



Exterior Insulated Finishing System **Proper Installation details are the key to success**

Exterior Insulated Finishing Systems, or EIFS, are commonly known as “synthetic stucco.” After a rapid growth in application during the 1990’s, a series of high profile failures led to a reevaluation by many as to the value and durability of EIFS as an exterior coating. What exactly is an exterior insulated finishing system, what are some of the strengths and weaknesses of EIFS, and what details are crucial for a successful application.

Studies have shown that properly installed, per the manufacturers instructions, EIFS offer a viable, cost effective, and efficient exterior surface. Most systems available today are comprised of a moisture barrier applied to the building sheathing, a rigid insulation board, a reinforcing mesh, and a layer or layers of cementitious stucco. When installed using industry standards of flashing and moisture drainage, EIFS will provide good insulation with a minimum of thermal gaps, and will reduce air infiltration into the structure.

Most of the common documented problems with EIFS are related to improper installation details or poor workmanship at the time of installation. Thin base coats; exposed mesh; sealant failure; and cracking at V-grooves, openings, and board joints, are the most common causes of problems. If an application contractor follows the manufacturer's directions for base coat thickness, sealant application, and board joint locations, the vast majority of these defects will be eliminated.

The state of North Carolina, where many early failures occurred, has implemented a set of recommendations now followed by many installers nationwide. The greatest source of failure, in the early Carolina studies, resulted from a failure by the installer to provide sealant at the edge of the EIFS and the window system. To solve this problem, the state of North Carolina now requires that sealant be used at all window and door penetrations, that a secondary water barrier be installed, and that a passive system to drain out any water infiltration be included. The combination of these additional details have greatly improved the efficacy of EIFS overall.

If you are having a home constructed using EIFS, the following guidelines will ensure a high quality installation. Have the base coat applied in two layers with

24 hours between applications (unless the manufacturer prohibits this). No mesh or mesh pattern should be visible at any surface, especially not at corners or joints. Use sealants that have a low modulus over the sealant life. If a high modulus sealant is used, expansion may cause the finish surface to fail. Windowsills, parapets, and other sloped surfaces should be covered with metal flashing. While many EIFS manufactures allow for sloped elements, studies have shown that EIFS does not perform well as a “roof.”

EIFS has a checkered past, with a history of stunning design successes and some notable failures, but holds a bright future. Proper attention to details during installation can result in an attractive, durable and efficient home.

R. Scott Devers is President of On The Level, Professional Home Inspections of Bakerton. He will answer questions on this or other related topics via email at levelinspections@juno.com