

ABOVE AND BEYOND BUILDING CODE REQUIREMENTS

BY JUAN SAGARBARRIA



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Since occupant safety is an inherent component of good stewardship in the construction industry, building codes continuously grow more and more stringent as time moves forward. It is imperative that building product manufacturers comply with building codes if they intend to have their product utilized in the field. In the case of fire-protective intumescent coatings that are applied to spray polyurethane foam insulation, fire testing is of the utmost importance. SPF is required to meet standardized criteria and be “listed or marked” by a certified third-party inspection and auditor to comply with codes. Simply stated, they must prove via third party audits that the product they are shipping is the product that was tested.

But what about fire-protective coatings that are applied as thermal or ignition barriers over foam insulation? Is there acceptance criteria for intumescent coatings that coating manufacturers need to adhere to? Thanks to the efforts of companies like International Fireproof Technologies, Inc (IFTI), now there can be.

“Up until now, there hasn’t been any quality control criteria that intumescent coatings must meet when applied to spray polyurethane foam,” said IFTI’s Gary Wolfe. “Currently, spray foam is required to have an evaluation report, not the coating. Because we believe that intumescent coating products should be consistent in terms of quality and field installation safety, we spearheaded the creation of such criteria.”

AC456: A PENDING STANDARD

Over the past couple of years, the International Code Council Evaluation Service (ICC-ES) Acceptance Criteria for Spray-Applied Foam Plastic Insulation (AC377) has set the standard for testing and inspections to verify if new insulations comply with building code requirements. The pending ICC-ES AC456 (Fire-Protective Coatings Applied to Spray-Applied Foam Plastic Insulation without a Code-Prescribed Thermal Barrier) will follow the same pattern, except it will apply to the fire-protective coatings that are applied to spray foam insulation as an alternative to a code-prescribed thermal barrier. Furthermore, compliance with AC456 would entail that the coating has passed full-scale testing as an alternative assembly and can safely be applied over SPF. Pending approval of the AC456 by the ICC-ES, fire-protective coating manufacturers may apply for an evaluation report.

Based on the proposed AC456, IFTI’s signature DC315 fire-protective intumescent coating has already complied with the third-party quality control requirements. In light of this, IFTI will be issued an evaluation report that recognizes DC315’s AC456 code compliance by the time this article is published.

“The purpose of the proposed Acceptance Criteria AC456 is to assure the community of building officials that the coatings being applied to SPF for use as alternate assemblies—that is, without a thermal barrier—are consistent with the coatings that were tested,” said Deer Ridge Consulting President Roger Morrison PE RRC, who worked closely with the ICC and IFTI in the drafting of AC456.

Morrison mentioned that testing for such alternate assemblies are prescribed within the building codes under the special or specific approval sections. AC456 has provisions for (1) third-party quality assurance; (2) methods to report applied coating thicknesses in a consistent and uniform manner; and (3) methods of measuring coating thicknesses on test samples and in the field. The methods and procedures are consistent with AC377.

“There is a disconnect when it comes to assembly testing since the foam has requirements but the coating over the foam does not—AC456 will now fix that,” said Wolfe. “Through the new standard, a coating will have a supervised third-party quality control program, which will provide level of confidence to code officials, fire marshals, and end-users in the industry by assuring them that both the foam and the coating were tested together as an assembly.”

Wolfe added that having both SPF and fire-protective coatings evaluated as an assembly and the manufacturing processes inspected by independent third parties, ensuring that the quality of the manufacturing is consistent, will result in a monumental change in the spray foam industry.

IFTI continues to lead the alternative coatings industry over SPF. Over the last several months IFTI has:

- Obtained an ICC-ES Report on DC315 complying to AC456
- Passed multiple CAN/ULC 9705 tests for
- Canada and the international market
- Released testing for top coating including
- cold storage, high humidity, water, and unconditioned space
- Passed an additional 12 NFPA tests on
- new SPF blends
- Expanded sales into 6 new international markets
- Obtained COC compliance for DC315 in the Middle East
- Launch a Certified Applicator Program (CAP) that now has more than 500 members
- Launched a full line of UL/ULC/FM listed and certified Firestop products. •