



Fabrication Bulletin # 2004

June 21, 2012

Fabrication of the New HanStone “Momentum” Series

HanStone Quartz offers the natural beauty of quartz with up to six times the strength and durability of granite. More than 90% of HanStone Quartz is natural quartz crystals, one of nature’s hardest minerals. The quartz is combined with resins and pigment to create the look of natural stone without the high maintenance. There is no need for sealing, conditioning, and polishing. HanStone Quartz is scratch and stain resistant and its non-porous nature makes it an ideal surface for residential or commercial applications.

Even though HanStone is a man-made product, it is comprised of predominantly natural minerals. The natural color and pattern variations are an inherent trait that is a key element in the design intent of this product. By design our materials have color, pattern, and surface texture variations that only serve to enhance the natural appearance of the product. Our new Momentum series includes a higher level of variation to capture an enhanced natural look. This takes advantage of our current manufacturing capabilities which allows us to produce up to 6 distinct colors and 2 types of vein within each slab, providing for a level of variation and complexity that was unattainable in the past. This new material design capability produces slabs that have a unique look including random mineral and resin distribution. These variations are abundant and oversized by design and cannot be viewed as defects. They are in fact, intrinsic properties of the HanStone Quartz surface.

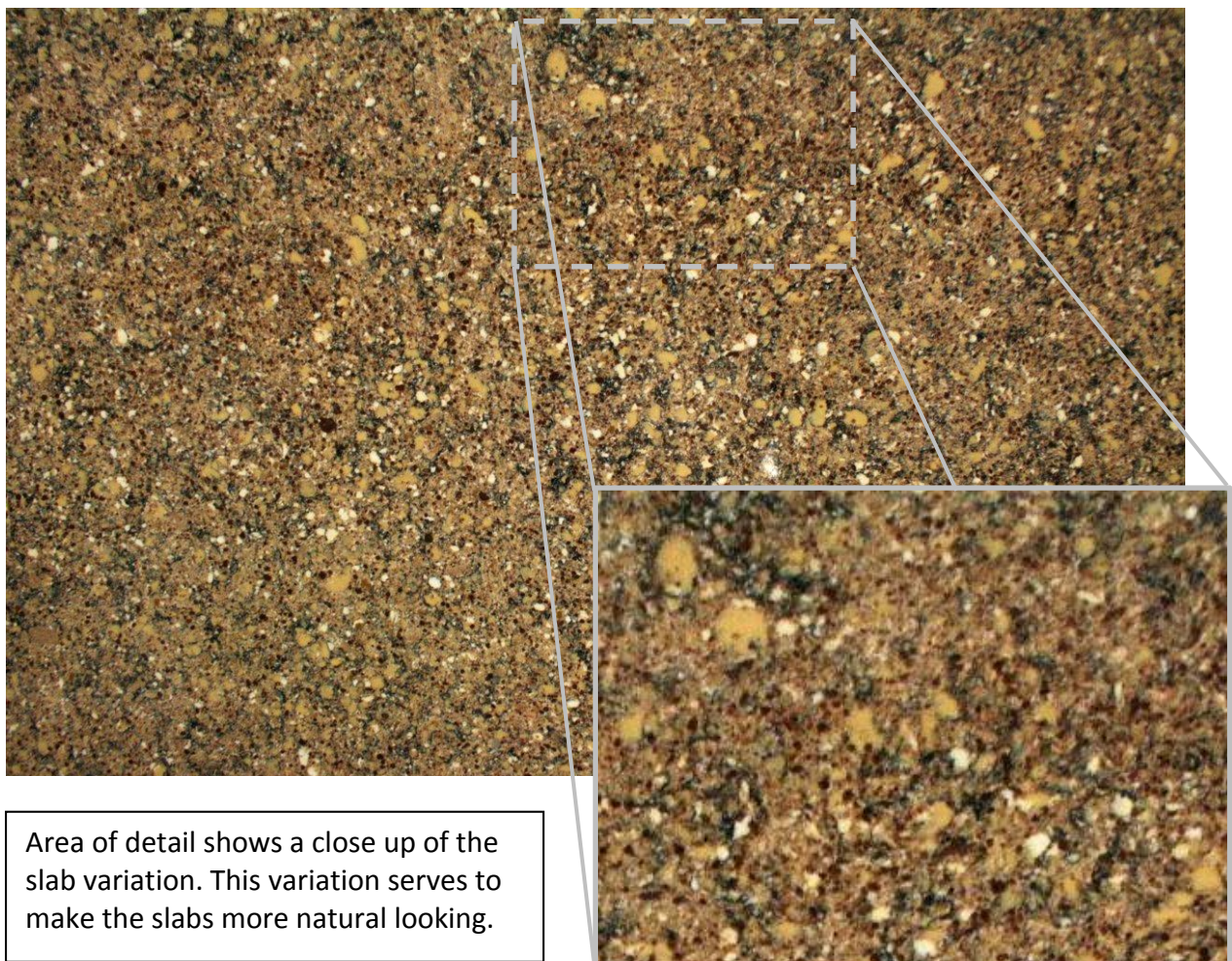
These intrinsic properties include, but are not limited to, the following:

- Color, veining, and pattern variations within the slab.
- Particulate size and distribution. Some new patterns in HanStone’s new Momentum series (such as Rolling Stone) have been intentionally formulated to have larger particulate and /or resin concentrations to enhance the natural appearance.
- By design, particulate and resin concentrations will exceed the 30mm standard held with other HanStone quartz products.
- Minor surface voids or pin holes. These will occur randomly and are part of the manufacturing process. They should not exceed 1.2mm in width or depth and have no impact on the porosity of the surface.
- Slight background shade variations from slab to slab.
- Each slab is unique and will have unique color and pattern variations. Samples cannot show all of the possible variations and should be referred to as a general indication of the materials aesthetic properties. Please read the label on the back of the sample for additional clarification.
- Seams are necessary to join pieces of HanStone together. Some color and pattern variations will be visible from one side of a seam to the other.

Fabrication

When fabricating HanStone colors in the Momentum series, take into consideration the overall look of the slab in conjunction with the layout requirements of the job. Always try to keep seam cuts away from the perimeter portions of the slab. Pattern and movement within the material may have slightly more variation at the top, bottom, and ends of the slab. Always test fit seams after fabrication and prior to installation to make certain there is an acceptable color and pattern match. Do not install HanStone countertops that have a bad or objectionable match at the seam. To judge acceptability, a good rule of thumb is; if it looks bad to you – it will probably look worse to the customer and will be rejected.

As you can see from the Rolling Stone slab photo below, there will be more variation than a standard or other multi-veined slab of HanStone. Particulate size, pattern, and vein direction will all be random.



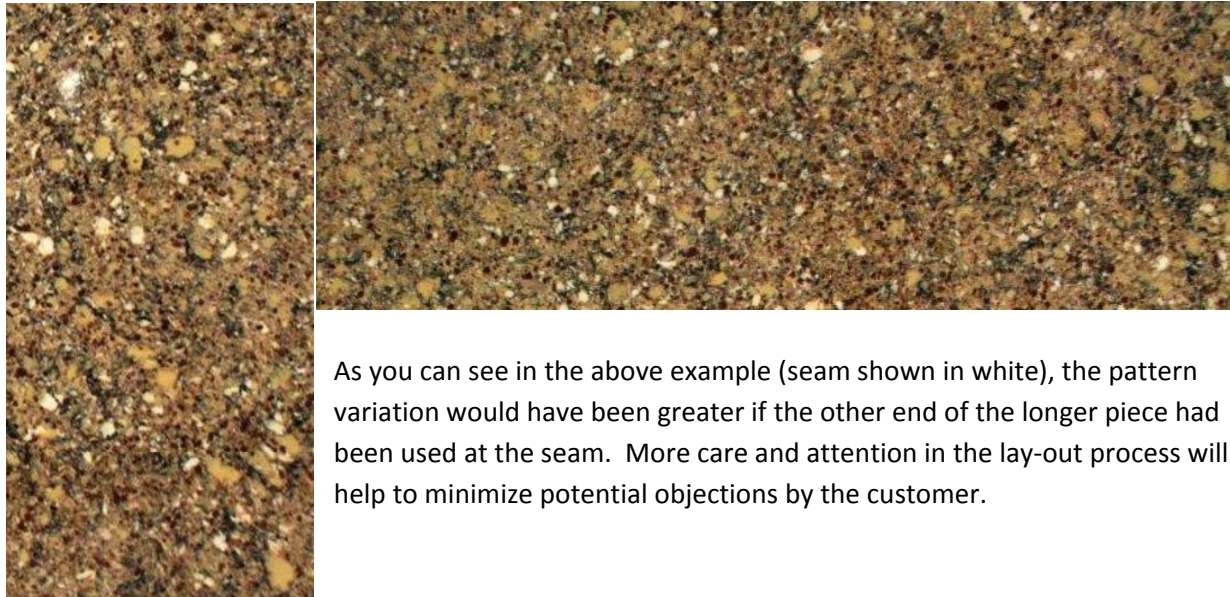
Edge Lamination

Although not generally an issue with Quartz surface material, seams at laminations in larger patterns can be more noticeable. With some effort on the part of the fabricator this effect can be minimized however, as in all quartz countertops, this lamination line cannot be made invisible.

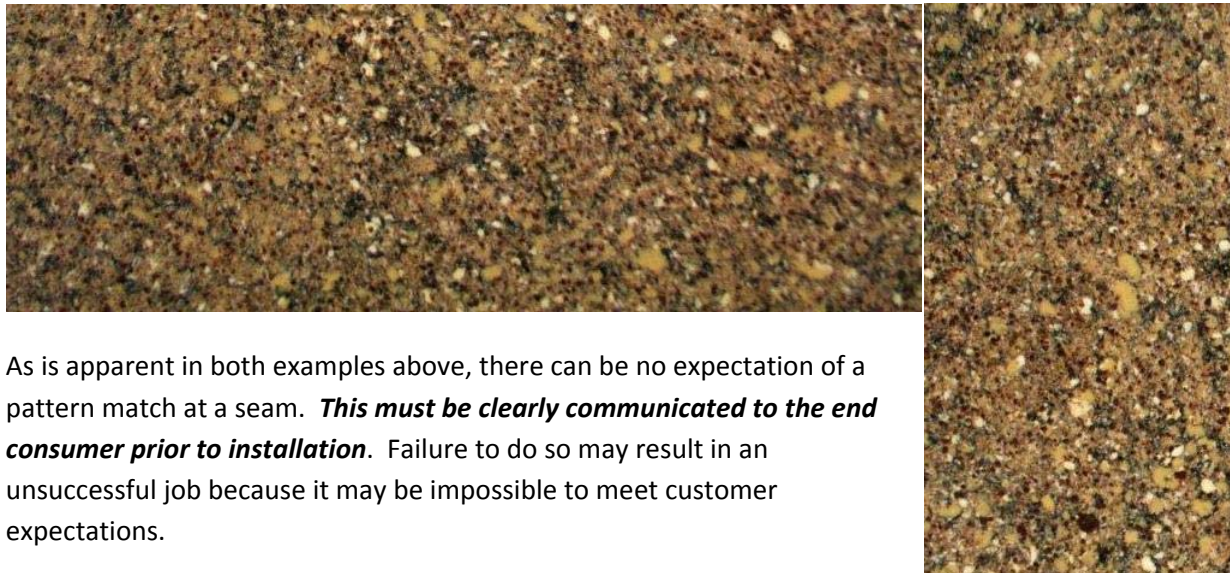
Seaming

A match of patterning in this type of material at a seam will not be possible and the end consumer must be made aware of this. The variation at a seam will be similar to a multi-veined granite. The seam will be more conspicuous because the material has been designed to have more variegation than the standard quartz surface offering. Refer also to Fabrication Bulletin #2001 (Veined Materials).

Even with some care taken during layout, seams will generally look like the examples below;



As you can see in the above example (seam shown in white), the pattern variation would have been greater if the other end of the longer piece had been used at the seam. More care and attention in the lay-out process will help to minimize potential objections by the customer.



As is apparent in both examples above, there can be no expectation of a pattern match at a seam. ***This must be clearly communicated to the end consumer prior to installation.*** Failure to do so may result in an unsuccessful job because it may be impossible to meet customer expectations.

The pattern, veining, and variegation of HanStone's new Momentum series is a significant evolution in the increasingly natural appearance of quartz surfacing. These natural looking design characteristics are intrinsic properties of this material and will not be considered flaws or material defects.

Hanwha has developed these guidelines in order to produce the best results possible. Failure to follow these guidelines, and any resulting customer dissatisfaction, will become the sole responsibility of the fabricator.