

Florida's Stucco Disaster: What Every Home Inspector Should Know *Part 1*

By Mark Cramer, ACI

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In the past year, I've conducted more than 100 destructive inspections of improperly installed stucco on homes in central Florida for homeowners who are making construction defect claims. I've learned every possible way you can imagine that you can improperly install stucco, and some ways that you or I couldn't imagine.

As home inspectors, we face a dilemma. Most of these defects can't be discovered or proven until you break things apart. Many of them, however, can be seen without performing destructive inspection. As consumers become aware of these issues with stucco, their expectations increase regarding what they want a home inspector to tell them about stucco.

In the first part of this two-part article, I'll share some of the points you can observe in the course of a visual home inspection that will help you and your clients avoid an expensive problem. Fixing these problems isn't cheap. Removal and replacement costs can range upwards of \$50,000. Part 1 covers issues involving lack of drainage, no drainage at horizontal returns and stucco that's too thin. Part 2 will cover improperly installed paper-backed lath, improperly installed control joints and lack of casing beads and caulked joints—watch for the second installment in the June issue of the *Reporter*.

Lack of Drainage (photos – #1-4)

All vertical panels of stucco have to drain water at the bottom. In central Florida, the typical production home is concrete block on the first floor and wood frame on the second floor. You need to see a weep screed at the bottom of all wood frame walls above a masonry wall or foundation. This has long been required in the ASTM standards that are referenced in the model building codes. In 2005, the Florida Building Code added a specific requirement for drainage at this point. I've seen many homes without this drainage or with it improperly installed.

Reference: ASTM C-1063: 7.11.5

Foundation Weep Screed—Foundation weep screed shall be installed at the bottom of all steel or wood framed exterior walls to receive lath and plaster.



Photo 1: No drainage at bottom of second story wood frame walls above first floor masonry walls.



Photo 2: No weep screed at bottom of first floor wood frame wall. Casing beads do not drain water.



Photo 3: No weep screed at bottom of second story wood frame wall. Casing beads do not drain water.



Photo 4: Water stain at the top of a garage wall below a wood frame wall. Stains like this indicate concealed damage to the wood frame wall above the masonry wall.

No Drainage at Horizontal Returns (photos 5-9)

Where vertical stucco surfaces meet horizontal surfaces, drainage is required. All wood frame walls must drain water at the bottom. This is easy for home inspectors to see.

Drainage is specifically required here by the ASTM standards referenced in the building code. Any water that enters here is trapped as it can't drain out at the bottom of the vertical panel. When water entry occurs, the wood structure is damaged.

Reference: *ASTM C-926: A2.2.3 Where vertical and horizontal exterior plaster surfaces meet, both surfaces shall be terminated with casing beads with the vertical surface extending at least 1/4 in. (6 mm) below the intersecting horizontal plastered surface, thus providing a drip edge. The casing bead for the horizontal surface shall be terminated not less than 1/4 in. from the back of the vertical surface to provide drainage.*



Photo 5: No drainage at horizontal return below vertical stucco walls.



Photo 6: Here's what the home inspector can see looking up at the underside of the horizontal surface. Note the small crack and faint stains bleeding out.



Photo 7: Here's what the structure looked like after the stucco was removed. If you can see stains bleeding out, it's very likely there's heavy damage.



Photo 8: If you see this on the underside of a horizontal return, you can be certain there's heavy damage.



Photo 9: It probably looks like this.

Stucco That's Too Thin (photos 10-12)

ASTM standards require that stucco on wood backing be 7/8-inch thick, exclusive of texture. Stucco that's too thin isn't as strong and is more likely to crack. Cracks admit water. The wire lath rusts and expands, allowing more water entry and causing more cracking. Often these cracks on a second story wall are too small to see from the ground. You can get an idea of the thickness by looking at the dimensions of casing beads or weep screeds at the bottom of walls above roofs, or by inserting a thin ruler above the top of the stucco at the soffit level.



Photo 10: Measuring thickness at top of wall. Thickness here is about 5/8 inch.



Photo 11: A 3/4-inch casing bead. The stucco cannot be 7/8 inch thick.



Photo 12: Stucco gets noticeably thinner away from accessories such as weep screeds and control joints.

Conclusion (photo 13)

Florida's stucco problem is real. It's big, and it's getting bigger. Don't let yourself be caught on the wrong side of a lawsuit because you failed to point out potential problems and explain the implications of the problem. Always make your client aware of the potential for significant concealed damage. Recommend destructive inspection. You won't be very popular with agents, but you'll sleep better at night. I've had to defend a home inspector in a concealed damage claim over stucco. It's not pretty.



Photo 13: Destructive inspection can include drilling holes and measuring moisture with a meter, or simply breaking open the stucco to see what was done wrong underneath the surface. Both have their places.

Also understand that it's useless to recommend "further evaluation by a stucco contractor." These are the folks who created this mess. They're likely to say it's all just fine and you need a little patching. That's just kicking the can down the road.

For those of you in other parts of the country, the issues are the same, not only with stucco, but with artificial stone veneer, which is essentially nothing more than lumpy stucco. Similar disasters are widespread almost everywhere.



Mark Cramer is home inspection veteran and a Florida-licensed contractor who has 25 years of experience performing home inspections, construction progress inspections, commercial building inspections and insurance inspections. Mark also works as a litigation consultant and expert witness in matters relating to construction defects and home inspection. He's performed more than 100 forensic inspections of stucco failures. Mark has more than 5,000 hours of experience training home inspectors in classroom and seminar settings. A longtime ASHI member, Mark was one of the founding members of the Suncoast Chapter of ASHI. He's held numerous local and national positions within ASHI, serving as chair of several national committees and as National President of ASHI in the year 2000.

A New Approach to Relationship Management in the Real Estate Industry

Submitted by Joel L. Singer, Applica Solutions, email jsinger@applica-solutions.com, www.applica-solutions.com, 508-281-2050.

Dateline: Marlborough, MA, February 9, 2016

The real estate industry poses very unique challenges for maintaining long-term relationships with homeowners and potential real estate clients. However, there are changes affecting the industry that are creating new opportunities for overcoming these challenges. A company named Applica Solutions is emerging as a leader in leveraging these changes to develop a fresh approach to maintaining real estate client relationships and building personal brands, by providing low-cost and no-cost tools that enable establishing ongoing personalized essential home care connections with clients and prospects.

Unique Challenges in the Real Estate Industry

Jeffrey D. Wiren, Principal Broker with RE/MAX Equity Group, says, "There are two big challenges with maintaining long-term client relationships in the real estate industry: 1) consistency—having a system that will consistently deliver content to the client over time; and 2) meaningful content—having content that matters and is of value to the client. Most clients don't need another chocolate chip cookie recipe, but information on how to help them maintain their largest asset is pretty important."

This is echoed by Ken Brittain, owner of Home Vue Inspection Services LLC, who says, "A major challenge is how to remind or reinforce your brand and the services you provide. It's been said that, on the average, people move every seven years. So if I do a great job for them, will they remember me in seven years? Probably most will not. So I need to remind them periodically during this time."

Changes Creating New Opportunities

Fortunately, there are changes affecting the industry that are creating new opportunities for overcoming the unique customer relationship management challenges of the real estate industry. Three such changes include the explosive growth in the use of tablets and smartphones; increased Wi-Fi availability and dramatic reductions in mobile data plan costs; and increased capabilities of high-speed, cloud-based software applications. The combination of these three factors has enabled the development of sophisticated low-cost customer loyalty tools that can be customized for the specific needs of individual users, where this level of personalization would not have been practical before.

According to Wiren, "I think in the service economy we are in, customization of resources is the biggest opportunity moving forward. Customers are not one size fits all, they have specific

needs and wants, and they live in a world that caters to that level of specificity. As real estate professionals, we must offer resources that can be customized and specific to a client's needs."

Applica Solutions Introduces New Approach

A company named Applica Solutions (www.applica-solutions.com/tools) has developed a suite of tools called Home Wizard (www.home-wizard.com), which includes easily customizable mobile apps, web tools and a newsletter that allow home professionals to give their clients branded, essential, monthly home care reminders that are personalized based on their home type, home features, personal goals, priorities, location and knowledge level. And like other cloud-based business tools such as Skype, Dropbox and Google Drive, most of Applica's tools for home professionals are free, with optional premium services.

Wiren says, "From my experience, Home Wizard has the great benefit of letting customers customize the experience based on their home and their needs. This is critical because people don't want to make time for information that is useless to them. If the maintenance reminder system is consistently sending reminders that don't apply to clients based on their home, they'll stop looking, and the value of that benefit is eliminated. The ability for clients to customize their reminders and access the information on a mobile platform is a big win."

According to Brittain, "I've found that Home Wizard provides a vehicle that delivers a useful product on a regular basis without over doing it and becoming annoying. In the year or so that I have used Home Wizard, it has adapted and changed to meet the needs of the cyber landscape. It not only provides a better end-user experience, but also provides more tools for the sponsors. From my experience, the ability to customize and personalize Home Wizard is a plus from both the customer and sponsor side. Tracking also provides a valuable tool for the sponsor to monitor the success of the CRM campaign and the quality of its contacts."

Benefits of Home Wizard

"Applica's Home Wizard tools are a valuable resource that demonstrates to my clients that I care about them and that I have the competence to know what type of resources matter in helping with their real estate portfolio," according to Wiren.

"The content is great and very useful, and is not cluttered with annoying ads or pop-ups. The best part is I don't have to develop the content, which is a huge timesaver for me. There is no doubt that CRM tools like Home Wizard are effective and bring in new and repeat business. Overall, my experience and those of the users have been positive, and it has been well received by most.

Florida's Stucco Disaster: What Every Home Inspector Should Know, Part 2

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See the sidebar on Page 14 for a link to another news update.²

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Improperly Installed Paper-Backed Lath (photos 1-5)

It's common to use paper-backed lath over wood sheathing in Florida. The paper and lath are offset so that the paper can be lapped over the paper and the lath can be lapped over the lath. This takes time. It's much faster just to slap it up any which way. If paper is lapped over wire, this results in thin spots that are prone to cracking. These cracks have a distinctive shape and configuration that you can observe. If you see long horizontal cracks about 2 feet apart, it's likely that this is the cause.

You can't successfully patch these cracks. In my experience, they redevelop and admit more water, causing more corrosion of lath and more cracking and damage.



Photo 1: Parallel horizontal cracks 2 feet apart indicate improperly lapped paper-backed lath.



Photo 2: Example of extreme damage.

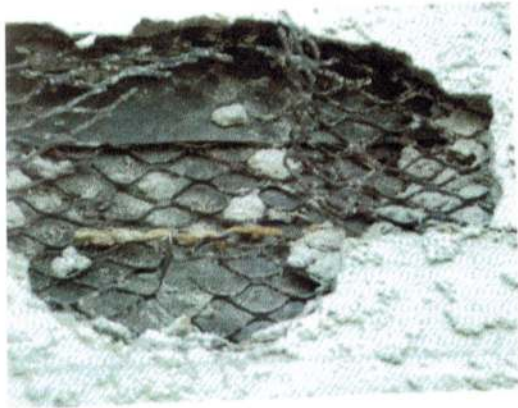


Photo 3: Destructive inspection showing improperly lapped paper-backed lath at a horizontal crack.



Photo 4: If you see cracking parallel to a rake edge about 2 feet down from the top of the wall, you can be reasonably sure that's due to running the lath at an angle at the top of the wall.



Photo 5: Lath run at an angle overlapping the horizontal pieces causes cracking at the thin areas created by improper lapping.

Improperly Installed Control Joints (photo 6)

Control joints are installed to allow stucco to shrink initially and then expand and contract. The typical W-shaped joints are designed to move in an accordion fashion to accommodate the movement. Key points to installing control joints include cutting the wire lath at the joint and wire tying the joint to the stucco. It's much faster to just staple the joint to the wall, which prevents it from moving.

Any paper backing on the lath has to be under the perforated flange of the control joint to allow the stucco to lock onto the joint. If you don't install these joints correctly, the joint can't move and when the stucco moves, a crack develops at the joint that admits water and causes damage. Ironically, preventing cracks is why we install the joints in the first place.

If you see a vertical crack at the control joint, it's probably installed improperly.



Photo 6: Separation at control joint. The crack here admits water, which causes lath to rust and expand, leading to more cracking and damage.

Lack of Casing Beads and Caulked Joints (photos 7-17)

ASTM standards required casing beads at intersections with dissimilar materials such as windows, soffit returns, etc. This was almost never done in central Florida during this time period.

The purpose of the casing bead is to provide a gap that can be caulked. Without the caulked joint, hairline cracks invariably develop that admit water and cause damage.

Reference: *ASTM C-1063 7.11.3 Casing Bead—Nonload-bearing members shall be isolated from load-bearing members, and all penetrating elements, with casing beads or other suitable means, to avoid transfer of structural loads, and to separate from dissimilar materials.*



Photo 7: No casing bead and no caulked joint between window and stucco. No small cracks here. The photos that follow are all related to this window. This crack doesn't look like much, but the resulting damage is impressive.



Photo 8: Typical damage on a 10-year-old home.



Photo 9: Sheathing is gone. (Rotted sheathing has been removed.)



Photo 12: Here's what the wall below this window looked like after it was torn open. Note the severe damage.

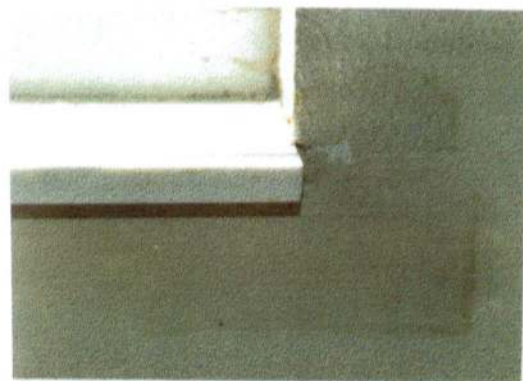


Photo 10: Look carefully at interior surfaces at and below windows. If you see staining like this, I can assure you there's structural damage concealed in the wall.



Photo 13: It's not just windows; all dissimilar materials intersecting stucco need casing beads and caulked joints. This intersection of a fascia and the stucco wall didn't show any signs of damage other than some staining on the wood ceiling.



Photo 11: I always pull up the edge of carpeting below windows using needle-nose pliers. If I see staining, I know there's concealed damage in the walls. In this case, I was inspecting stucco for the owner and was able to pull back the carpeting, revealing the large stain on the floor.



Photo 14: Here's what it looked like under the stucco.



Photo 15: I typically measure moisture levels in walls below windows using a Tramex Moisture Encounter meter. I then compare the reading with a reading taken on the wall near the window. If I find elevated moisture levels below the windows, I know that there's likely to be concealed damage.



Photo 16: This cracking is caused by multiple issues: water entry at the kickout flashing that's not caulked, stucco that's too thin and improperly lapped paper-backed lath.

Conclusion

Florida's stucco problem is real. It's big and it's getting bigger. Don't let yourself be caught on the wrong side of a lawsuit because you failed to point out potential problems and explain the implications of the problem. Always make your client aware of the potential for significant concealed damage. Recommend destructive inspection. You won't be very popular with agents, but you'll sleep better at night. I've had to defend a home inspector in a concealed damage claim over stucco. It's not pretty.



Photo 17: Destructive inspection can include drilling holes and measuring moisture with a meter, or simply breaking open the stucco to see what was done wrong underneath the surface. Both have their places.

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1. Pransky N. 10 News Investigates. Florida's billion-dollar stucco problem: Your home may also be rotting away—and losing value—much quicker than you could ever imagine, part 1. Available at: <http://www.wtsp.com/story/news/investigations/2015/06/24/florida-billion-dollar-stucco-problem/29073195/>. Accessed April 22, 2016.

2. Swanson B. KB Home to pay at least \$23.5M in settlement with Florida over building violations: "Allegedly failed to make certain disclosures to homebuyers." HousingWire.com. Posted February 11, 2016. Available at: <http://www.housingwire.com/articles/36268-kb-home-to-pay-at-least-235m-in-settlement-with-florida-over-building-violations#Vr3MbAam6Jw.email>. Accessed April 22, 2016.

3. Cramer M. Florida's stucco disaster: What every home inspector should know, part 1. *ASHI Reporter*. May 2016. pp. 14-16. Available at: https://issuu.com/ashi932/docs/5-2016_reporter_issue. Accessed April 22, 2016.



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update from Florida...

According to an article published February 11, 2016, in the online magazine *HousingWire*, "Homebuilder KB Home and its Florida subsidiaries reached a multimillion dollar settlement with the Florida Attorney General's Office...over alleged construction violations."

To read the full story, check out the article² at this link: <http://www.housingwire.com/articles/36268-kb-home-to-pay-at-least-235m-in-settlement-with-florida-over-building-violations#Vr3MbAam6Jw.email>.



By Tom Feiza, Mr. Fix-It, Inc. • HowToOperateYourHome.com

Tip #15 Garage Door Openers

What is the largest, heaviest moving object in your home? You got it—the garage door. So, it makes sense to do frequent safety checks on the door.

First, look for a safety label near the control button or the overhead door. It will tell you how to safely operate the door and test the reverse mechanism.

Second, make sure the control button is mounted at least five feet above the floor or any step. This prevents small children from playing with the door operator.

Third, never allow children to play with the door or the operator.

You should test your operator for reverse and door balance once per month. Follow the specific instructions on your door's safety label. If you don't understand these instructions or you don't have specific instructions for your door, contact a professional door service company.

Several times per year, check the door hardware for tightness. Consult your owner's manual for the proper lubricant and apply it to rollers, tracks and other mechanical parts. Have the door serviced by a professional if there are any signs of problems. 🏠

By Tom Feiza, Mr. Fix-It © Copyright 2009 by Tom Feiza, Mr. Fix-It, Inc. | misterfix-it.com | htoyh.com. Helping you operate and maintain your home.

