

# FABRICATION GUIDELINES

*IceStone*<sup>®</sup>  
MADE IN THE USA



## About IceStone

IceStone has been crafting its premium durable surfaces in the historic Brooklyn Navy Yard since 2003. Made from 100% recycled glass, portland cement, and non-toxic pigment, IceStone® durable surfaces are the sustainable surface material of choice for fabricators, contractors, designers and homeowners nationwide.

We believe that quality craftsmanship, social responsibility, and environmental stewardship are equally essential to the success of our business and yours. To learn more about IceStone's mission and certifications, please visit [www.icestoneusa.com](http://www.icestoneusa.com).

Sincerely,

The IceStone Team



# TABLE OF CONTENTS

## SECTION 1:

- 4 Disclaimer
- 5 Applications
- 5 Standard Slab Size and Weight
- 6 Technical Specifications and Certifications
- 7 Dust Inhalation Exposure
- 7 Certified Fabricator & Warranty Program
- 8 Proper Handling & Inventory Storage
- 12 Loading Loose Slabs
- 14 Indoor Storage Only
- 14 Transportation

## SECTION 2:

- 15 Fabrication Instructions
- 15 Fabrication Tools & Safety Equipment
- 16 Marble Institute of America Standards
- 16 Color Matching, Batch Numbering, and Slab Identification
- 18 Removing Bow From Warped Slabs via Rewetting
- 19 Basic Fabrication
- 20 Cutouts and Reinforcing Rod Supports
- 21 Soap Dispenser Placement
- 22 Radius Corners
- 22 Edge Profiles
- 23 Aprons and Built Up Edges
- 23 Recommended Edge Polishing Sequence
- 23 Structural Support
- 24 Dishwasher Support
- 24 Cantilevers and Overhangs
- 24 Installation Overview
- 25 Seaming
- 26 Sealing
- 26 Heat Tolerance
- 27 Surface Repair
- 28 Pop Outs
- 29 Microporosity

## SECTION 3:

- 31 For Your Customer
- 32 Care and Maintenance
- 34 Warranty Registration Form
- 35 Contact Information

## Disclaimer

IceStone durable surfaces are only sold to Certified Fabricators. Please contact Customer Service if you are interested in becoming a Certified Fabricator. The fabrication and installation of IceStone slabs is similar to quarried stone, but has unique requirements that must be followed for optimum performance.

IceStone, LLC is not responsible for variation between samples or printed materials and slabs received upon delivery. Please ensure that you and your clients have up to date samples that accurately reflect IceStone's current palette and production. All samples are dated for your convenience.

All slabs must be inspected upon receipt according to IceStone's Terms & Conditions.

Variation in glass size, shape, color, and gauge are inherent to IceStone slabs, which are hand crafted using recycled materials. Project layout and the final quantity of slabs needed should be determined before slabs arrive at the fabrication shop. Slabs must also be inspected for color matching prior to fabrication, and examined again for overall quality while dry-fitting at the job site. Any defective areas in the slab must be reported to IceStone, LLC immediately with panel ID number, color, shipment date, nonconformity details and digital photos. IceStone will not reimburse labor or material costs when defective slabs are cut and installed without adequate inspection.

After installation, please ask the customer to inspect the job to ensure satisfaction. Provide the customer with the most recent IceStone Care and Maintenance Guidelines, which can be obtained by visiting IceStone's website or by contacting Customer Service.

This manual is published by IceStone, LLC and supersedes all previous manuals. Content is subject to change. For the most recent version of Fabrication Guidelines, please visit IceStone's website: [www.icestoneusa.com](http://www.icestoneusa.com).

IceStone® is a registered trademark of IceStone, LLC of Brooklyn, NY.

## Applications

IceStone surfaces can be used as:

- Kitchen countertops
- Bathroom vanities
- Backsplashes
- Reception areas
- Conference tables
- Cash transaction areas
- Window sills, desk tops, and more

## Commercial Food Service Countertops

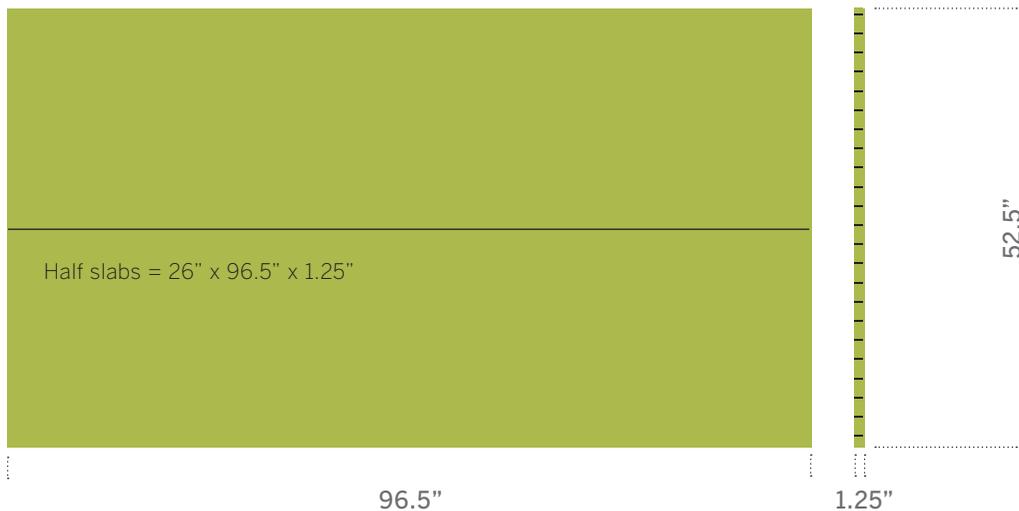
**DO NOT** install IceStone surfaces under heat lamps or areas where the surface will be exposed to extended periods of direct heat. Heat trays, heat sinks, soup warmers, etc., should not be installed in IceStone surfaces.

## Standard Slab Size and Weight

|                |  |
|----------------|--|
| Width x Length | 52.5 inches x 96.5 inches (approx. 35 square feet) |
| Thickness      | 1.25 inches  |
| Weight         | 16.3 pounds / square foot (approx. 570 lbs/slab)   |

*\* Please note that the slab dimensions are **nominal** and are only to be used for storage and transportation purposes. Actual usable slab surface will be slightly less per side, and varies from slab to slab. Please inspect the perimeter before cutting.*

Pre-cut half slabs are available in select areas. Contact your IceStone distributor for availability.



## Technical Specifications and Certifications

| Property                       | Test Standard                    | IceStone Results   |
|--------------------------------|----------------------------------|--|
| Compressive Strength           | ASTM C – 109                     | 13,000 psi - 16,000 psi  |
| Flexural Strength              | ASTM C – 203                     | 890 psi  |
| Specific Gravity               | ASTM C – 97                      | 2.31 g/cm <sup>3</sup>   |
| Porosity/Absorption            | ASTM C – 642                     | 0.18% unsealed   |
| Chemical Durability            | ASTM C – 1260 for ASR reactivity | 0.49% 300 cycles   |
| Freeze Thaw                    | ASTM C – 666                     | 0.05%  |
| Stain Resistance               | ASTM E – 84                      | Yes, when used with recommended sealers  |
| Fire Rating                    | ASTM E – 84                      | Class 1(A)<br>Flame spread index 0<br>Fuel contribution 0<br>Smoke density index 0   |
| Coefficient of Static Friction | ASTM C – 1028                    | 0.69 Polished dry<br>0.61 Polished wet<br>0.71 Honed dry<br>0.62 Honed wet<br>0.85 Sandblasted dry<br>0.77 Sandblasted wet |
| Food Equipment Materials       | NSF – 51                         | Certified  |



## **Dust Inhalation Exposure**

To minimize dust concentrations in breathing zones, IceStone requires using either wet diamond tools or water jets when cutting and polishing IceStone slabs, as well as proper local ventilation and collection equipment. Fine particles that may be generated while fabricating IceStone surfaces with wet diamond tools or water jets fall within the category of nuisance dusts. If ventilation methods are inadequate to keep dust levels below specified limits, wear a properly fitted particulate respirator approved by the National Institute for Occupational Safety and Health. Please review IceStone's Safety Data Sheet for more information.

## **Certified Fabricator & Warranty Program**

IceStone offers free certification trainings to fabricators. Only Certified Fabricators can purchase IceStone and benefit from exclusive discounts and additional training. Certified Fabricators must follow all procedures listed in the most recent version of the IceStone Fabrication Guidelines and Care & Maintenance Guidelines. To become a Certified Fabricator, please visit our website or contact Customer Service.

Only installations by Certified Fabricators are eligible for IceStone's Commercial 10-Year and Residential 10-Year Limited Warranties. The home or building owner must register their installation on IceStone's website within 30 days of installation.

## Proper Handling & Inventory Storage

IceStone slabs weigh approximately 570 lbs, and a full crate of twelve slabs can weigh as much as 7,100 lbs including the A-frame crate. Be sure forklifts can handle this weight before moving any crates or material.

### SLAB STORAGE PROCEDURE

A thorough material inspection is recommended before securely storing IceStone slabs; inspect your delivery upon receipt and submit any damage claims immediately.



1. Unload delivery crate from the flat bed or LTL box truck using a forklift. Always move crates with a forklift. Do not push, pull or drag crates. IceStone crates are for delivery purpose only. Do not store IceStone slabs on delivery crates.
2. Move crates to designated indoor area for slab inspection and relocation to pipe racks or A-Frames.
3. Follow the procedure for opening small and large crates ([pages 10 to 11](#)).



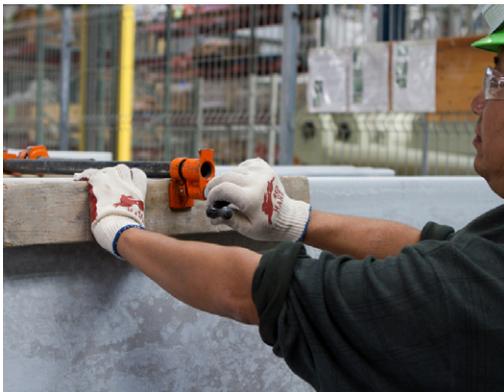
4. Place the first slab on the pipe rack or A-Frame with the polished face against the frame or rack.
5. Place the second slab with the polished side facing out (the back of the second slab should be against the back of the first slab).



6. Place the third slab with the polished face against the polished face of the second slab. The unpolished face of the third slab will face out. Ensure that the bottom edges of slabs are touching. Unload all the slabs following this procedure.



7. When stored on pipe racks, slab should not be vertical; instead, position the slab at an approximately 20 degree angle from vertical position.

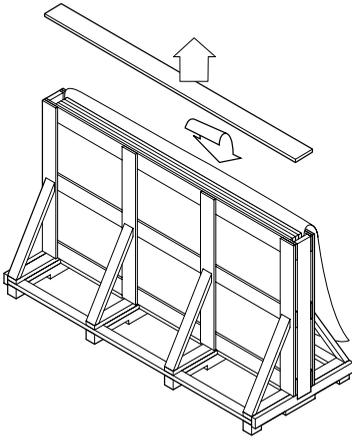


8. After unloading, inspection and relocation, begin clamping process.  
 9. Use two bar clamps spaced 24" from top right hand and top left hand edges of the slab. Tighten the clamps to first resistance. Do not overtighten.  
 10. Use two bar clamps spaced 24" from bottom right hand and bottom left hand edges of the same slab. Tighten to first resistance. Do not overtighten.

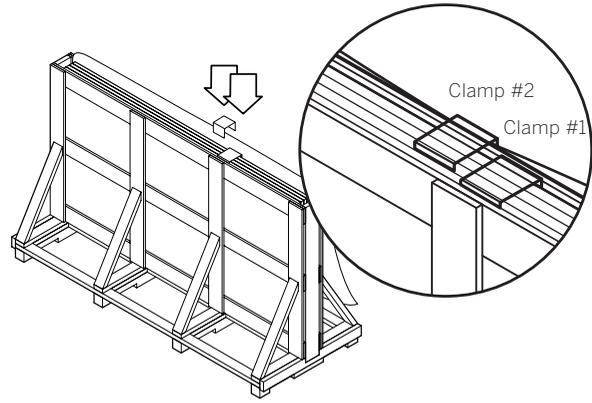


11. When adding or removing slabs from inventory, always follow the above procedure.

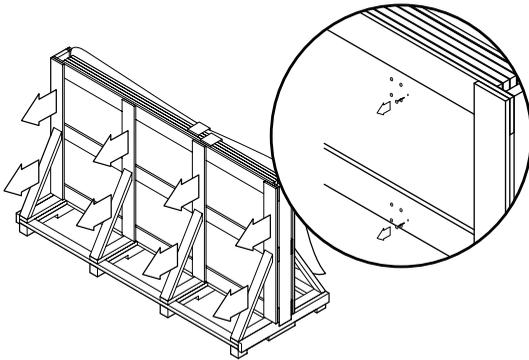
## UNLOADING A SMALL CRATE



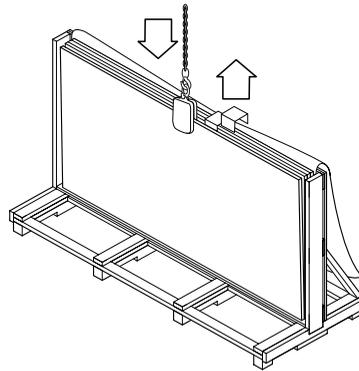
1. Unscrew and remove top plank.
2. Pull up flap of Tyvek protective wrap and drape over back side.



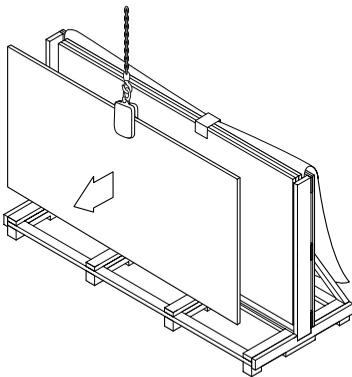
3. Attach first clamp around all slabs.
4. Attach second clamp around side of crate and all slabs except slab to be unloaded.



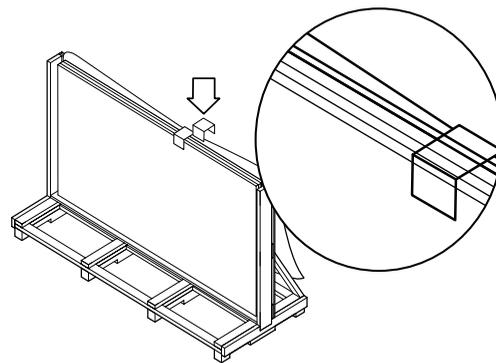
5. Unscrew and remove supports and gate from one side of crate. **To remove gate, use specially marked screws.**



6. Lower clamp around slab and engage.
7. Remove first clamp exposing slab to be removed.

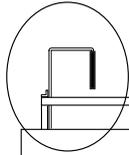


8. Carefully lift slab.



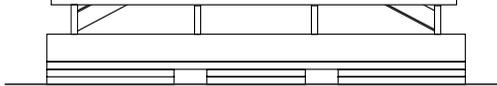
9. To remove more slabs, attach clamp around side of crate and all slabs except slab to be unloaded. Repeat steps 6-9.

## UNLOADING A LARGE CRATE



### Attention:

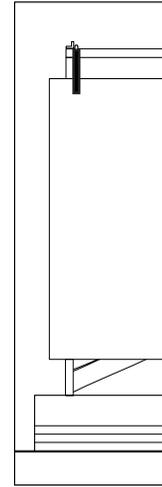
This crate is outfitted with a safety device designed to keep IceStone slabs from falling and causing injury.



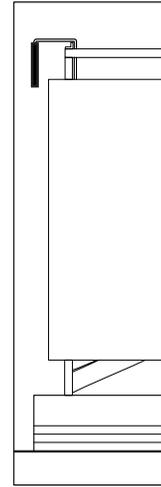
Transit Position



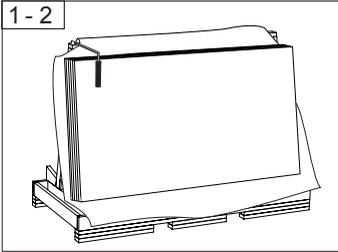
Active Position



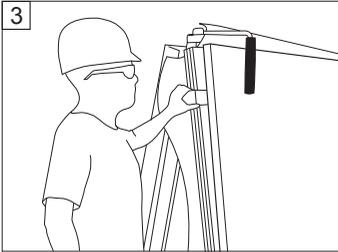
Inactive Position



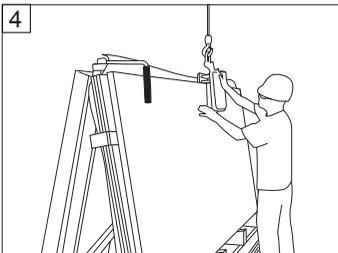
1 - 2



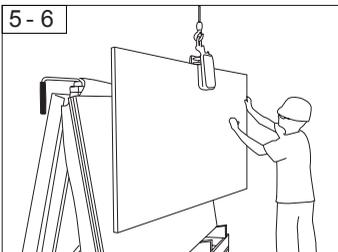
3



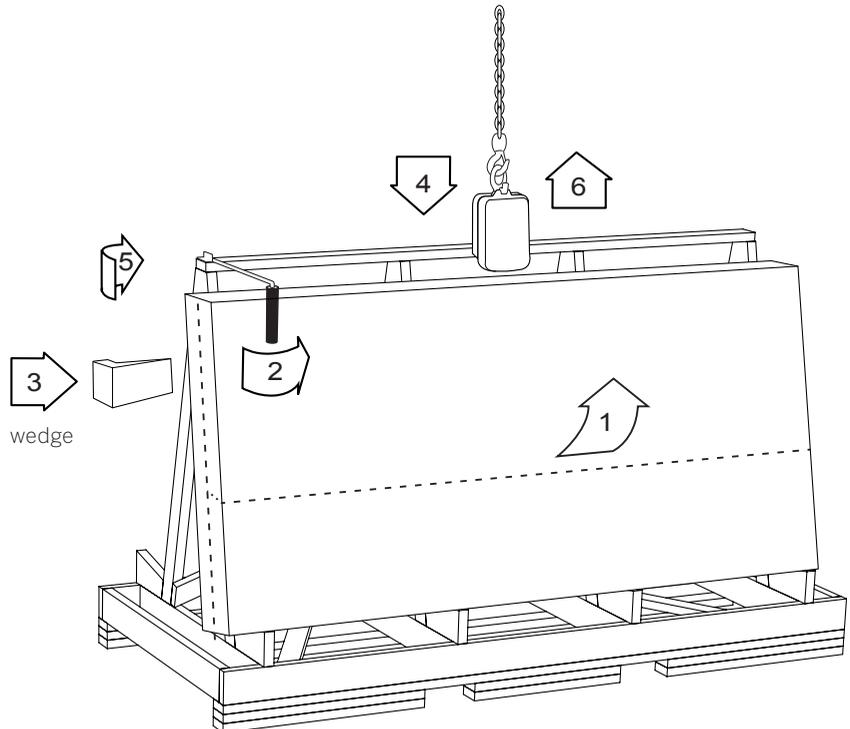
4



5 - 6



1. Fold back the protective Tyvek wrap
2. Rotate safety bar from transit to active position
3. Push a wedge in between the slabs to create a space for the clamp
4. Position the clamp at center of slab and engage clamp switch
5. Rotate safety bar to inactive position (use caution around slab)
6. Lift slab
7. Repeat steps 2-6 to unload the rest of the slabs



## Loading Loose Slabs

Slabs that are not in a crate can be loaded onto:

- A metal A-frame that is mechanically secured to the flatbed of a truck,
- A metal or wooden A-frame secured to the bed of a pickup truck, or
- A portable A-frame that can be removed from a box truck, loaded, and then placed back in the box truck and secured

In all of these cases, at least two vertical straps are required to secure the slabs to the A-frame. IceStone will not load loose slabs onto a box truck that does not have a removable A-frame, as the height of box trucks prevents loading with a boom or overhead crane. Whether a truck, A-frame, or strap meets the requirements for carrying and/or transporting our slabs is completely at the discretion of IceStone, LLC.



1. At least two people must guide the slab to the designated truck. If the slab is being moved with an overhead crane, one worker should operate the crane, while the other steadies the slab as to reduce extraneous movements which could result in cracking. If the slab is being moved via a boom, one worker should operate the forklift, while the other worker steadies the slab.
2. When maneuvering the slab onto the truck, at least one worker must help the driver rest the slab on the A-frame or backer slab in order to make sure the slab remains level throughout the process.



3. Once the slab is on the truck, the driver should secure the slab using at least two vertical straps to help evenly distribute the pressure along the slab. Tighten the straps just enough to restrict movement of the slab during transportation. Any excess tightening may lead to cracks.



4. Add padding where the strap meets the slab at the top and at the bottom. The padding will reduce the tension on the slab during transit.



5. This picture illustrates an IceStone slab on a A-frame secured to the truck against a backer slab. Slabs should be loaded face to face, back to back. All loose slabs of IceStone must be loaded on a A-frame that is secured to a truck. While backer slabs are not mandatory, it does offer more protection than a slab being flush against a metal or wooden A-frame.

## Indoor Storage Only

IceStone must be stored indoors. Even tarped slabs can stain, etch, warp, or crack when exposed to weather elements. The slab shown in **FIGURE 1** was stored outside and damaged by acidic rainfall condensation under a tarp.



**FIGURE 1**  
Example of a slab that was etched from condensation

## VEHICLE LOADS

It is the responsibility of the driver to ensure that the load is within the legal carrying capacity of the vehicle. Allow approximately 570 lbs per IceStone slab, plus the weight of any other items already loaded on the vehicle.

## SECURING THE LOAD

It is the responsibility of the driver to ensure that the load is fully supported and safely secured to the vehicle prior to leaving IceStone's premises. IceStone will not secure the load to your vehicle. All transporting A-frames must be secured to the truck. IceStone reserves the right to refuse loading material on a truck in which A-frames are not secured to the bed of the truck.

Anytime IceStone material is being transported when exposed to outdoor elements, the material must be tarped.

# Fabrication Instructions

## Fabrication Tools & Safety Equipment

Below is a list of critical tools and safety equipment needed to fabricate IceStone efficiently:

### Basic Tools

- Bridge Saw
- Electric/Pneumatic Polisher (variable speed preferred)
- Diamond Grinding Wheel
- Diamond Polishing Pads
- Grinding Stone
- Core Bits
- Diamond Contour Blade
- Wet Profiling Machine (edge router)
- Stone Carts/Dollies
- A-Frame Storage Racks
- Stone (pony) Clamps
- Fabrication Stands
- Air Compressor
- Seaming Clamps
- Water Source
- Reinforcing Rods and Adhesives
- Forklift Truck with Boom and Lifting Clamp

### Advanced Tools

- Water Jet
- CNC
- Automated Profiler
- Diamond Jig Saw
- Radial Arm Polisher

### Basic Safety Equipment

- First-Aid Kit
- Safety Glasses
- Steel-Toe Footwear
- Respiratory Protection
- Work Gloves
- Aprons
- Ear Plugs
- Face Masks

When machining IceStone slabs on CNCs, take the following precautions to reduce the possibility of discoloration:

- Remove pieces as soon as they are completed
- Avoid leaving vacuum pods engaged overnight or for prolonged periods of time
- Clean vacuum pods routinely
- Replace worn or deteriorating vacuum pods

## Marble Institute of America Standards

IceStone recommends following the Fabrication and Installation Guidelines of the Marble Institute of America (<http://www.marble-institute.com>) and the Concrete Countertop Institute (<http://www.concretecountertopinstitute.com>) as applicable to quarried stone. Traditional stone fabrication equipment, such as CNC machines, bridge saws, routers, and polishers (with diamond pads and bits) should be used with water. A variety of fabrication machinery is used in every shop, so it is important to explore tooling and fabrication techniques to identify the best practices for your shop's equipment. For best results, IceStone recommends using high quality diamond blades and tooling suitable for use with hard granite.

## Color Matching, Batch Numbering, and Slab Identification

### VISUAL SLAB INSPECTION

Fabricators are responsible for immediately determining if the slabs are fit for use. If the slab is defective, contact Customer Service immediately and **DO NOT** cut or modify slabs in any way before exchanging the material with IceStone, LLC. Once a slab has been cut and/or installed, it can not be returned to IceStone, LLC for credit or refund.

A visual inspection for imperfections and color matching is essential when working with IceStone surfaces and should be standard practice before cutting. Inspect in lighting conditions similar to those at the installation site. Use the following as a checklist during inspection:

- Cracks
- Slab-to-slab color match
- Color inconsistency within the slab
- Warping/bowing
- Consistent gloss levels
- Glass segregation on the edges (see **FIGURE 2**)



**FIGURE 2**  
 Example of acceptable glass segregation on the left and unacceptable glass segregation on the right.

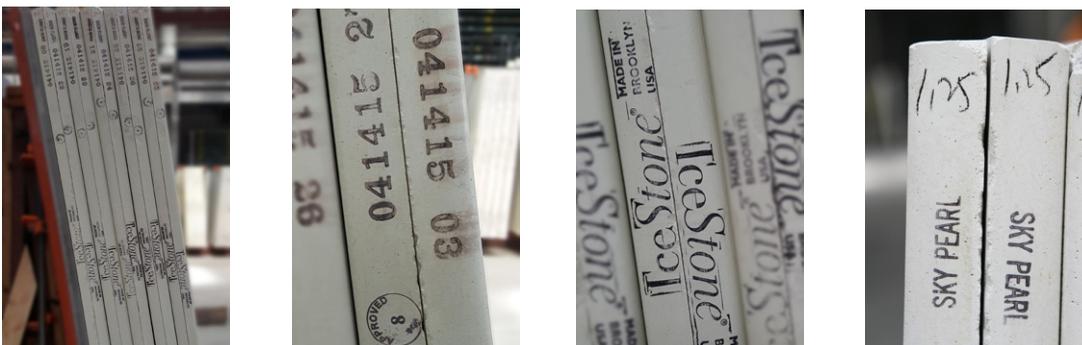
### COLOR MATCHING

Due to the unique nature of recycled glass, no two IceStone slabs are exactly alike, and will exhibit variations in color, shade, glass size and glass particle distribution. These variations are not structural, and are part of the inherent character of the material.

Before fabricating, always visually inspect slabs to ensure that an acceptable color match is achieved. When inspecting slabs for color, use similar lighting conditions as will be found at the job site. Slabs that are being seamed together must be from the same batch date.

### BATCH NUMBERING AND SLAB IDENTIFICATION

The batch number is stamped on the two short sides of each slab. IceStone, LLC refers to the batch number as the “Panel ID”, which is an 8 digit code that represents the date and sequence in which a particular slab was cast. For instance, a panel ID of 041809 42 means that the slab was batched on April 18th, 2009, and the slab was the forty-second made that day. Record Panel IDs for warranty registration and in case issues arise during the transportation, fabrication, installation, and use of the material.



**FIGURE 3**  
 Each IceStone slab has a Panel ID number, circular quality control inspection stamp, color name, thickness measurement (1.25” or 3cm), and Made in USA stamp.

## Removing A Bow From Warped Slabs by Rewetting

Bowing occurs when an IceStone slab becomes warped or curved and is no longer flat. Bowing can occur when the slab is not clamped properly. Measure bow by using a 96" straight edge and a caliper. Hold the straight edge steady along the top of the backside (unpolished face) of the slab. Measure the bow along the top of the slab, at the midpoint of the long side (see **FIGURE 4**).



**FIGURE 4**

Use a caliper to properly measure slabs for bowing.

Slabs that have bowed beyond the acceptable level of 3.0mm (on the length of the slab) need to be removed from the inventory and rewetted following one of the procedures below:

### REWETTING OPTION 1

1. Place bowed slab on a bridge saw table.
2. Saturate the slab with running water for 10 minutes.
3. Leave slab on bridge saw table for one hour.
4. After an hour, measure the bow again. If the slab still measures a bow greater than 3.0mm, repeat the first three steps.

### REWETTING OPTION 2

1. Place bowed slab on an A-frame against a flat slab of granite, with the unpolished face of the IceStone slab facing out.
2. Use a hose to continuously saturate the slab with running water for 10 minutes.
3. Turn the slab around so that the polished side is facing out, clamp it to another slab of IceStone or granite with C-clamps following our clamping procedures.
4. After an hour, measure the bow again. If the bow is still greater than 3.0mm, repeat the first three steps.

After the bow on the slab is eliminated (or reduced to an acceptable level), wipe the face of the slab dry before moving back to inventory and clamping.

## Basic Fabrication

Traverse the slab no faster than 4 linear feet per minute (see **FIGURE 5**), as higher feed rates will result in excessive edge or glass chipping.



**FIGURE 5**

Run blades and tooling at a high RPM and flood slab with water at all times.

When routing IceStone sink openings or edge profiles, do not use segmented bits, as they increase the risk of chipping (see **FIGURE 6**).



**FIGURE 6**

Routing IceStone sink openings

## HAZING

During the fabrication process, slurry may dry on the surface of the slab causing a visual haze. To avoid the effects of hazing, saturate the surface often during fabrication. This haze can also be removed after fabrication using a non-scratch Scotch-Brite pad or 000 steel wool.

## Cutouts and Reinforcing Rod Supports

IceStone, LLC requires that all rough and finished openings be supported with reinforcing rods at both the front and back bridges to span a minimum of 6.0 inches beyond either side of the opening. Openings include but are not limited to cook tops, surface mount sinks, under mount sinks, down draft vents, etc.

IceStone, LLC recommends that reinforcing rods be 1/8 inch x 1/2 inch Fiberglass Rodder stock (or approved equivalent) set vertically in a 3/16 inch wide x 5/8 inch deep blade kerf (or space left by the saw blade after cutting) covered in Tenax Micto 2 Part Epoxy. IceStone, LLC recommends fiberglass rather than metal rodding because fiberglass will not oxidize over time and will physically bond to the adhesive (see **FIGURE 7 AND 8**).



**FIGURE 7**  
Fiberglass rod and roll.



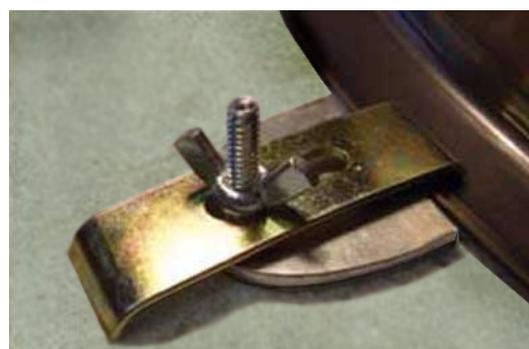
**FIGURE 8**  
Saw kerfs for rodding.

## Under Counter Sink Mounting Specifications

Stainless steel sink basins designed for under counter application should be mechanically anchored to the underside of the IceStone countertop using 3/8" x 5/8" diameter caulk-in-anchors with 10-24 machine screws (**FIGURE 9**) or with adhesive type hardware (**FIGURE 10**) or with approved equivalent. Heavier cast iron enamel and quartz composite sink basins require built-in cabinet support as per manufacturer's installation instructions and should not be mechanically attached to the IceStone countertop.



**FIGURE 9**  
Undermount sink mounted with mechanical anchors.



**FIGURE 10**  
Peel and stick sink mounting clip.

All undermount sinks should be adhered to the underside of the countertop using 100% silicone. Do not use solvent-based adhesives or plumbers' putty; they will stain IceStone surfaces.

All sink basins should be installed following manufacturer's instructions and by using manufacturer's supplied mounting hardware whenever possible.

Always follow manufacturer's specifications for sink basin rough opening and fixture drilling diameters and locations. Use manufacturer's provided templates whenever possible.

All under counter sink bowl cutouts must have the inside edge polished to match the IceStone surface.

### **Soap Dispenser Placement**

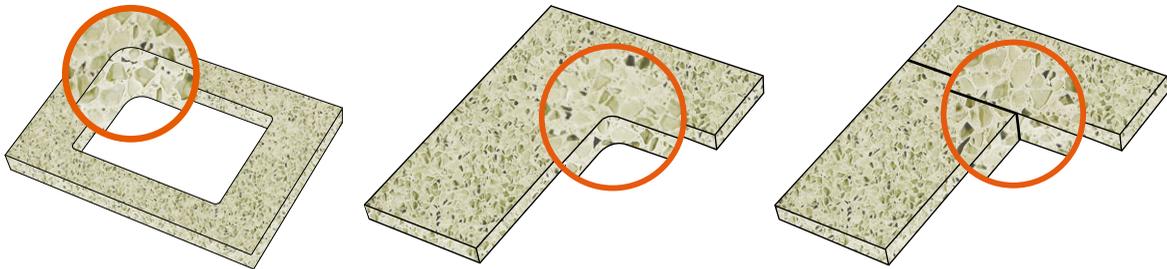
Hand pump soap and lotion dispensers should be placed so that the spout drips into a sink bowl or basin and not on the countertop. Avoid using swivel dispensers. Foam soaps are recommended.



**FIGURE 11**  
Soap dispenser should drip directly into sink bowl.

## Radius Corners

IceStone surfaces require radius corners on all cutouts. The inside corners of IceStone cutouts and countertops must be shaped to a minimum of 1/4 inch radius to relieve corner stresses. Mitered or 90 degree corner seams do not need a radius. All outside corners of IceStone surfaces must be tooled to a minimum of 1/8 inch radius.



## Edge Profiles

Always avoid installing IceStone with 90° edges, as this may lead to glass chipping and pop-outs. Edge profiles recommended by the Marble Institute of America are appropriate for IceStone surfaces, including the ones shown below.



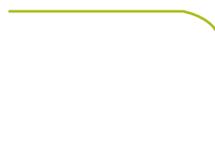
Radius Edge



Half Bullnose Edge



Ogee Edge



Pencil Edge



Full Bullnose Edge



Platner Edge

Glass segregation in some edge profiles may be pronounced. This can be addressed using a full bullnose, radius or platner edge.

## Aprons and Built Up Edges

To avoid the visual effect of glass segregation, all built up edges should be mitred. IceStone slabs should not be stack laminated at visible edges. Laminating may create an undesired look if there is glass segregation in the slab edge. The joint should be clean, flush and parallel.



**FIGURE 12**

Example of properly built up edge (left), and improper stack lamination (right).

## Recommended Edge Polishing Sequence

Edge polishing should be performed with sufficient pressure. Only use polishers that have a speed of 2,000rpm or higher, and high quality industrial diamond abrasive polishing pads. Polish using a sequence of increasingly finer pads to achieve a smooth, high quality, high gloss finish: #50, #100, #200, #500, #1000, #2000, #3000 and buffing pad.

## Structural Support

### FOUR SIDED PERIMETER SUPPORT

IceStone surfaces are strong enough that they do not require additional substrate support if a four sided perimeter frame exists for a countertop installation. However, front to back support is required for every 36 inches.

### THREE SIDED PERIMETER SUPPORT

Additional support is required for structures that have perimeter support on three sides, such as vanity bases, desks and frameless cabinets. Installations with depths less than 26 inches require supports every 24 inches. Installations with depths over 26 inches require supports every 18 inches.

## Dishwasher Support

Dishwashers should not be attached directly to IceStone surfaces. Review the dishwasher manufacturer's specifications for the proper side mounting installation procedure. You can also attach the dishwasher to the cabinets by using a dishwasher mounting bracket.



**FIGURE 13**  
Use a dishwasher mounting bracket to attach the dishwasher.

## Cantilevers and Overhangs

Cantilevers and overhangs 9 inches or less do not require additional support.

Cantilevers larger than 9 inches require additional support at 24 inch intervals. Supports can be korbels, legs, columns or reinforcing rods.

## Installation Overview

IceStone surfaces have a similar structural stability to quarried stone. We recommend the installation guidelines specified in the Marble Institute of America's Dimension Stone Design Manual (<http://www.marble-institute.com>). The recommendations below will offer additional guidance as you install IceStone durable surfaces:

- Use quality transport A-frames
- Always carry IceStone slabs on the vertical edge to avoid flexing
- A minimum of two installers are required for all projects
- Install only on level and plumb base cabinetry
- Top surfaces of the cabinets must be within 1/8" (3mm) of flat and level when measured across a distance of 10'-0" (3 m)
- Use shims when necessary
- Use 100% silicone caulking (or approved substitute) to adhere countertops to all substrates

To ensure accuracy before installing IceStone durable surfaces, use a template just as you would with quarried stone or quartz products. When templating, use traditional 'stick' templates or digital templating systems to ensure accurate fabrication.

1. Always remove existing surface tops prior to template.
2. Check all walls and base cabinetry to ensure everything is plumb and level. Scribe to the wall when the back edge is not square.
3. Mark all center lines on the template where there will be sink cutouts, cook-top rough openings, fixture drillings or electrical outlets.
4. Note the dimensions from cabinet to cabinet throughout the kitchen.
5. Double check all measurements and markings.
6. When nesting templates prior to cutting DO NOT mark IceStone slabs with ink pens or grease pencils.

## Seaming

In order to achieve a minimally visible seam, IceStone surfaces should be seamed with a color matched two-part polyester, epoxy or acrylic joint adhesive. The adhesive must be pigmented to match the slab being installed. Seams should be no more than 1/16 inch in width. Use seam setters to achieve best results. Tenax Rivo 50 A & B part knife grade epoxy can be tinted to color match with Tenax Tepox Epoxy colors. Tenax Rivo 50 A & B are VOC compliant under California regulation.

Prior to installation, make sure that:

- Seams are supported to assure durability over time. Unsupported seams may buckle or sag.
- IceStone surfaces are properly sealed and waxed.
- Base cabinets are permanently anchored in place and are on a true plane completely leveled across all planes.
- A space of 1/8 inch exists between walls where the slab will be installed and the material (installations require at least 1/16" at each wall).
- Surfaces are placed level on top of cabinets or base; shim if necessary to ensure fit.
- Review all safety instructions and warnings before using any seaming products.

Always use 100% silicone adhesive to secure the slab to cabinetry or bases. Do not use cementitious grout between IceStone countertops and backsplashes.

## Sealing



Watch how to seal on IceStone's YouTube channel:

[youtube.com/user/IceStoneLLC](https://youtube.com/user/IceStoneLLC)

IceStone, LLC requires that fabricators seal the surface before or at the time of installation. Apply one of the recommended sealers below according to the manufacturer's instructions. If the surface was ever sealed with a solvent-based sealer, you cannot use a water-based sealer for subsequent applications. If the surface was sealed with a water-based sealer, consistently use a water-based sealer for subsequent applications, or use a solvent-based sealer.

| Recommended Sealers                   | Tenax Protex   | StoneTech BulletProof                              |
|---------------------------------------|--|--|
| Water Based                           |  | •  |
| Solvent Based                         | •  |  |
| Penetrating Sealer                    | •  | •  |
| Minimal Odor                          |  | •  |
| Low Volatile Organic Compounds (VOCs) |  | •  |
| Staining Protection                   | •  | •  |
| Etching Protection                    | none; wax after sealing                                | none; wax after sealing                            |
| Manufacturer                          | Tenax/Tenax USA  | Dupont   |
| Telephone Number                      | 1-800-341-0432   | 1-877-786-6383                                     |
| Website                               | <a href="http://www.tenaxusa.com">www.tenaxusa.com</a> | <a href="http://www.dupont.com">www.dupont.com</a> |

You can apply **CHENG Concrete Countertop Wax** after sealing for added protection.

## Heat Tolerance

IceStone surfaces can withstand incidental heat contact up to 450° F. However, please note that the sealer and wax applied to the surface might not be heat resistant, so hot plates or trivets should be used under pots and pans recently removed from a heat source. Cook top appliances that are surface mounted require adequate insulation to prevent thermal conductivity between the appliances and the IceStone surface. Follow manufacturers instructions regarding insulation for freestanding ranges and ovens. Under-counter ovens should not be installed under IceStone.

## Surface Repair

### Scratches and Etch Marks



Watch how to remove etching on IceStone's YouTube channel:

[youtube.com/user/IceStoneLLC](https://youtube.com/user/IceStoneLLC)

Minor scratches and marks can be buffed out of the surface using a powdered mixture and cotton cloth. Brands of powdered buffing mixture include Dia-Glo or Akemi Liquid Polish. Rub vigorously in small circles until the area is smooth.

Greater damage will require use of a low rpm electric polisher and dry polishing diamond pads. Because the glass in the IceStone surface is harder than the cement, start with the highest abrasive (3000g) and work down (2000g, 1000g) until the damage is gone, then reverse the steps (1000g, 2000g, 3000g) until the marks are gone. Seal the surface after removing the marks.

You can apply CHENG Concrete Countertop Wax after sealing for added protection and to help minimize the appearance of minor surface marks.

### Removing Stains



Watch how to remove stains on IceStone's YouTube channel:

[youtube.com/user/IceStoneLLC](https://youtube.com/user/IceStoneLLC)

Using a poultice is an effective method of removing stains from IceStone. Make sure to test the poultice on an inconspicuous area to ensure there will be no discoloration from the procedure.

To remove stains, you will need the following:

- Acetone
- Water
- Plastic Wrap
- Painter's tape
- DryTreat Hannafinn Oxy-Klenza (for organic stains)
- Recommended Sealer
- \*Optional: CHENG Concrete Countertop Wax

1. Remove residual sealer and wax from the surface with acetone.
2. Identify the staining agent.
3. Select the appropriate poultice for the stain. DryTreat Hanafinn Oxy-Klenza™ works well for most organic stains. If you have questions about a particular staining agent, contact IceStone Customer Service.
4. When using Oxy Klenza, mix with water into a thick paste and apply to the stain. Cover with plastic wrap, using painter's tape to hold in place. Let sit for 24 hours, then remove and rinse with clean water; air dry.
5. If the stain still persists, repeat instructions in step 4.
6. Always seal the surface after removing staining. You can apply CHENG Concrete Countertop Wax after sealing for added protection.

## Pop Outs



Watch how to fill in pop-outs on IceStone's YouTube channel:

[youtube.com/user/IceStoneLLC](https://youtube.com/user/IceStoneLLC)

Shellac can be used to fill any large voids over 2.0mm in the IceStone surface. Contact IceStone to order shellac pieces that match the color of the IceStone surface.

To fill pop outs, you will need the following materials:

- Shellac pieces that match the matrix color
- Small metal spatula
- Razor blade
- Electric burner or heat gun



1. Heat the metal spatula by resting the blade on the electric burner.
2. Use hot metal spatula to press shellac into the void. If the pop out is particularly large, break off small pieces of shellac so that the cavity is filled. Use the metal spatula to melt more shellac until the void is full. There should be no air bubbles.
3. Wait 1 minute until the shellac has cooled and hardened. Use a sharp razor blade to scrape off excess shellac from the surface of the slab. Void should be filled, leveled with the rest of the surface, and smooth.
4. If the void was not successfully filled, use a razor to remove the shellac from the void and try again.
5. Wipe surface around shellac with a clean rag and acetone.



Watch how to fill microporosity on IceStone's YouTube channel:

[youtube.com/user/IceStoneLLC](https://youtube.com/user/IceStoneLLC)

## Microporosity

IceStone, LLC has developed a patching method that is recommended for any small surface problems like pinholes or slight discoloration. The patching kit is available by order from IceStone, LLC. If there are large voids in the surface (larger than 2.0mm), follow the Pop outs procedure listed on page 28.

You will need the following materials and tools:

- Patching kit (a color matched cementitious mix provided by IceStone)
- Plastic spatula or spoon for stirring
- Metal mixing bowl
- Water
- Grout float
- Clean rag



1. Mix the dry patching kit in the metal bowl to ensure pigments are dispersed evenly.
2. Add 40 grams of clean cold water to the mixture.
3. Stir until the mixture is smooth. The mixture should be thicker than pancake batter but not as thick as peanut butter. Add more water (5 g at a time) if necessary. The less water used, the stronger the concrete will set.
4. Wet the whole surface with a spray bottle of water. Empty half of the mixture in one line in the middle of the IceStone. One bag of patching powder makes enough slurry for 2 slabs.
5. With circular motions spread the slurry evenly over the face of the slab with the grout float, making sure the whole surface is covered.



6. Scrape excess slurry into the mixing bowl. Make sure the patch dries in a consistently thin layer. Areas with too much patch will appear discolored and will require reworking.



7. Wait until the patch has completely dried. Once dry, wipe off all the dried material from the surface with a clean cotton cloth. The pores should be filled and level.

# For Your Customer

The next few pages include the information you will need to **provide to your end user upon installation**. Make a copy, download on our website at [icestoneusa.com](http://icestoneusa.com), or request by emailing [customerservice@icestoneusa.com](mailto:customerservice@icestoneusa.com).

- **Care & Maintenance Guidelines**
- **Warranty Registration Form**



# IceStone Care & Maintenance Guidelines 1/2

## ABOUT YOUR ICESTONE SURFACE

IceStone is manufactured without any petrochemicals or resins, making it an environmentally responsible choice for countertops in the home or office. Care of IceStone is similar to that of natural stone. Like all surfaces, IceStone will show signs of wear and tear over time. With sensible care, you can maintain the beauty and quality of your IceStone surface.

## CARING FOR YOUR ICESTONE

### GENERAL CLEANING

Use the products recommended in these guidelines. Cleaning products should be free of chlorine bleach, ammonia, acid and citrus scents.

### WIPE UP SPILLS

Be especially attentive to spills such as coffee, wine, fruit juices and other acidic liquids, wiping them up promptly with a damp cloth and water.

### USE TRIVETS AND CUTTING BOARDS

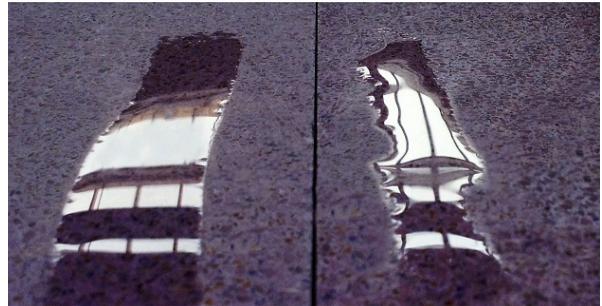
Place a tray under coffee machines, soap, and soap dispensers—as with all surfaces, use trivets and cutting boards to help protect the sealer and the surface.



## PROTECT YOUR SURFACE

IceStone is very dense, but still porous, so surfaces must be sealed. IceStone requires that the fabricator seals before or at the time of installation.

A typical IceStone installation requires annual resealing. To determine if it is time to reseal your IceStone, dab a cotton ball in water and evenly wipe the surface in a straight line.



### TIME TO RESEAL

If the watermark is wide and flat.

### SEALER IS INTACT

If the watermark is raised and has irregular edges.

Sealing is simple! While you can certainly call in a professional, most homeowners opt to do it themselves. We have made it even easier by providing a video tutorial on sealing on the IceStone YouTube channel:

[www.youtube.com/user/IceStoneLLC](http://www.youtube.com/user/IceStoneLLC)



You can apply **CHENG® Concrete Countertop Wax** after sealing for added protection.

# IceStone Care & Maintenance Guidelines 2/2

## RECOMMENDED PRODUCTS

You can purchase recommended products at our web store at [www.icestoneusa.com](http://www.icestoneusa.com)

\* Using products other than those recommended on IceStone can result in less than optimal performance of the material.

### CLEANERS

**Seventh Generation® All-Purpose Cleaner** | **Free & Clear Method® All-Purpose Natural Surface Cleaner** | **Lavender Method® Daily Granite Cleaner**

### SEALERS

IceStone recommends **StoneTech® Bulletproof®** a high-performance water-based sealant. If your IceStone surface was sealed with a solvent-based product, we recommend **Tenax® Protex** when resealing.



## REPAIRS

### REMOVING TOUGH STAINS

Staining is caused by liquids that have penetrated and discolored the surface. Most stains can be removed by using a poultice. Refer to our video illustrating stain removal on our YouTube channel: [www.youtube.com/user/IceStoneLLC](http://www.youtube.com/user/IceStoneLLC)



### REMOVING SURFACE MARKS/ETCHING

Etching is caused by acidic liquids that have discolored, dulled, and/or eroded the surface.

If etching occurs, contact IceStone Customer Service: [customerservice@icestoneusa.com](mailto:customerservice@icestoneusa.com)

## WARRANTY

IceStone offers a Residential 10-year Limited Warranty and a Commercial 5-year Limited Warranty for installations that are fabricated and installed by an IceStone Certified Fabricator. Register your warranty on our website and receive e-mail reminders about maintaining your IceStone.

## CONTACT US

Thank you for selecting IceStone surfaces. We are continuously researching new products that make it easier for you to care for your surface. Please visit our website or call us for the latest information about care and maintenance.

IceStone, LLC | Brooklyn Navy Yard | 63 Flushing Ave, Building 12 | Brooklyn, NY 11205 | [icestoneusa.com](http://icestoneusa.com)  
[customerservice@icestoneusa.com](mailto:customerservice@icestoneusa.com) | 718.624.4900



# IceStone Warranty Registration Form

Please go to [icestoneusa.com/customer-service/warranty](http://icestoneusa.com/customer-service/warranty) to register your warranty. Alternatively, complete the form below and send via email to [customerservice@icestoneusa.com](mailto:customerservice@icestoneusa.com) or fax to 718.624.4002. Your warranty must be registered within 30 days of installation.

Building/Homeowner Name: \_\_\_\_\_

Type of Installation: \_\_\_\_\_ Commercial \_\_\_\_\_ Residential

If Commercial, Project Name: \_\_\_\_\_

Project address:

\_\_\_\_\_ Street \_\_\_\_\_ Apt/Suite

\_\_\_\_\_ City \_\_\_\_\_ State/Province \_\_\_\_\_ Zip/Postal Code

\_\_\_\_\_ Country

Building/Homeowner Phone Number: (\_\_\_\_)\_\_\_\_-\_\_\_\_\_

Building/Homeowner Email Address: \_\_\_\_\_

IceStone Color(s) Installed: \_\_\_\_\_

Type of Construction: \_\_\_\_\_ New Construction \_\_\_\_\_ Remodel

Estimated Square Footage Installed: \_\_\_\_\_

Usage \_\_\_\_\_

(ie. Kitchen Countertop, bathroom vanity, outdoor application, reception desk, etc)

Did you receive the Care and Maintenance Guidelines? (circle one) : Yes/No

Fabricator Company Name: \_\_\_\_\_

Installer Company Name: \_\_\_\_\_

Purchase Date: \_\_\_\_/\_\_\_\_/\_\_\_\_\_

Installation Date: \_\_\_\_/\_\_\_\_/\_\_\_\_\_

Panel ID Number(s): \_\_\_\_\_

Brand of Sealer Used: \_\_\_\_\_

Brand of Wax Used: \_\_\_\_\_

Would you like to receive email updated on IceStone Care & Maintenance Guidelines? Yes/No

(Choose "Yes" for reminders to do a water test to determine if it is time to reseat your surface)

## **Thank You & Contact Us**

We strive to design surface solutions that won't compromise human or environmental health. To that end, every IceStone slab is free of toxic pigments and harmful carcinogens, and contains just three core ingredients: pigment, cement, and 100% recycled glass. Safe for our employees and safe for our customers.

IceStone, LLC was founded on the belief that manufacturing sustainable, high design products could revitalize and revolutionize American manufacturing and have a positive impact on the environment. IceStone has diverted over 10 million pounds of glass from landfills since 2003, and we thank you for helping us save the world, one countertop at a time.

### **IceStone Customer Service**

[customerservice@icestoneusa.com](mailto:customerservice@icestoneusa.com)

718.624.4900 ext. 0



*IceStone*<sup>®</sup>  
MADE IN THE USA

[www.icestoneusa.com](http://www.icestoneusa.com)

T 718 624 4900 | F 718 624 4002 | E [customerservice@icestoneusa.com](mailto:customerservice@icestoneusa.com)

Brooklyn Navy Yard, 63 Flushing Ave, Building 12, Brooklyn, NY 11205



© June 2015 IceStone