

IceStone surfaces are slabs made from three core ingredients: 100% recycled glass, Portland cement, and pigment. IceStone surfaces are fabricated much like a natural stone and can be used as tabletops, transaction surfaces, cash wraps, work surfaces, bathroom vanities, counter tops and more.

This Guide 3-Part Specification is ready to be edited according to your project requirements. To request samples, product literature, or additional assistance email us at customerservice@icestoneusa.com, call us at 718-624-4900, or visit our website www.icestoneusa.com

SECTION 06614 - COMPOSITE SURFACING

PART 1 GENERAL

NOTE TO SPECIFIER: Delete items below not applicable for project.

1.1 SUMMARY

- A. This Section includes composite surfacing for the following applications:
1. Countertops
 2. Bathroom vanities
 3. Tabletops
 4. Conference tables
 5. Transaction tops
 6. Reception areas
 7. Window Sills
 8. Other interior applications as shown on drawings

NOTE TO SPECIFIER: Delete any sections below not applicable to this project; add others as required.

B. Related Sections

1. Section 05500 - Metal Fabrications: Blocking
2. Section 06100 - Rough Carpentry: Blocking
3. Section 06200 - Finish Carpentry: Plywood substrate
4. Section 06410 - Custom Cabinets: Casework substrate
5. Section 07900 - Joint Sealers: Joint sealant and backing materials
6. Section 11450 - Residential Equipment: Cooktops
7. Section 15410 - Plumbing Fixtures: Sinks, faucets

1.2 REFERENCES

A. ASTM International:

1. ASTM C97- Absorption and Bulk Specific Gravity of Dimensional Stone.
2. ASTM C109- Compressive Strength of Hydraulic Cement Mortars (Using 2 inch (50mm) Cube Specimens).
3. ASTM C293- Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading).
4. ASTM C642- Density, Absorption, and Voids in Hardened Concrete.
5. ASTM C666- Resistance of Concrete to Rapid Freezing and Thawing (Superseded).
6. ASTM C1028- Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
7. ASTM C1260- Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
8. ASTM E84- Surface Burning Characteristics of Building Materials.

B. Others

1. NSF- NSF Standard 51 Food Contact
2. MBDC- Cradle to Cradle Certification

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300

NOTE TO SPECIFIER: Subparagraphs 1-5 are included in IceStone's Fabrication Guidelines available for download on our website: http://icestoneusa.com/images/stories/documents/brochures/IceStone_Fabrication_Guidelines_2012_lowres.pdf. IceStone Certified Fabricators have access to IceStone Warranty Registration Cards.

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
5. Care and maintenance data
6. Warranty registration form

C. Shop Drawings:

1. Indicate color[s] and finish[es]
2. Indicate field- verified dimensions
3. Indicate locations and dimensions of cutouts
4. Indicate locations and sizes of support, blocking, including concealed blocking and reinforcement specified in other Sections

NOTE TO SPECIFIER: Coordinate subparagraphs a-d with the color selections in Part 2-Products.

D. Samples

1. For each type of product indicated:
 - a. Cut sample and seam together for representation of inconspicuous seam.
 - b. Submit minimum 2 by 3-1/2 inch (51 by 89 mm) sample of [each] color and finish specified.
 - c. Stone Adhesive: Submit sample of an adhesive joint for [each] color selected. Show color match of adhesive.
 - d. 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 Food Contact.
3. MBDC Certificate: Certify that materials meet Cradle to Cradle Certification.

NOTE TO SPECIFIER: Retain applicable subparagraphs below for projects intended to be LEED Certified.

F. LEED Submittals: Submit the following in accordance with Section 01300- LEED Submittals:

1. Credit IEQ 4.1: Low-emitting materials: Adhesives & Sealants
2. Credit ID Innovation in Design: Cradle to Cradle Certification
3. Credit ID Innovation in Design: Recycled content 30% or greater
4. Credit MR 2.2 Environmentally Preferable Material: Cradle to Cradle Certification
5. Credit MR 4.1: Recycled Content: 10%
6. Credit MR 4.2: Recycled Content: 20%
7. Credit MR 5.1: Regional Materials: 20% manufactured regionally
8. Credit MR 5.2: Regional Materials: 10% extracted and manufactured regionally

G. Fabricator/Installer Qualifications: Submit evidence of fabricator/installer's certification by manufacturer.

H. Maintenance Data:

1. Submit manufacturer's care and maintenance guidelines.

2. Include in closeout documents.

I. Closeout Submittals:

1. Complete warranty registration form.
2. Include in closeout documents.

1.4 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 finish are approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

B. Installer/Fabricator: Certified by composite surface manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Shipping, Handling, Unloading: Observe and follow manufacturer's instructions and recommendations including but not limited to the following:

1. Make sure slabs are safely secured during transport.
2. All slabs shall be transported face to face and back to back.
3. If shipped on an uncovered truck, all slabs must be tarped.
4. Unload all slabs with boom or overhead crane that has sufficient weight capacities to handle material.

B. Storage: Observe and follow manufacturer's instructions and recommendations including but not limited to the following:

1. Thoroughly inspect all slabs prior to storage.
2. Store indoors.
3. Store face to face and back to back.
4. Store on A-frames or pipe racks clamped at 4 points according to manufacturer's fabrication guidelines.

1.6 WARRANTY

NOTE TO SPECIFIER: *Delete one of the following paragraphs as applicable to the project.*

A. Provide manufacturer's Commercial 5-Year Limited Warranty against material defects when fabricated and installed by an IceStone Certified Fabricator.

B. Provide manufacturer's Residential 10-Year Limited Warranty against material defects when fabricated and installed by an IceStone Certified Fabricator.

PART 2 PRODUCTS

2.1 MANUFACTURERS

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

Web: www.icestoneusa.com. E-mail customerservice@icestoneusa.com.

NOTE TO SPECIFIER: Delete one of the following options.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MATERIAL

A. Approved Product: IceStone as manufactured by IceStone LLC.

NOTE TO SPECIFIER: All IceStone colors contain 100 percent recycled glass. Amber Pearl, Sky Pearl, Sage Pearl, and White Pearl also contain mother of pearl aggregate. Heirloom Grey also contains recycled mirror.

Edit and coordinate B with selections under Color and Finish.

B. Composition: 100 percent recycled glass [and mother of pearl] [and recycled mirror] aggregate combined with portland cement and color pigments formed into flat slabs. Petroleum based resins not permitted.

C. Weight and Size:

1. Weight: 16.3 pounds per square foot at 1-1/4 inches (32 mm) thick.
2. Maximum Slab Size: 52-1/2 inches (1334 mm) wide, 96 inches (2438 mm) long and 1-1/4 inches (32 mm) thick.
3. Finished Thickness: 1-1/4 inch (31 mm).

D. Total recycled content by weight: 70% post-industrial

NOTE TO SPECIFIER: Edit the following according to color selection and coordinate with submittals.

E. Color and Finish

1. Provide color[s] [_____] [From manufacturer's full color range]

NOTE TO SPECIFIER: IceStone surfaces are shipped from Brooklyn with a high-gloss finish. Slabs can be honed or sandblasted by a fabricator, however these and any other alterations of the factory applied finish are not covered by IceStone Residential or Commercial Limited Warranties.

2. Provide finish[es] [Polished] [Honed] [Sandblasted]

NOTE TO SPECIFIER: Retain the following if edges and corners are not detailed on drawings.

F. Exposed Edges and Corners

1. Edges: [Half Bullnose] [Full Bullnose] [Pencil] [Eased] [Platner] [Ogee] [Mitered] [_____]
2. Outside Corners: Shape to 1/8 inch (3 mm) [_____ inch[es] (_____ mm)] radius.
3. Inside Corners: Shape to 1/4 inch (6 mm) [_____ inch[es] (_____ mm)] radius.
4. Mitered or 90 degree Corners: no radius needed.

G. Physical Performance Characteristics:

1. Compressive Strength: 13,000 psi (914 Km/cm), in accordance with ASTM C 109.
2. Flexural Strength: 890 psi (63 Km/cm), in accordance with ASTM C 293.
3. Specific Gravity: 2.31, in accordance with ASTM C 97.

4. Porosity/Absorption: 0.18 percent, unsealed, in accordance with ASTM C 642.
5. Chemical Durability: 0.05 percent expansion, in accordance with ASTM C 1260 for ASR Reactivity.
6. Freeze Thaw: 0.49 percent expansion, 300 cycles, in accordance with ASTM C666.
7. Fire Rating: Class 1 (A), in accordance with ASTM E 84. Flame spread index: 0. Fuel contribution: 0. Smoke density index: 0

NOTE TO SPECIFIER: One of the following paragraphs is to be used if IceStone is being specified in flooring application. Flooring applications are not covered by IceStone Residential and Commercial Limited Warranties

8. Finish Level, Performance: Polished finish, with coefficient of static friction of 0.69 (dry); 0.61 (wet), ASTM C 1028.
9. Finish Level, Performance: Honed finish, with coefficient of static friction of 0.71 (dry); 0.62 (wet), ASTM C 1028.
10. Finish Level, Performance: Sandblasted finish, with coefficient of static friction of 0.85 (dry); 0.77 (wet), ASTM C 1028.

2.3 ACCESSORIES

A. Mounting Adhesives: Provide clear 100% silicone adhesive as recommended by manufacturer.

B. Joint Sealants

1. Provide color matched two-part polyester, epoxy or acrylic joint adhesive as recommended by manufacturer.
2. Acceptable Product: Tenax Rivo 50 A & B Part Knife Grade Epoxy tinted to match Tenax Tepox Epoxy colors.

C. Sealer:

1. Provide sealer as recommended by manufacturer in care and maintenance guidelines.
2. Acceptable Products:

NOTE TO SPECIFIER: Delete products not required.

- a. Miracle 511 H2O Plus
- b. Meta Crème Next Generation Impregnating Sealer
- c. Tenax Protex
- d. DuPont StoneTech Professional BulletProof Stone Sealer

D. Wax:

1. Provide wax as recommended by manufacturer in care and maintenance guidelines to help protect surface from staining or etching.
2. Acceptable Products:

NOTE TO SPECIFIER: Delete products not required.

- a. CHENG Concrete Countertop Wax
- b. Goddard's Granite & Marble Liquid Polish

E. Cleaner:

1. Provide a pH neutral cleaner as recommended by manufacturer in care and maintenance guidelines.
2. Acceptable products:
 - a. Seventh Generation All Purpose Cleaner Free & Clear
 - b. Method Multi-Surface Cleaner
 - c. Method Daily Granite Cleaner
 - d. Simple Green Stone Cleaner

2.4 FABRICATION

A. Fabricator: Firm shall have experience fabricating natural or engineered stone and be equipped with standard stone fabricating equipment. Firm shall be evaluated and certified by manufacturer.

B. Inspect Material:

1. Inspect material for defects upon receipt and prior to fabrication.
2. Variation in size and distribution of glass and other aggregates in material that is within manufacturer's tolerances is not a defect.
3. Color Matching
 - a. Materials that are adjacent shall be from the same batch date and bear labels with the same batch dates and color name.
 - b. Visually inspect slabs to ensure that an acceptable color match is achieved.
 - c. Inspect under similar lighting conditions as will be found at the job site.
4. Record batch date[s] of all material for warranty purposes.

C. Shop Assembly: Fabricate using standard stone fabricating equipment in accordance with manufacturer's fabrication guidelines.

D. Layout: Fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and manufacturer's fabrication guidelines.

E. Cutouts

1. Provide factory cutouts for plumbing fittings and bath accessories as indicated on approved shop drawings.
2. All rough and finished openings shall be supported with reinforcing rods. Support cutouts with 1/8 by 1/2 inch (3 by 12 mm) fiberglass strips set vertically in 3/16 inch (5 mm) wide x 5/8 inch (18 mm) deep saw blade kerf positioned in the center of both the front and back bridge to extend a minimum of 6 inches (152 mm) beyond the opening to the left and to the right. Encapsulate the reinforcement "rod" with Tenax Micto VOC Free 2 Part Epoxy.

NOTE TO SPECIFIER: IceStone, LLC recommends fiberglass over metal rodding because fiberglass will not oxidize over time and will physically bond to the adhesive.

3. Cutouts shall have 1/4 inch (6 mm) [____inch(es)](____mm)] minimum inside radius.
4. All exposed edges shall be polished.

F. Aprons and Built up Edges: All visible built up edges and aprons shall be mitered to avoid the visual effect of segregation.

G. Sealing:

1. Clean surfacing back side and joints with acetone.

NOTE TO SPECIFIER: Coordinate with selection in Section 2 Product; 2.3 Accessories

2. Apply [_____] sealer to entire finished surface following the manufacturer's instructions to help protect against staining.

PART 3 EXECUTION

3.1 ACCEPTABLE INSTALLER

Installer shall be experienced in installing natural and engineered stone and shall be certified by manufacturer.

3.2 EXAMINATION

A. Site Verification

1. Verify that substrates are plumb, level and flat and that necessary supports and blocking are in place.
 - a. Four-Sided Perimeter Support: If a four-sided perimeter frame exists, additional substrate is not required. Provide front-to-back support every 36 inches (914 mm), in addition to the strong perimeter support.
 - b. Three-Sided Perimeter Support: For structures that have perimeter support on three sides require additional support. Installations with a depth of less than 26 inches (660 mm) require supports every 24 inches (610 mm). Installations with depths of over 26 inches (660 mm) require supports every 18 inches (457 mm).
 - c. Cantilevers: Cantilevers less than 9 inches (228 mm) do not require additional support. Cantilevers greater than 9 inches (228 mm) require corbels, legs, columns or reinforcing rods every 24 inches (610 mm).
2. If substrate preparation is the responsibility of another installer, notify [Architect] [_____] of unsatisfactory preparation before proceeding.

B. Materials Inspection: Inspect all finished surfaces for damage. Do not install until damaged materials have been repaired or replaced.

3.3 PREPARATION

A. Clean surfaces to receive material thoroughly prior to installation to ensure adhesion.

B. Protect jobsite and surfaces against dust and water.

3.4 INSTALLATION

A. General

1. Install materials in accordance to manufacturer's guidelines.
2. There shall be two installers at the jobsite at all times to ensure safety.

B. Preliminary Installation

1. Position materials to verify correct dimensions and layout.
2. Make necessary adjustments.

NOTE TO SPECIFIER: IceStone requires at least 1/16-inch at each wall for expansion and contraction.

3. Verify there is a space of 1/8-inch (3 mm) between walls where the surfacing will be installed and the surfacing material.

C. Installation

1. Secure surfacing to substrate using a clear 100% silicone adhesive to allow for movement and to avoid cracking.
2. Install surfacing plumb, level, true and flat. Never shim in excess of 1/16 inch (1-1/2 mm).

D. Joints

1. Joints between adjacent pieces of composite surfacing.
 - a. All joints shall be clean, flush, and level.
 - b. All joints shall be tight fitting, spacing shall not exceed 1/16 inch (1-1/2 mm).
 - c. Seal joints with a color matched two-part polyester, epoxy or acrylic joint adhesive.

2. Joints between composite surfacing and [backsplashes] [_____]: Seal joints with clear 100% silicone adhesive.

3.5 WAXING & CLEANING

NOTE TO SPECIFIER: Coordinate paragraphs below with selections in Section 2 Product; 2.3 Accessories

A. Waxing: Apply [CHENG Concrete Countertop Wax] [Goddard's Granite & Marble Liquid Polish] to composite surfacing to help protect surface from etching. Follow the product manufacturer's instructions for application.

B. Clean: Clean exposed surfaces with [_____] [non-abrasive pH neutral cleaner].

3.6 PROTECTION

A. Protect installed products until completion of the project.

B. Touch-up, repair, or replace damaged materials in a satisfactory manner.

END OF SECTION