

Inspect That Tile!

I did a recent job inspection with our territory manager after receiving a call from a forensic tile consultant who wanted me to make recommendations for a tear out and reinstallation. This is not such an unusual task, but the events that transpired were so atypical of a good tile installation that I felt compelled to comment on what is becoming very typical on jobs that we see go wrong.

My territory manager remembered this job as one he bid on, but lost to another mortar manufacturer. He had given the flooring subcontractor a complete system, including sound underlayment, dry-set mortars and grout. The architect had specified a particular sound isolation underlayment, but did not give specifics on the mortars to install the assembly; he only specified an ANSI 118.4 polymer modified thin set. Unfortunately this happens a lot: architects specify an underlayment that is not compatible with the complete assembly. In this case, the flooring contractor rejected our sound underlayment as it was not specified. Alternatively, we recommended a pair of mortars, one that could bond the sound underlayment to the substrate and another that was better suited for the installation of the stone itself. These, however, were too expensive for the subcontractor and were also rejected. My manager could have matched the competitor's recommendations with a less expensive mortar, but he knew that doing so would put the installation in jeopardy and that a quick sale was not worth the long-term effect it would have on his and the company's reputation.

The job, of course, failed, and as we inspected the project, much of the natural stone was already torn out in one of the residences. In fact, the stone was stacked up, which was unusual as most tear outs require that the tile or stone be broken into small pieces with a sledge-hammer. In this instance the mortar used was inexpensive ANSI 118.4 latex modified thin-set that barely passed 118.4 requirements. This was a telltale of other failures. If a subcontractor takes a shortcut on products to save money, this is usually accompanied by inappropriate time and labor-savings tactics elsewhere. For instance, the stone is processed wet, meaning it is cut wet, ground wet and polished wet. It is then commonly packed and shipped usually leaving a film or dust on the back of the stone. This could be a bond breaker for thin-set mortars. The thin-set will adhere to the dust on the back of the stone and not the stone itself.

Furthermore, we found that the subcontractor did not achieve 80% to 85% coverage on the back of the stone. In addition, while Marble Institute of America recommends back-buttering for all natural stone being installed, this was not done. The stone was also set butt-joint or tight-joint with no expansion joints—even around the perimeter of the room. The mortar used was also too thick—thin-sets are not intended to true or level the substrates—there are other products meant to level the substrate, such as self-leveling compounds. This installation had areas where they used the thin-set material up to 1.5 in. thick—far over the maximum recommended thickness of thin-sets—so it was not surprising that other units complained their marble floors were loose and hollow-sounding. In fact, while we were doing the inspection another complaint was called in about a couple of pieces that had tented and actually lifted off the floor.

Following the inspection we met with owner's representative and the building's superintendent. I recommended they remove and replace the complete assembly and replace it with a single source for all the materials to ensure that the sound underlayment would be compatible with the thin-set mortar. Further, the mortar to be used to install the stone should be a high-quality medium-bed mortar, back-buttered on the stone during installation and installed according to the proper expansion joints criteria as specified by the Tile Council of America. In order to level the floor the owner would also need to use self-leveling underlayment.

This, however, was not what they wanted to hear. Instead, they asked about some of our competitors' products that would save them money. One product was meant to fix individual pieces in isolated locations, not complete floors. The other was a new product that did not meet ANSI 118.4 requirements. Neither manufacturer would give those warranties for the project.

This job, once again, got away, but there are times that you are better off not winning. For the architect, remember there are a lot of compatibility problems in system selection, especially if you don't have a complete understanding of the complexity of the assembly. More than once I have had to tell an architect that products they were considering were not compatible and would fail; they thought I was trying to sell them our assembly. It is true that 118.4 is a commodity product, but there are a wide range of choices in these products and poor choices will disrupt business when the client has to rehab its flooring—not to mention the expense.

For the contractors you deal with, ask yourself if they are just meeting the minimum requirements? We all want to maximize the profits, but at what cost? When jobs like this fail, it costs us all. Owners will be unhappy with tile and stone and will not want to purchase it again. Architects will not want to specify it for fear of another failure. It will cost much more to replace a floor than to do it properly the first time with the correct installation materials. Keep this in mind when picking your next products partners.