

QuartzStone™

FABRICATION GUIDELINES

ABOUT

QuartzStone™ by IceStone® is a beautiful commercial grade surface that compliments any kitchen and bath, and is equally suited for heavy use applications, including, bars, food prep, reception desks, and cash transaction areas.

QuartzStone is a versatile non-porous surface resistant to flexing, abrasion and acids, and requires minimal maintenance.

94 % of QuartzStone content comes from crushed waste stone left over in quarries or from natural stone beds. Slabs are manufactured using the state-of-the-art Breton™ system that is used to manufacture most high-end engineered stone products and known for it's low environmental impact, safe manufacturing process, and product consistency.

DISCLAIMER

This manual is published by IceStone, LLC to inform fabricators of the recommendations for fabricating QuartzStone counter tops from slabs supplied by IceStone, LLC. Although we try our best to ensure that the information provided is accurate and comprehensive, IceStone LLC does not provide a guarantee, and cannot be deemed liable for the completeness or application of our specific recommendations. A basic knowledge of stone and quartz fabrication is required.

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 QuartzStone's current palette and production.

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

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 the 6-digit lot number, color, shipment date, nonconformity details and digital photos. IceStone LLC 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 QuartzStone Care and Maintenance instructions, which can be obtained by visiting www.icestoneusa.com 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 QuartzStone Fabrication Guidelines, please visit www.icestoneusa.com.

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GENERAL SAFETY GUIDELINES

IceStone LLC takes safety in the workplace very seriously and requires that all employees are informed on the risks of fabricating QuartzStone and trained in all aspects regarding health and safety.

Fabricators should take all necessary safety precautions when fabricating QuartzStone including, but not limited, to the following:

- Use the appropriate tool for each task and keep all tools in good working order.
- Keep the work area clean and free of clutter to help prevent accidents.
- All tools that may be exposed to water or moisture must be equipped with a Ground Fault Circuit Interrupter (GFCI).
- Avoid manually lifting and transporting loads greater than 20 kg. If necessary, avoid awkward positions and repetitive movements. Otherwise, use mechanical means to handle and transport heavy loads.
- Always wear necessary PPE, such as gloves, goggles, earmuffs or earplugs, and non-slip footwear.
- Always wear a dust mask and follow U.S. regulations for proper ventilation. QuartzStone contains crystalline silica, which can be hazardous to your health once it becomes airborne.
- Always use wet tools when shaping and cutting material.

EXPOSURE TO CRYSTALLINE SILICA DUST

QuartzStone slabs are not hazardous as shipped and used by the end user. However, QuartzStone contains crystalline silica and fabrication processes (such as cutting, drilling, grinding, polishing etc.) generate dust with respirable size particles. Uncontrolled exposure to respirable crystalline silica dust is dangerous to your health and prolonged, unprotected exposure can cause serious illnesses such as, silicosis, lung cancer, fibrosis of the lungs, tuberculosis, kidney diseases, abrasion of the cornea, and irritation of the skin and eyes.

Wherever QuartzStone is fabricated and processed, a silica control program should be in place in accordance with all applicable laws, regulations, orders and directives. In addition to the precautions listed in this guide, fabricators and installers of QuartzStone should also become familiar with the requirements laid out by the Occupational Health and Safety Administration's (OSHA) National Emphasis Program for Crystalline Silica as well as the European Network on Silica's (NEPSI) Good Practice Guide for the handling of silica.

Visit www.osha.gov and <http://nepsi.eu> for more information.

Proposition 65 WARNING: This product contains crystalline silica, a material known to the state of California to cause cancer.

Preventative Measures

In addition to any other applicable safety measures, the preventative measures below must be followed to ensure employees' safety:

- Access to the work area must be restricted to authorized personnel only. "Hazardous Dust" signs should be posted when an area is at risk.
- Wear a suitable dust mask in all areas displaying a "Hazardous Dust" sign.
- Always use wet tools to prevent airborne dust particles.
- Ensure that the workplace (including both the fabrication facilities as well as any adjacent offices) have adequate general ventilation. Emissions from dust extraction systems must comply with all local environmental legislation.
- Implement proper ventilation and filtration systems to control dust. Check at least once a week to ensure the system is functioning correctly.
- Clean the equipment and the work place daily using wet or vacuum cleaning methods. Avoid cleaning with a dry brush or using compressed air as these methods can raise dust, boosting exposure to very high levels.
- Clean clothes should be stored separately from work clothing.
- Do not clean overalls with compressed air.
- Remove work clothes and wash hands and face before eating.
- Do not smoke inside the facility.

TRANSPORTING SLABS

Slabs should be loaded onto a truck vertically, stacked on metal A-frames, or approved equivalent, secured safely to the truck, and secured with straps or clamps. To prevent scratching of the slab during handling and storage, all slabs should be loaded in pairs with the finished face against each other.

HANDLING SLABS

Slabs should be moved with a forklift boom and clamp designed to carry slabs, or with an overhead crane and a clamp. For moving bundles of slabs, heavy duty slings can be used. Ensure that the loading capacity of the slings is appropriate for handling a bundle of QuartzStone.

STORING SLABS

QuartzStone slabs should be stored indoors and away from direct sunlight in order to avoid color variation from direct exposure to the sun. In case indoor storage is not feasible, covering the slabs with a tarp to protect them from the effects of weather is mandatory. The A-frames for storage must have at least two uprights spaced 67" - 75" (170-190 cm) apart to avoid warping of the slabs.

STANDARD SLAB SIZES AND WEIGHT

120" x 55" x ¾" nominal (3050 x 1400 x 20 mm) approx. 475 lbs (215 Kg)

120" x 55" x 1-¼" nominal (3050 x 1400 x 30 mm) approx. 710 lbs (320 Kg)

TECHNICAL SPECIFICATIONS & CERTIFICATIONS

Apparent Density:	2380-2500 kg/m ³
Water Absorption:	<0.10%
Flexural Strength:	40-60 MPa
Abrasion Resistance:	25,0-28,0mm
Impact Resistance:	1,0-2,5 > 2,5 J
Chemical Resistance:	C4
Compressive Resistance:	150-250 MPa
Mohrs Hardness:	5-7mohrs
Reaction to Fire:	A2fl-s1
Slip Resistance:	R9
Food Equipment Materials:	NSF 51 Certified for splash zones



VISUAL INSPECTION

QuartzStone slabs supplied by IceStone, LLC have gone through a quality control check to detect possible defects on the surface. However, fabricators are responsible for determining if the slabs are fit for use. Please contact IceStone, LLC immediately if the slab is defective. A full visual inspection is essential and should be done prior to cutting material.

COLOR MATCHING/BATCH NUMBERS

Before fabricating, always visually inspect slabs to ensure that an acceptable color match is achieved. Slabs that are being seamed together must be from the same batch. The batch number is a 6-digit number (ex: 150804) representing the batch or date of manufacture and can be found on the upper right side of the label adhered to each slab.

FABRICATION

QuartzStone slabs should be fabricated with tools specifically designed for quartz surfaces. Prior to cutting, make sure that the bridge saw and table are in good condition to avoid slab movement during cutting. The blade should be suitable for cutting quartz and must be in good condition. Water flow should be consistent to ensure adequate cooling of the blade. To ensure a clean and consistent cut, blade rotation speed (rpm) and the traverse speed of the saw must be set up according to the guidelines provided by the blade and saw manufacturer(s).

CUTOUTS

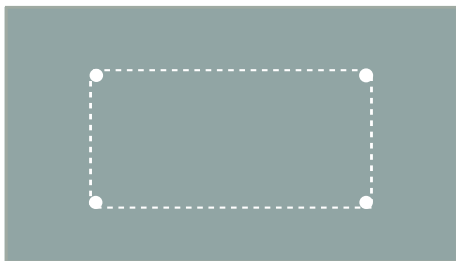
For square cut outs for sinks and cooktops proceed as follows: drill a hole (Ø 30 mm - 1-¼") at the four corners of the square, then cut with a blade the lines between the holes, in a way that leaves the corners rounded (see **FIGURE 1**). *Please note: whenever fabricating the cutout for the cooktop, make sure the heating element is placed more than 20 mm (3/4") from the edge of the cutout. This is to avoid potential cracks due to excessive heating.*



1 | Mark corners



2 | Drill holes where marked



3 | Make the cuts between the holes



4 | Finished cutout with rounded corners

FIGURE 1

Follow these steps for square cut outs for sinks and cooktops.

EDGE POLISHING

Edges can be polished with edge polishing machines suitable for natural stone, using abrasive tools 5" (Ø 130 mm) made for quartz based engineered stones. The piece to be polished should rest firmly on the table to prevent it from movement during fabrication. The water flow should be consistent in order to ensure adequate cooling of the tools. For quality edge polishing, the rpm and the psi of the abrasive tools should be set up according to the guidelines provided by the supplier(s) of the tools and machinery.

IMPORTANT: While fabricating dark quartz surfaces, avoid water stagnation on the surface. This may cause a haze on the surface that cannot be removed. Dry the surface immediately after fabrication.

EDGE PROFILES

We recommend a minimum edge profile of a 1/8" bevel. The preferred minimum edge profile is a 1/8" (3-4mm) Pencil Round edge.

MITERED EDGES

Mitered edges should be done at a 45° angle to ensure maximum strength. The joint should be clean, flush, and parallel. Please be aware that mitered edges have the greatest area of weakness and are most prone to chipping. Ensure that the adhesive is thoroughly distributed throughout the joint for maximum strength.

LAMINATION

When laminating edges, ensure that the lamination piece is the full length of the top piece. A 45° corner joint is recommended to minimize stress on corners. If this unable to be done and a joining of the lamination pieces is required the joint should be cut at 45°.

SEAMING

For seaming, use a mono-component polyester resin-based adhesive, following the instructions provided by the manufacturer. The surfaces to be seamed must be unpolished, flat, dry and clean. If necessary, the color of the adhesive can be adjusted by using either colored pigments for polyester resin or metallic oxides. The color should be added prior to adding the catalyst. Add the needed quantity of colorant to achieve the desired shade, then add the catalyst to harden the adhesive. Adding too much colored pigment may alter the physical properties of the adhesive. Remove any excess adhesive from the top before final hardening takes place.

Please also follow these guidelines for the placement of seams:

- Make sure there is a minimum distance of 6" (15cm) between the edge of a cutout and seam.
- Never position a seam over the dishwasher.
- Never position a seam in the middle of a cutout.
- There should be no seams on an overhang of a peninsula or island.

INTEGRA ADHESIVES COLOR CHART

QuartzStone Colors	Integra Colors
Alabaster	Winter White
Cloud	Pure White (Alternative: White Linen)
Greyhound	Meteor Grey
Midnight	Satin Black
10 PM	Graphite
Snowfall	Newport Grey

JOINTS

Mask the joints, and insure the epoxy will not drip or flow out from said joints. Mix sufficient hardener to pre-color material doing one joint at a time. Allow epoxy to rise slightly higher than the masking tape. When the epoxy is still, but remains pliable, take a new razor blade, and carefully cut through the masking tape and epoxy in one continuous, even cut, paying attention not to scratch the surface. Insure that all epoxy grout is higher than, or even with the face of the quartz. Return to the first joint. Using 00 or 000 grade steel wool and a sanding block, work the abrasive parallel to the joint until all high spots are removed and joint shines.

INSTALLATION

The fabricated countertop is to be moved and handled vertically, avoiding twists and collisions. Prior to installation, visually inspect the countertop for any surface imperfections such as scratches, cracks or aesthetic defects. Make sure the substrate is on an even and true plane. If the counter is to rest on cabinets, make sure they are set level and flush, adjusting the leveling feet if necessary. Vertically place the countertop on the surface, polished surface against the wall, then apply adhesive (100% clear silicone or equivalent) to the substrate or cabinets to within a few inches of all the edges, using a random pattern that insures adhesive at about 6" (15 cm) centers. After carefully lowering the stone onto the substrate or cabinet, thoroughly dry clean the stone tops.

SINK/COOKTOP INSTALLATION

When installing the sink and the cooktop, make sure they do not apply pressure on the cutout. Anchors should be installed as per the fixture manufacturer's recommendations. Do not secure mechanical fasteners (screws, nails, etc.) directly into the material.

It is recommended that all sink installations be fully supported independent of the QuartzStone top. Please be sure to use a professional sink-setter or support rail system. Plan for front-to-back support strips 2.5"-wide (40mm-100mm) to coincide with cutouts and periodic support. Support must be provided under all countertop joints.

For under-mount sink installations:

- All under-mount sink cutouts must have the inside edges polished to match the surface.
- All under-mount sinks should be sealed to the countertop using 100% silicone.

SUPPORT

Minimum support requirements for 3 cm thickness:

- For structures with support on 4 sides and depths <26", outer perimeter support is sufficient.
- For structures >26", additional front-to-back support is required every 36" in addition to the perimeter support.
- All seams should be supported with build-up strips that extend past seamed area by 2" on both sides of seam.

Minimum support requirements for 2 cm thickness:

- Countertops should be supported along the outer perimeter and front-to-back every 36".
- Support strips or solid substrate are acceptable.
- Support strips should be cut a minimum of 3/4" in width around cutouts and 1-3/4" in width to support the deck.
- All seams should be supported with build-up strips that extend past seamed area by 2" on both sides of seam.

Should some areas of the countertop not rest on a cabinet (e.g. the corner of L-shaped countertops), install anchor supports to the wall.

OVERHANGS

Maximum unsupported overhang for 2 cm thickness: 10" (24 cm)

Maximum unsupported overhang on 3 cm thickness: 14" (35 cm)

Overhangs exceeding the maximum requirement should be supported with corbels or tubing. Distance between corbels/tubing shall not exceed 18". Generally speaking, use of corbel/tubing is always welcome.

CARE & MAINTENANCE

QuartzStone™ surfaces are durable and nonporous, providing excellent stain, scratch, and chemical resistance.

EASY CLEANING

QuartzStone has a polished finish which makes for easy clean up. A damp cloth or paper towel, in combination with a mild detergent, is all that is needed to maintain its beauty. Products specifically designed for natural stone can also be used.

SCRATCH RESISTANT

QuartzStone surfaces are very durable and scratch resistant. However, since no surface is indestructible, the use of a cutting board is always recommended. Avoid using knives or sharp objects directly on the surface.

ACID AND LIQUID RESISTANT

QuartzStone surfaces are non-porous, making the product highly resistant to liquids including, but not limited to, coffee, wine, lemon juice, olive oil, vinegar, and makeup.

HEAT RESISTANT

QuartzStone surfaces can withstand high temperatures for incidental contact. However, the material is not heat proof, so we recommend the use of trivets or other heat resistant pads. Please avoid direct contact with heat sources such as saucepans, frying pans, deep fryers, pots, irons, and open flame.

PRECAUTIONS

Avoid contact with:

- Alkaline chemicals (acetone, caustic soda, etc.)
- Pure ammonia or ammonia-based cleaners
- Solvents in general (eg. nail polish removers or paint solvents containing trichloroethylene and/or methylene chloride)
- Brighteners, oily soaps, inks, and permanent markers
- Steel wool pads, abrasive and micro-abrasive cleaners such as creams or powders
- Strong detergents, such as those used for cleaning the oven
- Wax polishes or products containing wax

In case of contact with any of the above, it is recommended to immediately rinse thoroughly with water. Avoid any misuse.

QuartzStone™

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