DON'T BLAME THE EIFS!!

Strip the EIFS or repair it; that is the question. The answer is quite simple, and applies to virtually all types of cladding.

To begin with, one must go beyond the symptoms of water intrusion problems, and find the actual sources of the leaks. As a professional building envelope consultant, I have seen the best and the worst of EIFS. Most EIFS problems, but not all, occur in residential construction. I can tolerate a leak in my office building, because I can always go home, but if my home leaks, it becomes an emotional issue, mostly because there is no where I can escape, and somehow have to deal with the problem.

EIFS is not a cladding the average homeowner can repair, and many EIFS repair contractors have not been trained in the forensics and repair. This leads to confusion, and the frustration builds, and the homeowner feels more and more victimized. Who can you go to for competent advice? Maybe it is time for you to become a bit more knowledgeable on the subject of moisture intrusion, so you can protect your most valuable asset, your home. Then you will be able to ask pertinent questions and judge the quality of professional advice, along with the qualifications of cladding contractors.

Let's start with the basic facts about cladding, many of which contradict popular opinion. I suggest you follow a rule that Exterior Design Institute (EDI) instructors use when instructing student EIFS inspectors: "Do not form preconceived opinions. The building will tell you what the source of the problem is, if you pay attention."

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CLADDING AND THE BUILDING ENVELOPE

EIFS and other forms of cladding do not normally fail. That is to say, water does not penetrate directly through the surface of the cladding. It penetrates the building envelope. The envelope includes secondary moisture barriers such as felt paper and Tyvek, flashing, and the primary moisture barrier which includes windows, doors, cladding and sealants. The points of water intrusion are identical in virtually every condo or residential project I inspect. The windows were not flashed, and leaked at the lower corners, kick out or diverter flashing was not installed at roof/wall intersections, allowing roof run off to get behind the cladding, and decks were not properly flashed. If those conditions did not exist, there would be no water intrusion.

Here are some things for you to consider:

1. **Very few of the general contractors, building residential or light commercial, including condos and apartments, in this area, have had the opportunity to be trained in the basics of moisture intrusion prevention. They rely heavily on their subcontractors to install the cladding components according to manufacturer specifications.**
2. **EIFS is not a subject taught to student engineers or architects.**
3. **The local government paid building inspector, contrary to popular belief, is not responsible for assuring the water tightness of the building envelope. Much of their time is spent inspecting work completed by licensed contractors, yet, only a handful of the inspectors is required to pass any type license exams, to test their knowledge. Local building departments, in their defense, have the same problem most construction companies have; finding skilled employees.**
4. **All wood frame construction shrinks. The wood dries and the building weight compresses cross grain members. A two story building will shrink ¼ to ½ inch in one year. This means all of the structural framing gets smaller, but**

the plywood or OSB does not shrink. The entire weight of the building transfers to the sheathing, and eventually the sheathing buckles at the second floor line, thus the bulges you can see at the second floor line, so common to wood frame construction. There should be a one inch gap in the sheathing horizontally at the floor line, to allow for the compression. The compression joint then must be installed in the cladding, at the floor line, to absorb the shrinkage or there is potential for a breach in the building envelope.

5. Residential EIFS, in the 1990's, was installed for less than $4.00 sq. ft., while commercial EIFS cost about $6.00 sq. ft. Material price was the same for both. The $2.00 savings in residential, came from the omission of flashing and sealants, and disregard for manufacturer specifications and application instructions.
6. The residential building envelope is usually flawed. If it can leak, it will leak All EIFS should be inspected by an independent, trained and certified inspector, during all phases of application. Further, all residential construction should have a secondary moisture barrier.
7. Dateline, often referenced, videoed over 20 hr. of professional interviews, which contradicted the story they presented. The producers apparently cut them because they would not, in their opinion, attract the most viewers. North Carolina, also often referenced, has banned barrier EIFS, but approves drainable EIFS, which is the only product EIFS manufacturer's sell into the residential market today.

HOMEOWNER GUIDE TO INSPECTING EIFS

A brief inspection can alert you to potential trouble spots.

1. Check roof / wall intersections to see if an angled piece of flashing has been installed to divert the flow a of water away from the vertical wall
2. Check the lower corners of windows for any gaps in the corner miters, and probe the sealant to determine if is still flexible.
3. Look for any bulges at the second floor line.
4. Carefully check your deck, if it is wood frame and attached to the house. There should be visible flashing and no sign of wood rot.
5. EIFS should not be installed below grade, so when replacing mulch, first remove the old mulch.
6. If you suspect a problem, go to www.eifshotline.org, and find a qualified inspector in your area. 85% of all remediation, costs less than $1500, and is usually a maintenance issue. Keep in mind, water intrusion is cumulative. The longer water penetrates the building envelope, the greater the potential damage.
7. ***Be aware that any inspector who proposes to remediate and inspect on the same project, is in conflict of interest.***

MOISTURE READINGS

Moisture content of wood must exceed 19.5% for the algae, which causes wood rot, to exist. Kiln dried lumber is dried to 19%, prior to shipment to lumber yards. There are so many references to moisture content of wood by so many scientists, testing labs and agencies, anyone who states a 10% moisture reading in wood or OSB sheathing should be considered an elevated reading, is simply making up the rules and completely disregarding an army of highly trained experts. Likewise, any inspector or consultant who states any moisture reading in any type of wood, exceeds 40%, has their moisture meter probes submerged in a glass of water, or is using the wrong equipment. Without a doubt, this individual is not a qualified moisture analyst. Most grades of construction lumber and sheathing cannot absorb more than 30 –35% moisture before reaching total saturation. The harder the species, the lower the saturation point. Why? The wood fibers take up the rest of the space. There is simply no more room for water without removing the wood fibers.

NEW CONSTRUCTION

EIFS was the product of choice in high end residential construction during most of the '90's, because of the dynamic design potential and curb appeal. The problems learned about EIFS in residential construction, have been addressed in the EDI Integrity Program. The EDI Integrity Program addresses potential oversights of all responsible parties in the EIFS cladding chain. Manufacturers in this program are required to issue a 10 year labor and material warranty. Applicators must complete certification training, be sponsored by an EDI registered manufacturer, sign a three year blanket labor warranty, and then will qualify for liability insurance underwritten by Lloyd's. All projects must be inspected by an EDI certified Quality Control Consultant, paid by the EDI Loss Prevention agents, which helps avoid collusion. All parties must sign a binding arbitration clause to qualify for the Integrity Program. This program is not designed to protect the applicator or manufacturer. It is designed to protect the building owner.

QUALITY OF CONSTRUCTION

1. Many cladding contractors sub contract their work to "piece work" contractors. This means the contractor you hired doesn't actually do the work, but pays another crew by the square foot, to install the cladding. They are often unsupervised.
2. Many cities and towns have set policy requiring an independent third party EIFS inspector to sign off on a project before they will issue a certificate of occupancy.
3. Residential contractors may lack on site supervision of sub contractors, or have inexperienced supervision.

CONCLUSION

When your car doesn't start, you don't blame the key. You find out why it won't start or call a competent mechanic, then get the problem fixed. When your home leaks, it is a symptom of the problem. Leaky cladding is a symptom and you need to fix the actual problem. Something in the building envelope is usually the problem, unless, of course, you have a burst pipe. If you have leaks in the ceiling, it may be the roofing, but it may also be flashing or clogged gutters.

Treat your home the same way your doctor treats your medical ailments. Symptoms lead to causes, and causes are what must be treated. Don't waste your time treating the symptom, it will just mask the root cause and could lead to more severe problems.

If you own an EIFS home, don't panic. If you plan to sell your EIFS home, get it inspected prior to putting it on the market, as any professional real estate salesman would suggest. If you plan to buy an EIFS home, require an inspection as a condition of purchase.

The EIFS industry took in the '90's, was negative. But it was very similar to the problems experienced by the rubber roof industry in the '80's. Their solution was to require independent certified roof inspectors to sign off on every installation, and the problems disappeared.

EIFS clad homes, buildings and condos can be remediated at a fraction of the cost of complete removal.

CLOSING STATEMENT

Many of the buildings you drive by each day are clad with EIFS. Hotels, motels, malls, churches, office buildings, most of Las Vegas, and some of the largest and most prestigious homes are all EIFS. If it is particularly fancy, has a lot of architectural detail, large monolithic surfaces, it is probably EIFS. It is one of the most widely used claddings in the commercial market. They do not have the typical home or condo owner problems; because the commercial projects generally have lots of supervision. The same could be said about the residential market, if every project got an independent inspection.

Finally, do not blame the cladding, blame the building envelope, or you will be just another EIFS building owner getting ripped off.

(Source: http://www.exterior-design-inst.com)