AAMA ANALYSIS

Keeping Up with Fiberglass

Profile Certification Standards and Procedures Updated

BY DEAN LEWIS

Fiberglass is definitely a growing market. According to the AAMA/WDMA 2010/2011 U.S. National Statistical Review and Forecast, the size of the market for residential fiberglass-framed windows experienced a gain in both new construction and remodeling and replacement segments, and increased overall from 1.2 to 1.4 million units from 2009 to 2010. Lest performance standards and verification programs lag behind the market share curve, AAMA has released an updated edition of AAMA 305, Voluntary Specification for Fiber Reinforced Thermoset Profiles, and has also defined a stand-alone fiberglass profile certification program per the new AAMA 112-11, Procedural Guide for the AAMA Fenestration Exterior Fiber Reinforced Thermoset Profile Certification Program.

AAMA 305-11 specifies the foundation of performance parameters for profiles made of fiberglass, generically called Fiber Reinforced Thermoset (FRT) profiles. The standard establishes test procedures and quantified minimum requirements for dimensional stability, impact resistance, tensile strength, flexural strength, compressive strength, water absorption, thermal expansion, heat deflection temperature and color weatherability.

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What You Need to Know

Building on the previous 2006 version, the most important revisions in the 2011 edition of AAMA 305 are:

- Clarification that the specification applies to the main frame, sash and all profiles related to glass retention, including structurally divided lites within a common master frame. Profiles not involved in the retention of glass, such as decorative muntins, are not included;
- Definition of material composition as a) the ratio of reinforcing fiber to resin mixture, which cannot vary by more than ten percent without retesting, and b) the chemical family of the base resin, which may not change without retesting;
- Definition of "critical areas" of profiles to be inspected as those portions exposed to view when the finished product is installed completely and in the closed position;
- A listing of requirements for the appearance of finished and unfinished profiles, giving 12 types of imperfections that might be present;
- Referral to AAMA 623, AAMA 624 or AAMA 625 for the performance of coated profiles;
- Addition of weathering requirements for door sills based on performance after extended UV exposure; and
- Addition of requirements for laminates which involves an adhesive bond test method with a 60-minute boiling water immersion test. For weathering performance of laminates, the specification references AAMA 307, Voluntary Specification for Laminates Intended for Use on AAMA Certified Profiles.

Getting Certified

For initial fiberglass profile certification, AAMA 112-11 requires an independent program validator to visit the licensee's plant(s) to randomly select profiles for testing at an AAMA-accredited independent laboratory of the licensee's choice for compliance with AAMA 305-11 (including weathering). Lead content is tested and any laminate must be tested and may be listed in the AAMA Verified Components List (VCL).

Once approved for certification, the test data is valid for five years, after which time the profiles must be resubmitted for testing and certification renewal.

This sort of continual upgrading to underlying standards and certification requirements gives end-users confidence that they will continue to realize the intended benefits of all high-performance fenestration products, regardless of the framing material they select. ■

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