

**SECTION 12 36 40**  
**STONE COUNTERTOPS**

**GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
  - 1. Interior Granite
    - a. Vanity Tops
    - b. Countertops
    - c. Backsplashes
    - d. Aprons
    - e. Tub Seat
    - f. Whirlpool Built-In Tops
    - g. Casework Faces (Vertical)
    - h. Credenza Tops
    - i. Accent / Border Tile
    - j. Wall Base
    - k. Sills
    - l. Thresholds
- B. Related Sections:
  - 1. Section 06 10 00 (06100) - Rough Carpentry
  - 2. Section 06 20 00 (06200) - Finish Carpentry
  - 3. Section 07 92 00 (07920) - Joint Sealants
  - 4. Section 09 30 00 (09310) - Tiling
  - 5. Section 12 32 13 (06400) - Manufactured Wood-Veneer-Faced Casework
  - 6. Section 12 32 16 (06400) - Manufactured Plastic Laminate Clad Casework
  - 7. Section 12 36 23 (06415) - Plastic Countertops
  - 8. Section 12 36 61 (09385) - Simulated Stone Countertops
  - 9. Division 22 (15) for Plumbing Fixtures

**1.02 REFERENCES**

- A. ASTM International (ASTM) Publications:
  - 1. C503 "Standard Specification for Marble Dimension Stone (Exterior)"
  - 2. C615 "Standard Specification for Granite Dimension Stone"
- B. American National Standards Institute (ANSI) Publications.
  - 1. A118.3 "water-cleanable, tile-setting epoxy adhesive"
- C. Marble Institute of America (MIA) Publications:
  - 1. "Dimension Stone Design Manual"
- D. National Building Granite Quarries Association's (NBGQA) Publications:
  - 1. "Specifications for Architectural Granite"

**1.03 SUBMITTALS**

- A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Sections.
- B. Submit "Letter of Conformance" in accordance with Section 01 33 00 (01330) indicating specified items selected for use in project with the following supporting data.
  - 1. Product data for each type of stone, stonework accessory, and other manufactured products required.
  - 2. Shop Drawings detailing fabrication and installation of stone. Include cutting and setting Drawings indicating sizes, dimensions, sections, and profiles of stones, arrangement and provisions for jointing, supporting, anchoring, and bonding stonework, and details showing relationship with, attachment to, and reception of related work.
    - a. Include large-scale details of decorative surfaces and inscriptions.

3. Samples for verification purposes of stone in form of sets for each color, grade, finish, type, and variety of stone required and consisting of stones not less than 12 inches square. Include two or more stones in each set of samples showing the full range of variations in appearance characteristics to be expected in completed work.
4. Maintenance Data: For stone tile to include in maintenance manuals.

#### **1.04 QUALITY ASSURANCE**

- A. Single-Source Responsibility for Stone: Obtain each color, grade, finish, type, and variety of stone from a supplier with resources to provide materials of consistent quality in appearance and physical properties, including the capacity to cut and finish material without delaying the progress of the work.
- B. Single-Source Responsibility for Other Materials: Obtain each type of stone accessory, sealant, and other materials from one manufacturer for each product.
- C. Installer Qualifications; Engage an experienced installer who have completed stone countertops similar in material, design, and extent to that indicated for project that has resulted in construction with a record of successful in-service performance.
- D. The Contractor is responsible for verification of delivered stone materials for quantities, defects, or damage within [ten (10) days] after delivery. No compensation will be allowed to the contractor for materials and labor that may be required to replace materials after this time period.
- E. Allowable Tolerances:
  1. Variation in component size: +/- 1/8 inch in 8 feet.
  2. Maximum height of abrupt irregularities: 1/32 inch.
  3. Location of openings: +/- 1/8 inch from indicated location.
- F. Granite materials shall not contain unsafe levels of radioactive materials.

#### **1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Do not deliver countertop materials until painting and similar operations that could damage stone materials have been completed in installation areas. If stone materials must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.
- B. Deliver materials to project site in undamaged condition.
- C. Store and handle stone and related materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage, chipping, or other causes.
  1. Do not use pinch or wrecking bars.
  2. Lift with wide-belt-type slings where possible. Do not use wire rope or ropes containing tar or other substances that might cause staining. If required to move stone, use wood rollers with cushions at end of wood slides.
  3. Store stone on wood skids or pallets covered with nonstaining, waterproof membrane. Place and stack skids and stones to distribute weight evenly and to prevent breakage or cracking of stones.
  4. Protect stored stone from weather with waterproof, nonstaining covers or enclosures, but allow air to circulate around stones.
  5. Store cementitious materials off the ground, under cover, and in dry location.
- D. General Contractor is responsible for theft or damage to stored materials. Exercise care to prevent damage during delivery, handling and storage.

#### **1.06 PROJECT CONDITIONS**

- A. Environmental Limitations: Do not deliver or install stone materials until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
  1. Maintain ambient temperature between 50 and 95 degrees F for 48 hours before, during and for minimum 7 days after installation.

- B. Field Measurements: Verify dimensions of construction to receive stone countertops by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the work.
  - 1. Established Dimensions: Where field measurements cannot be made without delaying the work, establish dimensions and proceed with fabricating countertops without field measurements. Provide allowance for trimming at site and coordinate construction to ensure actual dimensions correspond to established dimensions.

#### **1.07 SPECIAL WARRANTY**

- A. Stone:
  - 1. Provide minimum One (1) year Warranty against defects in materials and workmanship.

#### **PRODUCTS**

##### **2.01 MATERIALS, GENERAL**

- A. Comply with referenced standards and other requirements indicated applicable to each type of material required.
- B. Provide matched slabs, coordinated for each type, variety, color, and quality of stone required.
- C. The use of colored tints, dyes, or waxes applied to stone shall NOT be permitted

##### **2.02 GRANITE**

- A. Granite Building Stone Standard: ASTM C615, free from cracks, chips, stains, or other defects, uniform in tone and coloring.
- B. Manufacturers:
  - 1. Manufacturers:
    - a. Refer to the Finish Schedule for Manufacturer Selections.
  - 2. Materials, Finish and Color: Refer to Interior Finish Schedule on Construction Documents.

##### **2.03 MARBLE**

- A. Marble Building Stone Standard: ASTM C503, free from cracks, chips, stains, or other defects, uniform in tone and coloring.

##### **2.04 ADHESIVES, SEALANTS AND SEALERS**

- A. Stone Seam Adhesive: 2-part, epoxy or polyester stone adhesive formulated specifically for bonding stone to stone, with an initial set time of not more than 2 hours at 70 deg F.
  - 1. Water-cleanable Epoxy Adhesive: ANSI A118.3, water-cleanable, tile-setting epoxy adhesive.
  - 2. Color: [Clear] [Match stone].
- B. Manufacturers:
  - 1. Manufacturers:
    - a. Inno Chem LLC, Member of Akemi Group (877-462-5364).
      - 1) Epoxy Adhesive: "Akepox"
      - 2) Polyester Adhesive: "Platinum Clear Polyester Adhesive"
    - b. Approved Substitution by Laticrete International Inc. (800-243-4788)
    - c. Approved Substitution by Custom Building Products (800-272-8786)

##### **2.05 STONE SEALANTS**

- A. Sealant for Countertops: Clear silicone sealant complying with requirements of Section 07 92 00 "Joint Sealants".

##### **2.06 STONE SEALERS**

- A. Penetrating Sealer: Penetrating sealer that protects the exposed faces of stone and grout from staining. Sealer shall be UV transparent; non-yellowing; VOC compliant; mold and mildew resistant; and USDA approved as safe on food handling surfaces. Material shall exceed ADA standards for slip resistance at traffic areas.
  - 1. Manufacturers:

- a. "511 Porous Plus"; Miracle Sealants Company (800-350-1901)
  - 1) VOC: 737 g/L
- b. "DuPont StoneTech Professional BulletProof Stone Sealer"; DuPont (877-786-6383)
  - 1) VOC: <400 g/L

## 2.07 STONE COUNTERTOP FABRICATION

- A. General: Fabricate stone countertops in sizes and shapes required to comply with requirements indicated, including details on Drawings and approved Shop Drawings.
  - 1. Granite: Comply with recommendations in NBGQA's "Specifications for Architectural Granite".
  - 2. Marble: Comply with recommendations in MIA's "Dimension Stone - Design Manual VI".
- B. Thickness: Provide thickness indicated, but not less than the following:
  - 1. Countertop: [3/4] [1-1/4] inch[es]
  - 2. Back and End Splashes: 3/4 inch, unless shown otherwise.
  - 3. Thresholds: Fabricate to size and profile as indicated or required to provide transition between adjacent floor finishes.
  - 4. Refer to Drawings and Interior Finish Schedule on the construction documents.
- C. Edge Detail:
  - 1. Countertops:
    - a. As shown on Drawings
  - 2. Thresholds:
    - a. Bevel edges of thresholds at 1:2 slope, aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to 1/2 inch or less, and finish bevel to match face of threshold.
- D. Seams: Fabricate countertops without seams, if seams are required, fabricate sections indicated for joining in field, with seams as follows:
  - 1. Bonded Seams: 1/32 inch or less in width.
- E. Cutouts and Holes for Lavatories, Sinks, and Fittings:
  - 1. Undercounter Lavatories: Make cutouts for undercounter lavatories in shop using template or pattern furnished by lavatory manufacturer. Form cutouts to smooth, even curves with edges at right angles to top. Ease juncture of cutout edges with tops, and finish edges to match tops.
  - 2. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

## EXECUTION

### 3.01 EXAMINATION

- A. Examine surfaces to receive stone materials, and conditions under which stonework will be installed, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of stonework. Do not proceed with installation until unsatisfactory conditions have been corrected.
- B. Verify adequacy of backing and support framing.

### 3.02 PREPARATION

- A. Advise installers of other work about specific requirements relating to placement of inserts, flashing reglets, and similar items to be used by stonework installer for anchoring, supporting, and flashing of dimension stonework. Furnish installers of other work with Drawings or templates showing locations of these items.
- B. Clean stone surfaces that have become dirty or stained prior to setting to remove soil, stains, and foreign materials. Clean stones by thoroughly scrubbing stones with fiber brushes followed by clear water. Use only mild cleaning compounds that contain no caustic or harsh filler or abrasives. Allow stone to dry before installing.

### **3.03 INSTALLATION - COUNTERTOPS**

- A. General: Install countertops, except for vanities, over plywood subtops with a full spread of water-cleanable epoxy adhesive.
- B. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.
  - 1. Tops:
    - a. Flat and true to within 1/8" of a flat surface over a 10' length.
    - b. Allow a minimum of 1/16" to a maximum of 1/8" clearance between surface and each wall.
- C. Fit countertops around projections and to adjacent construction. Smooth and clean field cut edges. Ensure that trim will completely cover cut edges.
- D. Bond seams with stone seam adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to seams to prevent adhesive smears. Use clamps to ensure countertop units are properly aligned and seams are minimum width.
- E. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts while cutting to prevent damage.
- F. Install backsplash and end splash by adhering to wall with water-cleanable epoxy adhesive. Leave 1/16-inch gap between countertop and splash for filling with sealant. Use temporary shims to ensure uniform spacing.
- G. Apply sealant to seams and to gap between countertops and splashes; comply with Section 07 92 00 (07920) "Joint Sealants."

### **3.04 INSTALLATION - STONE THRESHOLDS**

- A. Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated. Refer to Section 07 92 00 "Tiling" for setting materials.

### **3.05 ADJUSTING AND CLEANING**

- A. Remove and replace or repair stonework of the following description:
  - 1. Broken, chipped, stained, or otherwise damaged stones. Broken, chipped, stained, or otherwise damaged stone may be repaired, providing the methods and results are acceptable to Owner's Representative.
  - 2. Defective joints.
  - 3. Stones and joints not matching approved samples.
  - 4. Stonework not complying with other requirements indicated.
- B. Replace in manner that results in stonework matching approved samples and field-constructed mock-ups, complying with other requirements, and showing no evidence of replacement.
- C. Clean stone countertops not less than six days after completion of work, using clean water and stiff and soft rags. Do not use wire brushes, acid-type cleaning agents, cleaning compounds with caustic or harsh fillers, or other materials or methods that could damage stone.

### **3.06 SEALER APPLICATION**

- A. All surfaces must be clean and free from all loose grit and debris, satins, dirt, and wax coatings. Surfaces shall remain dry for a minimum of 24 hours before the application of sealer and remain dry for 24 hours after the application of sealer.
- B. Floor surface temperature must be above 50° F. and below 90° F.
- C. Test on a small area before using to determine if the product is acceptable with type of stone.
- D. Two (2) uniform coatings of sealer shall be applied before or after installation of stone materials. If prior to installation, adequate documentation shall be included with the material confirming it has been sealed. If after installation, install in strict accordance with Sealer manufacturer's recommendations.

### **3.07 PROTECTION**

- A. Provide final protection and maintain conditions in a manner acceptable to fabricator and installer ensuring dimension stonework being without damage or deterioration at time of Substantial Completion.

**END OF SECTION**