

Corrosion in Rodded Countertops ◀ ▶ My Opinion

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Q: We've had a number of instances with corrosion in existing rodded countertops installed several years ago. We've bedded them in a 2-part polyester, and despite being fully covered by the glue, they still rusted. Should we have only used stainless steel for rods?

A: I don't think the mild steel is as big a factor as the polyester adhesive. Had the rods been encapsulated in epoxy, the protection would have been far greater. Polyester adhesives are vastly different from epoxy, and one of the principal shortcomings of polyester is that it tends to get brittle as it ages. I suspect this is a likely cause of the breach in protection for the mild steel rod. It also is far less effective in transferring strain from the stone to the rod, so the reinforcement that it provides for the stone is far less than if epoxy had been used. Perhaps the ideal, and most common, application for polyester resin adhesives is filling seams. In this case, a lower strength adhesive is actually desirable, because if movement should occur for any reason, it is the seam that yields and not the stone. Many shops casually use the term "epoxy" for any adhesive that is mixed from two components, but much of what is casually called "epoxy" is really "polyester", and the two are definitely not interchangeable products.

Q: We have an exterior patio with some drainage problems. The stone wasn't correctly sloped during installation and there is standing water on the surface after it

rains. Is there a good product to seal this?

A: No, if you have water ponding on the surface, no sealer is going to help you. Aggressive surface drainage is an absolute necessity in conventionally set pavement designs. The condition you describe will degrade the bedding of the material in rather quick order, and failure is a certainty. While they are expensive, I'm a big proponent of pedestal set systems for patios. This allows for the stone to be set perfectly level, which is usually preferable aesthetically, and all of the drainage and waterproofing occurs below the stones. Pavers can be easily removed to repair waterproofing and/or perform drain maintenance.

Q: I'm considering using a detail similar to Detail 2 on page 15-D-2 in the Marble Institute's Dimension Stone Design Manual. Why must the studs be 16 gauge? Can I use a lighter gauge in a deeper section to get the required stiffness? And why is there a track running horizontally over the studs? Can't I just fasten directly to the studs?

A: Yes, the required stiffness for the wall can be accomplished several different ways, but the 16 gauge minimum is required to get a reasonable fastener capacity. Anything lighter than 16 gauge will not likely produce adequate engagement of a screw-type fastener. The horizontal track is required for two reasons. First, it provides unlimited lateral locations for your stone anchors. Without it, you would be forced to coordinate

your stone anchor locations to coincide with stud locations, and that may be far from the optimum anchor position on the stone panels. The second reason for the horizontal track is to provide load sharing between the studs. A stud frame wall is effective in resisting uniform loads, as would be the case when it's covered with sheathing across the face of all studs. By anchoring stone panels to it, we have not applied a uniform load, but a concentrated load at the anchor locations. This concentrated load would likely be too great for one stud to resist, so the track allows the adjacent studs to share the load.

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Dimension Stone Design Manual VII
Version 7.1