

SECTION 12 3640
STONE COUNTERTOPS

PART 1 GENERAL

1.1 SUMMARY

- A. Work of this Section consists of stone countertops.
- B. Related Documents and Sections: Examine Contract Documents for requirements that directly affect or are affected by Work of this Section. A list of those Documents and Sections include, but is not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and General Requirements, and Division 01 Specification Sections.
 - 2. Section 12 3530 - RESIDENTIAL CASEWORK.
 - 3. Division 22 - PLUMBING.

1.2 SUBMITTALS

- A. Product Data: For the following:
 - 1. Each variety of stone. Include data on physical properties required by referenced ASTM standards.
 - 2. Stone accessories and other manufactured products.
- B. Shop Drawings: Include plans, sections, details, and attachments to other Work.
- C. Samples: For each stone type indicated, in sets of Samples not less than 12 inches square.
- D. Qualification Data: For Fabricator.
- E. Maintenance Data: Provide maintenance manuals for stone countertops. Include stone-care products recommended by stone source.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate stone countertops similar to that indicated for this Project and whose products have a record of successful in-service performance.
- B. Installer Qualifications: Fabricator of products of this Section.
- C. Source Limitations for Stone: Obtain each variety of stone from a single quarry with resources to provide materials of consistent quality in appearance and physical properties.
 - 1. Obtain each variety of stone from a single quarry, whether specified in this Section or in another Section of the Specifications.
 - 2. Make stone slabs available for Architect to examine for appearance characteristics. Prepare slabs with intended templates and cuts for each counter to clearly demonstrate the intended final dimensions and format.
 - a. Architect will select aesthetically acceptable slabs and will indicate aesthetically unacceptable portions of slabs.
 - b. Segregate slabs selected for use on Project and mark backs indicating approval.

- c. Mark and photograph aesthetically unacceptable portions of slabs as directed by Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Lift stone with wide-belt slings; do not use wire rope or ropes that might cause staining. Move stone, if required, using dollies with cushioned wood supports.
- B. Store stone on wood A-frames or pallets with non-staining separators and non-staining, waterproof covers. Ventilate under covers to prevent condensation.

PART 2 PRODUCTS

2.1 STONE TYPES

- A. Refer to Section 09 0600.
- B. Match Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.

2.2 ADHESIVES, SEALANTS, AND STONE ACCESSORIES

- A. Stone Adhesive: 2-part epoxy or polyester adhesive, formulated specifically for bonding stone to stone, with an initial set time of not more than 2 hours at 70 deg F.
 - 1. Color: Neutral to each stone type as required, as selected by the Architect.
- B. Sealant for Countertops: Manufacturer's standard sealant of characteristics indicated below that comply with applicable requirements in Section 07 9200 - JOINT SEALANTS, and will not stain the stone it is applied to.
 - 1. Color: Neutral to each stone type as required, as s selected by Architect from manufacturer's full range.
- C. Stone Joint Splines: Stainless steel or brass washers approximately 1 inch in diameter and of thickness to fit snugly in saw-cut kerf in edge of stone units.
- D. Stone Cleaner: Cleaner specifically formulated for stone types, finishes, and applications indicated, as recommended by stone producer and, if a sealer is specified, by sealer manufacturer. Do not use cleaning compounds containing acids, caustics, harsh fillers, or abrasives.

2.3 STONE FABRICATION, GENERAL

- A. Select stone for intended use to prevent fabricated units from containing cracks, seams, and starts that could impair structural integrity or function.
 - 1. Repairs that are characteristic of the varieties specified are acceptable provided they do not impair structural integrity or function and are not aesthetically unpleasing, as judged by Architect.
- B. Grade and mark stone for final locations to produce assembled countertop units with an overall uniform appearance.
- C. Fabricate stone countertops in sizes and shapes required to comply with requirements indicated, including details on Drawings and Shop Drawings.
 - 1. Clean sawed backs of stones to remove rust stains and iron particles.

2. Dress joints straight and at right angle to face, unless otherwise indicated.
 3. Cut and drill sinkages and holes in stone for anchors, supports, and attachments.
 4. Provide openings, reveals, and similar features as needed to accommodate adjacent work.
 5. Fabricate molded edges with machines having abrasive shaping wheels made to reverse contour of edge profile to produce uniform shape throughout entire length of edge and with precisely formed arris slightly eased to prevent snipping, and matched at joints between units. Form corners of molded edges as indicated with outside corners slightly eased, unless otherwise indicated.
 6. Finish exposed faces of stone to comply with requirements indicated for finish of each type of stone required and to match approved Samples and mockups. Provide matching finish on exposed edges of countertops, and cutouts.
- D. Carefully inspect finished stone units at fabrication plant for compliance with requirements for appearance, material, and fabrication.
1. Replace defective units.

2.4 STONE COUNTERTOPS

- A. Nominal Thickness: Provide thickness indicated; minimum thickness 3 cm. Gage backs to provide units of identical thickness.
- B. Edge Detail: Eased edge, matching Architect's sample.
- C. Joints: Fabricate countertops without joints if practicable. If not then fabricate countertops in sections for joining in field, with joints at locations indicated and as follows:
1. Bonded Joints: 1/32 inch or less in width.
 2. Splined Joints: Accurately cut kerfs in edges at joints for insertion of metal splines to maintain alignment of surfaces at joints where indicated. Make width of cuts slightly more than thickness of splines to provide snug fit. Provide at least three splines in each joint.
- D. Cutouts:
1. Undercounter Fixtures: Make cutouts for undercounter fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.
 - a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch into fixture opening.
 - b. Provide vertical edges, rounded to 3/8 inch radius at juncture of cutout edges with top surface of countertop, slightly eased at bottom, and projecting 3/16 inch into fixture opening.
 - c. Provide 3/4 inch full bullnose edges projecting 3/8 inch into fixture opening.
 2. Counter-Mounted Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.
 3. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

PART 3 EXECUTION

3.1 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions of construction to receive stone countertops by field measurements before fabrication and indicate measurements on Shop Drawings.

3.2 INSTALLATION OF COUNTERTOPS

- A. Do not cut stone in field, unless otherwise indicated. If stone countertops require additional fabrication not specified to be performed at Project site, return to fabrication shop for adjustment.
- B. Set stone to comply with requirements indicated on Drawings and Shop Drawings. Shim and adjust stone to locations indicated, with uniform joints of widths indicated and with edges and faces aligned according to established relationships and indicated tolerances. Install anchors and other attachments indicated or necessary to secure stone countertops in place.
- C. Bond joints with stone adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.
- D. Apply sealant to joints between the countertop and adjacent surfaces; comply with Section 07 9200 - JOINT SEALANTS. Remove temporary shims before applying sealant.
- E. Clean stone countertops not less than six days after completion of sealant installation, using clean water 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.
- F. Sealer Application: Apply stone sealer to comply with stone producer's and sealer manufacturer's written instructions.

END OF SECTION