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2.2 Granites are undoubtedly the most popular stone type used in countertop applications today. This group of stones, in a commercial sense, includes many stone materials that are not true granites by geological definition. For example, gabbro, anorthosite, gneiss, diabase, and diorite would be commercially sold as granite due to similar working and performance properties. These are some of the hardest of the common dimension stones, offering high levels of resistance to abrasion and scratching. The primary minerals in granite materials are resistant to virtually all chemicals commonly found in a residential setting; however, there may be trace minerals present in some granites and granite-like stones that are vulnerable to some acids.

2.3 Marbles are traditionally prized for their aesthetic appeal, accentuated by pronounced veining trends and often bold colors. These stones are calcium carbonate-based, made up principally of the calcite crystal. Due to their mineralogical makeup, all marbles are vulnerable to either abrasion or chemical attack. Abrasive attack occurs most commonly from common kitchen utensils, and can be prevented with the judicious use of protective cutting boards and similar measures. The use of cleaners containing abrasives must be avoided. Chemical attack is most commonly brought about by exposure to acidic solutions, such as lemon juice, tomatoes, vinegar, etc. The use of inappropriate cleaning agents may also trigger acidic attack. Acidic solutions can permanently etch the surface of the material. The application of an impregnating sealer may reduce the vulnerability to acidic attack, but it will not eliminate it.

2.6 Soapstone is a metamorphic rock that is comprised primarily of talc with varying amounts of dolomite, magnesite, and other minerals. Soapstone generally has a smooth feel to the touch. It is used for countertops and other various building aspects such as sinks and heaters. Soapstone is a very popular choice for countertops in laboratories and classrooms due to its high resistance to chemicals. Soapstone has limited hardness and is vulnerable to scratches from abrasives. Soapstone is typically top treated with a food grade mineral oil to retain its luster and to mask small scratches that are often common because of its talc content.

8.2 Spans and Cantilevers. In designs where part of the countertop is spanning between supports, the length of the span shall be limited to 2'-0" (600 mm) for ¾" (20 mm) stone thicknesses and 3'-0" (900 mm) for 1¼" (30 mm) stone thicknesses. In designs where the countertop is cantilevered beyond the supports (overhanging), the cantilever shall be limited to 6" (150 mm) for ¾" (20 mm) thick countertops and 10” (250 mm) for 1¼" (30 mm) countertops, but in no case may the cantilevered portion represent more than 1/3 of the width of the countertop. Cantilevered countertops exceeding these dimensions will require corbelled supports beneath the stone. The exposed underside of cantilevered portions of countertops will be sawn or otherwise unfinished surfaces. NOTE: Stones of lesser soundness may require corbelled supports for cantilevers that are less than those specified herein.

8.6 Backsplashes. Partial backsplashes usually range from 4" to 8". Full-height backsplashes cover the entire area between the countertop and the upper cabinets. Backsplashes are normally made of the same thickness as the countertop material. The narrow strips will aid in the layout efficiency and allow for better color match. Mixing materials of two different thicknesses requires using stone slabs sawn from two different blocks, and color variation can be pronounced.

15.4 Rodding. A commonly seen method of countertop reinforcement is the technique referred to as “rodding.” Rodding may be beneficial to narrow strips of stone material, such as those in front or behind sink or cook top cutouts. This technique requires a shallow kerf in the underside of the stone slab The kerf is then closely fitted with a metal or fiberglass rod, which is then fully embedded in epoxy. The rod, having greater tensile strength than the stone, helps prevent concave flexure of the stone surface.

16.0 Allowable Repair.

Repair of stone countertops must be performed by competent, experienced artisans to achieve the desired results. Repair of the stone is permitted when the repaired region is not in a structurally significant area of the countertop, and when it can be accomplished skillfully so that the repair is consistent in color and texture with unrepaired regions of the slab.

16.1 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 that may be found in other areas of the same slab or other slabs of the same material.

16.4 Pitting of the countertop surface, particularly in granite material, is a commonly seen characteristic on natural stone. Granites are made up of several different minerals, each mineral having a different hardness. Granites contain quartz, feldspars, biotite, amphibole, ferrous titanium oxides, and other mineral combinations. On the Mohs Scale diamonds are the hardest mineral, with a rating of 10. Quartz and feldspar have a hardness of 6.5 to 7 and are very durable. Biotite (small, black minerals throughout the slab) on the other hand is very soft (2.5) and flakes easily. All true granites have biotite in their composition. Because biotite is relatively soft and flaky, the first few layers are often removed during the polishing process, causing pits throughout the slab. Some granites have more biotite throughout their composition than others. The higher the biotite content of the stone, the more pits it will have. **Most polished igneous rocks will have varying degrees of pits, depending on the amount of biotite, muscovite, and phlogopite in their composition.** The pits do not make the granite less durable or otherwise inferior, and do not in themselves qualify the slab for replacement. Pits are common in all granites and should be expected when dealing with a natural, polished stone containing several types of minerals with different hardnesses. It is usually best to not attempt repair of pits, as most repair techniques will not cosmetically improve the countertop.

8.2 Spans and Cantilevers. In designs where part of the countertop is **spanning between supports,** the length of the span shall be limited to 2'-0" (600 mm) for ¾" (20 mm) stone thicknesses and 3'-0" (900 mm) for 1¼" (30 mm) stone thicknesses**. In designs where the countertop is cantilevered beyond the supports (overhanging), the cantilever shall be limited to 6" (150 mm) for ¾" (20 mm) thick countertops and 10" (250 mm) for 1¼" (30 mm) countertops**, but in no case may the cantilevered portion represent more than 1/3 of the width of the countertop. Cantilevered countertops exceeding these dimensions will require corbelled supports beneath the stone. The exposed underside of cantilevered portions of countertops will be sawn or otherwise unfinished surfaces. NOTE: Stones of lesser soundness may require corbelled supports for cantilevers that are less than those specified herein.