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Home Tips®

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Q & A

Cast Stone Problems?

We have synthetic stone on our house, and we keep having leaks. The builder has repaired the area three times but has not been able to stop the water from entering. Can you shed any light on this problem?

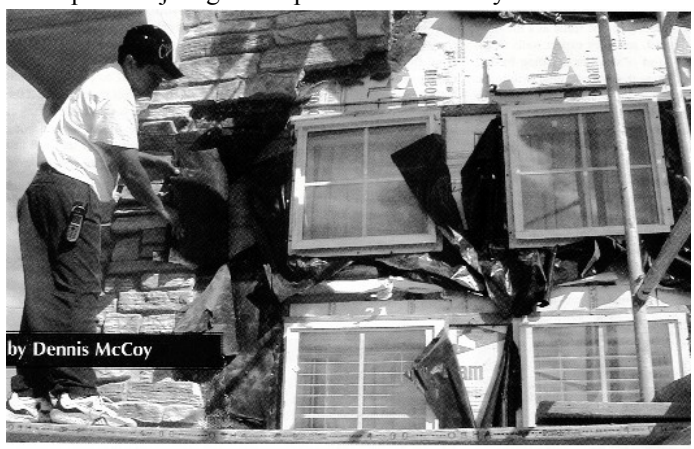
According to Dennis McCoy, the problems they are finding with cast stone are just like the problems we've seen with incorrectly applied stucco. But the weather detailing flaws we identify in artificial-stone jobs often cause even greater problems than the errors made with stucco. With cast-stone veneer, leaks and rot often show up sooner, progress more quickly, and cause more severe damage inside the wall.

Cast-stone veneers, also called synthetic or cultured stone, are cementitiously adhered to a stucco-like base coat that is applied directly to the wall. Like stucco, cast stone gets saturated with water in a rainstorm and holds that water right up against the framed wall. The papers and flashings under the veneer have to fend off that moisture load without the benefit of any drainage or drying space. One layer of paper isn't going to do the job – two layers, as specified under stucco, are necessary.

Painstaking Details Required

If anything, cast stone should, in fact, be backed up by even tougher details than stucco. That's because it has some characteristics that may help create a more stressful moisture load for walls during wet weather. For one thing, manufactured stone is a cement-based product that absorbs and holds water like stucco, but cast stone is thicker than stucco and can thus store more moisture.

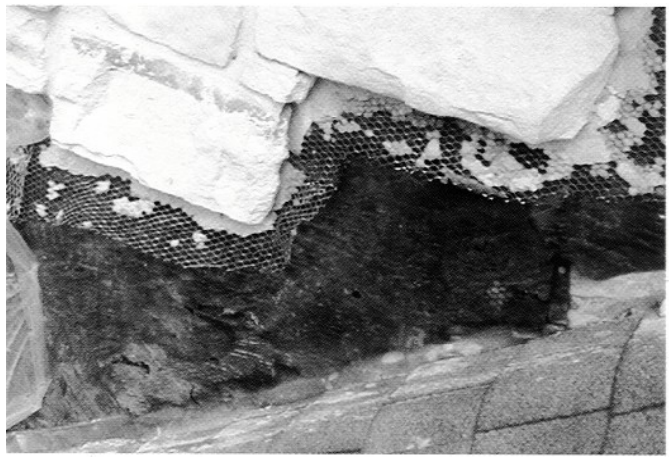
The greater thickness of cast stone also complicates the task of fabricating and installing practical flashing components. The kickout or diverter flashing required where a roofline butts into a wall is a good example. On job after job, my company gets paid good money to go in after the fact, tear cast-stone veneer off a wall, and retrofit a larger kickout flashing to the wall because the original roofer's kickout flashing was too small to push water out beyond the plane of the cladding. If the diverter flashing is too small, it may as well not be there. All the water flowing and blowing against that spot will just get dumped into the wall system below.



We also see problems when cast stone is paired with another material on the same wall. It's very common, for instance, for a single house to have stucco or EIFS as well as cast stone; if the joint where the two meet is detailed wrong, water can get to the wood-framed wall and cause trouble.

Investigating Problems

When my company is called to look at a building, the owners



or the builder often have no conception of the severity of the

problem they may be facing. Poly vapor barriers under the home's drywall often conceal wall framing that is sopping wet on the exterior. The cementitious stone or stucco does not decay, so it never betrays the secret underneath. Homeowners may complain of just a few small leaks or be worried about a moldy smell.

Repairing the Failures

On many occasions, our company has found a shocking amount of water damage and rot under the cast-stone cladding of homes less than two years old, or in some cases less than one year old. The amount of water that can be taken in and held by cultured stone is significant enough to support robust growth of wood-destroying fungi. If rot organisms have water and they have wood, they will thrive until the wood is gone. Often, what we find under cast stone looks more like the ashes of a fire than like lumber.

If it's caught soon enough, the damage can be repaired. But this is far more costly than doing the job right the first time.

Details That Work

Code provisions for cast stone can be confusing and murky. The product isn't mentioned in the body of the building code, and the evaluation reports and manufacturer instructions required for code acceptance can be contradictory or incomplete. But the basic methods required to succeed with the material are not that complicated. In essence, cast stone has to be treated as if it were stucco.

Before you apply lath to the wall, you need to be sure you have a weather-resistant paper barrier on that wall – and it needs to include two layers of paper, not just one. Wherever there are penetrations or intersections between assemblies such as walls and roofs, or joints between cast stone and other materials like brick or stucco, there must be properly lapped flashings that keep kicking water away from the building. And at the bottom of the wall, there has to be a way for water to drain out. If all those precautions are observed, there is no reason cast stone should cause moisture problems.

So if you're applying cast stone, be smart: Use the papers, install the flashings, and provide the weeps. It will cost a little more, but it is a lot cheaper than hiring me and my crew to come back and fix the wall when the studs are decaying underneath the cast stone.

Dennis McCoy owns and operates Ram Builders, based in Lindon, Utah, which specializes in reinediation and repair work in Utah, Texas, Colorado, and California.

Source: December 2004 Journal of Light Construction

If you have a question, change of address, comment, home tip or would like to send *Home Tips* to your clients, send your letter to *Home Tips*, Christian Building Inspectors, Inc., 3697 Habersham Lane, Duluth, Georgia, 30096-6111. You can also E-Mail your questions to us at rodharrison@christianbuildinginspectors.com/.

Quote Of The Month

"MINDS ARE LIKE PARACHUTES. THEY ONLY FUNCTION WHEN THEY ARE OPEN."

SIR JAMES DEWAR

A Tip Of The Hat To:

Mike Clark
Re/Max of Atlanta
1948 Day Drive
Duluth, Georgia 30096

Thank You

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