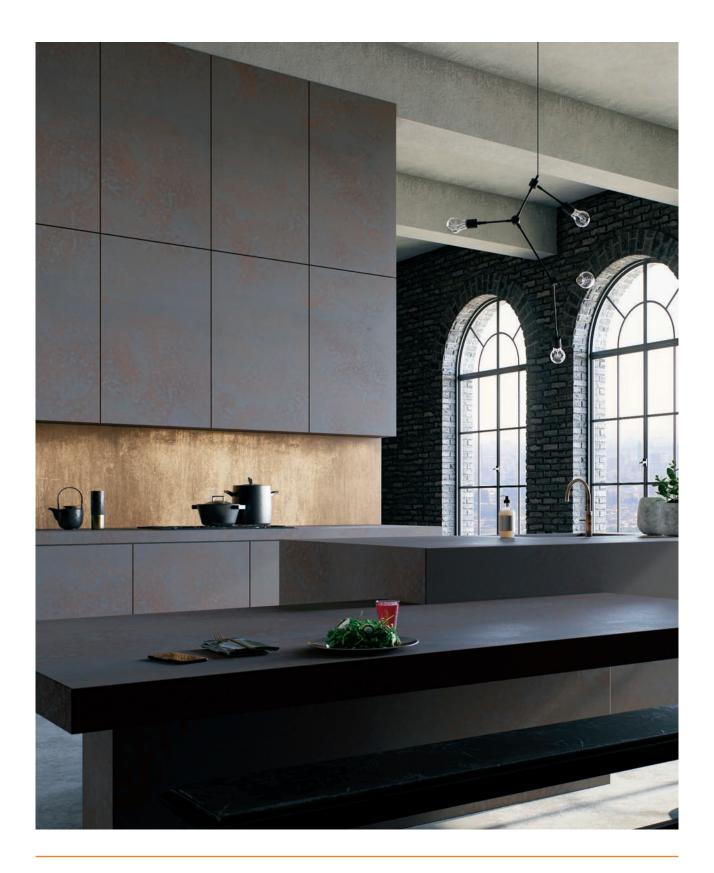




Fabrication & Installation Guide

Guidelines, Recommendations & Technical Information





Manual Version 6.02 | Date Effective: April 2022 | Supersedes Version 6.01 (October 2021) safety@caesarstone.com.au | mos.caesarstone.com.au

Distribution: Stonemasons, fabricators, installers, distributors. This guide is not for general distribution

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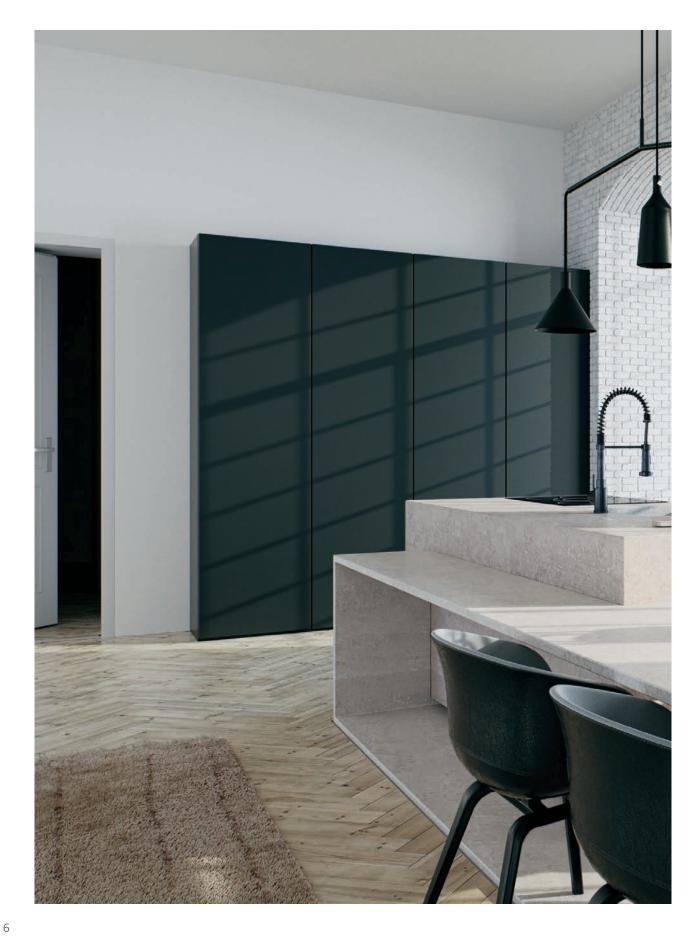
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1. Introduction



Caesarstone quartz surfaces are ideal for a wide range of interior commercial and residential applications, including: kitchen benchtops, bathrooms, bartops, vanities, reception counters and furniture.

Caesarstone traditional quartz surfaces are not suitable for exterior use, or in any areas that are exposed to UV radiation or excessive heat.

For usage, fabrication and installation guidelines for the Caesarstone Outdoor Collection, please see the *Caesarstone Outdoor Technical Guide*.

Caesarstone quartz surfaces are manufactured in a vast range of colours, divided into several series with unique properties.

Caesarstone quartz surfaces are manufactured from up to 90% quartz (one of nature's hardest minerals) and high-quality polymer resins and pigments that are compacted under intense vibration, vacuum and pressure into dense, non-porous slabs. The quartz slabs are then post cured, gauged to various thicknesses and polished.





2. General Safety

Caesarstone has always been at the forefront of creating a safe work environment. We require our distributors, stonemasons and installers to follow the same level of commitment regarding safety and to comply with local Occupational Health and Safety.

Fabrication of Caesarstone generates respirable dust that is dangerous to your health. For more information about this danger and means of protection that you should implement please see the Caesarstone *Good Practice Guide - Steps to Avoid Health Hazards Related to Crystalline Silica Dust* at: mos.caesarstone.au.

HOUSEKEEPING

Maintain a clean and tidy work area. Ensure housekeeping is regularly monitored to prevent hazards arising from an untidy work environment.

KEEP WELL VENTILATED

Keep working areas well ventilated and well lit.

AUTHORISED PERSONNEL ONLY

Restrict the work area to authorised workers and personnel only.

PROPER FOOTING

Do not overreach. Keep proper footing and balance at all times.

FIRST-AID KIT

Maintain a fully equipped first-aid kit appropriate for the tasks being carried out on site at all times.

READ INSTRUCTIONS

Read the instruction manuals pertaining to the tools used. Learn the tools' application, maintenance, limitations and potential hazards.

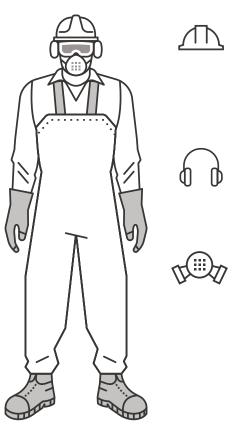
USE APPROPRIATE TOOLS

Use the appropriate tools and attachments per manufacturer's recommendations. Do not use tools or attachments for functions or at speeds for which they were not designed. Do not use improvised tools.

MAINTAIN TOOLS

All tools must be kept in good working order and tested or serviced per the manufacturer's recommendations.

Wear the following protective apparel when fabricating Caesarstone:



HELMET & HAIR COVERING

Use hair covering to contain long hair and a safety helmet during handling and transporting.

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SAFETY GOGGLES

Safety glasses or other approved eye protection.

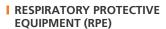


Appropriate hearing protection when working in noisy areas.



GLOVES

Gloves for protection against chemicals or rough material.



A disposable dust mask with P3/N95 filter, a fit-tested half face respirator with P3/N95 filters or higher, or a Powered Air Purifying Respirator (PAPR). The RPE must be suitable for the working conditions and compliant with all relevant standards and regulations. Workers with facial hair should wear PAPR.



SAFETY SHOES
Nonslip, steel-capped safety shoes. In wet areas, steel-capped rubber boots in addition to the above.

GFCI

All electrical tools must be equipped with a Ground Fault Circuit Interrupter (GFCI) or Residual Current Devices (RCDs). Three-prong plugs must be plugged into three-hole electrical sockets. If an adapter is used to accommodate a two-prong socket, the adapter plug must be attached to a known ground. Never remove the third prong.

OPERATE TOOLS SAFELY

Use clamps or a vice to secure work when necessary, freeing both hands to safely operate tools. Ensure that all portable and fixed tooling has appropriately fixed guarding.

REMOVE KEYS

Always remove keys and wrenches. Check that keys and adjusting wrenches are removed before switching on the tool.

I DO NOT WEAR LOOSE CLOTHING

Do not wear loose clothing, neckties, rings, bracelets or other jewellery that may get caught in moving parts.



3. Slab Information

3.1 Slab Data

Slab data provided here are nominal only, for storage and transportation purposes. Actual usable slab surface is slightly smaller than the overall nominal slab size to allow for trimming of the perimeter.

I DIMENSIONS AND WEIGHT

STANDARD SLAB

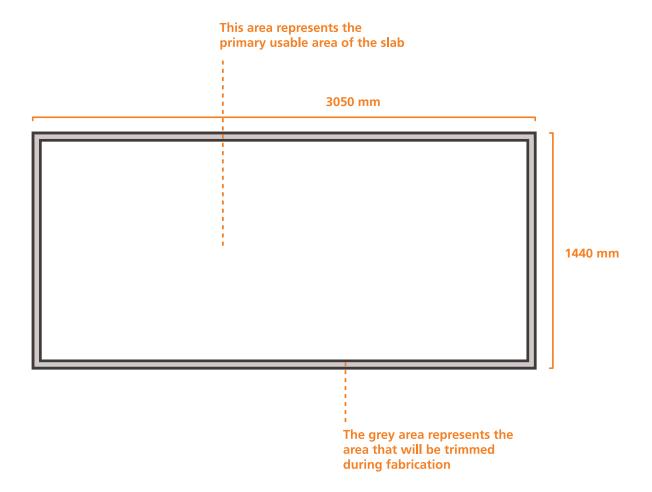
Length	3050 mm +/- 10 mm	
Width	1440 mm +/- 5 mm	
Thickness	20 mm +/-1 mm	
Weight	198-206 kg 45-47 kg kg/m 2	

GRANDE SLAB

Length	3200 mm +/- 10 mm	
Width	1640 mm +/- 5 mm	
Thickness	20 mm +/-1 mm	
Weight	236-247 kg 45-47 kg/m ²	



3.2 Slab Areas



If you need to use the maximum width and length of the slab you must inspect the grey area around the slab perimeter for colour, polish, transportation damage or any other defect that may be visible before cutting. If the slab proves to be unsuitable it should be exchanged for another prior to cutting.

- Till is important to properly check the slabs prior to cutting as the grey area varies on each slab.
- The grey area in the diagram above is exaggerated for the purposes of illustration.

3.3 Slab Stamp

A stamp appears on the back of the slab with identification information. This information remains on the slab for its lifetime and can be used for identification after installation.

The batch number allows you to track multiple slabs of the same batch. For installations requiring multiple slabs is it important that all slabs come from the same batch.

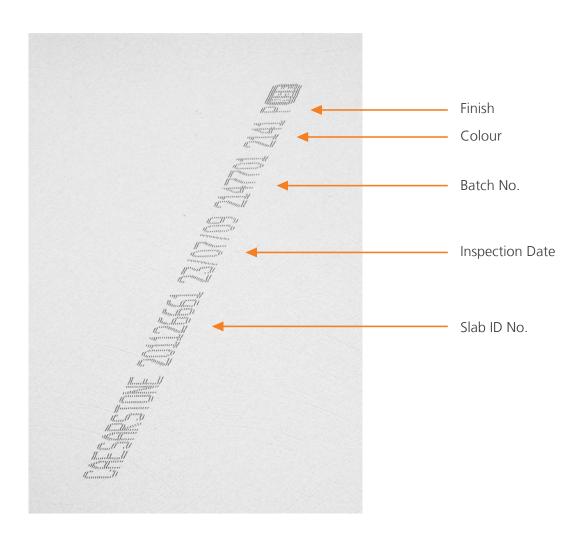
The slab ID number allows you to identify individual slabs and helps in identifying offcuts that have come from the same slab.



There is no correlation between the batch number and the slab ID.



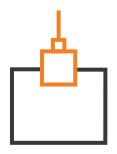
The inspection date is not the date of manufacture.



3.4 Slab Label

Every slab manufactured by Caesarstone undergoes individual inspection and quality control. Below is the key to our slab labels.





4. Handling, **Transportation & Storage**

At all stages of handling, transportation and storage, the slabs must be balanced to the centre of gravity.



Adhere to all the relevant safety regulations regarding equipment and personnel.

4.1 Handling

Caesarstone slabs must be loaded, unloaded and transported by means of a forklift, bridge crane or other suitable lifting device.

ENGINEER'S APPROVAL

An engineer who specialises in lifting and handling must approve that all the lifting tools and equipment are in good working order, and that they are suitable for the purpose and the weight of the load.

ARRANGING SLABS

When more than one slab is lifted in one load, the slabs must be back-to-back with no gaps.

PREFERRED ACCESSORIES

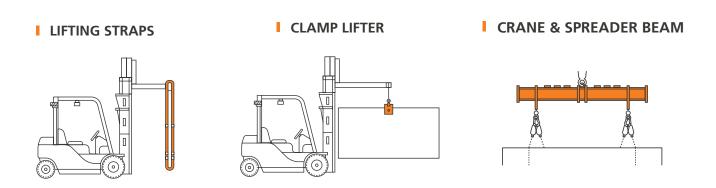
The preferred accessories for attaching the slabs to the lifting device are clamps or chain slings. Straps may be used to secure slabs once they have been placed in situ.

4.1.1 Lifting Methods

Take the precautions below when lifting slabs:

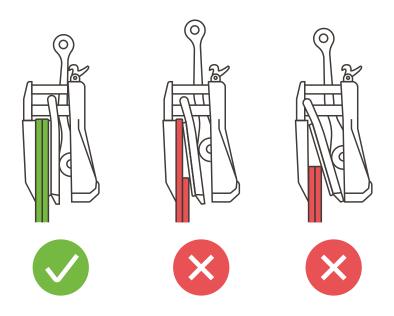
- When using engineered devices to lift slabs, ensure that the lifting attachment is placed in the centre of the load and firmly secured before lifting and transporting the load.
- Do not modify the clamps or other lifting mechanisms.
- Do not exceed the load lifting capacity of the lifting equipment.

When lifting or transporting slabs, use the correct lifting equipment certified with safe work load limits. Lift slabs by one of the methods below:



I CORRECT USE OF CLAMPS

- Ensure that the slabs are correctly placed into the clamps as shown in this diagram. Failure to do so can result in the slabs falling out or damaging the lifter.
- Some clamps can lift multiple slabs at once, depending on the size of the clamp.
- Do not lift multiple slabs if they are not the same height.



4.2 Transportation



Caesarstone slabs can weigh in excess of 200 kg per slab. All vehicles transporting Caesarstone slabs must be appropriately designed to withstand the weight and safely transport the load. See the diagrams below.

- Securely attach an appropriate, approved frame with no visible defects to the truck for loading Caesarstone slabs, e.g., an A-frame.
- Ensure that A-frames are appropriately secured to the vehicle and the slabs are appropriately secured to the A-frame to ensure that they cannot move during transportation.
- Load the slabs evenly on both sides of the frame, face-to-face and back-to-back with no gaps.
- Use proper load-rated straps or ratchet tie-downs to secure the load. These should be discarded at the first signs of wear.

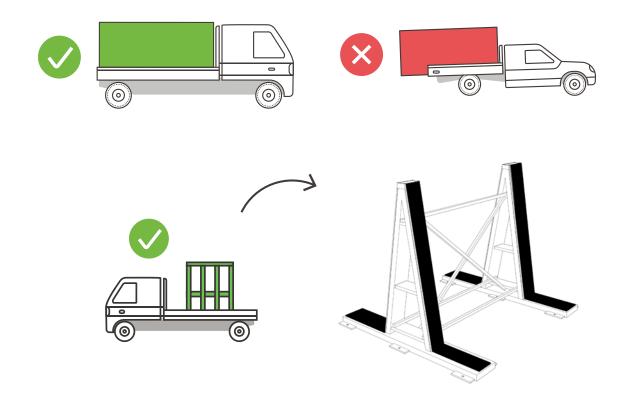


Do not use rope to secure a load; it deteriorates very quickly and has a greater element of elasticity, which reduces its effectiveness.

- Protect the straps from abrasion and damage from the slabs by placing protective strips between the straps and the edges of the slabs.
- The load should be carried completely within the tray of the vehicle so that if a slab breaks, part of it does not fall onto the road and endanger road users.



All vehicles used for transporting goods and/or materials must comply with the latest National Transport Guides which can be found here: https://www.ntc.gov.au/codes-and-guidelines/load-restraint-guide.



4.2.1 Transportation of Fabricated Surfaces

Correct racking is essential for transporting fabricated pieces to the site in good condition. Please note the specific instructions below in addition to the general instructions.

■ PROTECTIVE LAYER

Ensure that there is a protective layer between the rack and the fabricated pieces to prevent scratching or other surface damage during transit.

ARRANGING THE FABRICATED PIECES ON THE RACK

Arrange the fabricated pieces on the rack face-to-face and back-to-back with no gaps. Each piece must be fully supported by the adjacent piece. Place pieces with cutouts in the centre of the stack for protection by solid pieces. A protective layer may be placed between cut pieces of different sizes to prevent abrasion lines.

SECURE THE SLABS

Safely secure the slabs using the appropriate load-rated securing devices.

I CHAIN OF RESPONSIBILITY

Caesarstone adheres to the Transportation Chain of Responsibility. Therefore, in the event a vehicle is deemed unsafe or unable to safely transport the intended load, Caesarstone reserves the right to refuse the loading of our products. For further information related to Transport Chain of Responsibility see: https://www.ntc.gov.au/codes-and-guidelines/load-restraint-guide.



4.2.2 Driver Responsibilities

Drivers must stay with their vehicles. Drivers must ensure that:

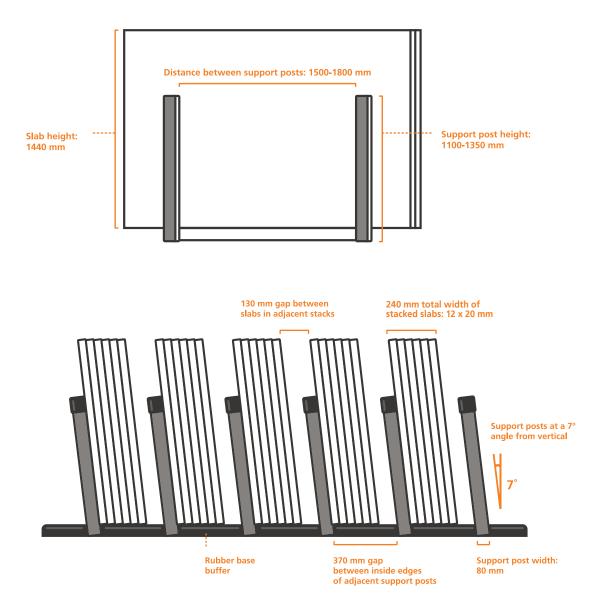
- the vehicle is in good order and condition
- the load is within the legal carrying capacity of the vehicle, including if it is partially loaded before loading the Caesarstone slabs
- the correct slabs are loaded
- the load is fully supported and safely secured to the vehicle prior to leaving the premises

4.3 Storage

4.3.1 Rack Storage on Angled Posts

The diagrams below show the recommended storage method for Caesarstone slabs.

Caesarstone slabs are heavy and can cause serious injury or death if not safely and securely stored. All slabs must be secured against falling when stored and transported.



SUPPORT POSTS

Support the slabs with a minimum of two support posts spaced 1500-1800 mm apart, with the slab positioned centrally in relation to the posts. The slab must be in full contact with the whole height of the support posts.

MAXIMUM SLABS IN A STACK

The maximum number of slabs permitted in a stack is 12 x 20 mm.

I STORE UNDER COVER

Caesarstone recommends storing slabs under cover at all times.

ADDITIONAL SUPPORT IN HIGH TEMPERATURES

If Caesarstone slabs are stored in areas exposed to sunlight or high temperatures it is recommended to provide additional support to prevent warping by building a third post on the stand.

I DO NOT EXPOSE THE POLISHED SURFACE

Store the outer slabs in each rack with their backs facing outwards, so that the polished surface is not exposed.

I EASY IDENTIFICATION

Store slabs face-to-face and back-to-back with no gaps, in a manner that allows for easy identification of colour and batch numbers.

CUT SLABS

Do not store cut slabs between full slabs.

I RUBBER BUFFERS

Caesarstone recommends placing rubber buffers on the base of the stand to prevent the slabs chipping.

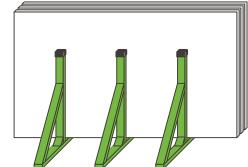
4.3.2 Storing Slabs on Racking

A safe and preferred method of storing slabs is on racking that has the structural integrity to support the load. All racks should be secured to their foundation to prevent movement that may cause the slabs to lean or fall.

Slabs should be placed at a 90° angle with engineered lean posts either independent or attached to another rack placed in front to provide additional support. When slabs are stored in a front rack, posts must be placed in front to prevent the load from falling. In most cases either two or three posts will be placed to secure the load stored in the front rack (see diagram below).

When using a three post system to secure slabs, ensure that the centre post does not interfere with the positioning of the clamp.

Caesarstone strongly advises against storing slabs on timber racks and A-frames.



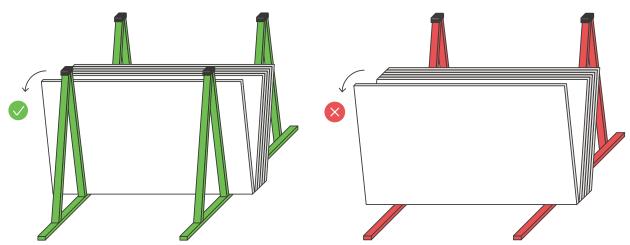
4.3.3 Rack Storage on A-Frames

Caesarstone strongly advises against using timber racks and A-frames as a permanent means for storing slabs. Storing slabs on A-frames should be considered a temporary means of storage only.

If slabs are stored on A-frames, they should be engineered to support the weight of the loads they are intended to support. Where possible, A-frames should be secured to their foundation to avoid movement and ideally stored at a 75° angle with supporting posts behind and in front of the slabs.



If A-frames are positioned in front of each other it is recommended to join them with pins or another appropriate joining mechanism to further prevent movement.



Do not store slabs on the open ends of A-frames as there is a danger of the slabs falling if tilted too far.



Do not stand between the slabs; always control the slabs from the outside.

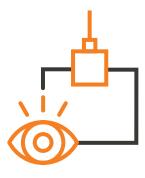
The angle of the frames allows an operator to pry the slabs apart to insert a lifting clamp. However, if pulled too far the slabs will reach a point of no return and can no longer be controlled by the operator.

The 20 mm slabs weigh up to 210 kg. Once these start to tip over it is unlikely that the operator will be able to stop them, which could lead to him being crushed.

4.3.4 Dangerous Storage

This picture shows a dangerous working environment. There are numerous safety issues that could lead to serious injury, such as: no outer support post; uneven ground; no rubber base buffer. In addition, several issues here may damage the slabs: cut pieces placed against or between whole slabs may scratch the slabs; the polished surface exposed to sunlight may fade; unsecured slabs may fall and break; incomplete support may cause warping.





5. Visual Slab Inspection

5.1 Inspection Process

It is essential to perform a visual inspection for imperfections on the front and back of all slabs, including the perimeter, before cutting.

REMOVE PLASTIC COATING

Caesarstone covers all slabs with a protective plastic coating. **Remove the coating and label for the visual inspection.**

INSPECT WITH LIGHT

Ensure that you are able to inspect the slab under appropriate lighting, either natural of artificial.

I CHECK FROM VARIOUS ANGLES

Check the surface of the slab from various angles including eye level to pick up any issues that are not apparent when viewing the slab top down.



I STONEMASON RESPONSIBILITY

Stonemasons should perform the visual inspection checks below to determine if any of the listed imperfections exist and if the slab is fit for purpose based on the job layout. If the stonemason deems a slab is not suitable for use based on any of the listed imperfections, he/she should contact Caesarstone immediately. Only slabs that have not been cut or modified in any way will be considered for replacement. Caesarstone reserves the right to make the final determination.

Perform the following visual inspection checks for imperfections:

- Cracks, pits, voids
- Inconsistent gloss levels
- Polishing marks
- Thickness tolerance ± 1 mm
- Warping: up to 3 mm length and 2 mm width when slab horizontal and fully supported



Check length warp using a full-length straight edge with the slab in a horizontal position.

Caesarstone quartz surfaces are manufactured from natural materials. Variations such as irregular spots, colour inconsistency or quartz pattern irregularity within a slab are therefore inherent to the manufacturing process and considered naturally occurring characteristics of the material.

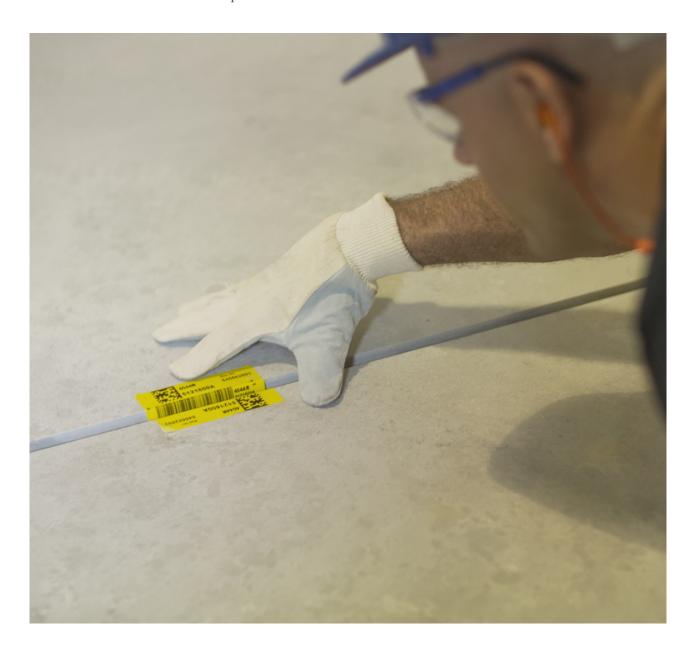


5.2 Colour Matching

Caesarstone slabs contain up to 90% natural quartz. This may result in slight colour and aggregate variations between slabs and production cycles.

BATCH NUMBER

- Each production cycle carries different batch numbers.
- The batch number appears on the label affixed to all slabs.
- The batch number is also stamped on the back of the slab.



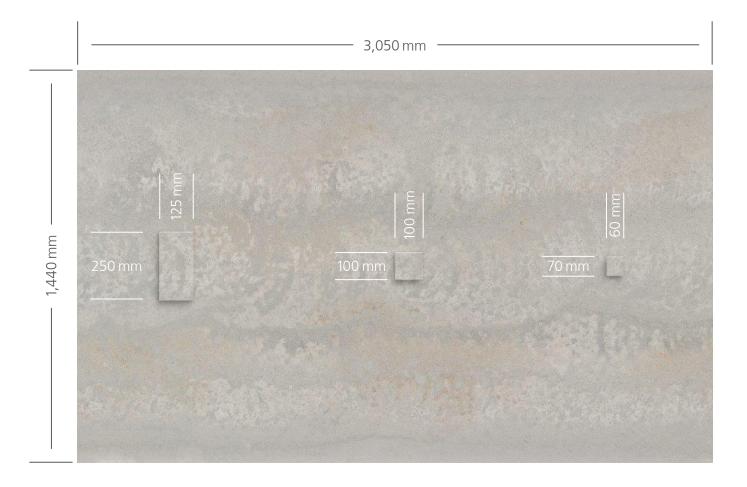
Use slabs from the same batch for each job. This should ensure a colour match. However, always perform a visual colour match before cutting to confirm consistency in shading.

5.3 Samples vs. Full Slabs

While a sample is good to give an idea of the look and feel of the slab, it is not a complete indicator of the overall effect of the full size slab.

CONFIRM WITH CLIENT

We always recommend that customers view the full slab image, or the actual slab if available, prior to fabrication to ensure that it meets their expectations and to ensure that there are no issues at the time of installation. Our website visualiser enables customers to view full slabs.





6. Tools and Machinery



6.1 Required Equipment

- General ventilation system
- Local exhaust ventilation
- Water recycling system
- Forklift or other lifting device
- Fabrication workbenches in various sizes
- Stone carts/dollies
- Storage racks or A-frame

6.2 Wet Cutting Machinery

One of the below is required for cutting slabs:

- Combined waterjet and diamond blade saw (CNC)
- Waterjet (CNC)
- Automated bridge saw (CNC)

6.3 Optional Automated Machinery

- Edge profiling machine
- Slab polishing machine

6.4 Best Practice Tooling

- Heavy duty electric/pneumatic angle grinder for cutting or grinding (variable speed preferred)
- Light electric/pneumatic angle grinder for polishing (variable speed preferred)
- Pneumatic polisher
- Diamond cutting disks in various sizes
- Diamond contour blades
- Diamond core bits in various diameters
- Diamond grinding wheel
- Shaped grinding wheel

- Wet edge profiling machine (edge router)
- Electric hand drill (variable speed preferred)
- Carbide-tipped drill bits
- Polishing drums for polishing inside corners
- Sets of diamond and sanding polishing pads
- Diamond polishing brushes (see section 8.5.3)
- Clamps in various sizes
- Grinding stone
- Pneumatic seam setter



 $\dot{\dot{c}}$ Consult your local distributor to select the correct diamond tools for cutting Caesarstone.



6.5 Installation Accessories

- Dust collection installation tools
- Vacuum cleaner with (HEPA) filter for dust collection tools
- Seaming clamps
- Pigments (for tinting seam adhesive)

- Cleaning materials
- Spatula and scraper
- Quartz granules (for repairs; contact your Caesarstone representative)



6.6 Adhesives

• To join two pieces of Caesarstone, use polyester resin adhesive or epoxy-modified acrylic. Suitable Tenax®, Impa®, Akemi® and Integra® adhesives matching Caesarstone's colour range are available.* Colour-matched adhesive charts can be found at mos.caesarstone.com.au.

Please note that these adhesive product recommendations do not apply to the Caesarstone Outdoor Collection. Please see the *Caesarstone Outdoor Technical Guide* for more information.

- The colour-matched adhesive may still require the shade to be adjusted, as there may be minor variations between different batches of Caesarstone slabs.
- Adding transparent adhesive to the colour-matched adhesive may improve its properties.
- The colour of the adhesive used must match the colour of the surface in order to achieve a minimally visible seam. If a pre-coloured matching adhesive is not available, mix colour paste pigments with the adhesive to achieve a match.
- When mixing the adhesive to colour match the surface, take into account that the colour may be slightly lighter after drying.
- To join Caesarstone to a different material, use a flexible adhesive such as flexible neutral cure silicone or polyurethane-based adhesives suitable for both Caesarstone and the material to which it is joined.

Note: Before using, please read and follow the adhesive manufacturers' instructions, including regarding safety.



^{*} Tenax®, Impa®, Akemi® and Integra® are trademarks of their respective owners.



7. Pre-Fabrication

7.1 Planning

I CHECK THE SUBSTRATE

Check that the substrate (the kitchen cabinet in the case of a kitchen benchtop) is in its correct and final location, level and ready for the surface to be installed.

SIZE, SHAPE AND LOCATION

Plan the size, shape and location of the surface pieces. See section 7.3 for considerations regarding placement of joins.

MINIMISE WASTAGE

Plan the fabrication of rectangular pieces as far as possible in order to minimize wastage of the slab.

ALLOW FOR REMOVAL OF PERIMETER

Take into account that a minimal amount of the outer perimeter of the slab will be removed in order to straighten the edges.



7.2 Slab Optimisation

MINIMISE WASTAGE

Plan the arrangement of the pieces to be cut from the slab to minimise wastage. Take into account that a minimal amount must be cut off the outer perimeter of the slab in order to straighten the edges.

I CHECK FLATNESS

Check the flatness of the surface at the locations planned for seams.

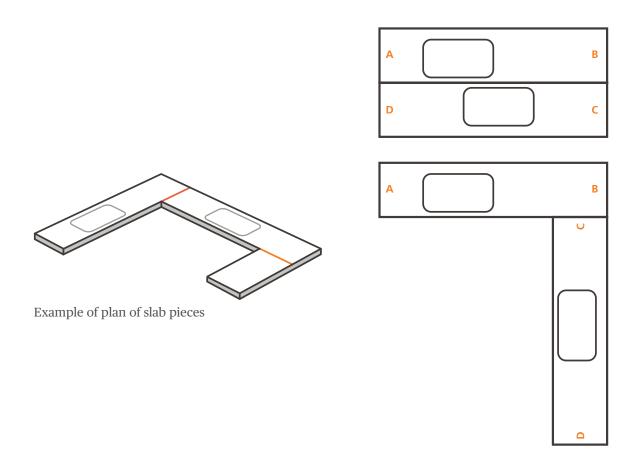
VISUAL CONSISTENCY

When cutting slabs, try to keep ends cut from adjoining sections of the same slab butted up together. This will provide the best match for quartz distribution, pattern arrangement and colour consistency. This is particularly recommended for installations in areas with a high amount of reflected light.

I SLAB ORIENTATION CONSISTENCY

When extra-long benchtops are needed, you will need to add an extension piece to the end of the primary slab. We highly recommend that the extension piece be cut from a slab in the same orientation as the primary slab.

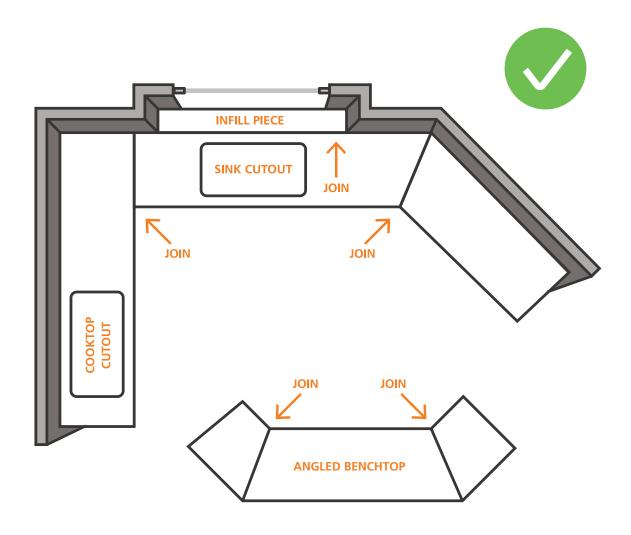
It is possible to create 7.2 m of benchtop from one slab.



7.3 Positioning Joins

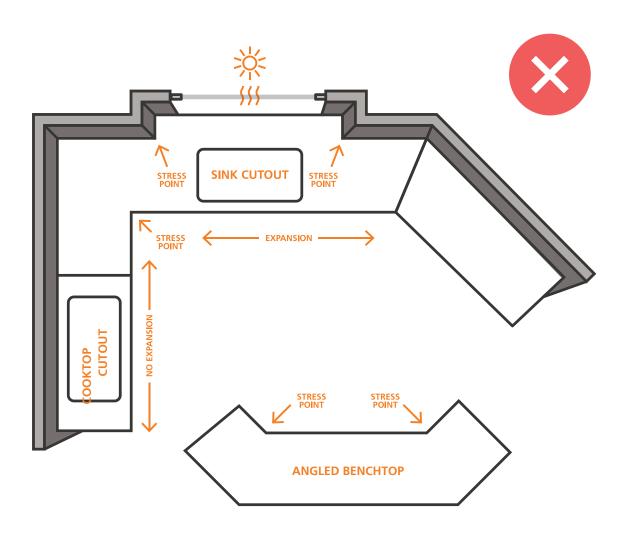
Always fabricate L-shaped or U-shaped benchtops with a join on the inside corner.





It is NOT recommended to fabricate L-shaped benchtops or changes in direction of the surface without joins, as shown below, as this increases the risk of cracking after installation.

Cracking does not indicate a material fault; it is the result of externally induced, mechanical stress on the benchtops. The two most common sources are heat (thermal shock) causing expansion or contraction, or high point loads. These are normally the result of something that the consumer has done unknowingly or accidentally.





8. Fabrication

8.1 Cutting the Slab

IMPORTANT! Use only water-cooled tools for cutting, drilling and polishing in order to prevent overheating and generating dust. If Caesarstone is dry cut, the generated heat will undermine its physical properties and make it more susceptible to cracking, chipping, discolouration and other damages.

Any issues or failures caused by dry cutting are not covered by the Caesarstone warranty.

REMOVE SLAB PERIMETER

Before cutting to plan, cut a minimal amount off the outer perimeter of the slab in order to straighten the edges.



Ŭ⁻ Use a silica stone to keep diamond cutting tools sharp.

8.1.1 Full Body Cutting Considerations

- Caesarstone slabs are full body in that the materials are integral to the body of the slab, rather than limited to a surface layer or printed on the top.
- The veins in Caesarstone slabs are not designed to penetrate the whole depth of the slab. In some cases, they can reach the back of 20 mm slabs but as this is not the case in all slabs, applications cannot be planned assuming this.
- If it is necessary for the design to appear on both sides of the slab, we recommend joining two slabs with the top surfaces facing outwards.

- We do not recommend polishing the back of slabs as the factory-polished side can easily be damaged during the process.
- Reducing slabs should only be performed from the back, i.e., the unpolished side.

8.1.2 Cutting Straight Lines

AUTOMATED

Machine cut straight lines with a CNC.



Be sure to use the correct diameter diamond disk for the machine and the material.

8.1.3 Cutting Curved Lines

AUTOMATED

Machine cut curved lines by one of the following methods:

- CNC with water-cooled diamond finger bit
- Water jet cutter

MANUAL

Cut curved lines manually by one of the following methods:

- Router with water-cooled diamond finger bit
- Grinding wheel with water-cooled concave diamond disk



8.1.4 Cutting Holes

AUTOMATED

Machine cut holes by one of the following methods:

- Drill with water-cooled diamond core bit
- CNC with water-cooled diamond core bit
- Water jet cutter

MANUAL

Cut holes manually with a carbide-tipped drill bit (for small holes) or a diamond core bit mounted on a suitable water-cooled angle grinder or manual drill (for larger holes).

8.2 Seams

I BONDING AREA FOR

Cut an X-shaped pattern approximately 1 mm deep in the edges to be seamed in order to enhance the bonding area for the adhesive.

SUPPORT STRIP FOR 13 MM

For 13 mm slabs, glue a support strip under the whole length of the seam.

SUPPORT IN AREAS OF HEAT

We suggest the use of a full subdeck for added support in areas of heat.



Do not polish seams on Caesarstone.

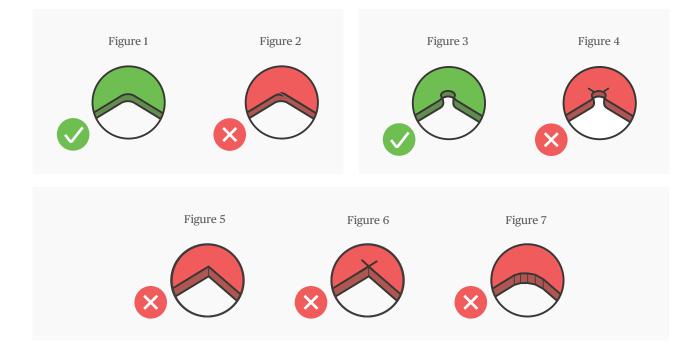


Use of acetone and thinners is forbidden on Caesarstone surfaces. Alcohol is recommended for cleaning during installation.

8.3 Cutouts

Cutouts are usually created in benchtops for the installation of sinks, cooktops and other fixtures.

- Fabricate cutouts according to the instructions of the fixture manufacturer.
- Fabricate a minimum radius of 10 mm with a core bit/cup drill for all seen and unseen corners in cutouts; see figure 1. The larger the radius, the stronger the corner.
- In the event that fabricating a 10 mm cutout corner radius would prevent the proper installation of an item that requires a 90° angle corner, drill beyond the corner with a core bit/cup drill; see figure 3.
- Take care not to cut beyond the rounded edge in cutouts as in figures 2 and 4. Damage to the area may lead to the formation of hairline cracks.
- Do not cut square corners or cross cut corners as in figures 5 and 6.
- Do not cut a large radius in sections as in figure 7.



- Do not reduce the thickness of the surface when preparing the cutout.
- The distance between a cutout and an edge or seam must be no less than 60 mm. The greater the distance, the stronger the area.
- If the distance between a cutout and an edge or seam is less than 150 mm, the area must be supported by a support strip of Caesarstone.

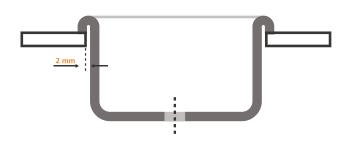
8.3.1 Fabricating Cutouts for Fixtures

It is generally necessary to install fixtures such as sinks and cooktops in benchtops. Below are the main methods of installing fixtures, each of which requires a different type of cutout fabrication.

Ensure that the fixture is fully supported inside the cabinet, e.g., by support rails or legs connected to the cabinet, in addition to being attached to the Caesarstone surface.

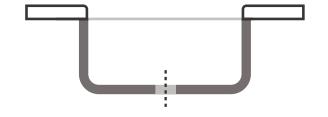
I TOPMOUNT INSTALLATION

 In topmount installation, the lip of the cooktop or sink extends above the surface and rests on it.
 Smooth the edge of the cutout and leave it unpolished. Leave a space between the fixture wall and the surface.



I FLUSH-TO-BOWL UNDERMOUNT INSTALLATION

 Some installations require a cutout that is flush to the inside wall of the sink. This typically reduces the exposure of the bonded edges but is difficult to produce exactly to match the sink.



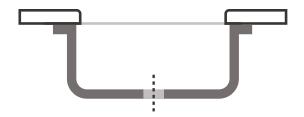
STEPPED BACK TO CURVE OR BEVEL OF BOWL INSTALLATION

 Some installations and most templates provided by sink manufacturers have the finished edge of the counter set back to the edge of the rounded or bevelled top of the sink bowl with a minimum amount of flat deck of the sink showing.



I OVERHANG INTO BOWL UNDERMOUNT INSTALLATION

- In undermount installation, the sink is positioned underneath the surface.
- Fabricate the cutout slightly smaller than the sink aperture so that the join between the sink and the surface is not visible. Round or bevel the top and bottom edges. Polish the edges of cutout.

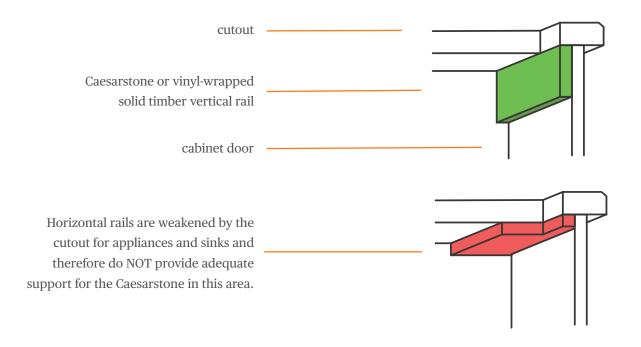


8.3.2 Cutout Supports

Horizontal rails are not sufficient where a fixture is to be installed above. Most fixtures will require that a large portion of the front rail be cut out. The remaining material does not provide sufficient strength to properly support the benchtops. This is really an issue for the kitchen manufacturer to consider, but the reality is that the stonemason is installing the benchtops and could be held responsible if a crack occurs.

USE VERTICAL RAILS

A vertical rail made out of Caesarstone or vinyl-wrapped, solid timber should be used to provide strength and support.



8.4 Fabricating Edges

VISIBLE EDGES

All visible edges must be polished to the same finish as the surface.

I TOP OF EDGES

The top of edges must be rounded or bevelled. Do not create square edges.

I MINIMUM EDGE PROFILE

All edges must have a minimum edge profile of 3 mm. The larger the surface area of the edge, the more resistant it is to chipping.

EDGE DETAILS

The most common edge details are radius or 45° bevel; however, there is a very wide range of detail options which can be seen at https://www.caesarstone.com.au/edge-profiles.

DRIP GROOVE

A drip groove of 3 mm is typically created if there is an overhang of at least 20 mm over the cabinet doors in order to prevent liquid that runs over the edge from dripping onto the cabinet. Position the groove approximately 13 mm from the front of the benchtop and fill the groove with flexible sealant.

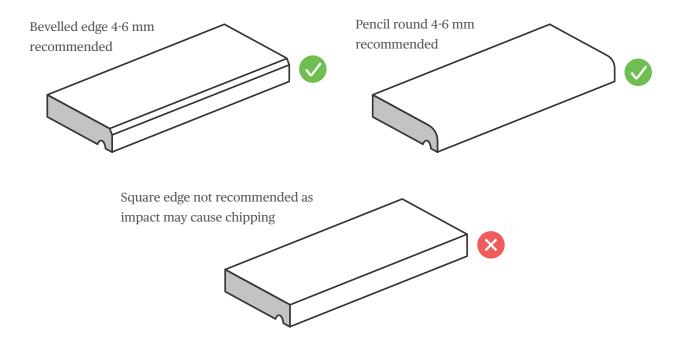
I CONFIRM WITH CUSTOMER

Before cutting, visually confirm the edge profile with the customer as edge terminology can vary between different companies and regions.

8.4.1 Single Thickness Edges

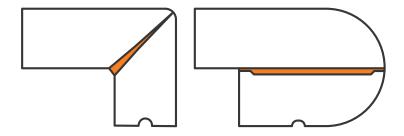
Single thickness edges are the original thickness of the slab.

- Single thickness edges are easily and quickly fabricated.
- Most automated edge profiling machinery is designed to create single thickness edges.



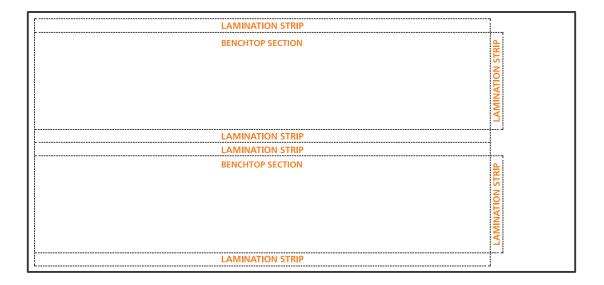
8.4.2 Laminated Edges

Lamination is the process of gluing one or more strips of Caesarstone along the bottom edge of another piece of Caesarstone in order to create the illusion of a thicker slab. This process is more complex and time consuming than fabricating single-thickness edges; however, it produces a richer aesthetic effect.



I COLOUR MATCH LAMINATION STRIPS

Cut lamination strips from the same slab as the benchtop, and wherever possible from the same saw cut to ensure a colour match; see below.



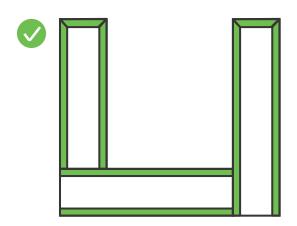
I ALIGN JOINS WITH SEAMS

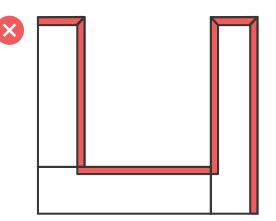
The lamination strip should be the same length as the piece of surface to which it is attached. Joins in lamination strips will, therefore, be aligned with the surface seams.

I MITRE CUT EDGES

The preferred method of laminating edges requiring longer edge skirts is the mitre cut; see section 8.4.4.

I POSITIONING LAMINATION STRIPS





Underside of benchtops showing correct positioning of lamination strips

Underside of benchtops showing **incorrect** positioning of lamination strips

Underside of island bar showing lamination strips in place plus an exploded view of the lamination pieces. Island bar laminations should follow the full perimeter of the benchtops. If you require a full thickness lamination under the overhang use a separate infill piece as shown here.





8.4.3 Multilayered Edges

Characteristics of Multilayered Edges

- Multilayered edges are fabricated by adding one or more lamination strips underneath the outer edge
 of the surface.
- Triple or more edges enable various design options such as using lamination strips of different thicknesses and/or colours, and by recessing one or more of the lamination strips.
- This is the method used for creating the popular double bullnose.

Fabrication of Multilayered Edges

I CHECK FLUSH JOINT

Place the lamination strip against the underside of the surface to check the closure of the joint.

GLUE

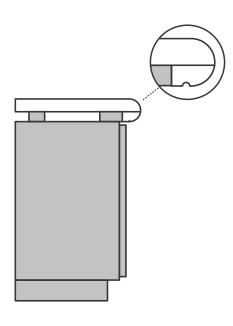
Glue the lamination strip to the surface.

CLAMP

Clamp the strip to the surface at regular intervals, sufficient to achieve a good, even bond between the two surfaces whilst eliminating any visible glue lines.

POLISH

After gluing the lamination strip to the surface, polish the entire visible area of the edge.



8.4.4 Mitre Edges

Characteristics of Mitre Edges

- Mitre edges allow the fabrication of edges of any height. The height of the edge is independent of the thickness of the slab.
- Mitre edges enable the continuation of a pattern around an edge.
- Mitre edges can be used to create edge profiles of various depths.
- It is not necessary to polish the vertical part of the mitre as the visible area is the polished surface of the slab.

Fabrication of Mitre Edges

CUT STRIP

Cut a strip from the slab. The width of the strip must be the same as the height required for the mitre edge.



For mitre edges on Caesarstone models with prominent designs, cut the slab at the location planned for the mitre join for continuation of the slab pattern.

STANDARD MITRE JOIN

Fabricate mitre edges at a 45° angle to ensure maximum strength and enable a final edge angle of 90°. An angle of less than 45° makes the edge prone to chipping. Distribute the adhesive evenly throughout the joint. Polish the mitre edge to a radius or bevel profile as required.



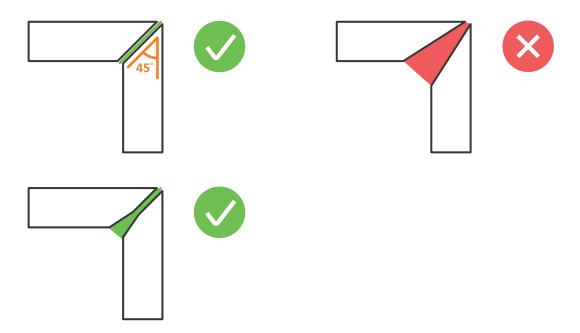
- A join in the middle of a small radius or bevel makes the edge prone to chipping. It is therefore recommended to create a large radius.

HIGH-STRENGTH MITRE JOIN

For areas subject to greater stress, after cutting the 45° angle, reduce the angle slightly on the back part of the mitre with a manual tool to create space for the adhesive. This allows for a stronger joint and flush closure on the visible part of the mitre.

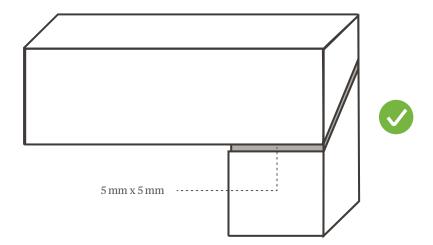
DO NOT CREATE ANGLES LESS THAN 45°

These joins produce a thin wedge at the tip of the mitre, making it more susceptible to chipping or breaking. Also, the greater the edge radius, the more joint adhesive is visible.



SHADOW LINE

Another alternative is to use a 5 mm x 5 mm shadow line join. This join is recommended for waterfall ends that reach the floor. It also allows for more movement in the cabinets over time.



- '\[o'\] It is recommended to use a mitre clamp in order to create an accurate 90° angle, to tighten the joint and prevent the adhesive showing.

8.5 Polishing Edges

Follow the guidelines below to achieve an edge polish equal to the factory surface polish.

General Guidelines



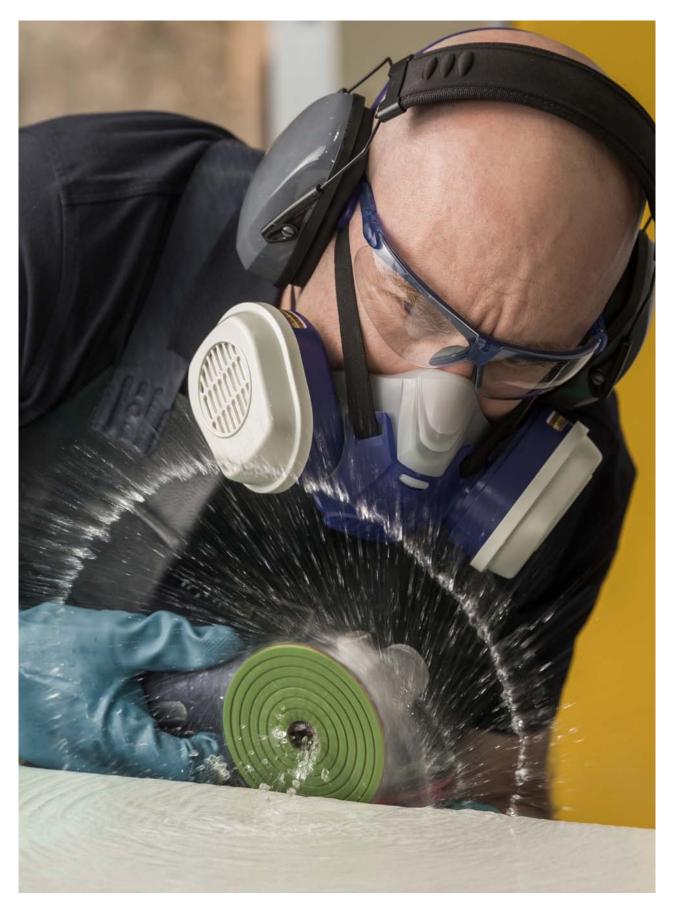
Never polish the face of the surface, only the edge!

- Ensure that the area to be polished is clean of debris.
- Use water-cooled tools for polishing; dry polishing may overheat and damage the area.
- Use a polishing bob/drum for polishing rounded or curved inside corners and small cutouts with exposed edges.
- Each stage of polishing should remove the marks of the previous stage. When a uniform finish is achieved, progress to the next stage.
- Do not polish edge profiles in excess of the factory surface polish.
- When a significant amount of material must be removed from the edge, a water-cooled diamond grinding wheel can be used before the coarsest pad.
- it is recommended NOT to use polishing stones for manual polishing.

Methods

Edges may be polished using 4-step wet polishing pads for quartz; or with the traditional polishing method detailed below:

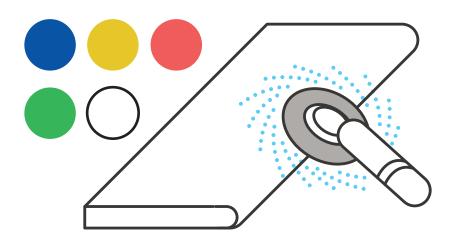
- Use suitable diamond polishing pads with water.
- Perform polishing by progressing through the various grit sizes from coarse (lower number) to fine (higher number).
- Polish edge profiles in a progressive manner according to the tables provided.



8.5.1 Polished Finishes

- Polished finishes are smooth and shiny.
- Create polished finishes by using diamond polishing pads.
- Avoid overpolishing, i.e., do not use a 3000 grit pad, as this will make the polished area shinier than the surface.

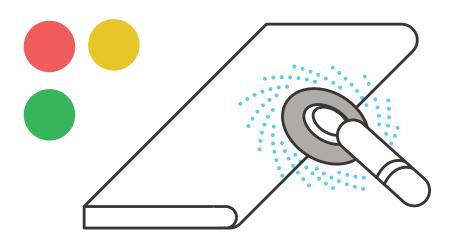
ACCESSORY	GRIT SIZE
Green diamond polishing pad	60
Black diamond polishing pad	80
Red diamond polishing pad	120
Yellow diamond polishing pad	400
White diamond polishing pad	800
Blue diamond polishing pad	1500



8.5.2 Concrete, Honed/Matt and Natural Finishes

- These finishes are smooth but not shiny.
- Create these finishes by using diamond polishing pads up to 400 grit depending on the finish type.

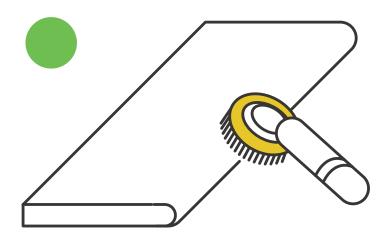
ACCESSORY	GRIT SIZE
Green diamond polishing pad	60
Black diamond polishing pad	80
Red diamond polishing pad	120
Yellow diamond polishing pad	400



8.5.3 Rough Concrete Finishes

- These finishes are slightly coarse and have a low gloss.
- Create these finishes by using diamond polishing pads and diamond polishing brushes.
- Work with brushes with plenty of water.

ACCESSORY	GRIT SIZE
Green diamond polishing pad	60
Diamond polishing brush	60
	120
	400
	800
	1200
	1800



8.6 Support Strips

Glue support strips of Caesarstone or solid timber to the underside of the edge in order to raise and support the edge where a laminated edge would hinder the opening of the cabinet doors. This also strengthens the edge.

WHOLE LENGTH FRONT AND BACK

Glue the support strips along the whole length of the front and back of the cabinet.

HEIGHT AND WIDTH

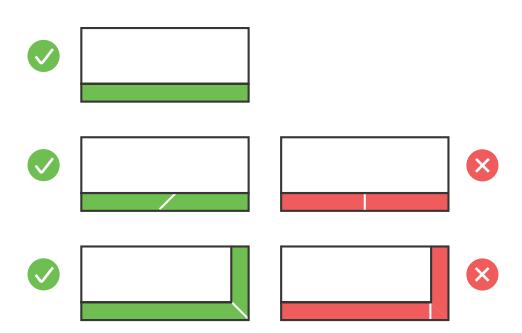
The strips should be a minimum of 70 mm wide, and the same height as the part of the lamination strip that protrudes underneath the slab.

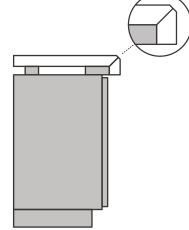
ALIGN JOINS

The support strip should be the same length as the piece of surface to which it is attached. Joins in support strips will, therefore, be aligned with the surface joins.

45° JOINS

Partial support strips are not recommended as they create stress points that could lead to cracking on the benchtop above. If, however it is necessary to create support strips out of more than one piece, make a 45° angle diagonal join and cut support pieces on outside corners at a 45° angle; see below.







9. Installation

9.1 Preparing the Base Units/Cabinets

Below are technical information and data related to some common applications of Caesarstone products. For any other applications, please consult your local distributor.

DO NOT FIX TO WALL

Caesarstone surfaces are installed on top of cabinets and are not fixed to the wall.

CABINET REQUIREMENTS

Before installing the surface, ensure that cabinets are complete, stable, level and suitable for bearing the weight of the surface. The cabinets should be fixed to each other and secured to the back wall. Check that the front and back legs are stable and in full contact with the floor.



SUPPORT

- Ideally, Caesarstone surfaces should be supported on a solid top. It is also acceptable for them to be supported on a strong perimeter frame provided that all necessary supports are installed.
- If extra reinforcement of the cabinets or the surface is considered necessary, lay a solid top at least 16 mm thick on top of the cabinets, or glue strips of Caesarstone under the surface.
- Provide front-to-back support underneath the surface every 500-600 mm.
- Provide additional support for any cabinets wider than 600 mm.
- For any area with less than four sides, e.g., opening for a dishwasher or undercounter refrigerator, provide support every 200 mm.
- In cabinets where there will be cutouts or ovens, install vinyl-wrapped, solid timber, vertical rails for additional support. This is especially important when the cooktop cutout is above the oven.
- For cutouts longer than 600 mm, provide side-to-side support beams under the surface.
- Verify that the benchtop is sufficiently supported in areas of seams, cutouts and over spaces for appliances such as dishwashers, ovens, washing machines, etc.
- Examples of support are: wooden beams inside cabinets; upright benchtop to floor panel.



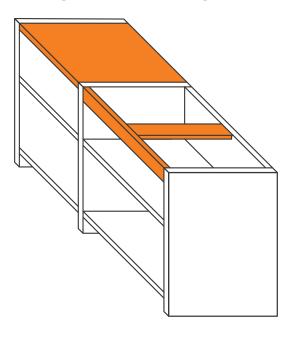
Provide support under all benchtop seams.



Attach a solid top on top of undercounter appliances that generate heat. This will provide both support and insulation for the benchtop. This is not necessary in the case of fully integrated applicances with integral heat insulation where it would prevent proper alignment with the cabinet doors.

DRAWER CABINETS

Drawer cabinets should have a solid top as vertical rails are not practical.



9.2 Benchtops

9.2.1 Preparation for Installation

I CHECK PIECES IN FINAL POSITION

Place all the fabricated pieces of the surface in their final position on the cabinets without adhesive. Check that all the pieces are the correct size, shape and direction in relation to the cabinets and the walls.

CHECK EDGES AND CORNERS

Check that all exposed edges and corners are fabricated and rounded as required.

CHECK LEVEL

Check with a spirit level and long ruler that the surface is straight and level.

ALLOW FOR EXPANSION AND CONTRACTION

Leave a space of 1 mm per linear meter between straight stretches of the surface and each wall for expansion and contraction, but not less than 3 mm in any event.

VISUAL INSPECTION

Perform a final visual inspection to ensure that the surface is to your satisfaction.

9.2.2 Seaming

- Part the fabricated pieces of surface slightly at the seam.
- Place a layer of paper, plastic film or plastic tape on the cabinet underneath the seam in order to prevent the adhesive from sticking the surface to the cabinet.
- Prepare a suitable colour-matched resin adhesive.
- if necessary, mix the adhesive with pigments using a stainless steel or plastic spatula until achieving the required shade or use a precoloured methyl methacrylate type adhesive with a dispensing gun.
- Purge about 50 mm of adhesive from the mixing nozzle to ensure proper mixing when using the precoloured methyl methacrylate type adhesive.

- Ensure that the seam is clean of debris.
- Clean the edges to be joined with alcohol.
- Spread a generous amount of the adhesive on both sides of the seam.
- Ensure that the X-shaped pattern in the middle of the seam is filled with adhesive.
- Close, secure and straighten the seam with clamps or a professional seaming clamp to create a smooth, flush surface.
- After the adhesive is completely dry, remove the clamps.
- Remove any excess adhesive with a scraper or razor blade held at an angle to avoid chipping the adhesive.
- Perform final cleaning with alcohol on a clean white cloth.



Do not polish seams on Caesarstone surfaces!

9.2.3 Sealing Between the Surface and the Wall

TENSION LEGS EVENLY

If the cabinets are supported on adjustable legs, ensure that all legs are evenly tensioned to ensure stability.

CLEAN SPACE

Clean the space between the surface and the wall.

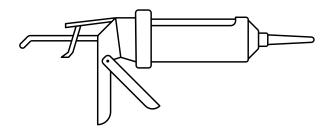
FILL SPACE

Fill the space generously with a flexible adhesive such as flexible neutral cure silicone.

- Do not create grooves in the wall for fixing the Caesarstone.
- The silicone adhesive prevents water from entering the cabinet.
- For visible joins between the Caesarstone and a different material, use coloured silicone, a suitable acrylic mastic or paintable latex caulk.

9.2.4 Attaching Caesarstone to Cabinets

Attach the Caesarstone to the carcass/solid top with dabs of flexible neutral cure silicone approximately 300 mm apart.



9.3 Sinks

FOLLOW MANUFACTURER'S INSTRUCTIONS

Install, glue and seal the sink per the manufacturer's instructions after installing the surface.

USE FLEXIBLE NEUTRAL CURE SILICONE OR ADHESIVE

Glue and seal the sink to the surface with flexible neutral cure silicone or a suitable flexible adhesive.

■ PROVIDE FULL SUPPORT

Ensure that the sink is fully supported inside the cabinet, e.g., by support rails or legs connected to the cabinet, in addition to being attached to the Caesarstone surface.



Ensure that sufficient space remains underneath the cutout for access and any parts installed underneath the surface, e.g., sink, bolts, soap bottle, etc.

9.4 Cooktops

FOLLOW MANUFACTURER'S INSTRUCTIONS

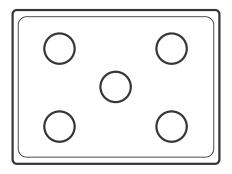
Install cooktops per the manufacturer's instructions, paying particular attention to insulation requirements and materials.

AVOID COOKTOPS ABOVE DRAWER UNITS

Try to avoid installing cooktops above drawer units as it restricts the use of vertical rails and weakens the support structure under the benchtop. If it is unavoidable, drill 5 holes of 80 mm diameter in the base of the cabinet underneath the cooktops to allow for ventilation and cooling. If there are shelves, ensure that space is left at the back for ventilation.

INSTALL RAISED COOKTOPS OVER CUTOUTS

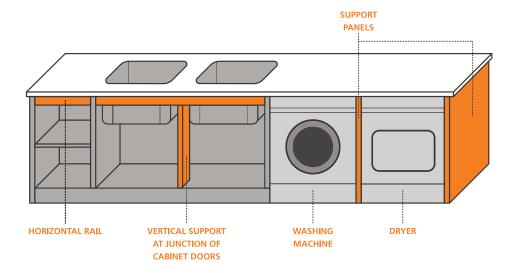
Raised cooktops should ideally be installed over cutouts for ventilation and dissipation of heat. If a cutout is not created, drill 5 holes of 80 mm each in the surface underneath the cooktops and in any cabinet tops if present.



GAS COOKTOPS

For gas cooktops Caesarstone recommends a minimum 200 mm clearance from the periphery of the gas burner to the Caesarstone splashback as per *AS/NZS 4386.2.1996 Domestic Kitchen Assemblies - Installation*. For the installation of a gas-cooking appliance where the edge of the gas burner is less than 200 mm from a combustible surface, please refer to the manufacturer's specifications as all wall and other construction methods should be as per relevant industry guidelines and building codes. Australian building codes and guidelines can be referenced on the HIA website: https://hia.com.au.

9.5 Laundries



Laundry Tubs

Laundry tubs require additional reinforcement and support. The dual 45-litre tub above, which requires a wide cabinet to accommodate it, has a total capacity of 90 litres so it could potentially hold 90 kg of water. This is equivalent to a person standing on the top in an area with a large cutout.

Washing Machine and Dryer

- Considerable heat is generated by these appliances. Some exhaust through the front while others exhaust through the back; some may need to be ducted.
- Where these appliances are installed side by side, place a support panel between the appliances and either a support panel or cabinet on either side.
- Install a solid plywood top over these appliances to protect the surface from the heat.
- -<u>Ö</u>-

These principles apply also to wine refrigerators.

9.6 Accessories

Accessories can be attached to Caesarstone by mechanical anchoring, adhesive anchoring, or a combination of both. Use a combination of the methods below to attach heavy accessories to Caesarstone.

9.6.1 Attaching Accessories Mechanically

- Drill a hole of the required size and shape through the material.
- When the back of the slab is accessible (e.g., sink surrounds, benchtops and vanities), slot the accessory through the hole and secure it to the back of the slab with the appropriate nut or fastener supplied by the accessory manufacturer.



-o-Do not apply excessive pressure when tightening the nut as this may damage the surface. Use a washer or other pressure disperser to avoid creating pressure on a small area.

- When the back of the slab is inaccessible (e.g., splashbacks), attach the accessory to the substrate behind the material with anti-corrosive screws or bolts of the appropriate size and strength, with the screws or bolts slipfitted through the material.
- For both types of mechanical attachment: For holes of up to approximately 40 mm, leave a minimum of 50 mm between the edge of the hole and the edge of the surface/cutout to maintain the strength of the surface. For larger holes, the minimum remaining surrounding surface must be proportionately larger.



Do not attach mechanical fasteners (screws, nails, etc.) directly to Caesarstone surfaces. If it is necessary to secure items to the surface, use flexible adhesive only.

9.6.2 Attaching Accessories with Adhesive

- Most accessories are supplied with an integral self-adhesive pad, which can be attached directly to the surface.
- If the accessory is not supplied with a self-adhesive pad, attach the accessory to the surface with an appropriate adhesive, e.g., flexible neutral cure silicone.

9.7 Overhangs

An overhang is a surface that is not directly supported by a construction underneath, e.g., a surface that extends past the edge of the supporting cabinet for use as a benchtop.

REINFORCEMENT

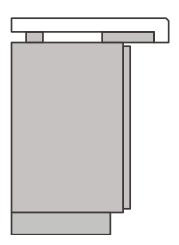
Extra strength can be provided by laminating the edge of the overhang and attaching another slab of the same thickness underneath. In this case, the bottom slab is attached back to back underneath the surface so that the polished surface is exposed underneath the slab.

PERMITTED OVERHANG

The fabricator will be responsible for determining the required support for the overhang.



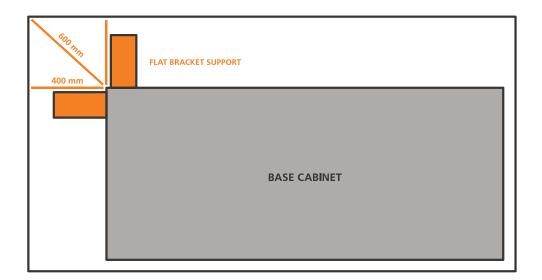
For all installations the unsupported overhang must be no greater than 1/3 of the complete surface depth.



20 MM THICKNESS SLABS	40 MM LAMINATED TOPS	SUPPORT REQUIRED
<300 mm	<400 mm	No additional support required
300-500 mm	400-600 mm	Support brackets at 600 mm intervals
>500 mm	>600 mm	Legs, columns or panels at 600 mm intervals

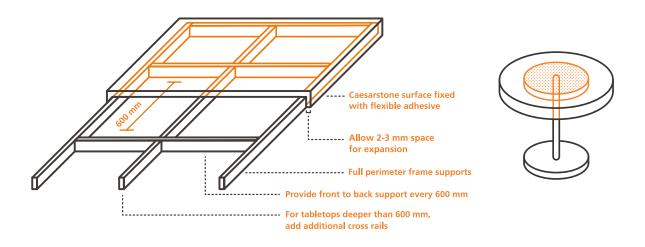
OVERHANG SUPPORT GUIDELINES

If the outside corner of a two-direction overhang extends beyond the recommended unsupported overhang limit, provide support by flat brackets as indicated in the diagram below in addition to the recommended support.



9.8 Tabletops

- When installing a Caesarstone surface as a freestanding tabletop, design the base area of the leg or legs to securely support the table top.
- Spread a suitable flexible adhesive evenly on the top surface area of the supporting leg or legs. Ensure that the adhesive is spread on a sufficient area to secure the surface.
- Tabletops can also be created on a frame as below.



9.9 Finishing Touches

POST-INSTALLATION CLEANING

Thorough post-installation cleaning, particularly of dried adhesive or silicone residue, is of paramount importance as it reduces time-consuming and costly remedial work. Please see detailed instructions for removal of dried adhesive and silicone in Section 10, Care & Maintenance.

■ PROTECT SURFACE FROM OTHER WORK

If further construction work is to be performed at the job site after the installation of the surface is complete, ensure that the Caesarstone surface is properly protected by covering the entire top with corrugated cardboard or another protective material.

WARN OF POTENTIAL DAMAGE BY OTHER TRADESMEN

Make the customer aware that any following tradesmen must NOT use the new benchtop as a work bench, step or standing platform, and that any tradesmen using strong solvents or adhesive must exercise due care.

OBTAIN CUSTOMER SATISFACTION IN WRITING

Caesarstone strongly recommends that customers confirm in writing their satisfaction with the material and workmanship at the end of the installation to cover the stonemason against damage caused by others.

■ PROVIDE WARRANTY AND CARE & MAINTENANCE INSTRUCTIONS

Make sure to leave the Limited Warranty and Care & Maintenance details for the customer.



10. Care & Maintenance

10.1 Cleaning the Slab PRIOR to First Consumer Use

To perform at its optimal level, the Caesarstone surface must be cleaned by the stonemason thoroughly prior to first use. Failure to do so could result in a less optimal cleaning experience for the end user.

At no time should acetone or thinners be used on a Caesarstone quartz surface, including both traditional Caesarstone and the Outdoor Collection, either:

- Prior to fabrication
- Post fabrication
- Post install

Along with acetone, the use of products that contain trichlorethane or methylene chloride (such as paint removers or strippers) regardless of pH levels, or cleaning agents which have high alkaline/pH levels is prohibited.

If these products are used, the Caesarstone Limited Warranty becomes void.

METHOD OF CLEANING AFTER INSTALLATION & PRIOR TO FIRST USE

Once the Caesarstone is fully installed, we recommend the entire surface is cleaned by the stonemason prior to first use via the following method:



What you'll need:

- 1. Caesarstone Cream Cleanser
- 2. 3M Scotch Brite Non-Scratch Foam Scrubber
- 3. Liquid bleach gel
- 4. Microfibre cloth or paper towels or soft clean towel



Drench the 3M[™] Foam Scrub with warm water.



Apply 1-2 teaspoons of Caesarstone Cream Cleanser directly to the foam scrub, on the scrubber side.



Additionally, apply 2 drops of household bleach (e.g., White King Liquid Gel Bleach) directly onto the Scotch-Brite foam scrubber.



Gently squeeze to create a thick foam lather.



Clean firmly, but not aggressively, in a circular motion.



Use a flat, open hand.



Be cautious not to apply excessive pressure or rub in one spot for too long.



Leave the lathered soap mix on the surface for up to two minutes.



Remove all excess suds, rinsing the surface with warm water and a microfibre cloth or soft clean towel.



Rinse and repeat several times to ensure all excess suds are removed.



Once finished, buff with a clean dry cloth. The $3M^{TM}$ Scotch-Brite NonScratch Foam Scrub can be squeezed & rinsed out, dried and used again for cleaning the Caesarstone surface.

Further notes on this process:

- In the absence of Caesarstone Cream Cleanser, use warm soapy water using a mild detergent. Do not use Jif.
- Never use a cloth that has been used for other cleaning purposes as it may transfer oils and other contaminants to the Caesarstone surface.

This process is highly important to apply PRIOR to first use. It SIGNIFICANTLY reduces the chance of the Caesarstone surface experiencing stain removal issues and further call-outs and lost time in issue resolution. In the majority of cases, implementing the above cleaning procedure during the issue resolution phase will in fact resolve the issue and ensure the surface is optimized to withstand further stain and residue build-up.

10.2 Care & Maintenance After Installation – Consumer Use

The following cleaning instructions are intended for the end consumer as part of day-to-day cleaning requirements.

Caesarstone offers a multitude of different surfaces across its range - Polished, Concrete, Rough and Natural. Despite this, there is a consistent way of cleaning all these surface types.

Caesarstone has developed a range of specially formulated cleaning products designed to keep your quartz surfaces looking their best. Caesarstone Cream Cleanser and Spray Cleaner are available to purchase through our online store.

CLEANING REFERENCE GUIDE

SUBSTANCE	CAESARSTONE CREAM	METHYLATED SPIRITS	CAESARSTONE SPRAY CLEANSER
Red wine	✓		✓
Beetroot	✓		✓
Coffee/tea	✓		✓
Cordial	✓		✓
Spices	✓		
Food oils			✓
Glue/silicone/paint		✓	
Tougher, stubborn stains	✓		

EVERYDAY SPILLS AND MARKS

Caesarstone recommends using the Caesarstone Spray Cleaner for everyday cleaning and maintenance. Alternatively, you can use a mild, non-abrasive detergent or a high-quality spray & wipe-type cleaner.

- 1. First, wipe away any residue
- 2. Simply spray and wipe your surface clean
- 3. Once finished, dry with a clean, dry cloth

Always use a clean microfibre cloth, soft cloth or hand towel. Never use a cloth that has been used for other cleaning purposes as it may transfer oils and other contaminants to the Caesarstone surface.

FOR A DEEPER CLEAN AND/OR TOUGHER STAINS

- Caesarstone Cream Cleanser is ideal for a regular deep clean of the whole surface, as well as for the removal of tougher and more stubborn stains.
- The cleaning method is the same as the visual process outlined in Section 10.1 (METHOD OF CLEANING AFTER INSTALLATION & PRIOR TO FIRST USE):
- To remove adhered materials like food, gum and nail polish, first scrape away the excess with a sharp blade.

SURFACE FINISHES

Caesarstone Concrete and Natural finish designs carry the same stain and scratch resistance as our Polished surfaces, never require sealing and are simple to clean. However, these two finishes may not disguise marks and fingerprints as well as the Polished designs, meaning more regular cleaning may be required using the Caesarstone Spray Cleaner for daily use and Caesarstone Cream Cleanser and 3M™ Scotch-Brite™ Non-Scratch Foam Scrub to provide a thorough all over surface clean as per the instructions.

DARK SURFACES

- Dark surfaces, objects and furniture are characteristically more prone to showing fingerprints and other signs of daily living than light surfaces. As such, dark Caesarstone models may need a little more daily maintenance.
- Dark Caesarstone models, as all dark surfaces, tend to be more sensitive to scratch marks.
 It is therefore important to protect the surface from sharp objects by using a cutting board.
- Limescale may be more visible on dark surfaces than light ones so liquid should not be left to dry out on the surface.

SCRATCH RESISTANCE

Caesarstone surfaces are scratch resistant. However, avoid using sharp objects such as knives or screwdrivers directly on the surface - always use a cutting board.

HEAT RESISTANCE

Caesarstone is heat resistant, however like all stone materials, Caesarstone can be damaged by sudden and rapid surface temperature changes. A good rule of thumb is that if your hand cannot tolerate the level of heat of an item to be placed on the surface for more than a few seconds, then the heat source is too high. We always recommend placing hot pots, hot oven trays, frypans, and electrical cooking appliances onto a wooden chopping board or cork mat.

10.3 Detailed Stain Removal Guide for Stonemasons

GENERAL FACTS

- Most food stains can be removed.
- Chemical stains can be permanent depending on the properties.
- At no time should acetone or thinners be used on a Caesarstone quartz surface.
- Along with acetone, the use of products that contain trichlorethane or methylene chloride (such as paint removers or stripper) or cleaning agents which have high alkaline/pH levels is prohibited.

GENERAL STAIN REMOVAL GUIDELINES

- Obtain as much information as possible about the use of the benchtop and cleaners used before you
 try to solve the problem.
- Start with mild cleaners and move on to stronger ones if necessary. Cleaning materials from mild to strong are:
 - 1. Dishwashing liquid
 - 2. Mild detergent Caesarstone Spray Cleaner
 - 3. Cream-textured cleaning products Caesarstone Cream Cleanser
 - 4. Powdered cleaning products
- Check cream-textured and powdered cleaning products first on an inconspicuous area to ensure that they do not damage the surface.
- Be patient! Some of the cleaning procedures take time.

I IDENTIFYING STAIN TYPE

- Most stains and marks are either lighter or darker in colour than the surface.
- Darker marks usually mean that something is on the surface, e.g., adhesive, oil, wine, coffee, blood, rust, silicone, sealer, metal marks.
- In extreme cases, darker marks can be a serious burn. Dark burn stains generally cannot be removed.
- Lighter marks usually mean that something has been removed by abrasion, e.g., resin, pigment or patina. If resin or pigment has been removed the damage is usually permanent.
- Lighter marks can also mean that grout, caulk or paint residue is on the surface.

STAIN REMOVAL

Food and beverage stains, magic marker, natural patina, and stubborn stains

- Use Caesarstone Spray Cleaner or Caesarstone Cream Cleanser or an approved spray/gel cleaning material from Table 2.
- For **Concrete, Natural and Rough finishes** you may also use a cream-textured cleaning material from Table 2: Approved Cleaning Materials, such as the Caesarstone Cream Cleanser with the addition of two drops of liquid bleach gel.

Rust stains and metal marks

- Place a small amount of Bar Keepers Friend® Cleanser (powder) or oxalic acid on a damp paper towel.
- Wipe very gently in a circular motion.
- Rinse thoroughly with warm water and dry with a paper towel.
- Be very gentle and careful with this method as it may damage the surface finish.

Silicone residue, buildup (long term) stains or mild chemical stains such as tape marks

- Use denatured alcohol and an oxalic acid-based cleaning material such as Bar Keepers Friend® Cleanser (powder).
- Wear rubber gloves for this procedure.
- Pour a small pile of the powder in the centre of a paper towel.
- Pour denatured alcohol on the powder and mix into toothpaste consistency.
- Gently rub in a circular motion (like waxing a car) about 0.4m² of surface around the affected area for no more than one minute.
- Wipe the mixture away with water and/or a glass cleaner such as Windex® to neutralise the chemicals.
- The process may need to be repeated over the whole surface if it is over 6 months old or if sealer was applied.
- If you see a dark colour coming off onto the paper towel, that means it is working, so repeat the process until the stain is gone.

Dried adhesive, chemical stains and chemical patina*

- Use lacquer thinner and an oxalic acid-based cleaning material.
- Wear rubber gloves for this procedure.
- Pour a small pile of the powder in the centre of a paper towel.
- Pour lacquer thinner directly on the powder and mix into toothpaste consistency.
- Gently rub in a circular motion (like waxing a car) about 0.4m² of surface around the affected area for no more than one minute.
- Wipe the mixture away with water and/or a glass cleaner such as Windex® to neutralise the chemicals.
- The process may need to be repeated over the whole surface if it is over 6 months old or if sealer was applied.
- If you see a darker colour coming off onto the paper towel, that means it is working, so repeat the process until the stain is gone.

*Chemical patina is a film that develops on the surface from using cleaning materials designed for stone or granite that contain sealer-like chemicals.

WHAT TO AVOID

- **Use of acetone is forbidden on Caesarstone surfaces.** Alcohol is recommended for cleaning during installation.
- Along with acetone, the use of products that contain trichlorethane or methylene chloride (e.g., oven/grill cleaners, dishwasher polishing agents, lye, caustic soda, paint strippers) or cleaning agents which have high alkaline/pH levels is prohibited, regardless of pH.

If these products are used, the Caesarstone Limited Warranty becomes void.

- Do not use harsh cleaning products such as: oven/grill cleaners, dishwasher polishing agents.
- Do not use wax, sealers or other materials that may leave a film on the benchtop.
- Do not use abrasive scourers or Mr. Clean Magic Eraser as they can damage the finish/sheen of your surface.
- If the surface comes into contact with any products that might damage it, rinse immediately with plenty of water.
- After cleaning, thoroughly rinse off any cleaning materials with water.
- If you use a cleaning product that is not on our list of recommended cleaning products, check first on an inconspicuous area that it doesn't damage the surface.

TABLE 1: OTHER STAINS

TYPE OF STAIN	CAUSE/SOURCE	TREATMENT/REMARKS
Chemical	Aggressive cleaning materials such as: oven/grill cleaners, dishwasher polishing agents, lye, caustic soda, acetone, paint strippers or any products containing trichloroethane or methylene chloride.	Cannot be removed
Heat source - direct/indirect	 Hot cookware Polishing burn Toaster oven Grill Hot plate Oven/range shelves, trays, vents 	Cannot be removed
Oil - natural	Olive oilCanola oil, etc.	Caesarstone Cream Cleanser2 teaspoons liquid bleach gel
Oil - synthetic	• Machine oils	• Caesarstone Cream Cleanser
Cosmetics	ShampooMedical creamsMake-upEyelinerLipstick	AlcoholCaesarstone Cream CleanserHydrogen Peroxide max 30%
Metal	 Metal kitchen tools (e.g., knives) Metal pots Metal belt buckles	Metal stains may resemble scratches but they are actually metal residue and easily removed. See section: Rust stains and metal marks
Food and beverages	Food colouringHerbs and spicesRed winePomegranates	Caesarstone Cream Cleanser2 teaspoons liquid bleach gel

TYPE OF STAIN	CAUSE/SOURCE	TREATMENT/REMARKS
Colours	 Ink Markers - water based Markers - oil-based (permanent) Paint Print from supermarket bags 	AlcoholCaesarstone Cream Cleanser2 teaspoons liquid bleach gel
Limescale	• Hard water deposits	VinegarLimescale remover

I TABLE 2: APPROVED CLEANING MATERIALS

Caesarstone recommends using the cleaning products below* and consulting with our representatives if necessary. Please note that not all products are available in all regions.

Household products	Two teaspoons liquid bleach gel
	Alcohol
	Hydrogen peroxide 30%
	Vinegar
	Caesarstone Spray Cleaner
	AKEMI® ALGAE AND MOSS REMOVER POWER
	AKEMI® CRYSTAL CLEAN SPRAY
	AKEMI® QUARTZ INTENSIVE CLEANER
Commercial spray products	BAR KEEPERS FRIEND® All Purpose POWER SPRAY
	BAR KEEPERS FRIEND® MORE Spray + Foam
	Cif actifizz MULTI-PURPOSE
	Sano® ANTI KALK 4 IN 1 UNIVERSAL
	Soft Scrub® with Bleach Cleaner Gel
Commercial cream-textured products	Caesarstone Cream Cleanser
	Vim® Cream Creme

^{*}Caesarstone recommends use of these products based on tests conducted by Caesarstone. The manufacturers of the products listed in this guide are not responsible for such use and do not endorse such use.

Caesarstone is a trademark of Caesarstone Ltd. All other trademarks mentioned in this guide are the trademarks of their respective owners and there is neither connection nor affiliation between Caesarstone Ltd. and these trademarks owners. In addition, please note that the manufacturers of the products listed in this guide are not responsible for Caesarstone's recommended use and they do not endorse such use.



11. Environment, Standards & Certificates

At Caesarstone, minimizing our impact on the environment is a top managerial priority, involving all our employees and departments to assure our sustainability leadership.

We aim to create durable, low-maintenance products that support healthier environments and better use of material resources:

- LOW MAINTENANCE Our surfaces require minimal maintenance and significantly reduce the need for sealants, cleaning materials and detergents.
- **HIGH PERFORMANCE AND DURABILITY** Our quartz surfaces are long-lasting and durable, delivering both improved life cycle costs and additional investment value.
- LOW-EMITTING PRODUCTS Caesarstone quartz surfaces meet stringent product emissions standards
 and have very little impact on indoor air quality. All Caesarstone quartz products are independently certified
 by the GREENGUARD Certification, which is part of UL Environment, a business unit of UL (Underwriters
 Laboratories), as low-emitting surfaces.

















NS



ISO 9001:2015 ISO 14001:2015 ISO 45001:2018 OHSAS 18001:2007



mindful MATERIALS



HPD



Greenguard



Greenguard Gold







Caesarstone works with the leading sustainability organisations in the green building sector as part of its sustainability leadership. Our certifications for our manufacturing sites and products support our customers' needs for green and healthy building products and contribute to green building projects.

- CE marking indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area. By affixing the CE marking, Caesarstone declares that Caesarstone quartz surfaces meet all the legal requirements for CE marking.
- ISO 14001 is the international standard for establishing an environmental management system to guide working towards: meeting environmental goals; monitoring compliance activities; investing in tools for enhancing a quality environment; employee and supplier training; health and safety procedures; and establishing efficient production processes. All Caesarstone's production plants have a certified environmental management system in accord with ISO 14001.
- OHSAS 18001 and ISO 45001 are international occupational health and safety management standards
 designed to support organisations in assessing workplace hazards and implementing preventative measures
 as part of day-to-day operations. All Caesarstone's production plants have a certified occupational health and
 safety management system in accord with OHSAS 18001 or ISO 45001.
- ISO 9001 is the international standard that specifies requirements for a quality management system. Compliance demonstrates the ability to consistently provide products and services that meet customer and regulatory requirements. All Caesarstone's production plants have a certified quality management system in accord with ISO 9001.
- All Caesarstone quartz surfaces comply with GREENGUARD certification, which verifies that Caesarstone
 products meet the most stringent indoor air emission standards.
- All Caesarstone quartz surfaces comply with the GREENGUARD GOLD standard (formerly known as GREENGUARD Children & Schools Certification), which 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.
- The Health Product Declaration® (HPD) Open Standard* necessitates full disclosure of the potential chemicals of concern in products by comparing product ingredients to a set of priority "hazard" lists based on the GreenScreen for Safer Chemicals and additional lists from other government agencies.
 *The Health Product Declaration® logo is a registered trademark of HPD Collaborative.
- Caesarstone's Red List Declaration confirms that to the best of our knowledge Caesarstone quartz surfaces
 do not contain any of the hazardous materials that appear on the International Living Future Institute's Red
 List (https://living-future.org/declare/declare-about/red-list/).
- Created by the Green Building Council of Australia (GBCA), the Green Star rating system is designed to evaluate the environmental design and performance of buildings, and to drive the adoption of green building practices through market-based solutions. A range of Caesarstone products comply with several credit criteria for "Indoor Environment Quality" and "Materials" for the GBCA's Green Star Rating system. Caesarstone is a supporter and member of the GBCA. For more information, visit https://new.gbca.org.au/

- As a member of the **United States Green Building Council (USGBC)**, we are a natural partner for green building projects worldwide. For more information, visit new.usgbc.org
- Developed by the USGBC, LEED (Leadership in Energy and Environmental Design) is an American accredited rating system for the design, construction and operation of high-performance green buildings. Caesarstone's products can contribute to LEED v3 and LEED v4 projects.
- Caesarstone's recycled models are SCS Global Services certified for recycled content. SCS Global Services is
 a global leader in independent certification and verification of environmental and sustainable stewardship.
 Some of our models are made from pre-consumer recycled raw materials such as mirror and glass or highquality reclaimed post-production waste from the fabrication process.
- Caesarstone quartz surfaces are compliant with the International Health and Safety Foundation sanitary standard **NSF51**, ensuring that our working surfaces are safe for use in all food environments. Our non-porous surfaces inhibit the growth of mildew and bacteria, thus creating a hygienic surface.
- Caesarstone products comply with the two leading European Food Contact Materials regulations:
 Regulation (EC) No 1935/2004 and Regulation (EC) No 2023/2006 on Good Manufacturing Practices.
- Caesarstone products are found in the **mindful MATERIALS** Library at www.mindfulmaterials.com. mindful MATERIALS is a user-friendly platform that enables the building industry to obtain information concerning statements and certifications regarding quality and environmental aspects of Caesarstone.
- Caesarstone has earned the respected **Good Housekeeping Seal** from the Good Housekeeping Institute.
- Caesarstone surfaces are **Kosher** due to their low porosity.



12. Disclaimer

This Guide is intended for use by persons having expertise, professional experience and technical skills, at their own discretion and risk. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by fabrication and installation of our products. The information and recommendations contained herein are based upon data believed to be correct as of the date of publication, based upon our knowledge and experience, and that of our professional partners, based on the most common events recorded while working with Caesarstone slabs. While every precaution has been taken in the preparation of this document, we assume no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document, and in no event shall we be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly as a result of any person relying upon any information contained in this document.

Due to the fact that we cannot foresee or relate to all the different situations that may occur when working with Caesarstone slabs, the instructions in this Guide should be seen purely as working principles. Professional judgment should therefore be employed before performing any actions. A prior trial should be carried out before performing any actions for the first time. Caesarstone representatives are available to answer any questions.

This Guide should not be regarded as a list, an interpretation, or a summary of any laws, standards, rules, orders or safety requirements and they should not be relied upon solely. Stonemasons and installers of Caesarstone slabs must be familiar with the relevant local laws and standards, including, but without limitation, Occupational Health and Safety laws and laws relating to the protection of the environment. Any use of the data and information must be determined by the user to be in accordance with any applicable laws and regulations.

No guarantee or warranty of any kind, express or implied, is made of merchantability, fitness for a particular purpose or otherwise.

NOTICE - HAZARDOUS SILICA DUST

Please be reminded that Caesarstone products contain crystalline silica (up to 90%). When processing the products crystalline silica dust is generated. Prolonged/occupational inhalation of crystalline silica dust causes silicosis (an incurable, progressively disabling and sometimes fatal lung disease) and may cause other serious diseases. Do not process this product before implementing all safety measures.

More information about the product characteristics, risks and safety measures appear in Caesarstone's Safety Data Sheet and *Good Practice Guide - Steps to Avoid Health Hazards Related to Crystalline Silica Dust* at: mos.caesarstone.com.au.



