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THE DANGERS OF UNTESTED MATERIALS

By Stephan E. Klamke

Executive Director

EIFS Industry Members Association

All bona fide EIF systems (EIFS) consist of foam insulation board, an adhesive and/or mechanical attachment of the insulation board to a substrate, a base coat on the face of the insulation, a glass fiber reinforcing mesh and a textured, protective finish coat. These systems have been tested for their ability to effectively resist fire, as required by all US model building codes, successfully passing required tests and exhibiting desired performance in actual fires. To assure good fire performance, installed assemblies must be comprised of the same components to that tested.

Sometimes assemblies are installed using untested materials and practices. Unfortunately, many untested materials and practices that resemble EIFS cannot be readily distinguished by observation from fire-tested, code-compliant EIFS systems. Such untested configurations and/or materials may fail to meet building code requirements.

Why might the use of untested, non-code complying materials increase the risk of a fire? To illustrate, EPS insulation used in noncombustible construction is traditionally attached to a gypsum board or concrete/masonry substrate. In a fire, these substrates act as a heat sink slowing the temperature increase and delaying ignition. When the traditional EIFS substrate is removed, ignition of the EPS can occur more quickly and may result in flame propagation. The base coat and reinforcing mesh have been shown to resist flame spread and also help to retard ignition by forming a protective barrier over the EPS. Substituting untested coatings such as polyurethane or polyurea for traditional EIFS base coat and finish has been shown to increase the flammability of these applications in a fire. Any modification to a tested and approved design, such as the use of polyurethane based coating or trim accessories at the heads of wall penetrations and at horizontal terminations (expansion joints) should only be undertaken after appropriate fire test(s) have been conducted to verify no adverse affects on fire performance.

The type of insulation board used in an EIFS application can also have an impact on the product's performance in a fire. For example, employing a foam plastic other than a traditional EPS board could lower resistance to fire. Regardless of the type of foam insulation installed, it should never exceed the maximum thickness allowed, and it should be identical to that used in the system that was fire tested (or listed in manufacturer's current evaluation reports.)

To avoid the potential for unsatisfactory performance in a fire, architects, and contractors who specify and install EIFS should employ only fire-tested, code approved full EIFS on their projects.

For further information, please contact EIMA's office at 800.294.3462.