

EIFS-Ground Zero

The Homebuilder's Perspective

American Homebuilders who have built homes using synthetic stucco or “EIFS” in the past couple of decades are no doubt noticing that there is new booming cottage industry abound-that of “stucco inspection.” The stucco inspector drives through established neighborhoods and leaves flyers that detail the inspection services they perform on synthetic stucco homes for a fee. “It’s ironic that a lot of these stucco inspectors are the same folks who were installing these materials as recently as two years ago.) Lately, these stucco inspectors have been comparing synthetic stucco installations against a standard known as “EIMA Specs.” The purported logic behind the “EIMA Specification” is to prevent water from being able to intrude into the structure from external sources. In the past couple of years, massive problems due to water intrusion and retention have been cited by stucco inspection reports in virtually all major residential homebuilding markets across America. As a result, American homebuilde4rs are being persecuted for having built homes that, purportedly, can not stand up to the elements. It is my primary goal in this article to inform the American Homebuilder of what has actually transpired to create such a travesty in our industry. It is my hope that they may then have some direction and self-defense when these claims will eventually come up. It is a secondary goal of mine to inform these homeowners and the legal industry of the real history pertaining to EIFS so they may turn their attentions to the proper sources of these epic problems.

Recently, I have been able to learn some startling and profound information from talking with and then reading the sworn deposition of Mr. Jack Brennan who runs the EIFS Research Center here in Atlanta. (EIFS stands for Exterior Insulation Finish Systems.) Jack is now in the Stucco Inspection Business.

As it turns out, Mr. Brennan is more than just your run-of-the-mill stucco inspector. According to Mr. Brennan, back the 1970’s he was instrumental in actually bringing the EIFS technology over from Europe. The following is a synopsis of the information I have learned from Mr. Brennan:

Mr. Brennan has explained that this energy efficient technology was developed to help rebuild war-torn, post-World War II Europe. EIFS allowed the use of the only materials readily available at the time, namely rubble from destroyed buildings. This rubble masonry, when clad with an Exterior Insulation Finish System (EIFS) could be made to look pleasing and had an insulating value suitable for the climate of Europe.

In the 1970’s, an energy-conscious America was looking for energy-efficient methods of construction and Mr. Brennan “*was hired by the Chicago Board of Trade to seek out energy-*

conservation construction products in Europe for marketing in the United States.” Mr. Brennan has explained that when he *“brought the products” (EIFS) to the United States for Sto (the Sto Corporation), they only put it on commercial buildings with masonry substrates.”* He has stated that *“the product had no history, when it came to the United States from Europe, on use on wood frame construction homes.”* It had no specifications and no testing on such structures because nearly all of the wood-frame structures in the world are built here in America. Europe never had the need to use it on wood framing.

According to Mr. Brennan, when he came back to America, and as an employee of the Sto Corporation, he founded an organization called EIMA (which stands for Exterior Insulation Manufacturer’s (or Member’s) Association. EIMA, under Mr. Brennan, was charged with the testing of these materials and coming up with the specifications for EIFS to be used in the building industries of the United States. While directing EIMA, he published an article called “Energy Physics for the Architect.” In this article he outlined why *“you would never put this on wood-frame construction”* unless you first took the insulation out of the stud cavity, and replaced it on the outside of the structure so as to move the dew point out of the stud cavity. He then stated that the result would be a wood-frame structure with 4”-of insulation on the outside of the house which might look OK for a market such as Phoenix, but not in a more traditional market such as, say, Atlanta.

He explained that the physics of the system, when installed on a conventional wood frame structure, **will not allow condensation to dissipate.** He went on to explain that condensation, which naturally occurs due to the temperature differential between the interior and exterior of the wall cavity, would then be required by the system to dissipate totally **from the interior.** As a result, the moisture produced by condensation would then have to be sucked into the house (through a code-required vapor barrier) as opposed to being released into the atmosphere (as all other residential construction claddings allow.) According to Mr. Brennan, “fog” will periodically develop in the interior cavity of the wood framing with an EIFS exterior. Accordingly, and after several years, the interior of the wall cavity would become fatigued with action of moisture condensing and not being able to fully dissipate. Ultimately, the fiberglass insulation’s R-value would become reduced with the wall cavities ending up in a wet mess years later.

While Mr. Brennan was in charge of EIMA, *“there was a process in place to keep these material off wood frame construction homes”* because, as he stated, EIFS *“should not be used on any structure that does not pass a vapor pressure analysis of the wall component system...The typical wood construction used in the United States, will pass that test.”* Accordingly, the standard under which EIMA specs were originally designed would allow these materials to be used on jobs only after the testing of that job’s wall component system. If it did not pass the test, the materials were not allowed to be used on the job. By operating on that

basis, Mr. Brennan was able to successfully prevent these materials from being used on jobs where they would not function as designed. He, thereby, prevented the use of these materials in the **American Homebuilding Industry**.

So what happened to create the EIFS problem we have today in the American Homebuilding Industry? According to Mr. Brennan, along came the member manufacturers of EIMA. Mr. Brennan describes that back when he was the Director of EIMA there was a **“big argument in the industry.”** Mr. Brennan was **“adamant with a group of people that this (EIFS) should not go on wood frame construction.”** He describes that, because of his beliefs, and because of the controls that he had installed within the industry specifications that denied this technology to be used on wood frame construction, that “group of people” in the EIFS industry **“ran him off”** and then the **“(EIMA) board did away with those technical specifications, and the stuff was on houses all over the country.”**

This builder recalls that, during the period of time that Mr. Brennan was “run off” from EIMA, building codes for residential construction were not standardized from place to place. The responsibility for developing and enforcing residential building codes was, generally, awarded to each government municipality. It was also during this same unenlightened era that synthetic stucco first made it on to the scene in American residential construction.

The exterior cladding was a particularly easy phase of residential construction for EIFS to be used without passing any kind of codification scrutiny. While local building codes have always maintained code requirements for the cladding of exterior walls, there have never been any *official* inspections required of such cladding. Therefore, when a building inspector would come out on the final inspection, the stuff looked like stucco, so it passed.

As time went by, it became **“usual and customary”** for building officials to see synthetic stucco boards going up on jobs everywhere and they thought nothing of it. Then one day, and in many states, the residential building codes changed. Here in Georgia, **CABO** was adopted statewide in 1991 as the model building code to which **all** residential structures must comply. If you dare read the **CABO Building Code**, you will notice that **all** typical residential claddings used on homes with wood frame construction are, in fact, cited with details and standards to which residential structures and homebuilders must comply—**all except EIFS**.

EIFS, therefore, never has officially “made code.” The lack of reference of manufactured material in the building code means one thing to a builder. By not codifying a specification, any material manufacturer is indicating that the materials they are offering to be used in residential construction are absolutely ***innocuous***. That’s why we don’t see codified manufacturer’s specs on items like hardwood flooring, carpet, paint, etc. Those items, even if of poor quality or installed in a less than workmanlike manner, are basically harmless to the structure and

certainly cannot render the structure uninhabitable by their presence. The exterior cladding of a structure, however, **is** a codified item under the code. By EIMA not codifying their specs, they essentially told the homebuilding community that EIFS was, indeed, innocuous and that its installation could not cause harm to the structure or its inhabitants. **It should now be evident that such a presumption was false.**

So why were not these EIMA specs ever put into the official literature of the American Homebuilder? If EIFS is so unforgiving that any tiny bit of water which may find it's way behind the system can't get out, then why wasn't the American Homebuilder made aware of this by having codified these details where he knows to go and find things like that? Building codes are adopted by local governments so as to enact the basic standards that **must** be followed in the construction of **all** buildings. These basic codified "minimum" requirements of all construction are understood by the building industry to be **all** of those items that are **essential and necessary** to protect the life, limb, health, *property* (italics added), environment and for the safety and welfare of the consumer, general public, and the owners and occupants" of the building constructed under that code. (CABO 102.1) It is further understood that **all** items, which are necessary **and known** to the building industry, which might jeopardize the structure's ability to carry out those stated purposes are, in fact, listed as items in the code.

Further, **manufacturer's specifications** are not new to our building codes. Manufacturer's often seek to market new products to be used in the building of structures governed by those codes. When it is known by manufacturers, due to their intimate knowledge of their product (perhaps from in-house testing or other empirical evidence), that misuse of their products would jeopardize a structure's ability to meet the purposes of the building code, it is the manufacturer's (or their industry's testing association, as in EIMA), responsibility to apply for the codification of their "manufacturer's specifications." It is imperative that this codification be done **before** these products can be used in the construction under the building code. After successful proof by evidence supplied by the manufacturer and the codification of such specifications, the building codes will then cite that a particular element of the construction **must** be constructed in accordance to that "manufacturer's specification." (Manufactured fireplace are a good example of this procedure.) Under our code, all items which are marketed by manufacturers for use in the construction under a particular building industry to be *innocuous* and are thereby allowed unless a "building official" may question the use of such an item. In that case, regarding a proposed alternative." (CABO 108.2)

So, with all this in mind, how can we define the cause in each individual case of EIFS malaise? The answer lies in defining the exact moment in the past, along with some specific actions taken by specific individuals at that moment, without whose actions, this state of affairs could never have happened. If we can define such a moment, then we can define the cause of **every** EIFS case either on the books or sitting out there ready to be discovered.

It is a small leap of logic to understand that the day EIMA “*ran off*” Jack Brennan and “*did away with those technical specifications*” was “*Ground Zero*” of the EIFS problem in America today. If Mr. Brennan is correct in his sworn deposition, EIMA was the agency that had EIFS in the palm of their hand. They controlled it. They dictated who could use it and who couldn’t. Like Pandora, they opened the box. Not only did they let unsuspecting applicators, home builders, and home buyers have it with absolutely no controls (codification of installation procedures) installed to ensure it’s “proper” use, it could be argued that they also promoted the product by setting up “uninformed” channels of distribution (the stucco salesman) with which to market these materials to the unsuspecting public. From this builder’s perspective, it is difficult to imagine how EIMA could have sat on their hands for 20+ years and watched these materials being installed “incorrectly” on homes all over the country *and not say a word*. One might argue that the installation of these materials was carried on in such a nonchalant fashion, that they became “*usual and customary*” in the residential construction industry. At that point, upstart manufacturers began to jump into the market. Even though they may not have done the testing, they *almost* had a right to expect that they were doing nothing wrong with pedaling their own systems. (Note, I said “almost”) Everything seemed to work until the EIFS clock ran out.

So, we know that EIMA did all the testing of these products. They knew what would happen if water was allowed to intrude behind their “system.” They knew that once water was in, it had no where else to go. EIMA also knew years ago of the insidious behavioral characteristics of their products when installed on wood frame structures-even without an external source of moisture. What’s more, EIMA has had *every opportunity* to apply for their “standards” to be codified by the American homebuilding codes. *They chose not to pursue it*. They knew all the physics. Knowing the physics, they also knew that these products “*should not be used in residential (wood frame) construction*” (per Mr. Brennan.) It might also be fair to imagine that, if EIMA had pursued the codification of their standards, CABO may not have accepted their standards because of that one little insidious problem EIFS has with moisture retention. Had EIMA been successful, then when all of these homes might eventually fail, EIMA would have been liable because **they** had done the testing and codified the specs. (EIMA now alleges that if people had just done what they have been saying all along, then they wouldn’t be having all of these problems.)

If EIMA was ever really sincere about their beliefs of using EIFS on wood frame structures, then why did they not pursue the codification of those standards into the American Homebuilding Industry’s own *minimum* standards? By having codified those standards into the official literature of the American Homebuilding Industry, then homebuilders would have had an authoritative, available, *and required* set of specs from which to refer in order to install

EIFS. Secondly, homebuilders could have then been held *accountable* to the standards set forth in the code.

As members of the American Home Building Industry, we have our own rules and we are proud of them. They are called building codes and they are adopted in each State of the Union. **If a manufacturer is going to produce a product and sell it to be used in one of our homes, then they must know that it's got to pass code first!** If EIMA had expected the American Homebuilder to adhere to their standards (which is highly debatable), then they have certainly had the opportunity over the last 20+ years to apply for the codification of their specifications so that they could have been used **and enforced** in the American Homebuilding Industry. For EIMA to stand by and subtly encourage the persecution of the **American Homebuilder** for the actions taken by the EIFS industry two decades ago, and to stand silent instead of acting toward correcting known deficiencies in their products when used in residential construction, EIMA is allowing the unjust persecution of the homebuilding industry.

~Article written by Hank Sullivan, President of the Sullivan Companies, a North Georgia Home Builder. It gives the reader an idea of what it's like to be a builder caught in the middle of the EIFS war and makes some interesting revelations we are looking into.

~ NOVASHOC (Northern Virginia Stucco Home-Owner's Coalition)