

Section 12 36 13

PRECAST CONCRETE COUNTERTOPS

PART 1: GENERAL

Article 1.01: Summary

- A. Section includes:
 - 1. Templating, fabrication and installation of precast concrete countertops.

Article 1.02: Submittals

- A. Shop Drawings: Indicate profiles of members, jointing, fastening, cut-outs for mechanical services, sinks, accessories, backsplashes, thickness, and related items.
- B. Samples: Submit following:
 - 1. 4 inch by 4 inch samples of concrete with appropriate finish and color for acceptance before proceeding with Work. Indicate maximum range of variation.

Article 1.03: Quality Assurance

- A. Regulatory Requirements: Conform to ANSI A117.1 or local code if more stringent requirements are applicable for installing work for accessibility to handicapped.
- B. Manufacturer Qualifications: Company specializing in fabricating work specified in this Section with minimum four years experience in type work required for Project.
- C. Concrete fully engineered to comply with appropriate ACI 318 guidelines.

Article 1.04: Delivery, Storage and Handling

- A. If units are shipped via commercial freight, open crates and inspect each slab in the presence of the driver. Note any and all damage, and do not accept shipment if damage is present. Claims due to shipping damage must be submitted to the freight carrier.
- B. Handle, transport and store units to prevent damage to materials or structure. Handle with care to prevent damage to corners and edges.

Article 1.05: Site Conditions

- A. Templating
 - 1. All cabinets, millwork or other supporting structures must be fully installed prior to templating, unless otherwise arranged with manufacturer.
 - 2. All cabinets, millwork or other supporting structures must be free of debris or obstructions.
 - 3. All fixtures that penetrate the concrete, such as sinks, faucets, drop-in cook tops, soap dispensers, etc., must be on site at the time of templating.
 - 4. Electricity must be available on site, with outlets or extension cords, and running water must be available in proximity of area to be templated.
- B. Installation
 - 1. Installer's vehicle must be able to park within 10 yards of installation area's key point of entry.
 - 2. Pathway to installation area must be free of debris or obstructions and accessible to two to three personnel carrying slabs weighing up to 350 pounds and up to eight feet in length.
 - 3. All cabinets, millwork or other supporting structures must be free of debris or obstructions.
 - 4. Electricity must be available on site, with outlets or extension cords within 25 yards of installation area.
 - 5. Running water must be available on site within 100 yards of the installation area.

Article 1.06: Sequencing

A. Templating

1. All cabinets, millwork or other supporting structures must be fully installed prior to templating, unless otherwise arranged with manufacturer.
2. All fixtures that penetrate the concrete, such as sinks, faucets, drop-in cook tops, soap dispensers, etc., must be on site at the time of templating. Manufacturer does not supply fixtures. Manufacturer may take custody of some or all of the fixtures at his discretion.

B. Installation

1. All support brackets, hard point connections, etc., must be on site at the time of installation. Manufacturer does not supply these items.
2. Electrical and plumbing hookup should be scheduled after installation is completed. Manufacturer does not perform electrical and plumbing hookup.

Article 1.07: Warranty

- A. Manufacturer must offer at least a one-year structural warranty as follows: During the first year after installation, manufacturer, at its sole option, shall repair or replace product if it fails to maintain functional structural integrity for the intended purpose of the product solely due to a manufacturing defect. This applies only to products that have been handled, fabricated, installed and maintained in the manner recommended by the manufacturer. Hairline cracks, surface scratches and chips are not included as part of this warranty, nor is structural damage caused by severe impacts, physical overloading or damage stemming from loss of support and/or excessive deflections by the supporting cabinetry or hardware. Individual slabs are designed to safely support a maximum 300 lb. point load centered on the slab.
- B. Manufacturer must offer at least a one-year coating/sealer warranty as follows: During the first year after installation, manufacturer, at its sole option, shall repair or replace sealer if it fails to maintain functional integrity for the intended purpose of the product solely due to a manufacturing defect. General food preparation will not stain the concrete as long as spills are wiped up promptly. This warranty does not cover damage to the sealer resulting from impacts, cuts, scrapes or damage by harsh chemicals or intense heat. Prolonged exposure to acids and acidic food items may cause etching. Spills should be removed as soon as possible; however, the resistance to oils, alcohol and normal food items is very good. The sealer used is resistant to hot objects up to 450 degrees Fahrenheit. Above this temperature, the sealer may become damaged. Repeated placement of objects over 450 degrees Fahrenheit should be avoided. Cutting directly on the countertop or exposure to open flame voids the warranty.

Article 1.08: Maintenance

- A. Variations in texture, dimension, color and aggregate distribution and exposure within a final product are an inherent property of concrete countertops. Hairline cracks that may occur in the finished product are a natural characteristic of concrete. Minor non-structural hairline cracks or crazing may result from shrinkage or substrate movement and shall not be considered a manufacturing defect. All units are sealed to resist moisture and staining. As with natural materials, samples of any material may not accurately represent installed material. All sizes are nominal and slight variations in thickness are to be expected.
- B. Use common normal care with respect to oil, acids, and food. Spills should be wiped up as soon as possible. Clean using damp cloth or sponge and only with mild, non-surfactant neutral-pH cleaners. Manufacturer recommends StoneTech's Revitalizer cleanser. Do not use harsh cleansers or chemicals, or abrasive cleansers or scrubbers. These include Comet, Brillo pads and 3M scrubbing pads, and all similar products.
- C. Staining can occur if staining agents are left on for more than a few minutes. Exposure to acids and acidic food items may cause etching.
- D. With normal use and care, the factory-applied sealer should provide 3 to 5 years of protection before requiring reapplication. Reapplication is a simple process that can be performed on site by maintenance personnel. The sealer used is highly heat resistant, but discoloration and physical damage may occur with very hot items (greater than 450 degrees F) or open flame. Discoloration or damage may occur to any wax applied to the countertops. Wax shall not be applied to countertops sealed as specified.

PART 2: PRODUCTS

Article 2.01: Manufacturers

- A. The following manufacturers are acceptable.
Hard Topix - Precast Concrete

Article 2.02: Material

- A. Precast Concrete Countertop
1. All units to be structurally engineered and custom made using a precast, custom-blended, structurally reinforced Portland cement based concrete.
 2. Density: approx. 140 lbs. per cubic foot. Weight per unit area: 14lbs/sq. ft. for 1.75" thick slabs.
 3. Standard Thickness: 1.75" nominal. Options: Custom thickness and front edge returns. Minimum thickness for horizontal slabs is 1.5".
 4. Standard Edge: Square edge, eased radius and corners.
 5. Color: Various shades, hues and tones using integral pigment. Options: Custom colors and premium colors with embedded glass, stones or other items.
 6. Standard Maximum Seamless Casting: approximately 8 ft. L for standard depth countertops (25"). Options: Custom sizes and shapes as specified in shop drawings.
 7. Backsplashes: Length matched to slab section. Max 96" L x specified height. Height, length and thickness will affect maximum length. Backsplashes are cast separate from the countertops.
 8. Sealer: All units to be factory sealed with a high performance topical sealer. This sealer must exhibit the following properties:
 - a. Safe for food contact surfaces.
 - b. Colorless.
 - c. Suitable for interior use
 - d. Water repellent
 - e. Non-yellowing (UV resistant).
 - f. Scratch resistant.
 - g. Peel, chip and flake resistant
 - h. Highly heat resistant.
 - i. Stain resistant to food and oil when wiped up immediately.
 - j. Long lasting.
 - k. Environmentally safe.
 - l. Simple and quick reapplication only when necessary.
 9. Cracks: Non-structural hairline cracks are possible and may result from shrinkage or substrate movement over time. These are not covered under standard warranty.
- B. Joint Sealant
1. Supplied by manufacturer.
 2. Colors: Matched to countertop or 100% clear silicone unless otherwise requested.
 3. Acceptable products:
 - a. Accucolor TA-850 sanded, siliconized acrylic caulk by TEC Specialty Products, Inc., Palatine, IL., or equivalent
- C. Adhesive
1. Supplied by installer.
 2. Countertop: Clear 100% silicone caulk.
 - a. GE Silicone I Kitchen & Bath or equivalent.
 3. Backsplashes: Clear 100% silicone caulk.
 - a. GE Silicone I Kitchen & Bath or equivalent.
 4. Other vertical applications: Thin set mortar.
 - a. Laticrete 253 Multipurpose Thin-Set mortar, or equivalent.

Article 2.03: Fabrication

- A. All units to be custom made in manufacturer's manufacturing shop. Options: Delivery and installation; availability varies by location.
- B. All units to be structurally reinforced to accommodate appropriate spans, cutouts and cantilevers. Slabs must be handled and moved while in a vertical orientation, similar to the technique used for handling plate glass.

- C. All units to be fabricated straight, smooth, and true to size and shape prior to finishing. Exposed edges to be finished as per edge specifications. Maximum dimensional variations: +0", - 1/4" at maximum slab length; typical variations are usually half of the maximum or less.
- D. All units to be fabricated to accommodate specified appliances (i.e. sinks, cook tops, faucets, etc.). No cutting is done in the field.
- E. All units to be hand finished prior to sealing. Hand finishing includes first grinding the surface, then filling voids and honeycomb with colored grout, easing all edges (where appropriate), and leveling and polishing.
- E. Units to be air dried and sealed.
- F. Countertops will not be ready for delivery or installation until steps A through F have been completed to manufacturer's satisfaction.

Article 2.04: Finishes

- A. All units to be factory sealed with sealer that meets requirements in Article 2.02 (A) 8.

PART 3: EXECUTION

Article 3.01: Templating

- A. Manufacturer performs templating, or, manufacturer provides detailed templating instructions to contractor, and contractor provides templates to manufacturer.

Article 3.02: Installation

- A. Manufacturer performs installation, or, manufacturer provides detailed installation instructions to contractor, and contractor performs installation.

Article 3.03: Cleaning

- A. General:
 - 1. Keep installed work clean as work progresses.
 - 2. Wipe up spills as soon as possible. Clean using damp cloth or sponge and mild, non-surfactant, neutral pH detergent or other water-based cleansers. Do not use harsh chemicals, abrasive cleansers or abrasive scrubbers. Manufacturer recommends StoneTech's Revitalizer cleanser.