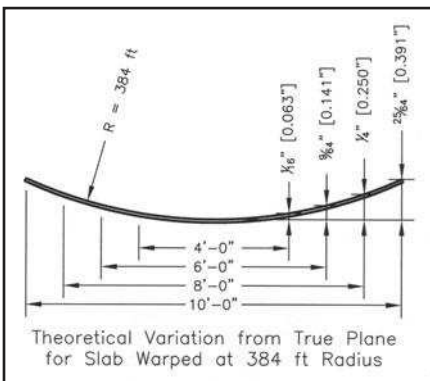


## Bowed Slabs ◀ ▶ My Opinion

*Have a technical question? Check MIA's Dimension Stone Design Manual VII first. If you can't find the answer there, contact MIA's Technical Director, Chuck Muehlbauer at [technical@marble-institute.com](mailto:technical@marble-institute.com). This FREE service is for MIA members only! (Non-member charge: \$85/hour) As a courtesy to other members, please limit phone conversations to ten minutes per call. All opinions and advice provided by Chuck Muehlbauer or anyone else from MIA are provided as general information only. MIA assumes no responsibility and shall not be liable for any damages resulting from your use of this information. Any information provided by the MIA is the exclusive property of MIA and shall not be disseminated, republished, or reproduced in any manner without the prior written consent of MIA.*

**Q.** We've got an installed slab of Persian Brown with a bow in it. It measures 108 inches long, and has about 1/8" deflection in the center. Does this meet industry specs?

**A.** Assuming the curvature within the slab is constant, yes it would. The documented industry tolerance for variation from true plane on polished or other smooth surfaces is "not to exceed 1/16" out of true plane when measured with a 4'-0" straight edge". This tolerance is listed in both the NBGQA (National Building Granite Quarries Association) *Specifications for Architectural Granite* and the Marble Institute of America's *Dimension Stone Design Manual* (Chapter 05, Granite). Since there is no other documented tolerance or maximum displacement listed for longer lengths, one can only interpret that the curvature required to produce a 1/16" displacement in 4'-0" is allowed to continue to longer lengths. Theoretically, a slab warped to a constant radius of 384 feet would have a 1/16" bow when measured with a 4'-0" straight edge. Looking at the graphic below, this theoretical slab would have in excess of 3/8" bow in 10'-0",



yet there is no place on the slab where I would be able to measure more than 1/16" planar variation using a 4'-0" straight edge.

**Q.** We are installing an exterior marble façade using butt tight joints. We are at a loss as far as how to seal the joints. Can you recommend a sealer for tight joints exterior adhered marble?

**A.** No, I can only recommend that you not set marble using tight joints. Not only is there no effective way to seal the joints, no accommodation for thermal expansion or dynamic building movements exists in this design.

**Q.** We recently had granite countertops installed in our home. I just noticed that the underside of the slabs have some sort of cloth glued to them. I asked a friend about this, and was told that this material is applied to the backs of marble slabs, not granite. Does this mean we did not get granite like we paid for?

**A.** No, it simply means that the slab sawyer elected to reinforce the slabs by adhering a fiberglass mesh fabric to the back surface of the slabs. Historically, your friend is right, in that this practice was generally limited to the marbles, travertines, and other "soft" stone varieties. Today there are many products which, despite not meeting the scientific definition of granite, are correctly commercialized as "granite" per the much broader

commercial definition of granite. Many of these stones exhibit limited soundness, similar to the lesser soundness marbles, and require reinforcement. Without this reinforcement, yield factors would be greatly reduced, and worker safety would be compromised when handling the slabs.

**Q.** We have a question about rodding of countertops. Are we required to use stainless steel for this detail, or can we use mild steel?

**A.** The general rule for all metal anchorage components used in conjunction with natural stone is that they be of "corrosion resistant" metals. Rodding is one exception where mild steel has been used effectively, the reason being that a properly installed rod would be FULLY encapsulated with epoxy. This full epoxy encapsulation is required to provide maximum strain transfer between the stone and the rod, and also protects the rod from moisture exposure. Given that this is a shop performed process, quality control is expected to be adequate to assure complete encapsulation. If the quality control in your shop is not adequate to ensure complete encapsulation, then either corrosion resistant metal or fiberglass rods should be considered to prevent corrosion after installation.

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