

# IceStone®

DURABLE SURFACES MADE OF RECYCLED GLASS & CONCRETE

## SECTION 06614

### COMPOSITE SURFACING

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. This Section includes composite surfacing for the following applications:
  - 1. Countertops.
  - 2. Bathroom vanities.
  - 3. Bar tops.
  - 4. Tabletops.
  - 5. Conference tables.
  - 6. Window sills.
  - 7. Wall coverings.
  - 8. Shower walls.
  - 9. Shower benches.
  - 10. Tub decks.
  - 11. Tub aprons.
  - 12. Fireplace surrounds.
  - 13. Flooring.
  - 14. Outdoor kitchens.
  - 15. Reception areas.
  - 16. Outdoor and garden tiles.
  - 17. Transaction tops.
  - 18. Credenza tops.

##### 1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Blocking.
- B. Section 06100 - Rough Carpentry: Blocking.
- C. Section 06200 - Finish Carpentry: Plywood substrate.
- D. Section 06410 - Custom Cabinets: Casework substrate.
- E. Section 07900 - Joint Sealers: Joint sealant and backing materials.
- F. Section 09750 - Stone Facing: Wall cladding.
- G. Section 11450 - Residential Equipment: Cooktops.
- H. Section 15410 - Plumbing Fixtures: Sinks, faucets.

##### 1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. [ Product Data ]: Manufacturer's data sheets on each product to be used, including:
  - 1. Product description.
  - 2. Fabrication instructions and recommendations.
  - 3. Storage and handling requirements and recommendations.
  - 4. Installation methods.
- C. Shop Drawings:
  - 1. Indicate dimensions, edge configurations, cutouts, and relationship to adjacent construction.
  - 2. Show locations and sizes of furring, blocking, including concealed blocking and reinforcement specified in other Sections.
  - 3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacle and other items installed in durable surfaces.
- D. Samples:
  - 1. For each type of product indicated.
    - a. Submit minimum 4 by 4 inch (101 by 101 mm) sample in specified gloss.
    - b. Cut sample and seam together for representation of inconspicuous seam.
    - c. Indicate full range of color and pattern variation.
  - 2. Approved samples will be retained as a standard for Work.
- E. Manufacturer Certificates:
  - 1. Compliance Certificate: Signed by manufacturer, indicating compliance with specified performance requirements.
  - 2. Food Contact Certification: Certify that materials meet NSF/ANSI 51 for Food Contact.
- F. Maintenance Data: Cleaning instructions, scratch removal procedures, and materials harmful to countertops.
- G. LEED Submittals: Submit the following in accordance with Section 01300 - LEED Submittals.
  - 1. Credit MR 4.1, Recycled Content: 10 percent (post-consumer plus 1/2 pre-consumer.)
  - 2. Credit MR 4.2, Recycled Content: 20 percent (post-consumer plus 1/2 pre-consumer).
  - 3. Credit ID 1, Innovation in Design: Exemplary Performance: Recycled Content: 30 percent or greater.
  - 4. Credit EQ 4.1, Low-Emitting Materials: Adhesives and Sealants.
  - 5. Credit MR 5.1, Regional Materials: 20 percent manufactured regionally.
  - 6. Credit ID 1, Innovation in Design: Cradle to Cradle Certification.
  - 7. Credit MR 2.1 - 2.5, Optimize Use of Alternative Materials.
  - 8. Credit MR 3.1 and 3.2: Optimize Use of IAQ Compliant Products.
  - 9. Credit IUOM 1: Innovation in Upgrades, Operations and Maintenance: Cradle to Cradle Certification.
  - 10. Credit IUOM 1: Exemplary Performance, Optimize Use of Alternative Materials.

#### 1.4 REFERENCES

- A. ASTM C 97 - Test Method for Absorption and Bulk Specific Gravity of Dimensional Stone.

- B. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 inch (50-mm) Cube Specimens).
- C. ASTM C 293 - Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading).
- D. ASTM C 642 - Standard Test Method for Density, Absorption, and Voids in Hardened Concrete.
- E. ASTM C 666 - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing (Superseded).
- F. ASTM C 1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
- G. ASTM C 1260 - Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method).
- H. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- I. NSF/ANSI 51 - Food Equipment Materials, Food Contact.

#### 1.5 QUALITY ASSURANCE

- A. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  1. Finish areas designated by Architect.
  2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  3. Refinish mock-up area as required to produce acceptable work.
- B. Installer: Trained and approved by simulated stone manufacturer.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver components to project site until products are ready for installation.
- B. Store components indoors prior to installation.
- C. Handle materials to prevent damage.
- D. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

#### 1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Approved Manufacturer: IceStone, 63 Flushing Avenue, Unit 283, Bldg. 12, Brooklyn, NY 11205. Telephone: (718) 624-4900. Fax: (718) 624-4002. Web:

[www.icestone.biz](http://www.icestone.biz). E-mail: [info@icestone.biz](mailto:info@icestone.biz).

- B. Distributor Contact: CH Briggs Company 1-800-355-0800 Web: [www.chbriggs.com](http://www.chbriggs.com)
- C. Substitutions: Not permitted.
- D. Requests for substitutions will be considered in accordance with provisions of Section 01600.

## 2.2 MATERIAL

- A. Approved Product: IceStone.
  - 1. Composition: 100 percent recycled glass in a cement matrix.
  - 2. Physical Performance Characteristics:
    - a. Compressive Strength: 13,000 psi (914 Km/cm), in accordance with ASTM C 109.
    - b. Flexural Strength: 890 psi (63 Km/cm), in accordance with ASTM C 293.
    - c. Specific Gravity: 2.31, in accordance with ASTM C 97.
    - d. Porosity/Absorption: 0.18 percent, unsealed, in accordance with ASTM C 642.
    - e. Chemical Durability: 0.05 percent expansion, in accordance with ASTM C 1260 for ASR Reactivity.
    - f. Freeze Thaw: 0.49 percent expansion, 300 cycles, in accordance with ASTM C666.
    - g. Fire Rating: Class 1 (A), in accordance with ASTM E 84. Flame spread index: 0. Fuel contribution: 0. Smoke density index: 0.
    - h. Coefficient of Static Friction: 0.78 (dry), in accordance with ASTM C 1028.
  - 3. Weight and Size:
    - a. Weight: 16.3 pounds per square foot at 1-1/4 inches (32 mm) thick.
    - b. Maximum Slab Size: 52-1/2 inches (1334 mm) wide, 96 inches (2438 mm) long and 1-1/4 inches (32 mm) thick.
    - c. Slab Size for Floor Installations: 18 by 18 inches (457 by 457 mm).
    - d. Slab Size for Floor Installations: 24 by 24 inches (610 by 610 mm).
    - e. Finished Thickness: 1-1/4 inch (31 mm).
  - 4. Edge Detail:
    - a. Half bullnose.
    - b. Full bullnose.
    - c. Pencil.
    - d. Eased.
    - e. Planter.
    - f. Ogee.
    - g. Mitered.
    - h. As indicated on Drawings.
  - 5. Color: \_\_\_\_\_.
  - 6. Color: As indicated on Drawings.
  - 7. Color: As selected by Architect.
  - 8. Surface Finish:
    - a. Polished, high-gloss.
    - b. Honed.
    - c. Sandblasted.

## 2.3 ACCESSORIES

- A. Sealant: Low-VOC or no-VOC mildew-resistant sealant, FDA-compliant, NSF 51-compliant for food contact, to match durable surface.

1. Product: As recommended by durable surface manufacturer.
- B. Sink/Lavatory Mounting Hardware: Stainless steel bowl clips, panel inserts and fasteners and epoxy for attachment of undermount sinks and lavatories.
- C. Sealer:
  1. Flooring: Sealer shall be slip resistant.
  2. Penetrating Sealer by Aquamix.
  3. National Look Sealer by Buddy Rhodes.
  4. Satin Sealer by Buddy Rhodes.

## 2.4 FACTORY FABRICATION

- A. Shop Assembly: Fabricate using standard stone cutting equipment in accordance with manufacturer's fabrication and installation guidelines.
  1. Fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and manufacturer's printed instructions.
  2. Form joints between components without conspicuous joints.
  3. Provide factory cutouts for plumbing fittings and bath accessories as indicated on Drawings.
  4. Rout and finish component edges with minimum radius of 1/8 (3 mm).
    - a. Rout cutouts, radii and contours to template.
    - b. Shape inside corner radius to minimum of 1/4 inch (6 mm) to relieve corner stress.
    - c. Smooth edges.
    - d. Repair or replace defective and inaccurate work.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions including but not limited to the following:
  1. Four-Sided Perimeter Support: Provide a four-sided perimeter frame for countertops, and IceStone will not require a substrate. Provide front-to-back support every 36 inches (914 mm), in addition to the strong perimeter support, for spans within cabinets.
  2. Three-Sided Perimeter Support: For structures that have perimeter support on three sides (desks and frameless cabinets) additional support is required. IceStone with a depth of less than 26 inches (660 mm) require supports every 24 inches (610 mm). IceStone with depths of over 26 inches (660 mm) require supports every 18 inches (457 mm).
  3. Dishwashers: Attach dishwasher to cabinets using manufacturer's side

mounting option. These instructions are provided in the dishwasher installation manual, or use a wood strip at the top of the cabinets to align and connect the dishwasher brackets.

4. Cantilevers: Cantilevers less than 9 inches (228 mm) do not always require additional support. Cantilevers of 9 to 12 inches (228 to 305 mm) require either corbels or front to back rod support every 24 inches (610 mm). Cantilevers greater than 12 inches (305 mm) require legs, columns or either stainless steel or aluminum reinforcing rods every 24 inches (610 mm).
5. Support Rods: Either stainless steel or aluminum to avoid rusting which could produce bleed through staining.
6. Cutouts and Rod Supports: Cooktop rough openings require 2-1/4 inches (57 mm). Surface mount sinks will require 2 inches (51 mm). Undermount sinks will require 3 inches (76 mm). All openings need to be rodded for extra support and that some openings will need to be field cut. Support cutouts with 1/8 by 1/2 inch (3 by 12 mm) stainless steel or aluminum strips set vertically in 3/4 inch (19 mm) deep saw blade kerf positioned in the center of both the front and back bridge to extend a minimum of 24 inches (610 mm) beyond the opening to the left and to the right. Encapsulate the reinforcement "rod" with AKEMI Marmorkitt 1000 Waterclear Flowing 2 Part Polyester Adhesive.

- B. Clean and polish surfaces in accordance with manufacturer's care and maintenance instructions including the following:
  1. Cleaner: Clean spills promptly. Longer exposure to spills may result in a stain. IceStone recommends TileLab OneStep Cleaner & Resealer, Seventh Generation All Purpose Cleaner, Simple Green Stone Cleaner. Pledge Multipurpose Pads, clean and offer a light layer of wax protection. Generally low Ph cleaners work best.
  2. Polish: IceStone recommends Simple Green Stone Polish, and Cheng's Concrete Countertop Wax used sparingly.

#### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion, as directed by Architect.

END OF SECTION