



# EIFS and Foam Moldings

## An Unknowledgeable Contractor Could Spell Disaster

by Dean Daniel

**Y**ears ago property developers and contractors were searching for an inexpensive alternative to using concrete for moldings and architectural elements in buildings. What they discovered was Expanded PolyStyrene (EPS) foam, which can be very beneficial both as a source of insulation when used in an Exterior Insulating Foam System (EIFS) or to add decoration to existing architecture.

Most people do not realize that foam is available in varying densities—from the soft, lightweight type used in packing peanuts to a denser version such as the one used to form the shell of the television sets inside the

shipping box. The most common mistake general contractors and subcontractors make nowadays, even though the industry is decades old, is using the wrong density. This is due to the fact that EIFS and EPS foam is such a specialized field, and there is a lot of misinformation in the industry. Most architects still do not specify on the plans which density they are supposed to use or what system of coating is approved. This leads to many mistakes from unknowledgeable contractors.

At the same time EPS foam was being developed for use in architectural elements, engineers were developing a new way to save on heating and cooling costs in large buildings—the EIFS system. This process would require attaching EPS Foam paneling to the exterior of a building on top of a wood or concrete substrate and then covering the surface with fiberglass mesh and coating the surface with a two-part system of a base coat of cement and then a sealer or polymer coating. The coatings designed for EPS Foam and EIFS work are readily available only to industry professionals and not available in your local hardware store. There are several brands, which all have varying degrees of longevity but only when applied by a professional.

The most common mistakes in new construction are due to the material itself. Since foam is available in varying degrees of density, as was explained, when unknowledgeable contractors choose a “too-light” material and improperly coat it, the material itself will not last on exterior applications.

Further extending the problem is the method of attachment. Again, there is a lot of misinformation in the industry. We have seen failures in installations due to the contractors using everything from wood screws to liquid nails to attach foam. It’s common sense that screws will not hold foam onto a wall when the winds start blowing. Another very common misconception about attaching foam is using a product called Liquid Nails, which is a petroleum-based product commonly used in the construction industry. Unfortunately, being a petroleum-based product, it is corrosive when it comes into contact with foam. So, the same adhesive many so-called professionals are using to attach the foam is actually eating it. All sorts of problems can arise when the contractor does not know what they are doing.

It has been well documented that the biggest failures in the use of foam to decorate buildings come, not from weather and the environment, but rather from unknowledgeable and inexperienced contractors. EIFS work, as well as foam moldings, can last a lifetime if installed and coated properly. The problem is most general contractors, over the last few years, hired anyone, even painters and roofers, to attach EPS Foam to their buildings. EIFS and foam materials are such a specialized field that, if the contractor doesn’t know what they are doing, a lot of times the customer will have endless problems. Wind loads, sun, heat, humidity and, yes, even woodpeckers, will all contribute to catastrophic failures and, in many cases, require a total removal and replacement.

Take the case of a North Miami condominium complex, which hired the wrong contractor to attach the foam moldings. Eventually, all of the pieces showed deterioration and mold build up, thus ruining the look of the buildings. Not only did the contractor fail to coat the pieces properly, he failed to attach them properly, causing some pieces to detach from the building and fall nearly 40 feet to the ground, which presents a huge liability issue for the property.

The most common problem some property managers face comes from pesky woodpeckers. The problem would not be as bad as it is, if it were not for contractors who improperly coat the surface of lightweight foam with insufficient cement. Woodpeckers instinctively find the softest material to burrow into to make their nests.

Unfortunately most landscaping contractors don’t coordinate with building architects when designing the landscaping. Why is that important? Well, the popular Fan Palm, which is prevalent around south Florida, is the favorite tree of woodpeckers. Wherever you see that tree, you will undoubtedly have problems with woodpeckers. Many times, this issue can be somewhat alleviated by adding a deterrent. Fake owl statues sometimes deter woodpeckers from nesting nearby. Obviously, tree removal is the final option.





Another very costly and common mistake is made by landscaping architects placing high-growth trees, such as Hurricane Palms, too close to the structure of the building. Hurricane Palms get their name due to the fact that in high winds they bend drastically but don't break. That's both a positive and a negative. When the winds start blowing, their ability to bend cause them to "whip" the building, and EIFS or foam moldings caught in their area will definitely see damages. High-growth trees should be kept a minimum distance from the facade of the buildings. Again the simplest solution is to relocate or remove the trees.

The repairs of damages to EPS foam should be handled by someone who knows what they are doing. In the case of the woodpeckers, the birds tend not to burrow straight through, but they tend to make an entry hole and

burrow sideways, sometimes for several feet. When interviewing some property maintenance personnel, we have been told that their solution to the bird holes was to simply fill the holes as they appear, with everything from caulking to Great Stuff, which is a gap filler sold at local hardware stores. Neither of these solutions are adequate and will not result in a permanent repair. The surface of the damaged material must be repaired using the same materials it was constructed with, assuming the contractor did it right the first time. In order to do the job right, you need the right materials and a good knowledge of how to use them.

When the repairs are necessary for more severe damages, the proper way to fix the problem may sometimes require replacement. Moldings can sometimes be saved if they are attached properly. The coatings, which are not available to the general public, can be reapplied using either a manual technique or by using a high-pressure sprayer. The gaps, cracks, and deterioration should be filled with a synthetic basecoat/sealer and then a top coat or finish coat is required to make the application last. The top coat is usually made up of a paint base mixed with silica sand and resin.

In either case this is most definitely a job for professionals, otherwise you can end up paying for the same repairs again and again.

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