Paver Joints ◄ ► My Opinion

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Q: We are working on a project where the designer is undecided if they should grout the paver joints, or caulk them. Is there a compelling reason to use one product or the other?

A: Traditionally, grout was always used in typical paver joints, with elastomeric materials used only in expansion or movement joints. In recent years there has been an increase in pavement grout failures, and this has caused a significant number of designers to switch to elastomeric sealant products for all joints in an effort to avoid grout altogether.

I personally don't prefer this approach, as grouted joints are one of the primary routes of vapor release from the setting bed. I believe that caulking all joints significantly reduces the breathability of the system. I prefer to see grouted joints, but only with careful attention paid to quality control to attain the desired performance. Oftentimes on jobsites I see grout that is severely over-hydrated to a soupy, almost self-leveling mixture. This is assured to fail prematurely.

A stiff grout mixture, hand tooled and compacted into the joints is extremely labor intensive, but necessary to produce satisfactory results. Obviously, appropriately sized and located expansion and movement joints are key to overall system performance, and these will always require an elastomeric filler with adequate extension/compression capability.

Q: We have some test results for density of a granite. There seems to be a wide spread between the values of different specimens, like several per cent. Is this possible, or did they mix up samples of different stones? I always thought density of a given stone was very consistent.

A: In general, you are correct. Of all of the physical properties we measure, density will likely be the most consistent for any given stone. There are a few exceptions to this rule, however.

One of the greatest departures to this rule I've found are the black & pink gneissic stones. Usually, the black regions are significantly higher density than the pink regions. Since we usually test only a small, 2" cube or cylinder, it is possible to have one sample that is dominated by the black minerals and another sample that is dominated by the pink minerals, and notable differences in density can occur.

I learned about this myself a couple of decades ago when supplying gneiss stock to a company that fabricated large stone spheres which would spin by water pressure in a fountain feature. They found that the spheres were so far out of balance that they wouldn't spin in the fountain without compensating for the weight variation within the sphere.

Q: Why is there no ASTM Material Specification for Bluestone?

A: The American Geological Institute's Dictionary of Geological Terms (A book you should consider having in your library) defines Bluestone as "a commercial name for a building or paving stone of bluish-grey color; specifically a dense, fine-grained feldspathic sandstone that splits easily into thin smooth slabs and is extensively quarried near the Hudson River in New York State for use as flagstone." Therefore it is considered a sandstone, and ASTM C616 Standard Specification for Quartz-Based Dimension Stone would govern.

Q: We've been asked to provide a 9'-0" length of 2 cm countertop with a sink cutout in it. We think this is ridiculous – is there any documented maximum recommended length of stones between seams.

A: No, there is no consensus document addressing this. Many shops have established their own limits for piece lengths, but there is no industry established limit. To produce such a document would require addressing countless variables, like slab thickness, stone strength, size and location of cutouts, presence and type of reinforcement, jobsite accessibility, stock availability, etc. And what might seem ridiculous to one fabricator might be everyday activity to another due to different handling equipment and/or techniques.