Selected Experts form 2007 Marble Institue of America Dimensional Stone Design Manual, VII

Chapter 3 – DIMENSIONAL STONE SELECTION

1.2 Stone Is A Product Of Nature. Dimension stone has its own unique qualities that not only distinguish it from man-made materials, but also should be considered in selecting it for a particular project. Stone is not manufactured; it is a product of nature. Blocks are removed from the quarry, slabs are cut from these blocks, and the slabs are further fabricated into the final stone to be installed. Each block is different; each slab is different. Skillful blending or matching of the dimension stone blocks, veneer panels, tops, etc., results in a beautiful blending of nature's variety and man's design. In contrast to the uniformity of materials produced by machine or assembly line, dimension stone's naturally varied appearance has wonderful character. "Uniformity of material," when applied to natural stone, is a term of relative value that needs to be understood when making a selection.

Chapter 5 - COUNTERTOP AND SUBSTRATE REQUIREMENTS

5.2 Measurement Tolerances. Top surfaces of the stone cabinets must be within 1/8" (3 mm) of flat and level when measured across a distance of 10'-0" (3 m). Wall surfaces to receive stone backsplashes must be plumb and within 1/8" (3 mm) of a true plane when measured across a distance of 10'-0" (3 m). When cabinets are not within these tolerances, a notice to proceed with the installation shall be obtained from the Customer (or Authorized Representative). Installations done on cabinetry that is outside of these tolerances will have excessive shim spaces and wide regions of filler material. Any required aesthetic improvements to conceal this condition (e.g., additional wood trim) is the responsibility of others.

Chapter 10.0 – TOLERANCE

10.2 Joint (seam) widths between two stone units should be a nominal 1/16" (1.5 mm), with a tolerance of ±1/64" (±0.4 mm). In such cases where a larger joint width has been specified, the tolerance is to be ±25% of the nominal joint width. Joint width does not include the dimension of an arris on the stone edge. When an arris is used, the perceived joint width may be greater than the actual width due to the seam filler occupying the width of the arris.

10.3 Lippage. The term "lippage," as used in the stone industry, is the planar offset of the finished surfaces of two adjacent stone units. Due to the relatively tight seams used in countertop installations, even minor amounts of lippage are noticeable. Lippage may be unavoidable due to permanent warp in the slab stock. There should be no detectable lippage at the front or rear edge of the countertop. Maximum allowable lippage at the center of the countertop is 1/32" (0.8 mm).

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10.4 Slab Thickness. The thickness of the stone slabs used in a given project shall not vary by more than 1/8" (3 mm) between the thickest and thinnest slabs.

10.6 Joints At Materials Transition. Visible joints between the stone units and other materials (e.g., cabinetry, gypsum wall board) shall be 1/8" nominal, with a tolerance of ±1/16" (±1.5 mm), and filled with a soft, elastomeric material. Exceptions to this would be the joint between a full-height backsplash and the underside of the upper cabinets, which is to be a nominal ¼" with a tolerance of ±1/8" (±3 mm). Concealed joints between the stone and other construction materials (e.g., stone-to-wall joint underneath the backsplash) shall be sized to ensure a minimum of 1/8" (3 mm) of cover.

10.7 Slab Flatness and Levelness. Individual stone slabs are to be flat within 1/16" (1.5 mm) when measured with a 4'-0" (1.2 m) straight edge. Finished countertop surfaces including multiple stones are to be both flat and level to 1/8" (3 mm) across 10'-0" (3 m).

Chapter 15.0 - ALLOWABLE REPAIR

15.2 Fissures occur naturally in many stone types. A fissure is defined by the American Geological Institute as “an extensive crack, break, or fracture in the rock, which may contain mineral-bearing material.” The term “fissure” is used commercially in the stone industry to describe a visible separation along intercrystalline boundaries. This separation may start and stop within the field of the stone or extend through an edge. A fissure differs from a crack in that it is a naturally occurring feature in the stone.

15.3 Cracks occur in stones as a result of mechanically induced stresses during handling, fabrication, transport, or installation. When cracks are detected in slab material prior to fabrication, the best method is to simply avoid including them in the product through culling during the layout process. In stones with lesser soundness properties, this option may not be practical, or possible. When working with such stones it is common practice to repair cracks by cementing them together with epoxy or polyester resin, either with or without dowel reinforcement.