

FABRICATION & INSTALLATION GUIDELINE

VICOSTONE® SURFACES

January - 2025

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Introduction

Purpose

The purpose of this guideline is to present technical information and guidance for professionals (including but not limited to fabricators and installers), as well as to provide instructions and recommendations on occupational safety and health risks to be considered in the fabrication and installation of VICOSTONE® SURFACES.

Terms

The term “VICOSTONE® SURFACES” or “Product”, when used in this document, refers to any engineered stone of any size, marketed and supplied by VICOSTONE., JSC, and/or its distributors, and/or partners of these distributors, all of whom have been approved by VICOSTONE., JSC (collectively referred to as the “Distributor”).

“Customer”, as used in this document, refers to any individual, firm or company that purchases products from VICOSTONE., JSC and/or the Distributor.

“Guideline” used in this document, refers to the Fabrication & Installation Guideline VICOSTONE® SURFACES.

General safety

VICOSTONE, JSC always considers safety and the environment a top priority. We require our distributors, fabricators, and installers to strictly adhere to local regulations regarding safety, environment, and occupational health. The fabrication, and installation of Products generate (Product series B) or may generate (Product series 2) Crystalline silica and Titanium dioxide dust, which are associated with adverse health effects, such as silicosis.

Note: The specific details about Product Series B and Product Series 2 are presented in Sections 1 and 3 of the SAFETY DATA SHEET VICOSTONE® SURFACES.

The employer who engages in the fabrication and processing of engineered stone has the responsibility to implement appropriate engineering or technical controls and to identify and utilize available resources regarding best practices.

To ensure health safety, having the right tools and appropriate personal protective equipment are essential conditions for fabricators and installers. The following rules must be adhered to by fabricators, and installers:



Safety Helmet

Protect workers during fabrication, and installation. Always wear a helmet that comply with OSHA's Head Protection Standard (29 C.F.R. § 1910.135) to prevent head injuries.



Eye Protection

During fabrication, and installation, it is necessary to wear protective eyewear with side shields or safety goggles that meet the requirements of OSHA's Eye and Face Protection Standard (29 C.F.R. § 1910.133).



Respiratory Protection

Use dust-filtering respirators to protect against inhaling crystalline Silica and Titanium dioxide dust. Ensure that the selected respirator is NIOSH-approved or provides equivalent protection in compliance with OSHA's Respiratory Protection Standard (29 C.F.R. § 1910.134). Follow the manufacturer's recommendations to select, wear and use it properly.



Protective Gloves

When performing cutting, grinding, or sanding tasks, use appropriate protective measures, including protective gloves that meet OSHA's Hand Protection Standard (29 C.F.R. § 1910.138) if handling sharp or rough edges.



Safety shoes

Proper slip-resistant and steel-toed shoes that comply with OSHA's Foot Protection Standard (29 C.F.R. § 1910.136) are essential to prevent foot injuries while working.



Protective Clothing

Wear long-sleeved protective clothing that meets OSHA's General requirements Standard (29 C.F.R. § 1910.132) during handling, transportation, fabrication, and installation to avoid injuries due to abrasions and impacts.

General safety

- In addition to the personal protective equipment (PPE) listed above, depending on the specific working conditions, it is necessary to use other corresponding personal protective equipment (e.g.: earplugs, aprons, filter plates, etc.).
- All PPE must meet local standards and quality requirements, follow expert recommendations (if available), and be used and preserved according to the manufacturer's instructions.
- Select and use dust-filtering respirators to protect workers from inhaling dust. Select, wear, and use them carefully following the manufacturer's instructions. Minimum quality requirements for respirators include those suitable for the fabrication and installation environment according to standards recognized by NIOSH.
- Regularly check and clean protective equipment, especially respirators. Replace filters periodically based on factors such as the amount of generated dust, exposure time, and manufacturer's instructions.
- During any tasks related to fabrication, and installation that generate dust, use wet or other technical measures (e.g.: wet cutting, vacuuming, dust suppression, etc.) to minimize dust dispersion.
- Ground Fault Circuit Interrupters (GFCI) or Residual Current Devices (RCD) must be installed on all electrical appliances. Three-prong plugs must be used with three-hole electrical sockets. When using an adapter to install a two-hole socket, it must be grounded. Never remove the third prong.
- During fabrication, and installation, do not wear contact lenses, neckties, rings, bracelets, or other jewelry, and do not use clothing with loose threads that could get caught in moving parts.
- Machinery, equipment, and tools used for fabrication, and installation must comply with local safety regulations, usage and preservation guidelines as recommended by the manufacturer.
- Emergency first aid measures should be carried out according to local laws and referenced instructions in the Safety Data Sheet and Health Guideline for VICOSTONE® SURFACES.

Note: Certain states have OSHA approved programs with more stringent standards. This information is general, and each employer has its own responsibility to make decisions about employee protection measures, such as personal protective equipment, based on its particular workplace and activities, and should consult with an industrial hygienist or other qualified professional as necessary.

Responsibility of distributors, fabricators and installers

Responsibility of distributors

- Provide information to your partners (including, but not limited to, distributors, fabricators, installers, and customers), employees and other contractors about the risks associated with exposure to crystalline silica dust: Local legal regulations regarding the control of hazardous substances, the recommendations in this guide, and other recommended information/instructions published/provided by VICOSTONE, JSC.
- Comply with the current legal regulations related to the import, sale, and distribution of the products in countries where distributors operate.

Responsibility of distributors, fabricators and installers

Responsibility of fabricators and installers (Employers)

- Understand and strictly comply with all applicable health, safety and environmental laws, rules, regulations and standards, as well as the recommendations in this guide, Safety Data Sheets, and Health Guideline for VICOSTONE® SURFACES, and other recommended information/instructions published/provided by VICOSTONE, JSC.
- Guide workers on the risks and safety measures related to hazardous substances, such as respirable silica dust, using resources such as this guide and other relevant information, ensuring that workers adhere to the prescribed measures.
- Ensure that the concentration of hazardous substances remains below the local legal limit.
- Regularly assess workplace health, safety and environmental risks, and implement necessary measures to minimize exposure to hazardous substances, such as respirable silica dust.
- Provide adequate protective equipment to workers and make sure they use them, as outlined in Section II (General Safety), and compliance with current legal regulations.

Applications of VICOSTONE® SURFACES

Interior applications

VICOSTONE® SURFACES is an ideal choice for indoor interior applications, including private residences, restaurants, hotels, hospitals, laboratories, etc. It is commonly used for various surfaces such as kitchen countertops, bathroom vanities, bathtub and shower surrounds, fireplace mantels, stairs, etc. Essentially, it is suitable for any location that requires high-quality, sanitary, and low-maintenance countertops.

However, direct exposure to sunlight can potentially alter the color and/or cause warping. Therefore, VICOSTONE, JSC recommends avoiding prolonged exposure to direct sunlight for surfaces used in these applications.

Fireplace mantels applications

VICOSTONE® SURFACES can be used for fireplace mantels, but it is not recommended for the immediate area surrounding the fireplace. VICOSTONE® SURFACES should not come into direct contact with the combustion chamber of the fireplace or any surfaces with temperatures exceeding 212°F (100°C). Exposure to temperatures above 212°F can lead to delamination/separation of bond/joints, or cracking of stone if not installed correctly.

Exterior applications

VICOSTONE, JSC does not recommend the use of VICOSTONE® SURFACES for exterior applications.

Product specifications

General information of the product

VICOSTONE® SURFACES is a composite material made from natural mineral and stone, primarily quartz, bonded with resin, color pigments, and other additives. This product is manufactured using the Breton S.P.A. technology of Italy.

VICOSTONE® SURFACES is a high quality, solid, non-porous surface product that is resistant to scratches, stains, water absorption, and heat compared to many other materials. However, we recommend that users follow the simple care and maintenance instructions published by VICOSTONE, JSC to maintain the product's impeccable condition for years.

The quality of engineered stone will vary from brand to brand depending on the quality of raw materials used in the manufacture of the stone. For VICOSTONE® SURFACES, the highest-quality materials are used according to the regulations and recommendations set forth by Breton S.P.A.

Product size

VICOSTONE® SURFACES can be produced in various sizes and thicknesses to meet different applications. However, some products may only be available through special orders. For information on availability, minimum purchase quantities, and delivery times, please contact the nearest Distributor.

Manufacturer's standard dimension:

No.	Size	Length	Width	Thickness
1	Normal	3030mm (119") +/- 10mm	1430mm (56") +/- 10mm	30mm, 20mm, 12mm (1 ¼", ¾", ½") +/- 1mm
2	Normal Jumbo	3300mm (130") +/- 10mm	1650mm (65") +/- 10mm	30mm, 20mm, 12mm (1 ¼", ¾", ½") +/- 1mm
3	Super jumbo	3454mm (136") +/- 10mm	2007mm (79") +/- 10mm	30mm, 20mm (1 ¼", ¾") +/- 1mm

Standard weights:

THICKNESS	LBS/FT2	NORMAL SLAB WEIGHT	JUMBO SLAB WEIGHT	SUPER JUMBO SLAB WEIGHT
3cm (1 ¼")	15.36 lbs/ft2	717 lbs	901 lbs	1146 lbs
2cm (¾")	10.24 lbs/ft2	478 lbs	601 lbs	763 lbs
1.2cm (½")	6.14 lbs/ft2	287 lbs	360 lbs	479 lbs



Product specifications

Specifications

SPECIFICATIONS FOR SERIES B

No	SPECIFICATIONS	TEST METHOD	RESULT
1	Water absorption	ASTM C97 / C97M-18	≤ 0.02%
		BS EN 14617-1:2005	≤ 0.02 %
2	Apparent density	ASTM C97 / C97M-18	2.1 – 2.3 g/cm ³
		BS EN 14617-1:2005	2.1 – 2.3 g/cm ³
3	Flexural strength	ASTM C880/C880M-18	Fine and medium grain: ≥ 55 MPa Coarse grain: ≥ 41 MPa
		BS EN 14617-2:2016	Fine and medium grain: > 60 MPa Coarse grain: > 40 MPa
4	Compressive strength	ASTM C170/C170M-17	Dry: ≥ 200 MPa
		BS EN 14617-15:2005	Dry: ≥ 185 MPa
5	Chemical resistance	ASTM C650-04:2014	Unaffected
		BS EN 14617-10:2012	Class C4
6	Dimension stability	EN 14617-12:2012	Class A
7	Impact resistance	ASTM C1870-18	36-inch ball drop: ≤ 0.25 inch 48-inch ball drop: ≤ 0.27 inch
		BS EN 14617-9:2005	> 4J
8	Abrasion resistance	ASTM C501-84:2015	Abrasive wear index: lw ≥ 179
		BS EN 14617-4:2012	Volume: V ≤ 165 mm ³ Chord length: L ≤ 27 mm
9	Thermal shock resistance	ASTM C484-99:2014	No visible damage after 10 cycles
		EN 14617-6:2012	No visible defects after 20 cycles Change in mass: ≤ 0.05% Change in flexural strength: - 8.4% ÷ 5.4%
10	Freeze-thaw-resistance	ASTM C1026-13:2018	No visible damage after 300 cycles Weight loss: 0.09%
		EN 14617-5:2012	No obvious damage after 25 cycles KMf25 = 93 ÷ 105%
11	Mohs's scratch hardness	EN 101: 1991	≥ 6
12	Slip resistance	DIN 51130:2014	R9 at Honed 400
		ASTM C1028-07	Static coefficient of friction Dry: 0.7 ÷ 0.8 (Polished/Honed finish) Damp: 0.5 ÷ 0.7 (Polished/Honed finish)
13	Microbial resistance	ASTM D6329-98	Ranking 3: Resistant to mold growth
14	Stain resistance	ASTM C 1378-04:2014	Class A (Polished finish)
15	Surface burning	ASTM E84	Class A

Product specifications

SPECIFICATIONS FOR SERIE 2

No	SPECIFICATIONS	TEST METHOD	RESULT
1	Water absorption	ASTM C97/C97M-18	$\leq 0.03\%$
		BS EN 14617-1:2013	$\leq 0.03\%$
2	Apparent density	ASTM C97/C97M-18	$2.1 \div 2.3 \text{ g/cm}^3$
		BS EN 14617-1:2013	$2.1 \div 2.3 \text{ g/cm}^3$
3	Flexural strength	ASTM C880/C880M-24	$\geq 40 \text{ MPa}$
		BS EN 14617-2:2016	$\geq 40 \text{ MPa}$
4	Compressive Strength	ASTM C170/C170M-24a	Dry: $\geq 150 \text{ Mpa}$
		BS EN 14617-15:2005	Dry: $\geq 150 \text{ Mpa}$
5	Impact resistance	ASTM C1870-18(2024)	36-inch ball drop: $\leq 0.25 \text{ in}$ 48-inch ball drop: $\leq 0.27 \text{ in}$
		BS EN 14617-9:2005	$> 4 \text{ J}$
6	Abrasion resistance	ASTM C501-21	Abrasive Wear index: $lw \ 350 \div 500$
		BS EN 14617-4:2012	Volume of chord: $V \leq 215 \text{ mm}^3$ Chord length: $l \leq 29.5 \text{ mm}$
7	Mohs's Scratch Hardness	EN 101:1991	≥ 5
8	Thermal shock resistance	ASTM C484-20	No visible damage after 10 cycles
		BS EN 14617-6:2012	No Visible defects after 20 cycles Change in mass: $\leq 0.05\%$ Change in flexural strength: $- 13.5\% \div 5.9\%$
9	Dimension Stability	BS EN 14617-12:2012	Class A
10	Chemical resistance	ASTM C650-20	Unaffected (Except: Potassium hydroxide, 100 g/L)
		BS EN 14617-10:2012	Hydrochloric acid: Class 4 Sodium hydroxide: Class 3
11	Stain resistance	ASTM C1378-04(2019)	Not affected (Polished finish)
12	Microbial resistance	ASTM D6329-98	Ranking 3: Resistant to Mold Growth

Transportation, storage and inspection

Transportation

PRODUCT LIFTING METHOD

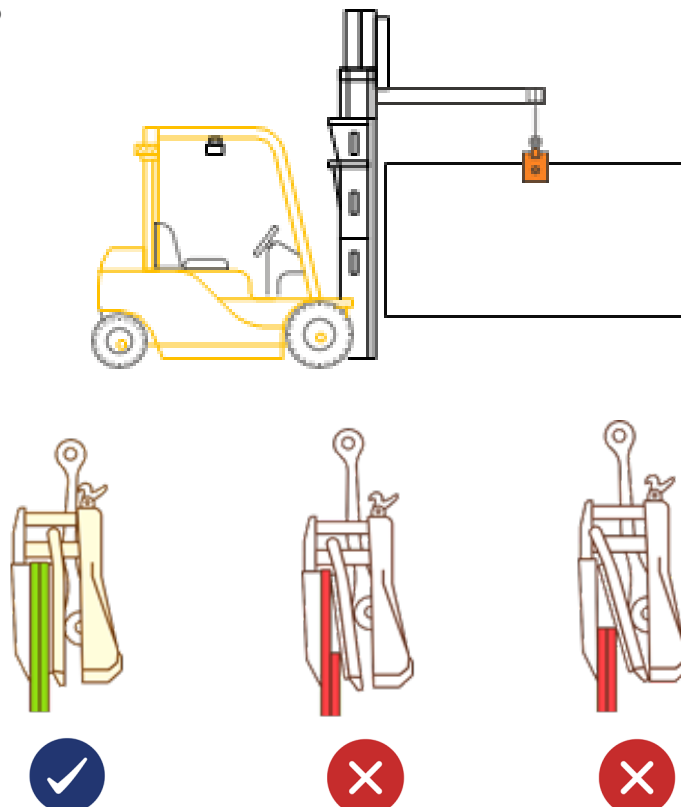
Product slabs must be loaded, unloaded and transported using a forklift or other suitable lifting equipment.

- Forklift operators must inspect the safety condition of the forklift before operation. This includes checking tires, rims, horns, lights, batteries, control components, lifting and tilting systems (including forks or working devices), chains, cables, limit switches, braking systems, steering gears, fuel systems, hydraulic pipes, and protective covers. Do not exceed the manufacturer's specified load capacity.
- Product arrangement: When lifting two slabs in one load, ensure that the slabs are face-to-face or back-to-back without any gaps.
- Common accessories for gripping slabs onto forklifts are clamps. These clamps must have a clear origin, product quality certification, and be within their usage period.

Using product clamps:

- Ensure that the slabs are correctly positioned in the clamps as shown in the diagram. Failure to comply may result in product slabs falling off or damaging the lifting equipment.
- Some clamps can lift multiple slabs simultaneously, depending on the clamp's size. Do not lift multiple slabs simultaneously if they do not have the same height.

Product lifting clamp

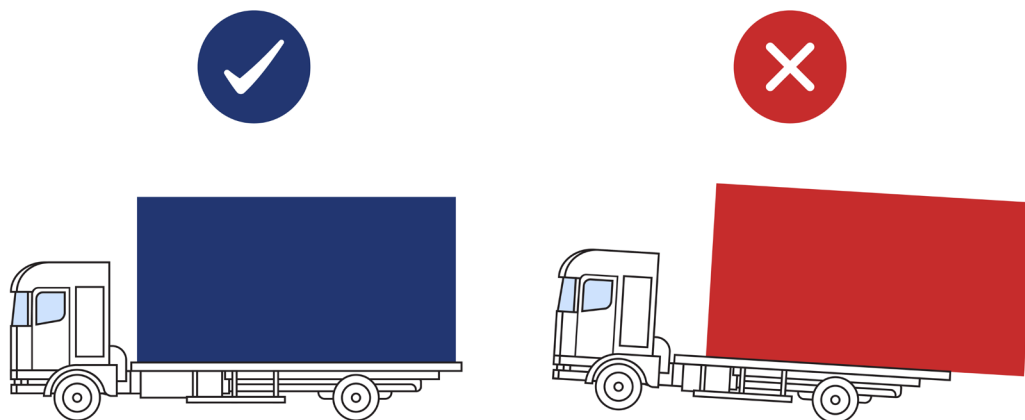


Transportation, storage and inspection

GENERAL TRANSPORTATION REQUIREMENTS

When receiving and delivering products, the following must be ensured:

- Choose an appropriate support frame (e.g.: A-frame). The support frame should be inspected and guaranteed to be safe, with no unusual signs.
- Ensure that the support frame is securely attached to the vehicle's cargo bed, and the product panels are also adequately secured to the support frame to prevent any movement during transportation.
- Place the slabs evenly on both sides of the frame, placing them face-to-face and back-to-back without leaving any gaps.
- Utilize proper load-rated straps or ratchet tie-downs to fasten the load. Replace these straps immediately if any signs of wear are observed.
- Protect the straps from abrasion and damage caused by the slabs by using protective strips between the straps and the edges of the product.
- Ensure that the entire load of the support frame and the products are placed in the cargo bed to avoid the risk of falling onto the road and endangering other traffic participants in case of product breakage.



DRIVER'S RESPONSIBILITY

Drivers must always stay beside their vehicles and adhere to the following principles:

- Check the vehicle's good condition.
- Confirm that the load, including the transport vehicle's load, storage mean, support frame, and all products, complies with legal load-bearing capacity.
- Ensure that the products are stacked correctly.
- Fully reinforce and securely hold the support frame and products on the vehicle before leaving the premises.
- During loading and unloading, never stand within the slab falling zone under any circumstances.

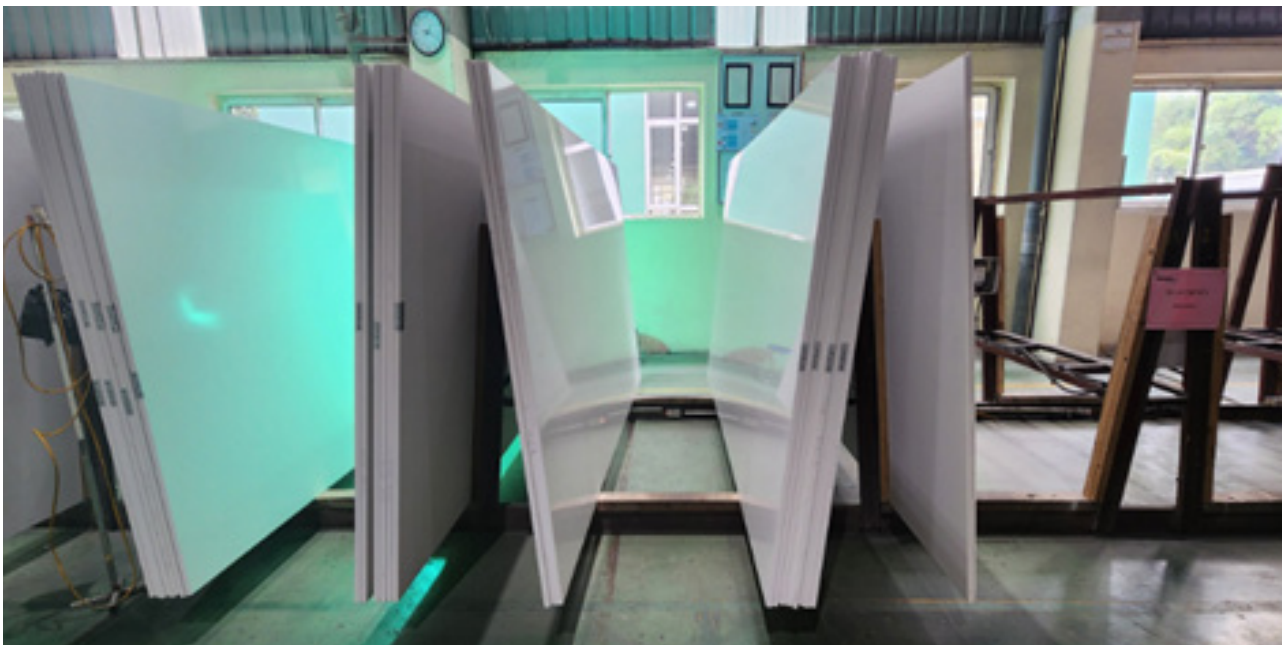
Transportation, storage and inspection

Storage

STORAGE ON A-FRAME AND E-FRAME

If the product is stored on an A-frame, preventive measures should be taken to prevent tipping or falling:

- Do not stand or move in areas where there is a risk of product tipping or falling the product.
- The A-frame must be lined with wood, rubber, or fabric straps on the surfaces in contact with the slabs.
- Use external support pillars for the product.



- Evenly stack the products on both sides of the A-frame.
- The tilt angle of the frame allows workers to pry the slabs apart to insert a lifting clamp. However, caution is necessary because removing the products can lead to falling, resulting in product breakage and/or endangering the worker.



Transportation, storage and inspection

If the product is stored on an A-frame, preventive measures should be taken to prevent tipping or falling:

- The E-frame must be lined with wood, rubber, or fabric straps on the surfaces in contact with the slabs. The E-frame should be balanced at both ends of the slabs.
- The product must be securely wrapped in plastic wrap and covered with a tarpaulin.
- When stacking products in the frame, they should be inclined according to the frame's angle, avoiding stacking in the opposite direction.
- Ensure that there are no gaps between any two slabs and between the slab and support post.
- Wooden padding should be placed at both ends of the stacked slabs within the frame.



Transportation, storage and inspection

For both A-frame and E-frame, the following requirements should be met:

- Store slabs face-to-face and back-to-back.
- Avoid any gaps between two products or between the product and the support pillar to prevent warping. Stack the edges of the product slabs flat without any deviations to maintain quality during storage.
- Store the product indoors to avoid environmental factors such as sunlight, temperature, and rain.
- We recommend placing rubber padding on the frame base to prevent the slabs from chipping.

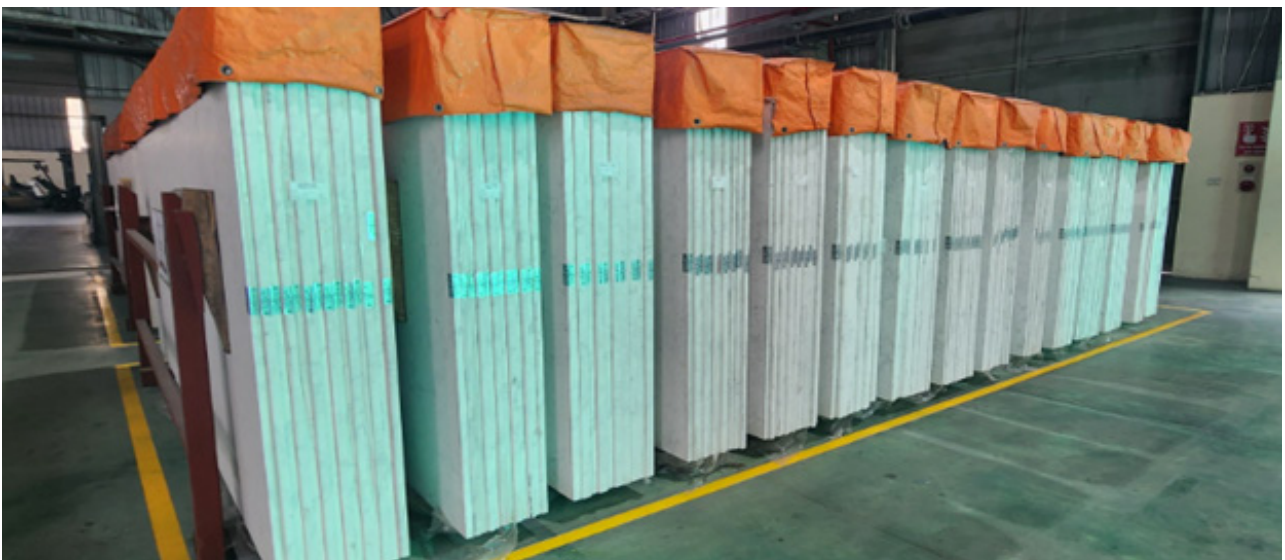


Image of product placed in E-frame

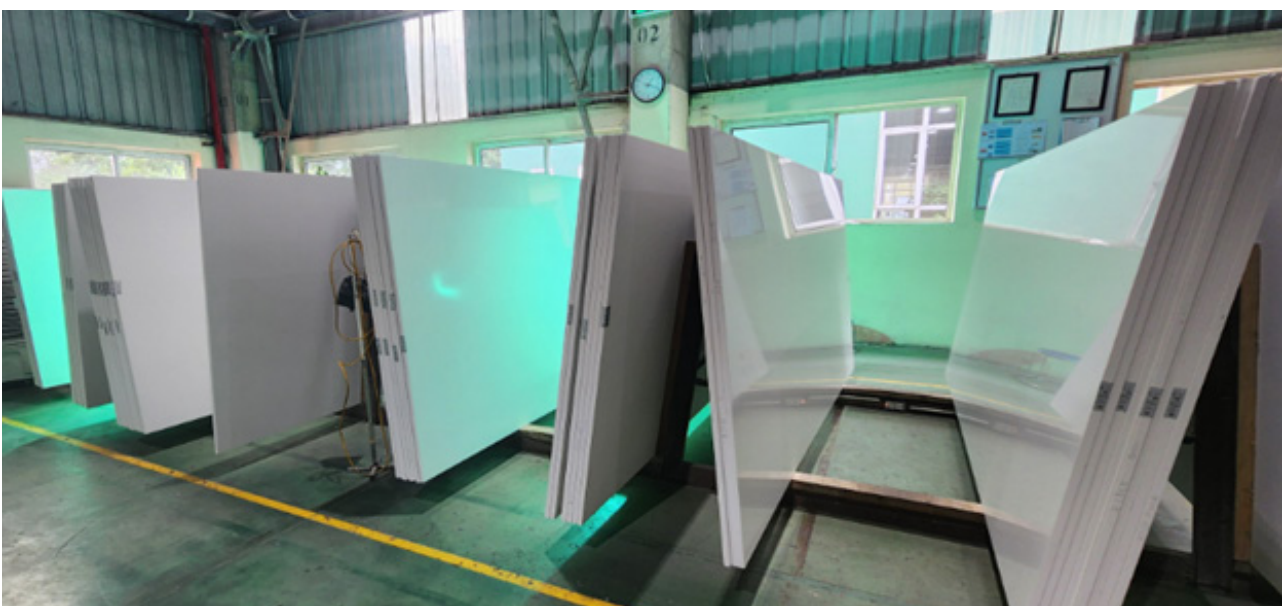


Image of product placed in A-frame

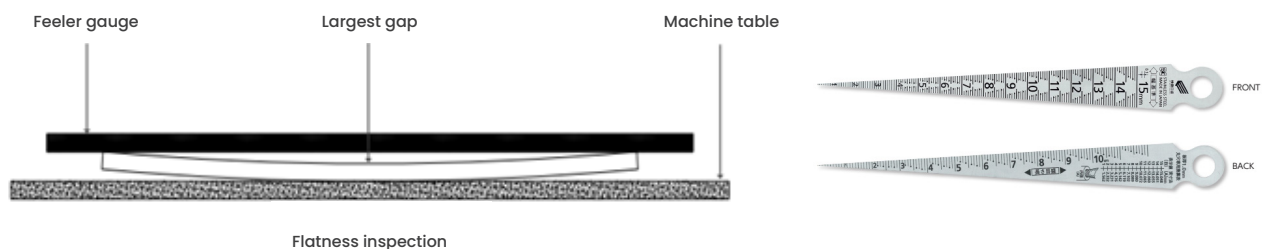
Transportation, storage and inspection

UNSAFE STORAGE:

This image depicts a dangerous storage environment with several safety concerns (lack of support frames, not tied, no outdoor covering, uneven stone stacking) that could lead to a decrease in product quality and cause safety risks for workers.

Visual inspection

- VICOSTONE® SURFACES slabs are covered with a protective plastic layer on the surface. Although they have undergone quality control at the factory, surface defects may still occur during the covering, transportation, or storage process. Therefore, customers are required to remove the protective covering for visual inspection before fabrication. VICOSTONE, JSC reserves the right to reject warranty claims if customers proceed with fabrication, or installation without inspecting product defects after removing the protective plastic covering.
- Ensure that you inspect the product surface under natural light or artificial light that closely simulates natural light.
- Thoroughly inspect the surface from various angles and distances to detect any problems that may not be immediately apparent when viewing the product from above.
- Check all products for uniformity of color and particle size (aggregate distribution) because variations in color and particle size may occur across different batches.
- Inspect the product for any surface defects, including: particle contamination, small cracks, stains, chips, warping, and changes in thickness.
- When making coplanar joints between finished products cut from two or more slabs, it is important to use a caliper to accurately measure the slab thickness.
- For measurements, use a sturdy metal ruler or a similar object with perfectly straight edges. VICOSTONE, JSC ensures that the curvature during production has a length ≤ 3 mm and a width ≤ 2 mm.



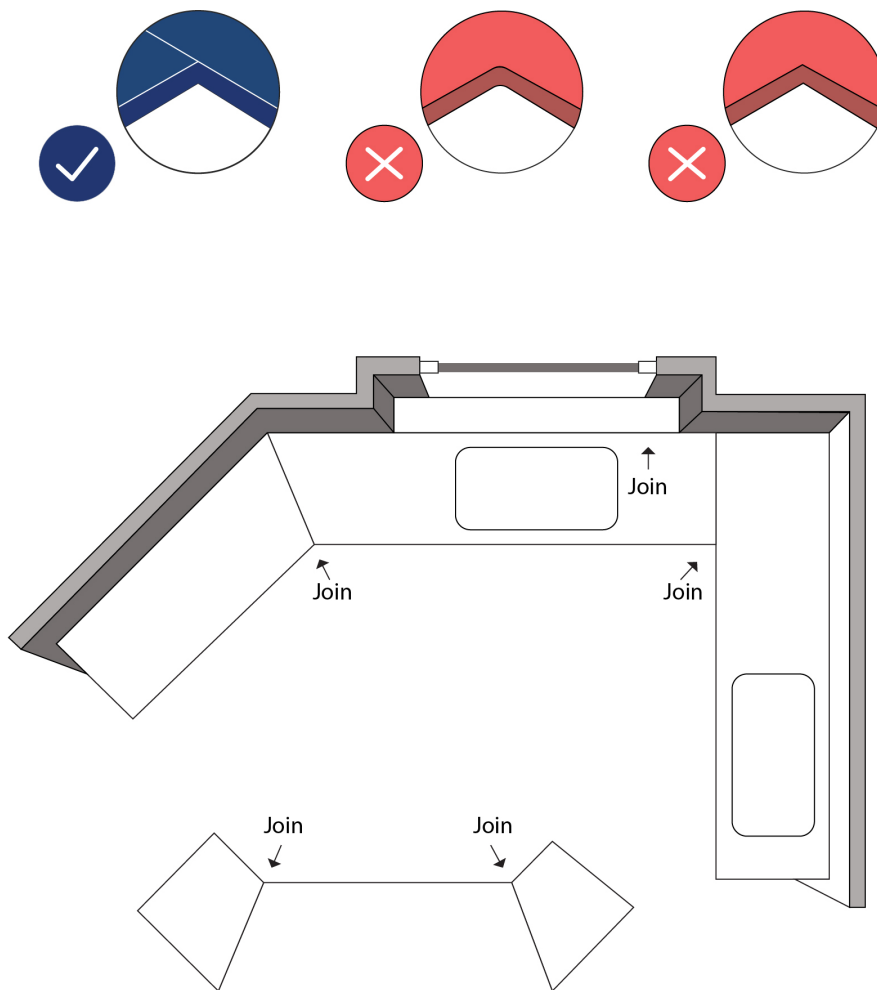
Fabricators, and installers should conduct thorough visual inspections to determine whether any surface defects exist and whether the product is suitable for their intended use. If the fabricators, or installers discover any problems that render the product unsuitable for their intended use, they should promptly contact VICOSTONE, JSC and/or Distributors. Please note that in this case, only full-sized products that have not been cut or modified in any way will be considered for replacement. VICOSTONE, JSC reserves the final decision regarding such replacements.

Fabrication and installation

Design countertop layout

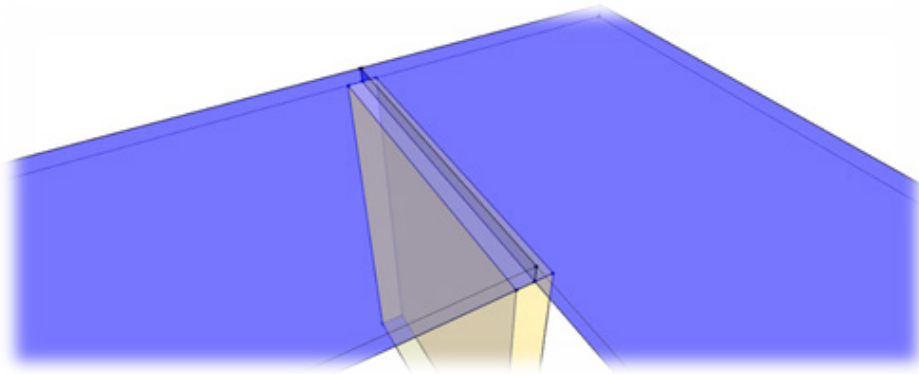
LOCATE SEAM POSITIONS

- Always fabricate, and install L-shaped or U-shaped countertops or each change of direction in the countertop with a joint on the inside corner at all times.
- Avoid creating L-shaped countertops or altering the direction of surfaces without joints, as described below, as it may increase the risk of cracking after installation.



- Cracks are not defects in the material or product; they result from external factors such as mechanical stress or contact on the countertop. The two most common causes are heat (thermal shock), resulting in expansion or contraction, and excessive load (force) on the surface.
- Joints must be placed on the product support frame, as illustrated in the image below:

Fabrication and installation



- Avoid polishing the seam surface.

DESIGN FOR BOTH SIDES

- The patterns in slabs are not intended to extend to the full depth of the slab. For instance, in the case of BQ8912, the pattern may extend from the main surface to the back side of the product with a thickness of 20 mm or 30 mm, but this does not happen to all colors. Therefore, avoid designing applications that rely on patterns on the back side of the product.
- Controlling patterns on the back side of the product is challenging and may result in some products having large black spots or different patterns compared to the front surface.
- It is not recommended to polish the back side of the product, as the factory-polished side can be easily damaged during the process. For applications where the back side of the slab is still exposed, such as island waterfall or island overhang, VICOSTONE, JSC suggests customers polish the back to clean the surface, remove dirt, eliminate product information stamp marks, and creating a floating vein effect.



MATCHING SHADES

- When ordering, it is advisable to use slabs from the same production batch to ensure color and pattern consistency.
- Jointed pieces should be cut from one slab. Try to keep the cut edges from adjacent portions of the same slab joined together. This will ensure the most suitable distribution of material, pattern arrangement, and color consistency. When using products for applications that require lengths greater than the standard length and require more than one slab, we recommend the following:
 - Use products with patterns in the same direction.
 - If the pattern needs to appear on both sides of the product, join the back sides of two slabs together so that the main polished surface faces outward.
 - We strive to provide a maximum quantity of products in an order that will have color uniformity.

Fabrication and installation

Machine setup

For optimal results, ensure that the cutting table is completely flat when fabricating and installing the product.

NOTE: Recommendations and settings may vary depending on a number of factors, including but not limited to the equipment and abrasive materials used. Please consult the equipment manufacturer for suitable setup options for the specific product being cut.

Drilling and cutting instructions

IMPORTANT NOTES

- Only use water-cooled drilling, cutting tools and equipment to drill, cut, and polish products without generating excessive heat and to minimize the dispersion of dust.
- When drilling or cutting products using dry methods, they may generate heat, weaken the physical properties of the product, and make it susceptible to cracking, chipping, discoloration, and other damage.
- Fully equipped with proper personal protective equipment, especially respirators and goggles, when performing drilling or cutting tasks.



INSPECTION BEFORE CUTTING

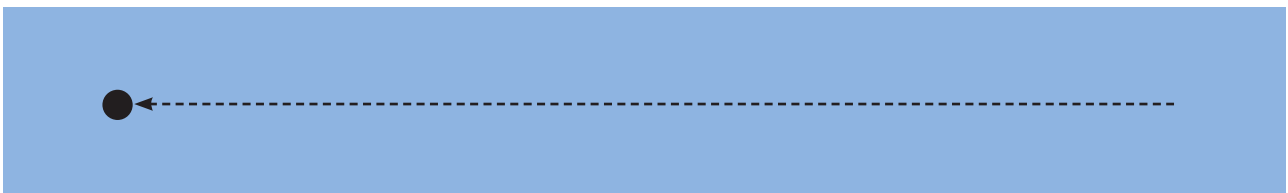
- Trim any burrs around the product to ensure straight edges before cutting to the desired size.
- Check the color compatibility of the pieces that will be joined together before fabricating the product. This ensures consistent appearance in the final product.

Fabrication and installation

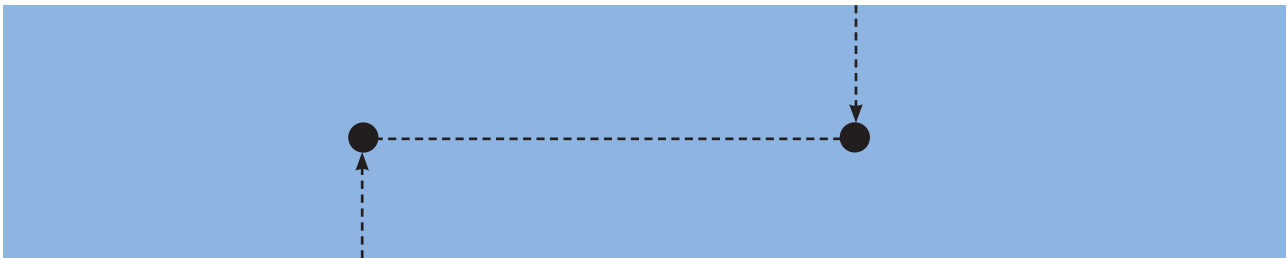
STRAIGHT CUTTING, U-SHAPED CUTTING, AND PLUNGE CUTTING

When fabricating and installing products, caution should be exercised because the tension force within each slab can lead to cracking. You can minimize the likelihood of product cracking by adhering to the following rules:

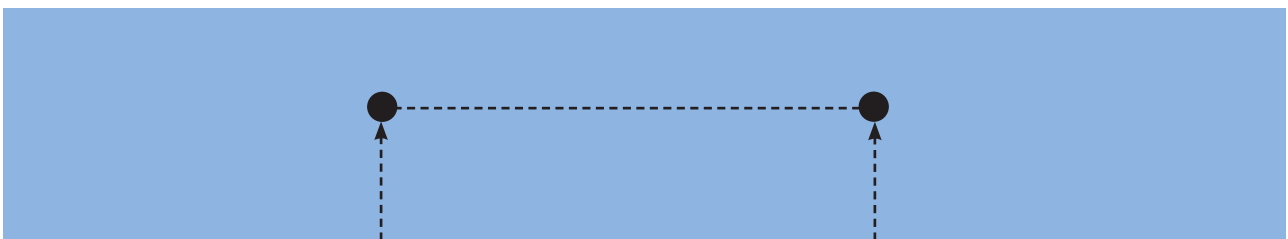
- When making a long continuous cut across the length of a product slab, whether it's a plunge cut (from the middle of the slab) or starts from the edge, a relief hole must be marked and drilled at the endpoint of the cut. Proceed to cut towards the relief hole. If possible, avoid using the plunge cutting method to minimize the risk of product cracking. Tension forces tend to accumulate at the high end of the cut, which can lead to cracks. Implementing these preventive measures will help reduce the likelihood of such incidents during fabrication, and installation.



- For L-shaped cut, mark and drill relief holes where the cutting lines will intersect. Always begin with the shorter length first, and cut towards the relief hole.



- In all cases, it is crucial to avoid plunge cuts (cuts from the center to the edge of the stone) because they can exert significant pressure on the slab, leading to the risk of cracking at the end of the cut. If a plunge cut is mandatory, ensure that a one-inch relief hole is drilled at the endpoint of the cut. Always cut toward the relief hole to minimize the risk of cracking and ensure a smoother fabrication, and installation.
- To cut a U-shaped design, mark and drill relief holes where the cutting lines intersect. Always begin with the shortest cut first.

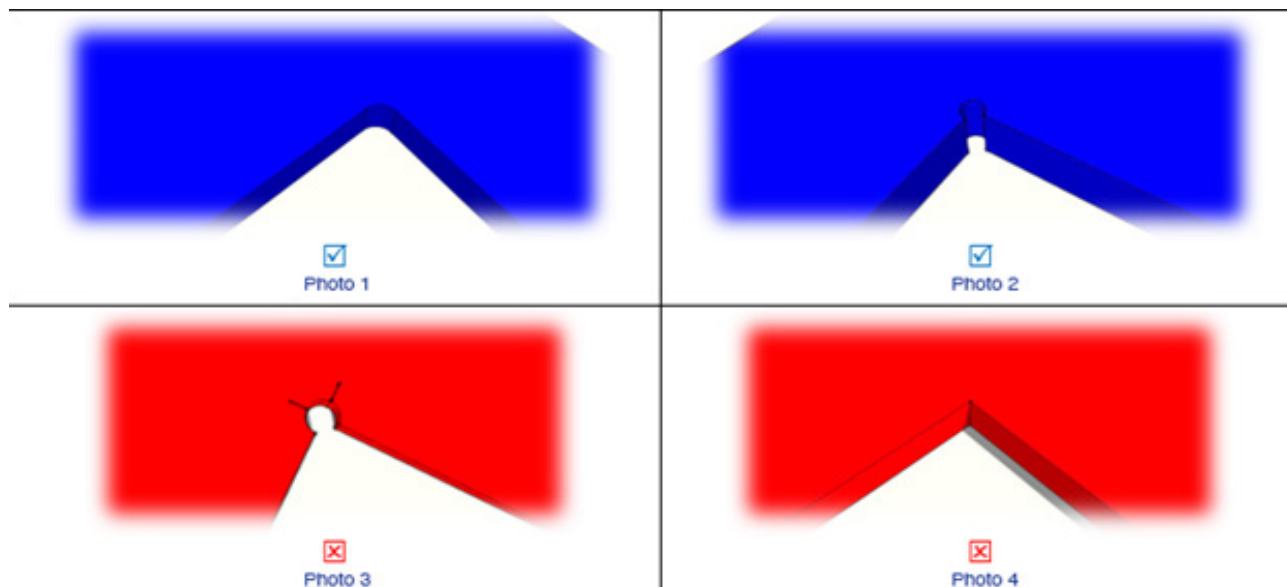


- Drilling relief holes is an effective solution to eliminate mechanical stress in products. It should be used during the manufacturing process to ensure that the product remains undamaged during cutting.

Fabrication and installation

DRILLING AND CUTTING HOLES

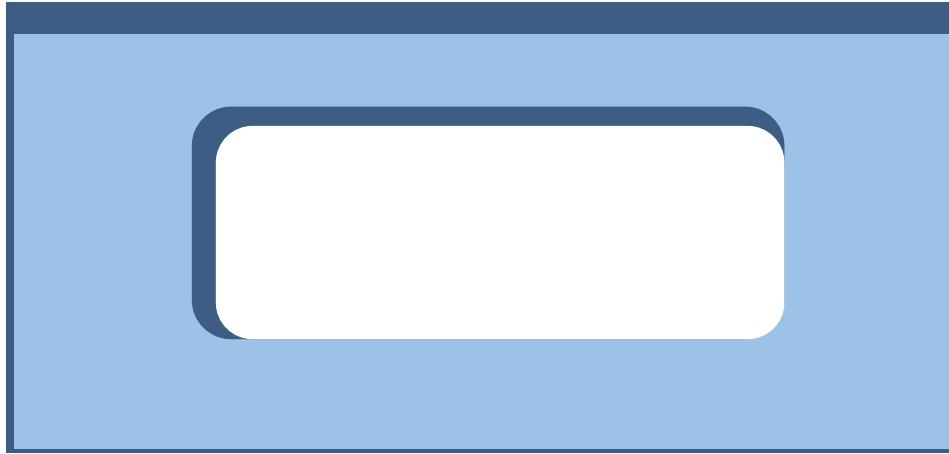
- The minimum radius of the angle should be 5 mm (3/16") when using an appropriate drill bit (e.g.: a specialized glass drill bit) for both visible and invisible cut sections (see Photo 1). A larger radius will create a more robust corner.
- In cases where drilling or cutting with a 5 mm (3/16") angle radius interferes with the correct installation of a component requiring a 90° angle, use a core drill or cup-shaped drill bit to drill outside the corner (see Photo 2).
- Be cautious to ensure that the cutting line does not extend beyond the circular hole diameter in cut sections, as any damaged area could lead to crack formation (illustrated in Photo 3).
- Avoid cutting square angles or diagonal angles as shown in Photo 4.



- The distance between the cutting line and the edge or border of the product should never be less than 70 mm. A greater distance provides a more secure area for installation.
- In case where the distance between the cut and the edge or border is less than 70 mm, that area must be reinforced by applying product strips. This step is necessary to ensure structural integrity and durability during the installation process.
- If you plan to perform on-site cutting, make sure the activity takes place in an area where you can use wet tools. Do not cut any sections of sinks, cook tops, on the top of cabinets with dry cutting tools.
- All cuttings should be made using wet cutting tools to avoid excessive heat generation on the upper part and corners. The corner radius should be approximately ½ inch. When planning for cut-out, leave an additional 1/8 inch between the edges of the device and the cut edges at the top. This step is necessary to accommodate any expansion that may occur in the upper part of the product due to temperature changes.

Fabrication and installation

INTERNAL CORNERS OF CUT-OUTS SHOULD BE ROUND, PRIOR TO CUTTING,
DRILL THE CORNERS WITH A DRILL, 1/2" MINIMUM HOLE DIAMETER



PLANNING CUT-OUTS

- Care should be taken when installing appliances such as cook tops and sinks, etc. Read the manufacturer's instructions provided before installing any equipment. Ensure that all brackets and supporting hardware are included.
- Place the equipment in the center of the cut-out and make sure to leave a minimum gap of 1/8 inch between the inner edges of the equipment and the cut edges.
- Following these instructions will help ensure a successful and durable fabrication, and installation.

Polishing the edges

GENERAL INSTRUCTIONS

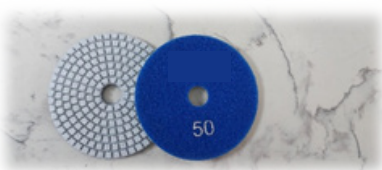
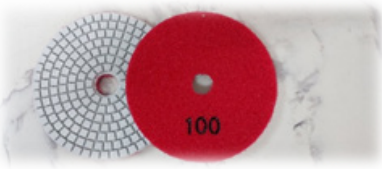
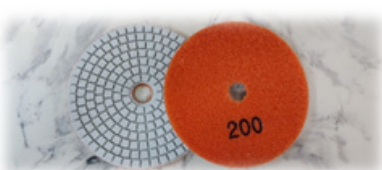
- Ensure that all visible edges are polished similarly to the surface.
- The upper surface of the edges must be rounded or beveled; avoid creating sharp corners.
- All edges should have a minimum edge profile (beveled or rounded) of 3 mm at the sharp apex. The larger the surface area of the edge, the higher its resistance to chipping. Note that VICOSTONE, JSC's warranty policy does not cover issues related to chipping.
- Common edge details include radius or 45° bevel, but there are various other options.
- Before cutting, visually confirm the edge profile terminology with the customer, as terminology may differ between companies and regions, ensuring clarity and customer satisfaction.

Fabrication and installation

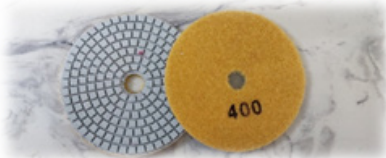
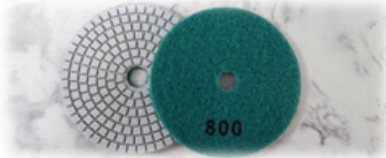
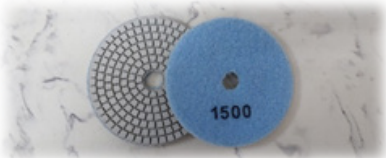
- Using water-cooled tools for grinding to prevent overheating and damage, and to minimize dust dispersion.
- For internal corners that are rounded or curved and small cuts with exposed edges, employ a polishing bob/drum.
- Each polishing stage should remove the marks from the previous stage, progressing to the next stage once a uniform finish is achieved. Avoid excessive polishing beyond the factory surface polish..
- To significantly remove material from the edge, consider using a water-cooled diamond grinding wheel before the coarsest pad.
- Do not use polishing stones for manual polishing.
- Use appropriate diamond polishing pads with water.
- Perform polishing by progressing through different grit sizes, from coarse (lower number) to fine (higher number).
- Ensure that the gasket is concentric and full contact with the entire surface during the polishing process. Apply gentle and even pressure and drag. Repeat the procedure for each subsequent polishing step.
- The finished surface should be flat, smooth, and glossy, with uniform glossiness across the entire finished surface.

EDGE POLISHING STEPS

Steps: There are primarily two polishing methods, using a sequence of buffing wheels from small to large, as shown in the table below.

Step	Type of buffing wheel	Image	Option 1: Straight edge	Option 2: Rounded edge
1	50-grit buffing wheel		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	100-grit buffing wheel		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	200-grit buffing wheel		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Fabrication and installation

Step	Type of buffing wheel	Image	Option 1: Straight edge	Option 2: Rounded edge
4	400-grit buffing wheel		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	800-grit buffing wheel		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	1500-grit buffing wheel		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- Number of polishing passes: The product is polished using a combination of rotary polishing tools with 7 grinding heads in the following order:

1st time: 50 grit – 50 grit – 100 grit – 100 grit – 100 grit – 100 grit – 200 grit

2nd time: 200 grit – 400 grit – 600 grit – 800 grit – 1000 grit – 1200 grit – 1500 grit.

- Since each polishing device used by fabricators, and installers may vary, the initial polishing process is best performed using a 100-grit diamond-coated polishing pad. Continue the polishing process until the product achieves the desired gloss level according to the manufacturer's standards.

DISCLAIMER: VICOSTONE., JSC does not warrant products that have undergone surface grinding for any purpose.

HONED AND LEATHERED EDGES

- The edges of this product are smoothly polished but not gloss.
- The glossiness of these edges is achieved by using a diamond-coated polishing pad up to 400 grit for Honed and 800 grit for Leathered .

Additionally, the level of glossiness can be adjusted according to the customer's wishes.

Fabrication and installation

Inspection of cabinets and supporting items before installation

CABINET INSPECTION

Before installing tabletop, cabinet top and base components, check the following:

- Cabinets are placed flat and supported and ensure that when installing, the material is 30mm (1 ¼") thick and meets the following requirements, no additional reinforcement is required.
- When installing any materials thinner than 30mm (1 ¼") thick, ensure proper support for the tabletop. For materials thinner than 30mm (1 ¼") thick, the base support can be either a complete perimeter support or a complete underlay support.

Intensity and stability: both the cabinets and the base must withstand a load exceeding 12 lbs per square foot.

All components are fastened to both the wall and the base components.

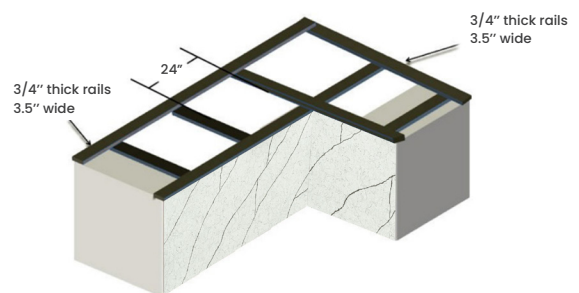
The cabinet is properly leveled. The top surface of the cabinet should be vertical and flat. Ensure that the level does not exceed 1/16 inch within a 10-inch span.

Remove any nails, screws, or sharp edges from the surface where the countertop will be placed.

- Rarely are all walls perfectly square. Consider any such imperfections before cutting. Maintain a minimum gap of 1/8 inch between the product surface and the surrounding walls.
- The countertop must be placed on a sturdy frame or a completely straight, flat, and secure base.

COMPLETE PERIMETER SUPPORT

- Support the top, front, and rear edges using a rail with a width of no less than 3.5 inches and a thickness of 5/8 inch. Then, support the rear edge of the slab with evenly spaced rails, each 3.5 inches wide, approximately 24 inches apart, as shown in the diagram below.
- It is important to maintain a minimum gap of 1/8 inch between the slab edge and the wall to accommodate any expansion or contraction due to temperature changes. For all countertops exceeding 10 inches, provide an additional 1/8-inch gap over 5 inches.



- Apply flexible 100% silicone adhesive strips at regular intervals of no less than 12 inches apart on the rear surface of the countertop. Gently place the countertop on and ensure that the front surfaces are level before the adhesive hardens.
- The countertop must be placed on a sturdy frame or a completely straight, flat, and secure base.

Fabrication and installation

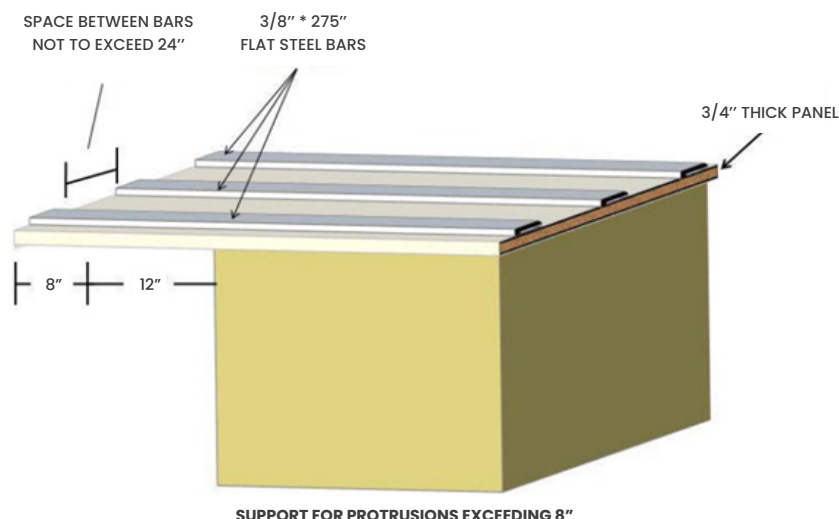
COMPLETE UNDERLAY SUPPORT

Additionally, the entire surface area of the countertop can be supported on kitchen cabinets using a self-supporting underlay made of plywood with a minimum thickness of 5/8 inch.

OVERHANG AND SUPPORT BRACKETS

- For all installation projects, unsupported protrusions should not exceed one-third of the complete surface depth. For example, if a table has a depth of 23.6 inches, the protruding seat should not be supported more than 7.87 inches.
- VICOSTONE, JSC recommends polishing and cleaning the rear surface of the protrusions with a minimum of 400 grit to ensure a smooth and finished appearance.
- Following these instructions will help maintain the structural integrity and aesthetics of the installation project.
- All protrusions must be properly supported. Any protrusion exceeding 8 inches for 3/4-inch material or 16 inches for 1 1/4-inch material with a underside of 5/8 inch or 16 inches for 1 1/4-inch material must be supported by a steel bar 3/8 inch thick and no less than 2.75 inches wide, or an appropriate L-bracket placed underneath the width of the protrusion to eliminate some of the stress placed on the protrusion to support potential loads. If using multiple layers of 1 1/2-inch edge, an additional piece adhered on top can extend the entire.
- If the protrusion is less than 20 inches, the general practice is to provide a wooden support base and brackets spaced approximately 20 inches apart. These brackets must be securely attached to the rear slab, which is fixed to the cabinet or wall using screws. All hanging brackets exceeding 20 inches must be supported by suitable metal or solid wood legs.

Required bracket	2cm (3/4")	2cm (3/4") with 5/8" supporting surface	3cm (1 1/4")
No additional bracket required	Less than 8" (200mm)	Less than 12" (300mm)	Less than 16" (400mm)
Bracket required at approximately 24" (600mm)	8-16" (200mm - 400mm)	12-20" (300mm - 500mm)	16 - 24" (400mm - 600mm)
Legs, columns or panels need to be at 24" (600mm)	Interval over 16" (400mm)	Interval over 20" (500mm)	Interval over 24" (600mm)



Fabrication and installation

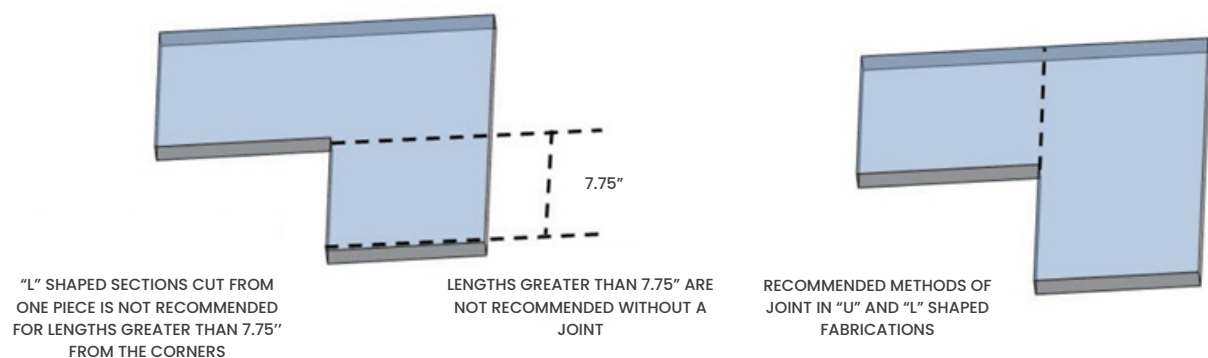
Installation instructions

MAKING JOINTS

- Choose a resin adhesive of suitable color.
- Do not place the joints within $3\frac{15}{16}$ " of the intended cut, such as sinks, kitchen countertops, etc.
- All joints on the countertop must have sturdy support from underneath.
- All joints must be properly cleaned to remove dust and dirt.
- All joint sides should have grooves or slots in the middle to evenly distribute the adhesive for good adhesion.
- Check if the countertop is properly aligned, both along the joint(s) and along the front surface.
- Check if the countertop is properly balanced and upright.
- Use paper masking tape to cover the joints to prevent adhesive from spreading to the polished surface.
- Ensure that the joints are perfect before clamping them until the adhesive sets firmly.
- After bonding, remove the masking tape and clean off any excess adhesive on the contact surface with denatured alcohol.
- Do not directly attach any mechanical fixtures such as screws, nails to the product.
- Do not place direct joints on dishwashers or other appliances as they may emit heat.

L-SHAPED JOINTS

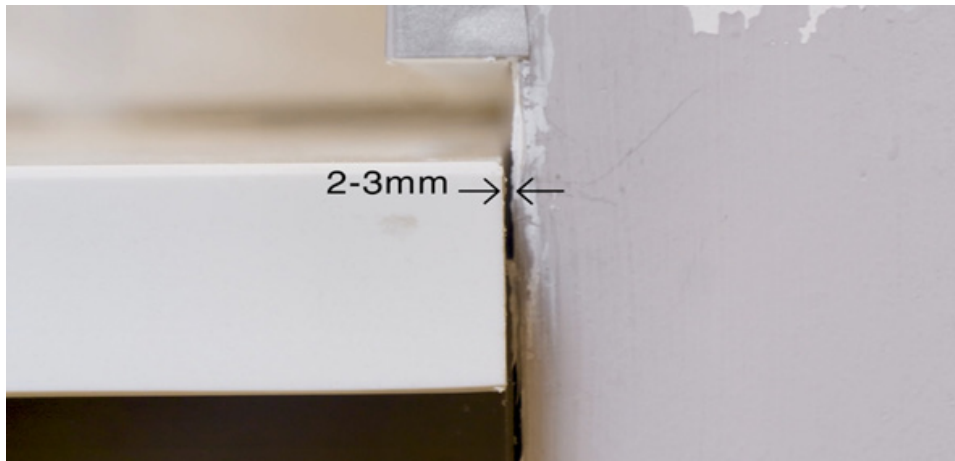
Due to various mechanical stresses occurring after installation, VICOSTONE, JSC does not recommend installing L-shaped countertops without joints at the corners of the "L" shape. Fabricators, and installers should make their own discretion when fabricating and installing. The radius of the L-shaped corner, if any, must be a minimum of $\frac{3}{8}$ " or maximum of $\frac{1}{2}$ " to reduce tension at the corner. VICOSTONE, JSC does not warrant any cracks in the "L" shapes made from a single piece without seams.



Fabrication and installation

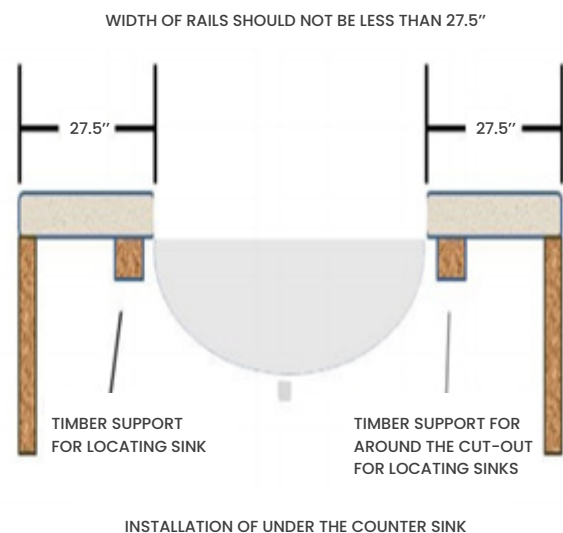
DISTANCE FROM THE WALL

- Ensure a gap of approximately 1 mm per linear meter between the slab and the wall to accommodate the expansion of the stone, up to a maximum of 3 mm.
- For any L-shaped corner adjacent to a wall or column, a radius of 3/8" is required.



SINK INSTALLATION

- Place all equipment in the correct position and ensure that any accompanying gaskets are properly positioned before tightening the screws. Tighten all screws using only your fingers; never use force to tighten them.
- Any equipment weighing more than 11 lbs must be adequately supported by a cabinet frame.
- All joints between the countertop and the edges of the equipment can be sealed with high-quality transparent flexible sealant. Clean any excess sealant promptly.
- Uneven heat distribution can occur in areas above dishwashers and hot water plumbing, potentially causing cracks on the surface. To prevent this, all hot water plumbing must be insulated. Ideally, make the faucet holes slightly larger to avoid direct contact between the hot water plumbing and the product.



INSTALLATION OF BACKSPLASH

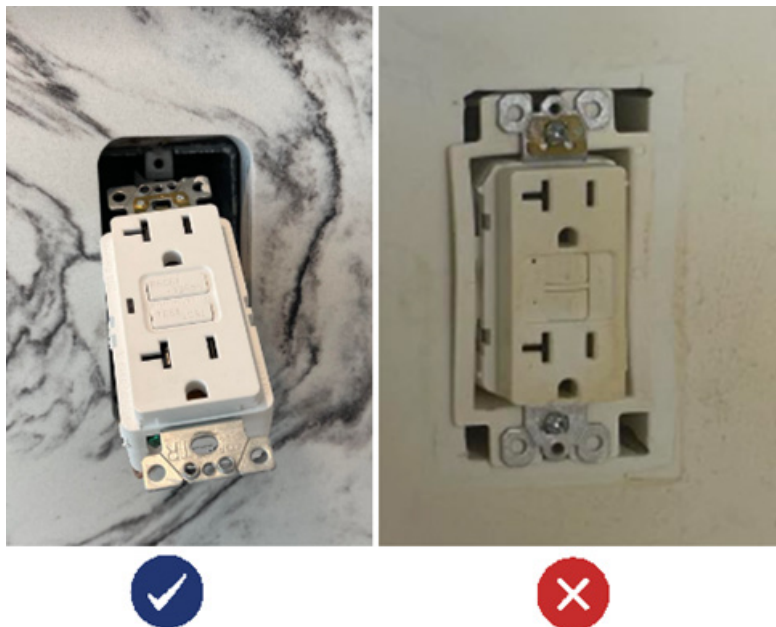
VICOSTONE® SURFACES can be used for backsplash in wet areas, behind wash basins, sinks, and behind cook tops. However, when installing backsplash behind gas cook tops and heat-generating appliances, it is important for the installer to follow all manufacturer's instructions and safety requirements, as well as adhere to any local construction standards or regulations.

Fabrication and installation

- Installers must also strictly observe the following general principles:
- Ensure that the walls are vertical and free from dirt and grime. If necessary, clean the entire surface.
- Avoid install backsplash on gyprock boards or any paper-backed gypsum products.
- Backsplash pieces must be thoroughly cleaned on the back and top surfaces. Place them in the intended installation area and check if the pieces fit snugly.
- Once the pieces are fit properly, clean the contact surfaces with denatured alcohol and apply a small amount of transparent two-component epoxy adhesive to both contact surfaces before placing the cover. Avoid using grout between the cover and the countertop. Use flexible silicone-based sealant to fill any gaps between the countertop and backsplash.

ELECTRICAL SOCKETS ON THE BACKSPLASHES

- Ensure that the corners of the holes have a radius of 3/8 inch, as shown below.
- The holes must be placed away from areas with direct heat, such as gas stoves, ovens, and air-fry.



WALL CLADDING

The product can be used for all interior wall cladding layers and vertical applications. When designing and installing vertical panel and cladding panels, it is necessary to take the product's mass and seek the assistance of an experienced structural engineer during the design and installation phases.

In cases where safety installation requires screws, you must always exercise caution. Damages resulting from adhesive failure at screw locations will not be covered by warranty.

Fabrication and installation

INSTALLATION OF TILES FLOORING VICOSTONE., JSC DOES NOT PROVIDE WARRANTY FOR FLOOR TILE APPLICATIONS.

For flooring applications, it is essential to follow the appropriate laying method based on the intended design. The method for installing artificial stone is similar to laying ceramic tiles, but it requires the use of adhesive suitable for artificial stone.

Environmental conditions and the installation surface can vary for each flooring project, and the installation process should be handled using suitable methods. To achieve the highest quality flooring, it is important for the installer to consider the following characteristics of materials that affect different aspects of an installation .

- Multidirectional movement
- Structural deflections
- Foundation movements
- Thermal movements
- Moisture movements
- Radiation heat source
- Dimensional stability

Most importantly, the thermal movement (expansion and contraction) of artificial tiles must be considered when designing tiling systems. Artificial stones have a much higher linear thermal expansion when compared to natural stone and ceramic tiles.

Moisture movements, both permanent and reversible, can occur due to environmental humidity. Artificial stone is known to exhibit significant reversible moisture movement.

Dimensional stability refers to the artificial stone's ability to resist curling or warping when exposed to water contained in the adhesive. When the surface of the tile absorbs moisture, the wet surface expands more than the dry surface, resulting in a tendency for the stone to warp.

Adhesive manufacturers have extensive experience in installing of a tiling systems using artificial stone. Therefore, we strongly recommend that installers seek advice from relevant manufacturers and consider their recommendations before installing VICOSTONE., JSC products.

Custom Building Products: <http://www.custombuildingproducts.com>

Mapei: <http://www.mapei.com>

Laticrete: <http://www.laticrete.com>

VICOSTONE., JSC does not accept any responsibility, nor does it recommend any specific installation method. Fabricators, installers and purchasers are responsible for designing the tiling systems based on advice received from the engineered stone adhesive manufactures.

Fabrication and installation

Cleaning after installation

- After installation, thorough cleaning of the installation area is important, especially when the adhesive or silicone has dried. This activity significantly reduces the need for time-consuming and costly remedial measures.
- If additional construction work is planned for the site after product installation, protecting the product surface is essential. This can be achieved by safely covering the entire surface using materials such as corrugated cardboard or other protective means.
- When using cleaning agents, exercise caution to avoid placing jar or bottle caps directly on the product surface. Such actions can potentially damage the surface. Refer to the recommendations in the Product Usage Guidelines for Quartz Stone Products of VICOSTONE, JSC available on the website: <https://www.vicostone.com>
- VICOSTONE, JSC strongly recommends that countertop installers obtain written confirmation from end-users regarding their satisfaction with the material and workmanship upon completion of the installation. This step helps protect the installers from damages caused by others. The form to sign the Quality Acceptance confirmation is as shown in the **PRODUCT INSTALLATION CHECKLIST** section.

Visual inspection after installation

Below is the method of determining defects that may be covered under warranty:

Defects in the product are determined by standing at a distance of 4-6 feet from the product under normal lighting conditions visible to the naked eye. Any anomalies detected using this method are considered defects.

Environment, standards and certifications



ISO 14001 Certification: VICOSTONE, JSC has been granted ISO 14001 Certification for Environmental Management System.



GreenGuard and GreenGuard Gold: All Vicostone Surfaces comply with American GEI (GREENGUARD Environmental Institute) certification which verifies that VICOSTONE's products meet the most stringent indoor air emission standards. GREENGUARD Gold (Children & Schools) standard, evaluates the sensitive nature of school populations combined with the unique building characteristics found in schools, and presents the most rigorous product emissions criteria to date.



NSF Certification / ANSI 051 Standard: VICOSTONE® SURFACES have been credited by the NSF (National Sanitation Foundation) for having surfaces safe enough for use in laboratories, healthcare facilities, and food preparation environments (ANSI 051 Standard).

- (a) Ecotoxicity (aquatic and terrestrial, if applicable): No data available
- (b) Persistence and degradability: No data available
- (c) Bioaccumulative potential: No data available
- (d) Mobility in soil: No data available
- (e) Other adverse effects: No data available
- (f) Environmental impacts: No data available
- (g) Environmental toxicity: No data available

Limitation of liability

The information in this Guideline is based on data and information available at the date of this document. To the best of our understanding, this data is accurate and reliable.

The provision of this information should not be construed as a waiver or replacement of any expert opinion or local legal regulations. Users should not consider the information in this Guideline as an explanation of any current laws, regulations, or standards, and should make their own determinations regarding the suitability of this information for their specific purposes and circumstances. To protect the health and safety of all workers during the work process, fabricators, and installers should consult with local occupational safety and health advisors regarding the precise safety measures to be implemented in their work environments.

Fabricators, and installers take full responsibility for any liability arising from violations of any health, safety and environmental laws, rules, regulations and standards during its operations. Fabricators, and installers acknowledge and agree that it has the expertise and knowledge in the intended use of the products, and the safety of their employees, contractors, third parties, and any other person who enters upon their premises shall be their sole responsibility.

As the information in this document may be applied in conditions beyond our control, we cannot be held liable for any loss or damage resulting from the use of the information in this Guideline by any person.

VICOSTONE, JSC reserves the right to modify or amend this Guideline or its electronic version at any time without prior notice. Consumers are responsible for referring to or contacting VICOSTONE, JSC for the latest or updated version.

Product installation checklist

Customer's name: _____

Job site address: _____

I accept the materials and installation described in the customer proposal agreement as complete and satisfactory regarding the countertop and accompanying tasks related to the countertop.

Customer's signature

Dated complete

Product installation checklist

Questions	Yes	No	Not sure
Does the product have the correct color and thickness?			
Are there no scratches, chips, cracks, stains, or surface damage?			
Are seams acceptable?			
Acceptable gaps between countertop and fixtures? (cabinets, walls, etc.)			
Is caulking and silicone acceptable?			
Sink cut out is correct?			
Are the faucet holes correct?			
Is the sink installed properly and undamaged?			
Are the cabinets and doors damaged?			
Is the flooring, including carpet, damaged?			
Are the odor-absorbing devices/exhaust fans damaged?			
Are lighting and electricity damaged?			

FABRICATOR/ INSTALLER'S NAME: _____

FABRICATOR/INSTALLER'S SIGNATURE: _____ **DATE:** _____

Receipt form

Please fill your details and email this form via email info@vicostone.com or send it to your direct Distributor.

Receipt form:

Fabrication & Installation Guideline Vicostone® Surfaces, version 2025

To whom it may concern,

I, the undersigned, hereby confirm that I have received the Fabrication & Installation Guideline VICOSTONE® SURFACES 2025 attached.

Best regards,

FABRICATOR/ INSTALLER'S NAME:

FABRICATOR/ INSTALLER'S CONFIRMATION: (signature of legal/authorized representative and/or seal (if any) of the **FABRICATOR/ INSTALLER**)

DATE:/...../.....