



Industry Watch

By Rich Walker, American Architectural Manufacturers Association

AAMA/AMD Coalition Helps Preserve Door Component Choice

While defining and meeting codes for window and door performance are clearly important, especially in areas subject to extreme conditions such as water penetration due to hurricane wind-driven rains, the practical realities of “bang for the buck” have to be considered. How much cost and hassle—in the form of performance testing and documentation—is justified by the degree of protection realized? Balancing the two as part of an overall cost-benefit evaluation is particularly important in the current context of a depressed market for building components.

Such an evaluation is at the root of AAMA’s recent team effort with the Association of Millwork Distributors to oppose adoption of a Window and Door Manufacturers Association-sponsored code revision proposal (S141) before the February ICC hearings.

S141 sought to remove the current code exemption for exterior side-hinged doors to meet the requirements of AAMA/WDMA/CSA 101/I.S. 2/A440, which is referenced in both the International Building Code and International Residential Code.

AAMA/WDMA/CSA 101/I.S. 2/A440-05 was the first window and door performance standard to establish performance specifications for exterior side-hinged doors (SHD), referencing separate AAMA standards for operating cycle performance, vertical load resistance, hardware load and water penetration resistance, and forced entry resistance. The standard also pioneered the “Limited Water” rating concept, which recognized that entry doors are typically installed in weather-protected areas—such as under a porch or opening into a garage—and significant leakage problems are rare. If these requirements were enforced literally, each complete side hinged door configuration or variant thereof would have to be separately

tested, certified and labeled for compliance with the standard.

Although 101/I.S. 2/A440 was referenced by the I-codes, the section on SHD was previously exempted from the code requirement due to the common practice of in-field substitution of components. Such substitution is routine for jobbers, distributors and door pre-hangers who must satisfy their individual customers, but it can change the performance of the overall door assembly. Any

be tested and labeled to performance requirements previously not required.”

NO SIGNIFICANT PROBLEMS

Accordingly, it was the joint position of AAMA and AMD during the February code hearings that the proposal was not needed. Studies from three sources were cited, which showed no significant failures of exterior SHDs or water infiltration problems during recent hurricane seasons. Those studies included:

➤ The program will allow for in-the-field component interchangeability through testing and pre-certifying components at the component manufacturer level.

substitution of components would mean the complete, certified door assembly would have to be re-tested and re-certified to verify performance, an impractical approach given the realities of the marketplace.

Under the S141 code proposal, eliminating the SHD exemption would have exposed pre-hangers to the cost of testing each door configuration for all performance factors cited in AAMA/WDMA/CSA 101/I.S. 2/A440, at anywhere from \$1,500 to \$3,000 for each configuration. Qualifying all the component variations within a given product line could run into the tens of thousands of dollars—a cost that the pre-hangers would be hard pressed to pass along to their customers. Even the rationale for the S141 proposal admitted to the ICC that the measure would “increase complexity and cost of manufacturing side-hinged door assemblies because it requires side-hinged door assemblies to

➤ Rainwater Management Performance of Newly Constructed Residential Building Enclosures During August and September 2004 by Dr. Joe Lstiburek of the Building Science Corp., the Home Builders Association of Metro Orlando and the Florida Home Builders Association;

➤ The Benefits of Modern Wind Resistant Building Codes on Hurricane Claim Frequency and Severity—A Summary Report by Dr. Timothy Reinhold at the Institute for Business and Home Safety; and

➤ Post 2004 Hurricane Field Survey—an Evaluation of the Relative Performance of the Standard Building Code and the Florida Building Code by Dr. Kurt Gurley of the University of Florida.

“The [S141 proposal] tends to favor providers of complete door systems that have resources to develop, test and provide an integrated system, and puts pre-hangers that typically source their components from multiple suppliers at

a disadvantage,” said Larry Ray of GHDC Inc., AMD president, in a recent article. “Further, the costs would prevent distributors that don’t carry certified door units from a major manufacturer from selling exterior doors.”

INTERCHANGEABILITY

To solve the dilemma of certifying door performance without creating an unnecessary and excessive hardship for

the pre-hangers, AAMA and AMD have been working together for a couple of years on the underpinnings of a certification program for SHDs that would reflect current industry practices of both AAMA and AMD members while meeting the needs of code authorities and preserving the range of choice for builders and homeowners. The program will allow for in-the-field component interchangeability through testing and pre-certifying

components at the component manufacturer level. Using test protocols ANSI A250.13, Testing and Rating of Severe Wind-Storm Resistant Components for Swinging Door Assemblies, which establishes load ratings for resistance to winds up to 150 mph, and ASTM E330, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference, results of the joint testing program indicate that a component-based system is both workable and meaningful. Any selection from a menu of pre-qualified components would preserve the qualification of the completed door unit without requiring full-scale testing of each variation of the latter.

In essence, this approach would codify the “waiver of retest” option utilized in the AAMA Certification Program, in which an engineering evaluation of minor design changes and substitutions of components tested to meet the underlying component standards are permitted on a case-by-case basis without requiring retest of the entire finished window or door.

“Both AAMA and AMD expect that a system for swapping qualified components is a realistic goal for at least some performance requirements,” says John Lewis, AAMA technical director. “We will continue to work together to establish that system and ultimately create a strong, practical option that recognizes industry alignments.”

Meanwhile, the ICC fortunately rejected S141 by unanimous vote. However, public comment challenging the defeat can be submitted up until June 9, 2008, which could conceivably result in the ICC overturning the code council’s ruling. “Our role as advocate is not over, it is just beginning,” notes AMD director of codes and standards, Jeff Burton.

The ongoing AAMA/AMD effort is another example of how industry cooperation can work toward optimum solutions that address all stakeholder concerns in a balanced manner that does not bias any one segment of the supply chain. ☐

Rich Walker is president and CEO of the American Architectural Manufacturers Association, 847/303-5664, rwalker@aamanet.org.