VICOSTONE

FABRICATION & INSTALLATION
GUIDELINE
VICOSTONE® QUARTZ SURFACES

July - 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® QUARTZ SURFACES .

Terms

The term "VICOSTONE® QUARTZ SURFACES" or "Products", when used in this document, refers to any countertop products 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 for VICOSTONE® QUARTZ SURFACES.

Disclaimer

This document is intended for use in the Canadian market. In the event of any conflict or inconsistency between this guide and guidelines applicable to other countries or global markets, the Canadian standards, regulations, and guidelines shall prevail and take precedence. Vicostone Canada Inc. reserves the right to update this guide in accordance with Canadian industry practices and legal requirements. Users outside of Canada should consult their local guidelines and contact their regional Vicostone representative for market-specific information.

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 Crystalline silica and Titanium dioxide dust, which are associated with adverse health effects, such as silicosis.

The employer who engages in the fabrication and processing of countertop products 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 eyewearwith 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® QUARTZ 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 Products in countries where distributors operate.

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 Sheet, and Health Guideline for VICOSTONE® QUARTZ 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® QUARTZ SURFACES

Interior applications

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

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

Some applications of VICOSTONE® QUARTZ SURFACES

Fireplace mantels applications

VICOSTONE® QUARTZ SURFACES can be used for fireplace mantels, but it is not recommended for the immediate area surrounding the fireplace. VICOSTONE® QUARTZ 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/seams, or cracking of stone if not installed correctly.

Exterior applications

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

Product specifications

General information of Products

VICOSTONE® QUARTZ SURFACES are a composite material made from natural mineral and stone, primarily quartz, bonded with resin, Colour pigments, and other additives. These products are manufactured using the Breton S.P.A. technology of Italy.

VICOSTONE® QUARTZ SURFACES are 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 Products' impeccable condition for years.

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

Product size

VICOSTONE® QUARTZ 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 dimensions:

No.	Size	Length	Width	Thickness
1	Normal	3048mm (120″) +/- 10mm	1430mm (56″) +/- 10mm	30mm, 20mm (1 ¼″, ¾″) +/- 1mm
2	Jumbo	3300mm (130″) +/- 10mm	1650mm (65″) +/- 10mm	30mm, 20mm (1 ¼″, ¾″) +/- 1mm

Standard weights:

THICKNESS	Kg/M²	NORMAL SLAB WEIGHT	JUMBO SLAB WEIGHT
3cm (1 ¼″)	75	315kg	409kg
2cm (¾″)	50	210kg	272kg

Product specifications

Colour and finish

VICOSTONE® QUARTZ SURFACES offer a diverse Colour palette, ranging from white, beige, grey, light blue, to deep blue, brown, and black, etc.

VICOSTONE® QUARTZ SURFACES are typically available in polished finish, but they can also be customized to different surface textures based on customer requirements. Some of the available finishes include honed surface, brushed surface, antique surface, etc.

Colour consistency and tonal characteristics

VICOSTONE® QUARTZ SURFACES are produced from natural materials such as quartz, cristobalite. Therefore, the inconsistency of Colours or the distribution of material particles in Products is inherent to the production process, and considered natural features of the material.

The Colour variations in Products can occur between production batches due to fluctuations in the composition of the raw materials used. Occasionally, these variations may result in minor differences (such as spots, black specks, or multiColoured particles). Such differences are acceptable in the production of artificial stone.

VICOSTONE® QUARTZ SURFACES are high-quality, solid, non-porous products, but they may still contain very small pores (microscopic in nature) that may appear in certain specific products and are unavoidable during the production process. Fabricators, and installers are responsible for visually inspecting the Colour suitability and quality of any slabs before proceeding with fabrication, and installation.

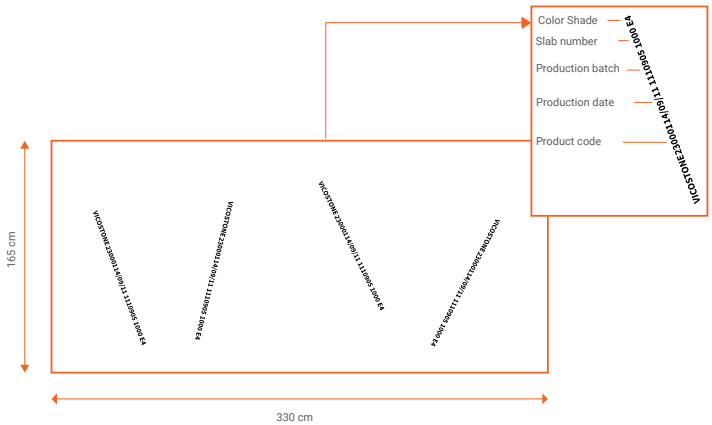
Matching sample and slab

While product samples represent Products, they do not depict the entire full-sized product. We always recommend that customers view images of the finished product and/or the actual full-sized slab, if available, before fabrication to ensure that the stone meets requirements and has no issues during fabrication. Customers can always find images of complete full-sized slabs on the VICOSTONE., JSC website.

Please note that there may be differences in Colour between samples and actual slabs due to production at different times, and a finished large slab may exhibit different light reflections and Colours from a small sample. We strive to maintain consistency in design between the sample and the full-sized slab.

LABEL ON THE BACK SIDE OF THE SLAB

The back side of slab is printed with identification information. This information remains on Products throughout its existence and can be used for identification after installation.



Product specifications

Product label

Product label

LABEL ON THE SIDE OF SLAB

On one side of slab, there is a label containing information about the slab (as shown in the image below). These details are also referenced in the packing list and handed over to the customer. The information on the label of the installed slabs must be provided to the owner of the installation project for proper warranty handling.

If a slab is cut and used for two different installation projects, the information on the label for the slab must be provided to the owner of each project for registration. Splitting a slab between different installation projects will not affect the warranty, as long as the installation meets the criteria outlined in VICOSTONE., JSC's warranty policy.

Warning label

The warning label is affixed to slabs. For more information about the warning content and health safety instructions, please visit the following link: https://www.vicostone.com/


VICOSTONE WARNING LABEL DANGER

VICOSTONE® QUARTZ SURFACES

Crystalline silica (SiO_2) (quartz, cristobalite): 76% - 90%

HAZARD STATEMENTS

H320	Causes eye irritation
H335	May cause respiratory irritation
H350	May cause cancer by inhalation
H372	Causes damage to organs (lungs) through prolonged or repeated exposure (via inhalation)

PRECAUTIONARY STATEMENTS

Prevention:

P203	Obtain, read and follow all safety instructions before use.
P260	Do not breathe dust.
P264+P265	Wash hands and face thoroughly after handling. Do not touch eyes.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or with adequate ventilation.
P280	Wear protective gloves/protective clothing/face protection/mask.

Response:

P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P318	If exposed or concerned: Get medical advice.
P319	If you feel unwell: Get medical help.
P337+P317	If eye irritation persists: Get medical help.

Storage:

P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501	Dispose of contents in accordance with local regulations.

Safety:

- Use respirators to protect workers from inhaling dust.
- Processing and fabrication of VICOSTONE® QUARTZ SURFACES such as cutting, polishing, drilling, grinding, etc., must be carried out using water spraying tools.
- Use vacuum cleaners or damp cloths for cleaning. DO NOT use dry sweeping, dry brushing or compressed air to clean.
- Use local exhaust ventilation (LEV) systems to capture silica dust and prevent dust from escaping.
- Even when equipped with water integration, manual saws are less recommended for cutting initial stone slabs
- Use earplugs to reduce noise when processing products.

This product can expose you to crystalline silica and titanium dioxide (airborne, unbound particles of respirable size) during fabrication and installation. These are known as cancer-causing agents under IARC, NTP, OSHA, ACGIH, ECHA, SWA and California Proposition 65.
Detailed guidance regarding safety can be found in the Safety Data Sheet; Fabrication & Installation Guideline VICOSTONE® QUARTZ SURFACES; Health Guideline for VICOSTONE® QUARTZ SURFACES published on the website: https://www.vicostone.com.

Vicostone Joint Stock Company

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Product specifications

Specifications

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: Iw ≥ 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

Transportation, storage and inspection

Transportation

PRODUCT LIFTING METHOD

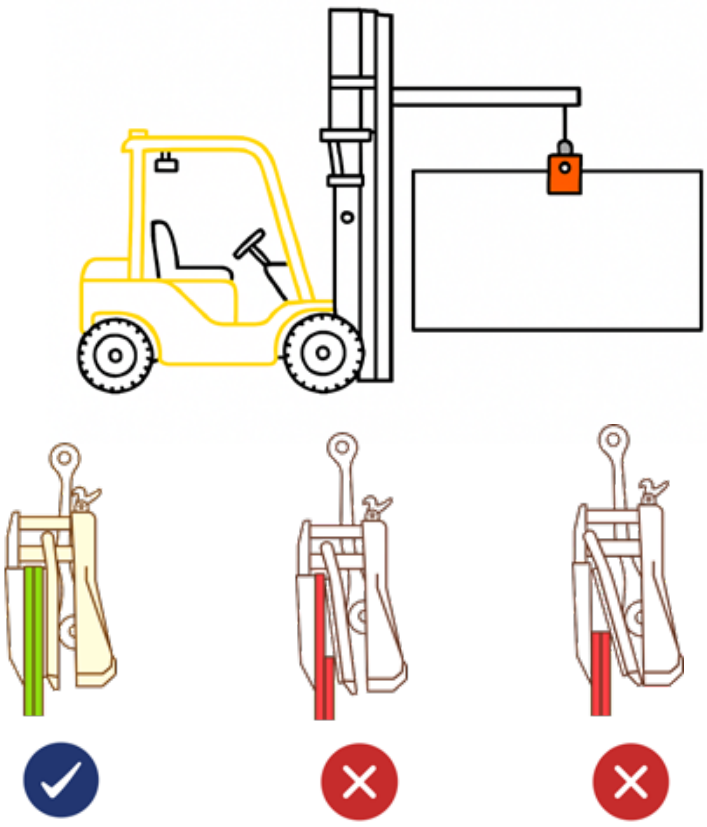
Product slabs must be loaded, unloaded and transported using a forklift or other suitable lifting equipment.

- 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

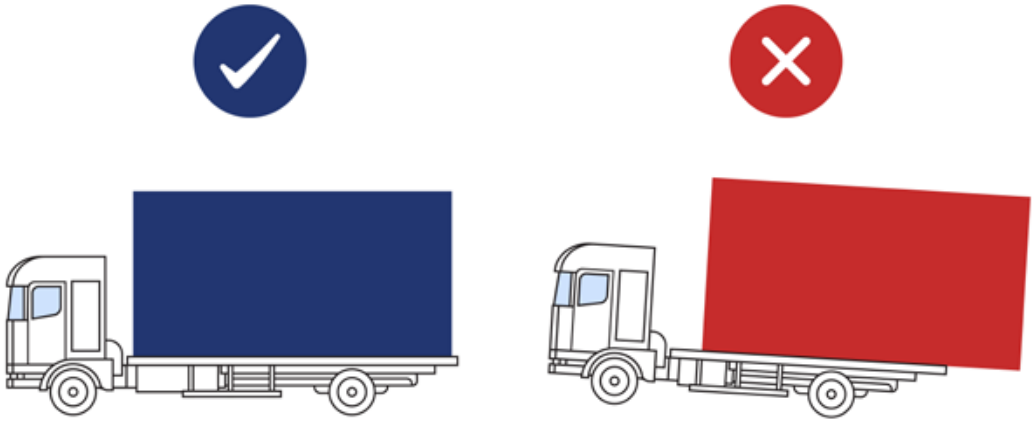


Transportation, storage and inspection

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 Products 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 Products.
- Ensure that the entire load of the support frame and Products is 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 remain with their vehicles at all times 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 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.

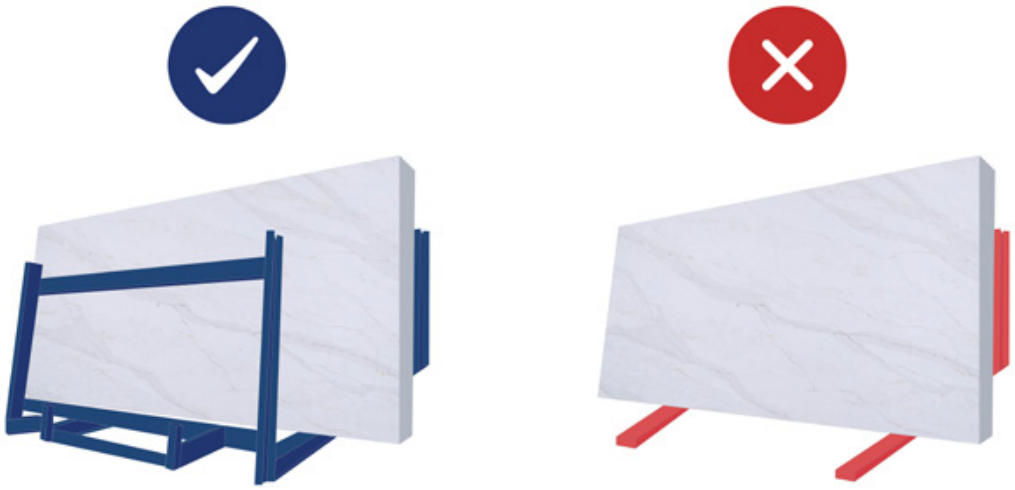
Transportation, storage and inspection

Storage

STORAGE ON A-FRAME AND E-FRAME

If Products are 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 A-frame must be lined with wood, rubber, or fabric straps on the surfaces in contact with the slabs.
- Use external support pillars for Products.
- Evenly stack 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 Products can lead to falling, resulting in product breakage and/or endangering the worker. If Products are stored on an E-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.
- Products 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 Products and the support pillar to prevent warping. Stack the edges of Products slabs flat without any deviations to maintain quality during storage.
- Store Products 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.

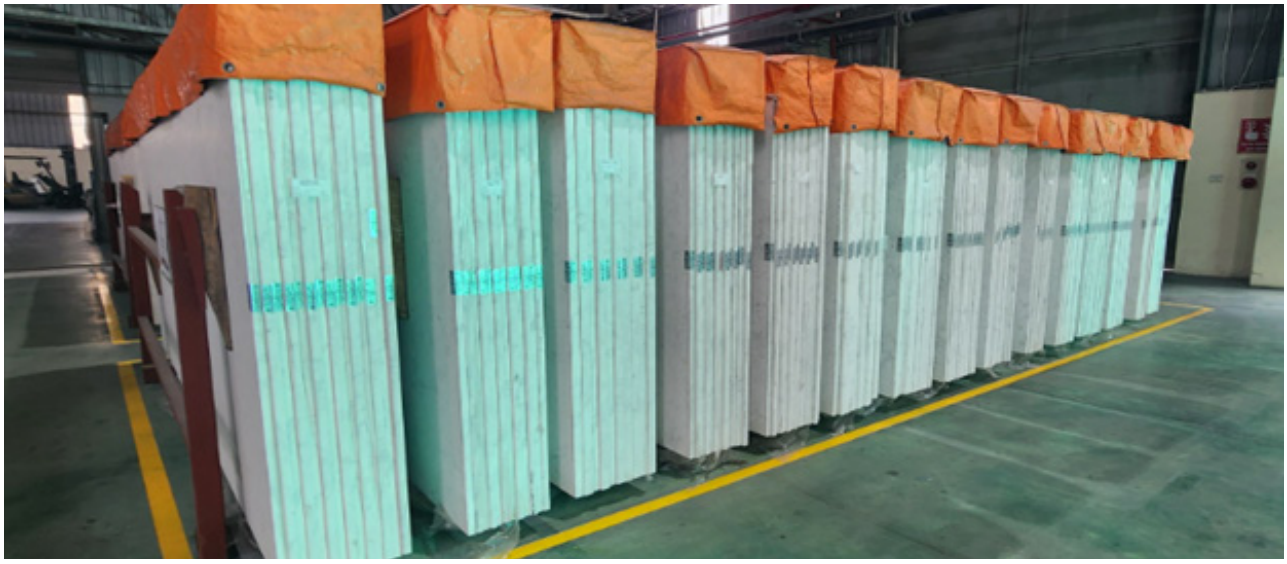


Image of products placed in E-frame

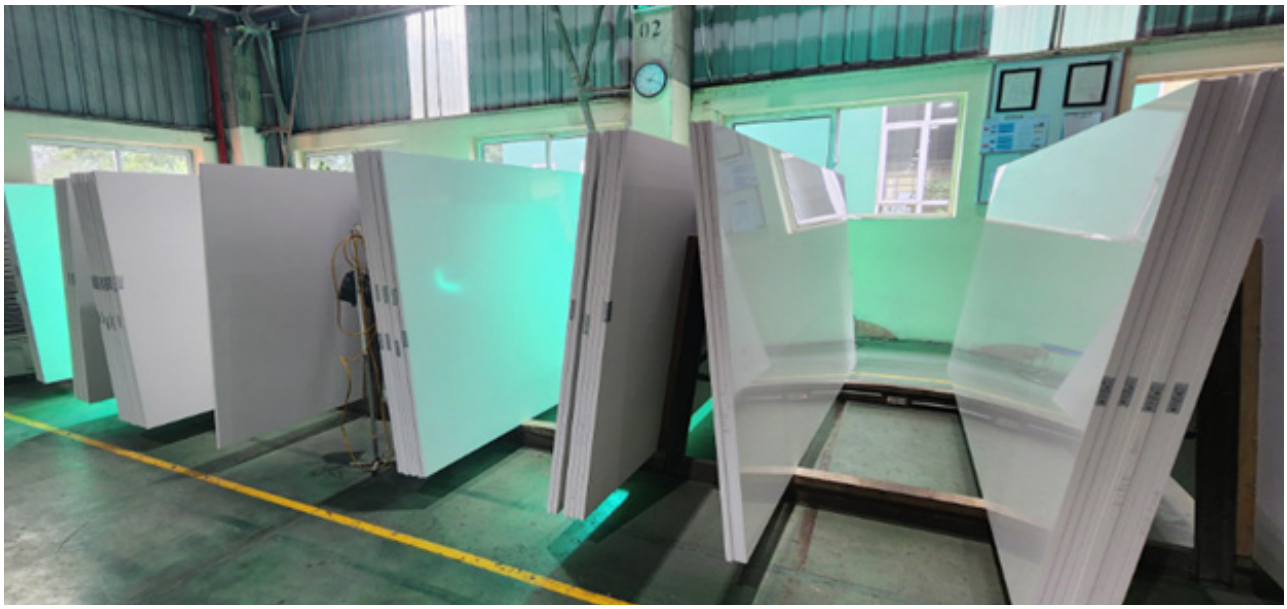


Image of products placed in A-frame

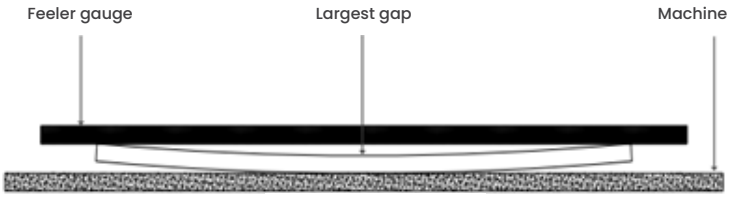
Transportation, storage and inspection

UNSAFE STORAGE:

A dangerous storage environment presents multiple safety risks, including the absence of support frames, unsecured materials, lack of outdoor covering, and improper stone stacking. These unsafe conditions can lead to product deterioration, structural instability, and increased risks of accidents, posing serious threats to worker safety and operational efficiency.

Visual inspection

- VICOSTONE® QUARTZ 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 Products 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 Products from above.
- Check all products for uniformity of Colour and particle size (aggregate distribution) because variations in Colour and particle size may occur across different batches.
- Inspect Products for any surface defects, including: particle contamination, small cracks, stains, chips, warping, and changes in thickness.
- When making coplanar seams 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.



Flatness inspection

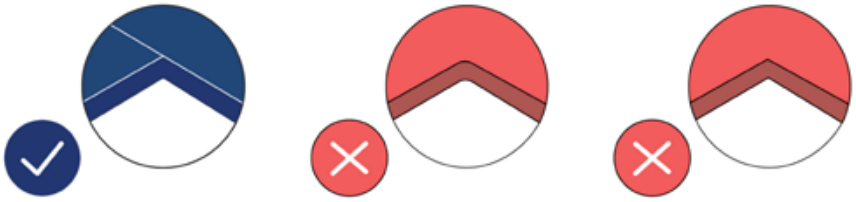
Fabricators, and installers should conduct thorough visual inspections to determine whether any surface defects exist and whether Products are suitable for their intended use. If the fabricators, or installers discover any problems that render Products unsuitable for their intended use, they should promptly 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.

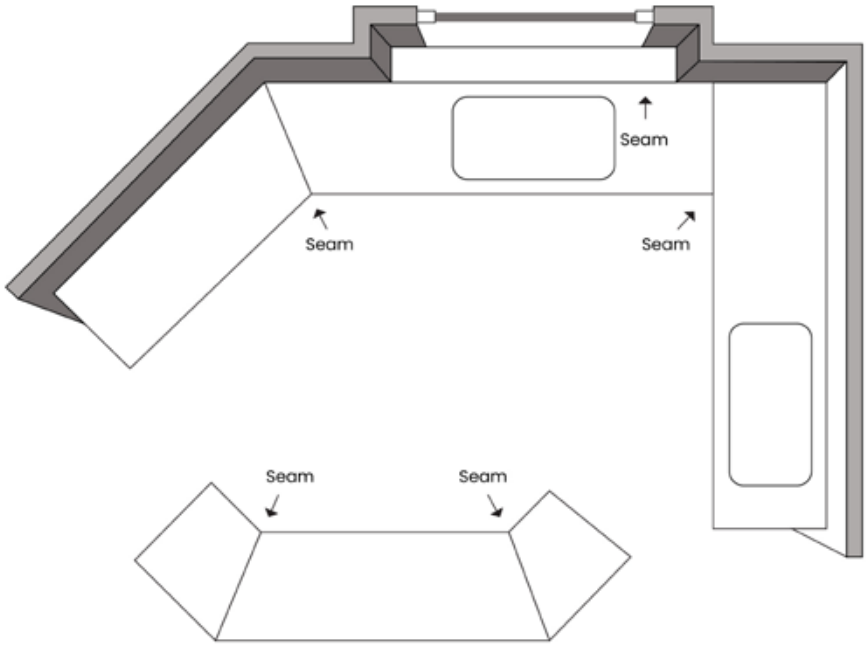
Fabrication and installation

Design countertop layout

LOCATE SEAM POSITIONS

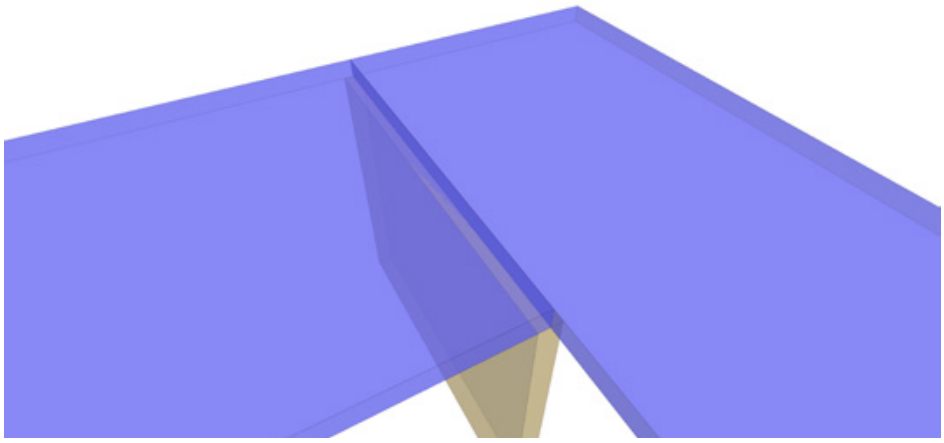
- Always fabricate, and install L-shaped or U-shaped countertops or each change of direction in the countertop with a seam on the inside corner at all times.
- Avoid creating L-shaped countertops or altering the direction of surfaces without seams, as described below, as it may increase the risk of cracking 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.
- Seams must be placed on Products 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 Products with a thickness of 20 mm or 30 mm, but this does not happen to all Colours. Therefore, avoid designing applications that rely on patterns on the back side of Products.
- Controlling patterns on the back side of Products 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 Products, 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 create a floating vein effect.

MATCHING SHADES

- When ordering, it is advisable to use slabs from the same production batch to ensure Colour and pattern consistency.
- Seamed 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 Colour 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 Products, 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 Colour 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 Products, and make it susceptible to cracking, chipping, disColouration, and other damage.
- Fully equipped with proper personal protective equipment, especially respirators and goggles, when performing drilling or cutting tasks.

INSPECTION BEFORE CUTTING

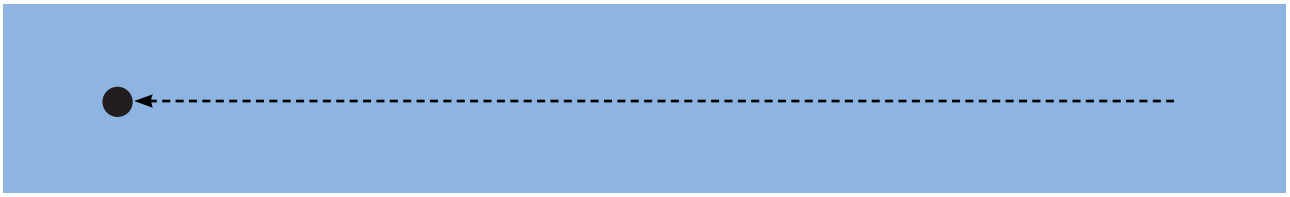
- Trim any burrs around Products to ensure straight edges before cutting to the desired size.
- Check the Colour compatibility of the pieces that will be joined together before fabricating Products. This ensures consistent appearance in the final product.

Fabrication and installation

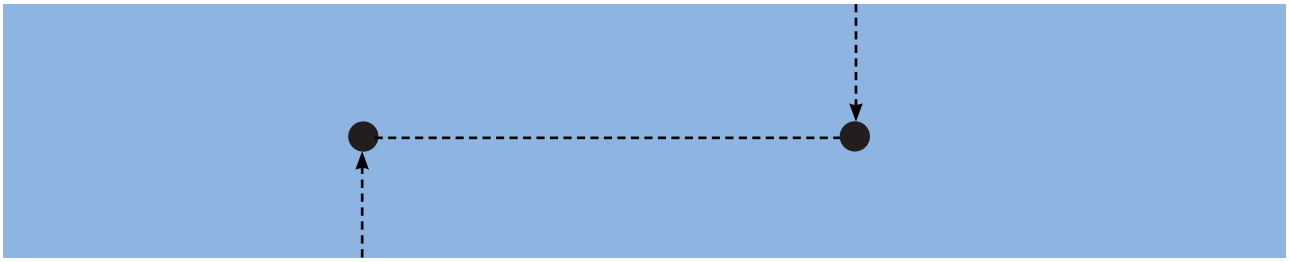
STRAIGHT CUTTING, U-SHAPED CUTTING, AND PLUNGE CUTTING

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:

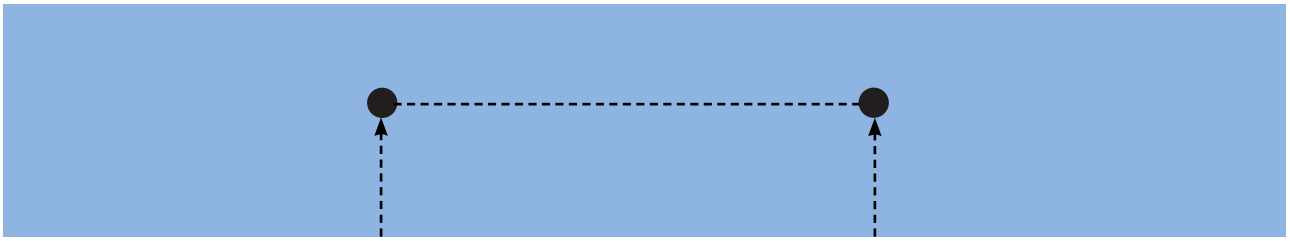
- When making a long continuous cut across the length of a product slab, whether it's a plunge cut (from the middle of the slab) or starts from the edge, a relief hole must be marked and drilled at the endpoint of the cut. Proceed to cut towards the relief hole. If possible, avoid using the plunge cutting 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 centre 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 25.4mm (1") 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.

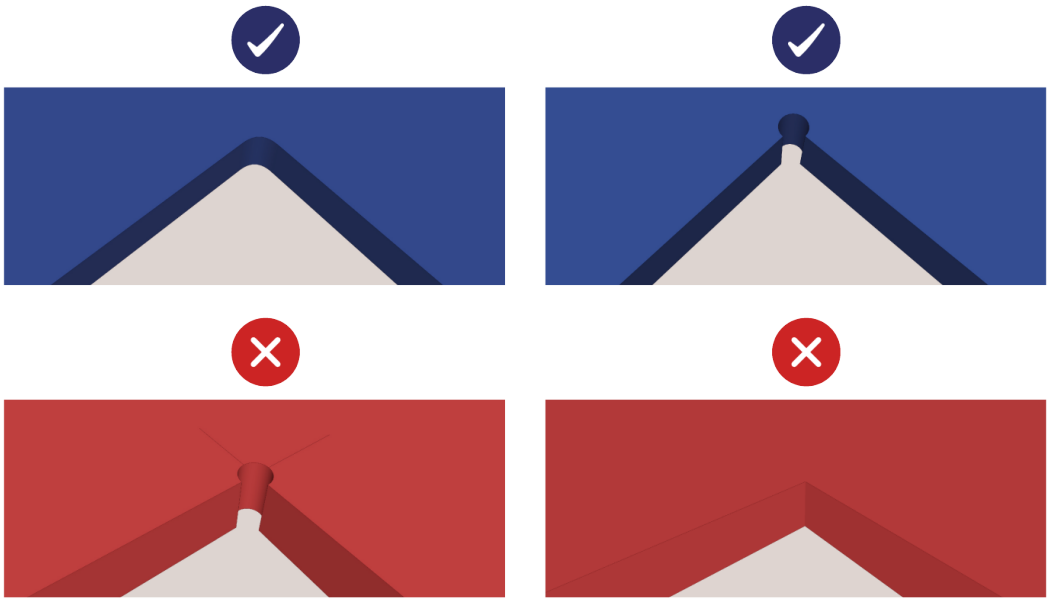


- Drilling relief holes is an effective solution to eliminate mechanical stress in products. It should be used during the manufacturing process to ensure that Products remain undamaged during cutting.

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.

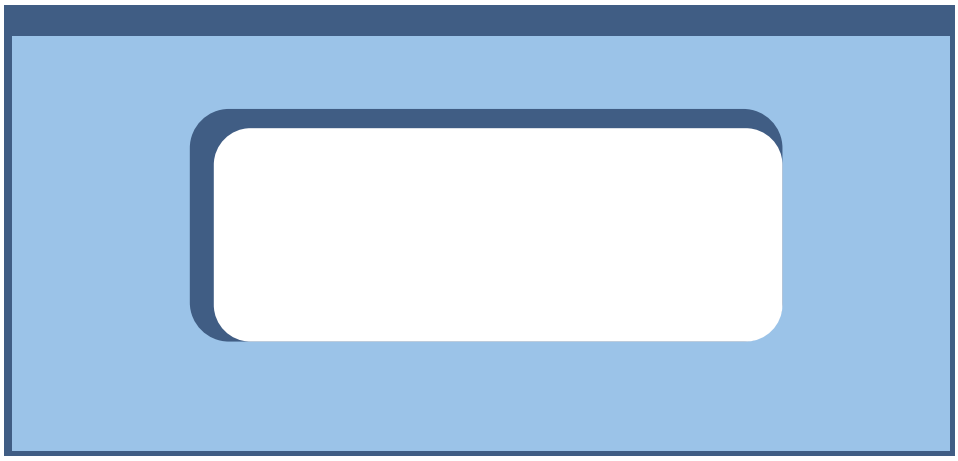


- The distance between the cutting line and the edge or border of Products should never be less than 70 mm. A greater distance provides a more secure area for installation.
- In case where the distance between the cut and the edge or border is less than 70 mm, that area must be reinforced by applying 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, cooktops, 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 13mm. When planning for cut-out, leave an additional 3mm 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 Products due to temperature changes.

Fabrication and installation

INTERNAL CORNERS OF CUT-OUTS SHOULD BE ROUND, PRIOR TO CUTTING,

DRILL THE CORNERS WITH A DRILL, 12mm MINIMUM HOLE DIAMETER



PLANNING CUT-OUTS

- Care should be taken when installing appliances such as cooktops 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 centre of the cut-out and make sure to leave a minimum gap of 3mm 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

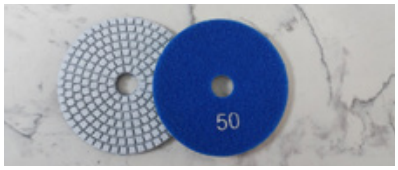
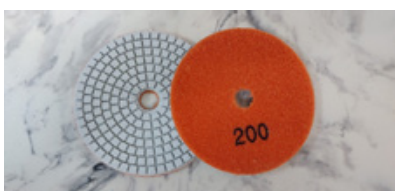
- Ensure that all visible edges are polished similarly to the surface.
- The upper surface of the edges must be rounded or beveled; avoid creating sharp corners.
- All edges should have a minimum edge profile (beveled or rounded) of 3 mm at the sharp apex. The larger the surface area of the edge, the 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

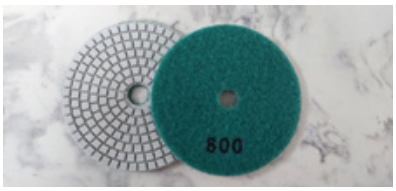
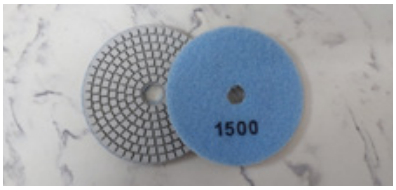
- Using water-cooled tools for grinding to prevent overheating and damage, and to minimize dust dispersion.
- For internal corners that are rounded or curved and small cuts with exposed edges, employ a polishing bob/drum.
- Each polishing stage should remove the marks from the previous stage, progressing 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		☐	☑
2	100-grit buffing wheel		☑	☑
3	200-grit buffing wheel		☑	☐

Fabrication and installation

Step	Type of buffing wheel	Image	Option 1: Straight edge	Option 2: Rounded edge
4	400-grit buffing wheel		☑	☑
5	800-grit buffing wheel		☑	☑
6	1500-grit buffing wheel		☑	☑

- Number of polishing passes: Products are 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 Products 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 59 kg/m^2.

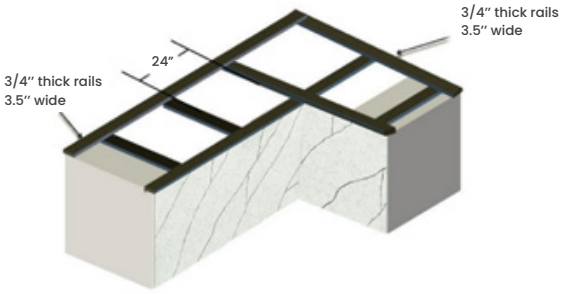
  All components are fastened to both the wall and the base components.

  The cabinet is properly leveled. The top surface of the cabinet should be vertical and flat. Ensure that the level does not exceed 1.6mm within a 254-mm 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 3mm between Products 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 89mm and a thickness of 16mm. Then, support the rear edge of the slab with evenly spaced rails, each 89mm wide, approximately 610mm apart, as shown in the diagram below.



- It is important to maintain a minimum gap of 3mm between the slab edge and the wall to accommodate any expansion or contraction due to temperature changes. For all countertops exceeding 254mm, provide an additional 3-mm gap over 127mm.
- Apply flexible 100% silicone adhesive strips at regular intervals of no less than 305mm 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

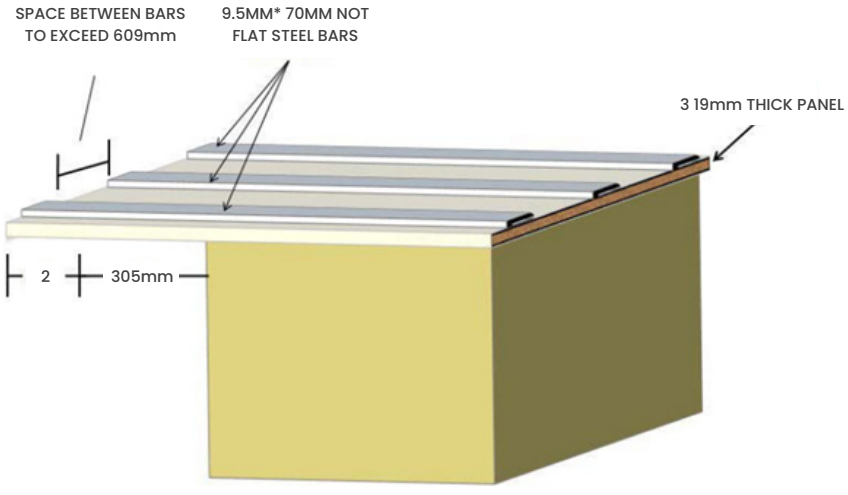
COMPLETE UNDERLAY SUPPORT

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 16mm.

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 600mm, the protruding seat should not be supported more than 200mm.
- 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 203mm for 20mm material or 406mm for 20mm material with a underside of 16mm or 406mm for 30mm material must be supported by a steel bar 9.5mm thick and no less than 70mm 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 38mm edge, an additional piece adhered on top can extend the entire.
- If the protrusion is less than 508mm, the general practice is to provide a wooden support base and brackets spaced approximately 508mm 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 508mm must be supported by suitable metal or solid wood legs.

Required bracket	20mm (3/4″)	20mm (3/4″) with 16mm (5/8″) supporting surface	30mm (1 1/4″)
No additional bracket required	Less than 200mm (8″)	Less than 300mm (12″)	Less than 400mm (16″)
Bracket required at approximately 600mm (24″)	200mm - 400mm (8-16″)	300mm - 500mm (12-20″)	400mm - 600mm (16 - 24″)
Legs, columns or panels need to be at 600mm (24″)	Interval over 400mm (16″)	Interval over 500mm (20″)	Interval over 600mm (24″)



SUPPORT FOR PROTRUSIONS EXCEEDING 203mm

Fabrication and installation

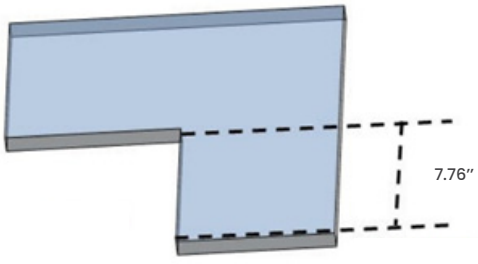
Installation instructions

MAKING SEAMS

- Choose a resin adhesive of suitable Colour.
- Do not place the seams within 10cm of the intended cut, such as sinks, kitchen countertops, etc.
- All seams on the countertop must have sturdy support from underneath.
- All seams must be properly cleaned to remove dust and dirt.
- All seam 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 seam(s) and along the front surface.
- Check if the countertop is properly balanced and upright.
- Use paper masking tape to cover the seams to prevent adhesive from spreading to the polished surface.
- Ensure that the seams 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 Products.
- Do not place direct seams on dishwashers or other appliances as they may emit heat.

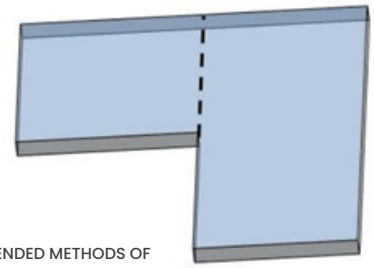
L-SHAPED SEAMS

Due to various mechanical stresses occurring after installation, VICOSTONE., JSC does not recommend installing L-shaped countertops without seams 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 1” to reduce tension at the corner. VICOSTONE., JSC does not warrant any cracks in the “L” shapes made from a single piece without seams.



“L” SHAPED SECTIONS CUT FROM ONE PIECE IS NOT RECOMMENDED FOR LENGTHS GREATER THAN 8’’ FROM THE CORNERS

LENGTHS GREATER THAN 197mm ARE NOT RECOMMENDED WITHOUT A SEAM



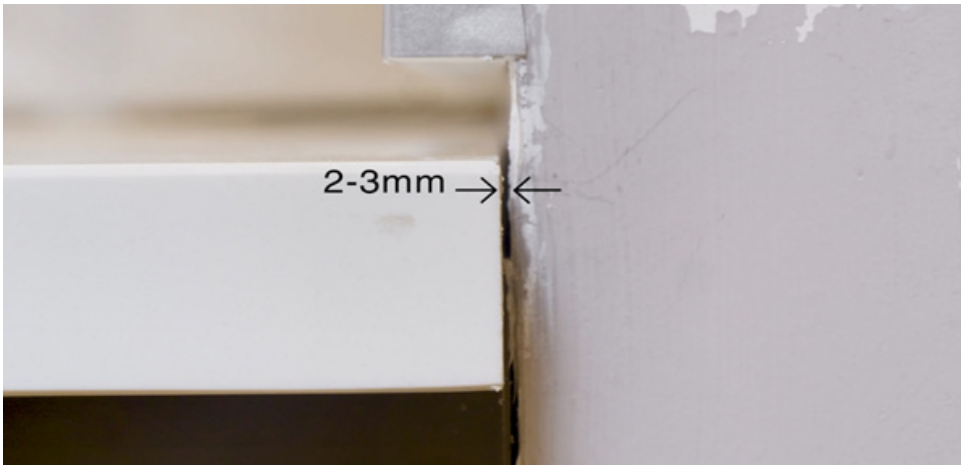
RECOMMENDED METHODS OF Seam IN “U” AND “L” SHAPED FABRICATIONS

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 9.5mm is required.



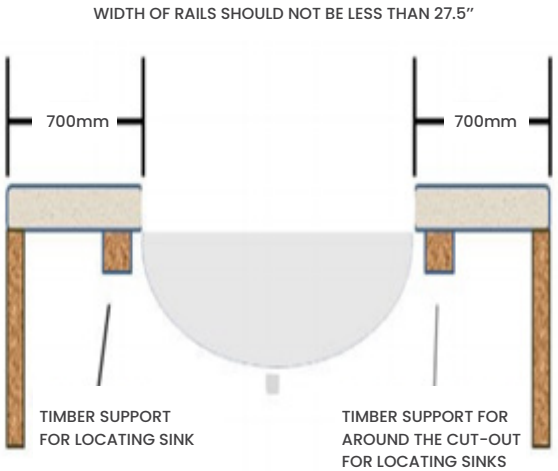
SINK INSTALLATION

- 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 5kg must be adequately supported by a cabinet frame.

- All seams 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 Products.



INSTALLATION OF UNDER THE COUNTER SINK

INSTALLATION OF BACKSPLASH

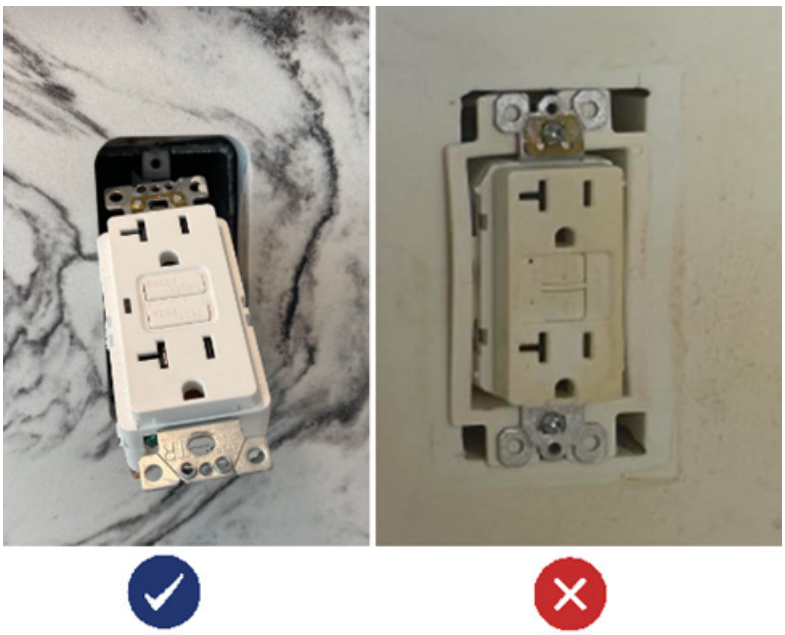
VICOSTONE® QUARTZ SURFACES can be used for backsplash in wet areas, behind wash basins, sinks, and behind cooktops. However, when installing backsplash behind gas cook tops and heat-generating appliances, it is important for the installer to follow all manufacturer's instructions and safety requirements, 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 installing 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.
- The backsplash pieces must be protected from the direct heat of stove during the cooking or maintain the distancing from the heat source to backsplash at least 6 inches or 150mm.
- Join or seam of backsplash should not be placed close to the heat source on stove or cooktops.

ELECTRICAL SOCKETS ON THE BACKSPLASHES

- Ensure that the corners of the holes have a radius of 9.5mm, as shown below.
- The holes must be placed away from areas with direct heat, such as gas stoves, ovens, and air-fry.



WALL CLADDING

Products can be used for all interior wall cladding layers and vertical applications. When designing and installing vertical panels and cladding panels, it is necessary to take Products' 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 movements
- 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 stone has 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 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 countertop products 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 Products 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 Products surface. Such actions can potentially damage the surface. Refer to the recommendations in Products Usage Guidelines for Countertop 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 Products are determined by standing at a distance of 4-6 feet from Products 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: VICOSTONE® QUARTZ 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® QUARTZ 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 they have the expertise and knowledge in the intended use of Products, and the safety of their employees, contractors, third parties, and any other persons who enter 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 **Completion date**

Questions	Yes	No	Not sure
Does Products have the correct Colour and thickness?			
Are there no scratches, chips, cracks, stains, or surface damage?			
Are seams acceptable?			
Acceptable gaps between countertop and fixtures? (cabinets, walls, etc.)			
Are caulking and silicone acceptable?			
Is the sink cut out 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 odour-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.ca or send it to your direct Distributor.

Receipt form:

Fabrication & Installation Guideline for VICOSTONE® QUARTZ SURFACES , version 2025

To whom it may concern,

I, the undersigned, hereby confirm that I have received the Fabrication & Installation Guideline VICOSTONE® QUARTZ 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: ...../...../.....

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