.

Due to these perceived benefits and enhanced popularity, Window & Door reported earlier this year that surveyed manufacturers ranked multi-panel doors second only to vinyl windows in terms of products in greatest demand and in terms of the number of new products being brought to the market. (See 2019 Industry Pulse on WindowandDoor.com, or in the January/February issue.)

Given this category’s growing popularity, there is a need to develop performance standards that enable architects and specifiers to select products that will perform as intended over years of service.

**Standard in progress**

The 2017 version of the North American Fenestration Standard began the process by introducing the product designation “FLD” to address folding multi-panel doors. NAFS-17 specifies five different configurations and descriptions of how to designate folding door units of from two to five panels. In addition to testing for air infiltration, water penetration and structural performance under wind loading, folding doors are tested for deflection, force to latch, force to engage, thermoplastic corner weld strength, deglazing, and operating cycle/slam withstand.

Beginning in early 2017, the Multi-Panel Door Testing for Certification Task Group began development of a similar performance rating regime for sliding multi-panel door systems. The idea is to develop a system similar to that currently in use in Florida. In this scenario, testing a specific configuration may qualify a similar configuration with a greater number of panels, so long as the panels are not larger in size than those of the tested configuration and the units are constructed in the same manner.

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Certain exceptions may apply to specific configurations, as would be spelled out in the standard. Such a test plan would qualify a door system up to X number of tracks and Y number of panels at a given Performance Grade. Testing of non-pocket doors would qualify pocket doors, as is the case in the Florida scheme. Not included would be configurations with a “false jamb” somewhere in the middle of the door frame, configurations with adjacent fixed panels, mulled assemblies in separate frames, or configurations including a transom.

There are many issues that need to be resolved in pursuit of a viable plan, such as whether the test method would apply only to structural performance, or to the full AWS performance array. Additional factors that may affect the rating system include:

- inside track versus outside track,
- continuous versus discontinuous track configurations,
- frame splices,
- self-contained versus site-assembled weep systems,
- drainage from one track to another,
- wind shear,
- operating force versus the degree of weatherstripping needed to pass air and water criteria,
- forced entry,
- pop-and-slide configuration,
- head and sill deflection, and
- flush pulls/latches versus projecting pulls/latches.

While lift-and-slide doors are considered the same as standard sliding doors, how operating force is determined needs to be clarified as well as the latching mechanism.

A chart-like graphic representation of the testing plan as currently drafted shows several configurations of sliding door systems contained in a single frame. They range from the familiar two-panel sliding glass doors (one operable and one stationary panel), up to configurations with six panels containing one or two stationary panels. This would cover an estimated 90 percent or more of what is currently manufactured. Accompanying qualification rules are also being drafted.

The task is formidable but do-able, and a finished document is expected to be published in 2019.

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