This Guide includes health and safety information and recommendations. However, it does not serve as professional advice, nor does it replace any fabricator’s personal responsibility to apply all relevant health and safety measures. To protect the health and life of all employees exposed to silica dust, it is always necessary to consult with a local advisor.
Legend

The following symbols are used in this Guide

⚠️ Important

🔍 Tip

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Caesarstone Fabrication & Health Protection Guide

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Fabrication & Health Protection Guide
## Receipt Form

The undersigned acknowledges receipt of the Caesarstone® Fabrication & Health Protection Guide, the accompanying instructional movie, and the Caesarstone MSDS.

### Stonemason's Business Details

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### Representative of Caesarstone Australia Pty Ltd.

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Please complete and return this page to the address listed below:

**Return Address**

Caesarstone Australia  
Unit 3 / 1 Secombe Place  
Moorebank  
NSW 2170, Australia

Please note that the Fabrication & Health Protection Guide includes important health and safety information and instructions (including health hazards associated with crystalline silica dust, and recommended protection measures) and an instructional movie. Please review them carefully.

You should carefully adhere to all applicable local laws and regulations related to health and safety. We also recommend that you consult with your local occupational health professional and other advisors on the applicable laws, regulations and recommended protection measures.
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1. Introduction

Caesarstone product collections are ideal for a wide range of interior commercial and residential applications, including those subject to intense use. Common applications include kitchen benchtops, bathrooms, bar tops, vanities, interior cladding, reception counters, wall cladding and furniture.

Caesarstone product collections are not suitable for exterior use, or on any areas that are exposed to UV radiation or excessive heat.

Caesarstone quartz surfaces are manufactured and available in several product collections, each with their own unique properties.

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

This Guide is intended to provide you with the latest, most up to date information about the fabrication and installation of Caesarstone slabs.

It contains recommendations and technical information about Caesarstone products to help you when working with our slabs.

It is not meant to replace the skills or experience of a qualified stonemason. The processes and recommendations in this Guide should be considered as a guide only.

The stonemason will make the best choice of fabrication and installation methods to suit the application to which these slabs will be used.

This Guide is not intended to be used for any other purpose, nor is it legally binding in any way. It is not meant for dispute resolution between Caesarstone, stonemason or any other party.

We cannot and do not dictate how a qualified stonemason can use our slabs, although following our recommendations will help to minimize problems before and after installation.

Caution

This Guide is not intended for use by unqualified or unskilled workers. It assumes that the reader is a suitably skilled professional as this Guide does not cover the basic skills and knowledge that a stonemason should possess.

Warranty

Compliance or non-compliance with the recommendations contained in this Guide does not affect the warranty as provided by Caesarstone.

Caesarstone’s warranty is for the material only and is for any defects that relate to the production of the Caesarstone slabs.

Issues such as pigment spots, off colour quartz crystals or aggregates, shade variances and reflectivity variances are not faults, but are an inherent characteristic of the material.

The slab suitability, workmanship, fabrication, installation and the application are the responsibility of the stonemason.

Full details of our warranty are provided at the end of this Guide.
3. Safety

3.1 General Safety Procedures

Caesarstone has always been at the forefront of creating a safe work environment. We recommend that fabricators and installers follow the same level of commitment regarding safety and comply with local occupational, health and safety regulations.

- Maintain a clean and neat working environment; keep working areas uncluttered.
- Keep working areas well ventilated and well lit.
- Keep visitors at a safe distance from the work area.
- Do not overreach - keep proper footing and balance at all times.
- Maintain a fully equipped first-aid kit on site.
- Read the instruction manuals pertaining to the tools used. Learn the tools’ application, maintenance, limitations and potential hazards.
- Use the appropriate tools. Do not use tools or attachments for functions or at speeds for which they were not designed. Do not use improvised tools.
- All electrical tools should be equipped with a Ground Fault Circuit Interrupter (GFCI).
- Use clamps or a vice to secure work when necessary, freeing both hands to safely operate tools.
- Always remove keys and wrenches. Check that keys and adjusting wrenches are removed before switching on the tool.
- Wear the following protective apparel when fabricating Caesarstone quartz surfaces:
  - Hair covering to contain long hair
  - Safety helmet when handling and transporting
  - Dust mask
  - Nonslip, steel-capped safety shoes
  - Safety glasses or other approved eye protection
  - Earplugs when working in noisy areas
  - Gloves for protection against chemicals or rough material
  - In wet areas, aprons and steel-capped rubber boots in addition to the above
3. Safety

3.2 Working in the Home

All your cutting and polishing must be done in the factory under controlled conditions.
If cutting must be done on site, use water-cooled tools to minimize the amount of silica dust being generated and ensure that the slab is not overheated by the friction of the blade.

⚠️ If this is not practical, use a dust extraction method to ensure that no silica dust escapes into the room.

Please note - this method is not recommended by Caesarstone and should be avoided.

Also be aware that any dust generated will contain quartz grit making it very abrasive. If it collects in door hinges or drawer runners this may cause damage over time. Care must also be taken when wiping surfaces covered by quartz dust as this can leave very fine scratches in the surface of the material.

⚠️ Caution: Dry cutting of the slabs may cause issues with cracking, chipping and discolouration.

When the slabs are dry cut, the heat that is generated will undermine the physical properties of the polymers, making them more brittle and susceptible to damage.

⚠️ We do not recommend that this be done. Any issues or failures caused by dry cutting are not covered under Caesarstone's 10 Year Limited Warranty.
3.3 Warning Sticker on Slabs

This warning sticker is on all slabs currently being received into stock.

Caesarstone is attaching this as a warning of the hazards that crystalline silica can have on the health of workers not following proper OH&S procedures during the fabrication of the slabs.

All state governments have detailed information on the effects of crystalline silica. We advise to check with your State Government's resources and information on this topic.

The text reads as follows:

**WARNING!** Caesarstone’s Slabs are not hazardous as shipped and used by the end customer. However, as with natural stone products such as granite, fabrication and processing of quartz surfaces such as Caesarstone (i.e. cutting, sawing, grinding, breaking, crushing, drilling, sanding or sculpting) generate dust which contains crystalline silica (quartz). Unprotected and uncontrolled exposure to such dust is dangerous to health and can cause severe illnesses (such as silicosis, lung cancer, fibrosis of the lungs, kidney disease, abrasion of the cornea and irritation of the skin and eyes). Preexisting physical disorders may aggravate the adverse affects of exposure to silica dust. Wherever this product is fabricated, a silica control program shall be in place in accordance with all the applicable laws, regulations, orders and directives. The permissible exposure limits to silica dust shall also be met. For relevant information you may also look at the requirements of the International Labor Organization (http://www.ilo.org/safework/info/lang--eng/WCMS_108566/index.htm), the Occupational Safety & Health Administration (at www.osha.gov) . And the European Network for Silica (at http://www.nepsi.eu/good-practice-guide.aspx).

**FIRST AID:** If irritation of the eyes is experienced, flush the area immediately with plenty of water. If breathing difficulties are experienced, move outdoors into fresh air. In the event of physical discomfort, consult with a physician. FOR ANY FURTHER INFORMATION YOU MAY CONSULT WITH THE LOCAL DISTRIBUTOR OF THIS PRODUCT.
4. Product Information

4.1 Product Data
Slab data provided here is nominal only and is provided for storage and transportation purposes only. The actual usable slab surface is slightly less per side due to the beveled perimeter.

**Length**
3050 mm +/- 10 mm

**Width**
1440 mm +/- 5 mm

**Thickness**
13 mm; 20 mm; 30 mm +/- 1 mm

**Weight**
- 13 mm = 140 kg; (32 kg/m$^2$)
- 20 mm = 220 kg; (50 kg/m$^2$)
- 30 mm = 330 kg; (75 kg/m$^2$)

13 mm and 30 mm slabs are available in selected colours.

4.2 Caesarstone Branding
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.

Detail of Stamp on Back of Slab

**Batch Number**
This allows you to track multiple slabs of the same batch. It is important that any job requiring multiple slabs is done from the same batch.

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

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

The inspection date is not the date of manufacture.
4.3 The Slab

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.

- It 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.
4. Product Information

4.4 Slab Label

Every slab manufactured by Caesarstone undergoes individual inspection and quality control and is designated with either a yellow or a green label. Yellow and green labels contain the same information.

The yellow labels denote our A-Grade slabs; these slabs have met or exceeded our most stringent quality criteria.

Green labels denote commercial grade slabs. These slabs will have some visual imperfections, that while not qualifying as an A-Grade slab are still of high quality and suitable for most purposes.

⚠️ It is the stonemason’s responsibility to ensure that any imperfection is cut around and not included in the final product. Once this is done there is no discernible difference between the two grades of slabs.
4.5 The Slab Look & Feel

As the slabs are largely composed of natural minerals, each slab is unique, even though they will share the same common quartz structure, colour and overall look for the series.

Both of these photos show the 6600 Nougat slabs from the same batch; you will notice that they have the same look, colouring and similar quartz chips.

However when you look at them closely you will see that they are not identical. They are, however, a match and would work perfectly within the application that they will be used for.

All Caesarstone slabs are made with approximately 90% natural quartz minerals. Batching is used to identify slabs from the same batch. This process, however, is subjective and care needs to be taken when inspecting the slabs even if they are from the same batch.

Each Caesarstone slab also carries with it a unique slab ID. This is used by the factory to track the manufacturing history of the slab through the production process.

Back of Slab
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.

- Caesarstone covers all slabs with a protective plastic coating. **Remove this sheet and label for the visual inspection.**
- Perform the following visual inspection checks for imperfections:
  - Cracks, pits, voids or blemishes
  - Slab-to-slab colour match
  - Colour inconsistency within the slab
  - Irregular spots
  - Quartz pattern irregularity
  - Inconsistent gloss levels
  - Thickness tolerance ± 1.5 mm
  - Warping: up to 3 mm length and 2 mm width when slab horizontal and fully supported

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

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

Caesarstone will not accept claims for any of the above if the slab is modified in any way. The fabricator is responsible for determining if the slabs are fit for use. If they are not, they should be exchanged before the slabs are cut or modified in any way.

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

5.2 Colour Matching
Caesarstone slabs contain approximately 90% natural quartz. This may result in slight colour variations between production cycles.

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

Use slabs from the same batch for each individual job - this should ensure the best possible colour match.

**Always perform a visual colour match before cutting to confirm consistency in shading.**
5.3 Samples vs Full Slabs

A sample tells only part of the story; above you can see the size of our samples in relation to the size of the slab.

Whilst 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.

We always recommend that a customer be shown the slab prior to fabrication to ensure that it meets their expectations.

Always confirm the following information at time of check measure:

- The colour with an actual sample; do not use our brochures.
- The edge profile to ensure that you produce the edge style requested by the customer, as the edge descriptions do vary between different companies.
- Invite the customer to view the full slab before cutting to ensure that there are no issues at the time of installation.
6. Handling, Transport & Storage

6.1 Handling

At all stages of handling, transportation and storage, the slab must be balanced at its centre of gravity. Caesarstone slabs must be loaded, unloaded and transported by means of a forklift, overhead crane or other suitable lifting device.

An engineer who specializes 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.

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

During unloading and transporting, adhere to all the relevant safety regulations regarding equipment and personnel.

6.1.1 Lifting Methods

Lift slabs by one of the methods below shown below. These are not the only methods available, so it is important that you use the most appropriate method that suits the task in hand.

When lifting slabs by clamp lifter, start lifting the slabs slowly and check that they are firmly secured and balanced before transporting them.
6.2 Transportation

Caesarstone slabs are large and heavy. They must be transported in a safe and appropriate manner, securely attached to a truck as shown below.

- Securely attach an appropriate frame to the truck for loading Caesarstone slabs, e.g., an A-frame.
- Load the slabs evenly on both sides of the frame, face-to-face and back-to-back with no gaps.
- Tie the stack of slabs with the frame to the truck.

6.2.1 Driver Responsibilities

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

- The correct slabs are loaded.
- The load is within the legal carrying capacity of the vehicle.
- The vehicle is in good order and condition.
- The load is fully supported and safely secured to the vehicle prior to leaving the premises.

⚠️ In the interests of safety, Caesarstone may refuse to load a truck, if we feel that it will be overloaded or that it is unsafe.

Example of a properly tied down load
6. Handling, Transport & Storage

6.3 Chain of Responsibility

Chain of responsibility affects all levels of the supply chain.

CONTROL = RESPONSIBILITY = LEGAL LIABILITY

An example of a simple road freight transport chain is:

CONSIGNOR → PACKER → LOADER → OPERATOR → DRIVER → CONSIGNEE

Consignor - a person or company commissioning the carrying of goods
Packer - placing goods in packages, container or pallets
Loader - placing the load on a vehicle
Driver - the person who physically drives the vehicle
Consignee - the person or company taking delivery of the goods

6.3.1 Important Considerations to Be Taken into Account

Suitability of vehicle

- The load should be carried completely within the tray of the vehicle.
- This is an important safety issue, so if a piece of the slab fractures it does not fall onto other vehicles on the road. This could have serious implications for injury or fatalities.
- Do not use small utes or trailers to carry slabs as the weight can affect the performance of the vehicle and compromise its handling and steering.
- Consider the weather conditions and it may be wise to lighten the load in these situations.

Load-carrying capacity of the vehicle

- Ensure that the vehicle is capable of carrying the weight of the load.
- Trucks that come already with a partial load need to be aware that the total load is within the safe working limits of the vehicle

Restraining of the load

- Rope is not a satisfactory method of tying down a load; it does not have a rating and deteriorates very quickly over time. It also has a greater element of elasticity which reduces its effectiveness.
- Use proper load-rated straps to secure the load. These should be discarded at the first signs of wear.
- Protect the straps from abrasion and damage from the slabs by placing protective strips between the straps and the edges of the slabs
- Use properly approved A-frames which can properly support the slabs. Slabs should be secured to the A-frame and the A-frame secured to the truck.
- Ensure that the slabs and A-frame are secured on the vehicle and are prevented from moving in case of emergency braking. A load that shifts can cause damage to the vehicle, the slabs and injury to other road users.
6.4 Vehicle Suitability

- Load should be fully contained within vehicle.

- Load must be restrained so it cannot move in case of emergency braking.

The Load Restraint Guide is available from the National Transport Commission and is available for download at http://www.ntc.gov.au

Note: This came into effect in 2004. Please make your own assessment as to your obligations under the code.
6. Handling, Transport & Storage

6.5 Storage

The picture below shows the recommended storage method for Caesarstone slabs.

- Caesarstone recommends storing slabs under cover at all times.
- 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.
- Do not store cut slabs between full slabs.
- Caesarstone recommends placing wooden or plastic buffers on the base of the stand to prevent the slabs edges chipping.

⚠️ Caesarstone slabs are heavy and can cause serious injury or death if not stored and handled properly. It is recommended that all slabs be secured during storage to maintain a safe working environment.

⚠️ When storing slabs on an A-frame, ensure that the slabs rest entirely on the base. If they do not, uneven pressure on the uprights may cause the A-frame to move and the slabs to fall.

![Recommended Racking Setup](image)

🔍 Slabs should be stored in an approved frame system.
🔍 If using three rows of supports, ensure that the centre support does not interfere with the clamps.
Extreme caution needs to be exercised when using A-frames. The angle of the frames allows one operator to pry the slabs apart to insert a lifting clamp. However, if pulled too far the slab(s) will reach a point of no return and can no longer be controlled by the operator and will topple over. These can then fall on the operator causing serious injury.

The 20 mm slabs weigh 220 kg each and 30 mm slabs weigh 330 kg each. 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.

Do not exceed the capacity of the clamp.
Do not modify the clamp.
Ensure all equipment is in good working condition.

Danger - Slabs should not be stored or accessed in this manner.
6. Handling, Transport & Storage

Setting up A-frames for safe use

Do NOT Store on the open ends

Overlap frames to provide closed area for storing slabs

Unsafe racking

Unsecured slabs

Polished face exposed

Uneven surface

This is an example of an unsafe and dangerous working environment. There are numerous OH&S safety issues which could lead to serious injury. Storing in this way may create issues such as warping, fading or scratches, etc., rendering the slabs unsuitable for most applications.
Slabs can be safely contained between the uprights of these A-frames. This arrangement, although not ideal, is far safer than open ended A-frames. It should be considered only as a temporary storage measure.

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

Place slabs only between the uprights; do not store on the open ends.

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 damage to the lifter.

The clamp can lift multiple slabs of Caesarstone at a time; this also depends on the size of the clamp.

Do not lift multiple slabs if they are not at the same height.

Diagram courtesy of Aardwolf
7. Adhesives

- We recommend that you use Tenax adhesive to join two pieces of Caesarstone surfaces.
- Colour-matched Tenax adhesives are available to match most of Caesarstone’s colour range.
- Adding transparent adhesive to the colour-matched adhesive can improve its properties.
- To join Caesarstone surfaces to a different material, use Caesarstone flexible neutral cure silicone adhesive (horizontal applications only; not suitable for load-bearing vertical applications).
- Use only Caesarstone flexible neutral silicone with acid-sensitive substrates, e.g., metal or concrete.
- The colour of the adhesive used should match the colour of the surface in order to achieve the best possible join. 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 will be slightly lighter after drying.

⚠️ The colour-matched Tenax adhesive may still require the shade to be adjusted, as the Tenax has a base colour but the Caesarstone slabs are batch tracked for shade variance.
8. Slab Optimisation

8.1 Matching Joins Before Cutting

When cutting slabs, try to keep ends cut from adjoining sections of the same slab butted up together.

This will assist in the following ways:

- Best match for quartz distribution
- Best match for pattern arrangement
- Best match for colour pigmentation

This is not necessary in all cases, but is recommended when the installation will be in an area with a high amount of reflected light.

This will help to minimise the appearance of variations due to glancing light.
8.2 Quartz Variations

8.2.1 Factors Affecting Lamination Colour

Note: The following is an exaggerated example used to illustrate a point.

The top row has the same background colour, but the density of the dots increases from left to right, the overall result is that they appear to become darker. The same effect can be seen in the slabs which is caused by quartz distribution, where the quartz will be more concentrated in one area compared to another.

The bottom row has the same density of dots but the background becomes darker from left to right. In the slabs, this is akin to the natural variation in the organic pigments.

Batching information is used to address the issue of slight variations in the same product to provide the best possible colour match.

The other factor is the adhesive used to bind the two surfaces. The colour matched Tenax adhesives that we supply are a very close match to the slabs. However, you must keep in mind that the colour needs to be adjusted to compensate for the slight shade variations since the Tenax is provided in just one base colour. A poor match here will highlight the join.
8. Slab Optimisation

8.3 Optimising Lamination Slab Selection

8.3.1 Best Practice

When cutting lamination sections for a benchtop it is highly recommended to position the cutting template so that adjoining pieces are sourced from the same area of the slab where possible. This will ensure consistency and provide a more seamless lamination.

8.3.2 Extra Care Required

Cutting the lamination pieces from a different section of the same slab is acceptable but not recommended as this can result in colour and quartz variations which can reduce the overall quality and seamlessness of the final lamination.
8.3.3 Not Recommended

Caesarstone does not recommend that you cut the lamination sections from a different slab to the benchtop sections. This could result in more obvious colour contrasts and irregular quartz distribution resulting in a poor, mismatched lamination.

The lighting present at one job site may highlight even a slight colour variation in the laminations which would not be visible at another job site. Consider using a 45 degree mitre join instead as the front face will be formed from one piece.

Also be aware that colours with larger quartz aggregates will always show a join line.
8. Slab Optimisation

8.3 Optimising Lamination Slab Selection

8.3.4 Best Practice

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.

Use the printing on the back of the slab to guide you on the orientation of the slab.

This extension piece follows the same orientation as the primary slab.
8.3.5 Extra Care Required

We do not recommend that you cut the extension piece from a slab that is from a different orientation. Although this will look fine in the factory, it could show slight variations once installed on site. Note: this is not the case with every site, but it is best to avoid this situation in the first place.

The printing on the back of the slab will be your best guide for properly aligning the slabs.
It is recommended that there are joins at every change of direction in the benchtop.
Although these benchtops can be cut as one piece from a slab, it is important to consider the risks of cracking that can happen after installation.

Cracking does not indicate a material fault or even a fault with the fabrication or installation. 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.

It is best to avoid this situation in the first place by using joins and avoiding “L” shape cutouts.
9. Fabrication

9.1 Joins

Make a slight diagonal cut along the join edge from top to bottom, leaving a small straight edge at the top of the inside edge. The resulting gap enables smooth closure of the join on the surface and space for adhesive underneath.

⚠️ For 20 mm and 30 mm thickness slabs, create a groove in the middle of the join edge that does not reach the visible outside edge of the slab. This creates a space for a wedge of adhesive to strengthen the join. We also suggest the use of a metal biscuit for added strength and support of the join.

⚠️ Do not polish joins on Caesarstone surfaces.

9.2 Inside Corners

- Always fabricate L-shaped or U-shaped benchtops with a join on the inside corner between the slab pieces.
- Create a join for every change in direction of the surface.
9.3 Methods of Fabricating Cutouts for Accessories

It is generally necessary to install accessories, such as sinks or cooktops, in benchtops. There are three main methods of installing accessories in cutouts, each of which requires a different type of cutout fabrication:

**Under-mount Installation**
- In under-mount installation, the accessory is positioned underneath the surface.
- Fabricate the cutout slightly smaller than the accessory so that the join between the accessory and the surface is not visible. Round or bevel the edge. The larger the edge profile the greater the impact resistance of the edge. Polish the edges of the cutout.

**Over-mount Installation**
- In over-mount installation, the lip of the accessory extends above the surface and rests on it.
- Smooth the edge of the cutout with a wet grinding wheel and leave it unpolished. Leave a space between the accessory wall and the cutout.

**Flush Installation**
- In flush installation, the accessory is installed almost or completely flush with the surface of the benchtop.
- You may need to countersink the area under the sink flange to allow a flat finish.
- Ensure that enough allowance is made for the adhesive and waterproofing as required.
- Allow room for expansion

⚠️ Follow any instructions or recommendations provided by the sink manufacturer.
9. Fabrication

9.4 Cutouts

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

- Fabricate cutouts according to the instructions of the manufacturer of the item to be installed.
- Fabricate a minimum radius of 15 mm for all corners in cutouts (See Figure 1). The larger the radius, the stronger the corner.

⚠️ Do not do square corners or cross cut corners. See Figure 2 and Figure 3. Do not cut large radius in sections (see Figure 4); these need to be one continuous smooth radius. Damage to the area may lead to the formation of hairline cracks which can grow over time.

⚠️ Do not reduce the thickness of the surface when preparing the cutout.

⚠️ The distance between a cutout and an edge or join 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 join is less than 150 mm, the area must be supported. Ensure that the area between the cutout and the edge or join is located over the junction between the base cabinets; or fit a solid support strip under the area.
9.5 Cutout Surrounds

Large Cutouts

If a cutout will leave front and back rails of less than 60 mm, consideration should be given to making these rails from separate pieces to avoid problems with cracking.

Where this is likely to occur, the kitchen should be made with extra depth, but if this design consideration has not been implemented then you have limited options.

⚠️ Either take the risk with the smaller rails or advise the cabinet manufacturer and/or customer that separate rails should be used.
9. Fabrication

9.6 Sink Drainers

Sink draining grooves are often cut into the surface of the material when under-mount sinks are used. There are several fabrication considerations that need to be addressed.

1. The drainage grooves/wash plane surface may not be able to be polished up to the same finish as the rest of the top.
2. If too deep, will seriously affect the strength of the benchtop around that area.
3. This may require additional support to be placed beneath the area to ensure that there are no failures in the future.
4. Could pose cleaning issues for the home owner. Drainage grooves may need to be cleaned with a soft bristle brush.

The quality and performance of the sink drainer is the responsibility of the stonemason.
Note: The minimum recommended edge profile for the under-mount sink cutout should be a minimum 6 mm pencil edge, to minimise the risk of chipping.

The greater the profile the more durable the edge will be.
9. Fabrication

9.7 Cutout Supports

The use of a vinyl wrapped, solid timber vertical rail has the advantage of greater strength and better support.

The use of a MDF vertical rail is still better than having a flat rail.
Horizontal rails are not sufficient where an appliance is to be installed above. Most appliances 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 tops and in these situations they could be held responsible if a crack does occur.

The installation is dependant on the quality of the structure that the benchtops are being placed onto. If the structure is not adequate this should be discussed with the other parties involved.
9. Fabrication

9.8 Fabricating Edges

- All exposed edges should be fabricated to the same finish as the surface.
- The top and bottom of edges must be rounded or beveled. Do not create square aris edges.
- All edges should have a minimum radius on any edge profile of 3 mm–4 mm.

The most common edge details are 3 mm–4 mm pencil round radius or 45° bevel; however, there is a very wide range of detail options.

The larger the surface area of the edge, the more resistant it is to chipping.

Bevelled Edge
4 mm–6 mm
Recommended

Pencil Round
4 mm–6 mm
Recommended

Square Edge
Not recommended as any impacts to the edge may result in chipping.
9.9 Laminated Edges

Lamination is the process of gluing a strip 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.

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

⚠️ Do not join laminations strips, each lamination strip should be the same length as the edge to which it will be glued.

Full Lamination - no join
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 joins.

Join at 45° in corner
Cut lamination pieces on outside corners at a 45° angle.

Butt Join - not recommended

We recommend that the lamination strip and the benchtop should share the same saw cut.

Creating lamination pieces using this method will ensure that you get the best possible match for colour and quartz distribution.
9. Fabrication

9.10 Placing Laminations

Laminations should go the full length of the edge that they are on.
Partial laminations are not recommended.

Partial laminations are not recommended. They create stress points that could lead to cracking on the benchtop above.

Island bar laminations should follow the full perimeter of the benchtop.
If you require a full thickness lamination under the overhang use a separate infill piece as shown here.

Underside of island bar showing lamination strips in place plus an exploded view of the lamination pieces.
9.11 Table Tops - Frames

- Supports at 600 mm centres
- Caesarstone tops fixed with Caesarstone neutral cure silicone adhesive
- Allow 2 mm–3 mm space for expansion
- Full perimeter frame supports

[Diagram showing table top frame with 600mm supports and description text]

[Image of an interior space with long white tables and stools]
9. Fabrication

9.12 Mitre Edges

9.12.1 Characteristics of Mitre Edges

- Mitre edges allow the fabrication of edges of any height. The height of the edge is not limited by 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 shapes and depths.
- Polishing the vertical part of the mitre is not required as the visible area is the polished surface of the slab.

9.12.2 Fabrication of Mitre Edges

1. 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 Motivo or Concetto, cut the slab at the location planned for the mitre join to create continuation of the slab pattern.

2. 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.

3. 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 strong joint and flush closure on the visible part of the mitre.

4. Polish the mitre joint to a radius or bevel profile as required.

5. 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 of 5 mm.

   - Distribute the adhesive evenly throughout the joint for maximum strength.

   - It is recommended to use a mitre clamp to tighten the join in order to prevent the adhesive showing and create an accurate 90° angle, e.g., mitre clamp manufactured by J. Koenig, www.j-koenig.de; or the Mitreforma™ clamp, manufactured by Mitreforma International, www.mitreforma.com.au
9.13 Mitre Edge Details

Recommended mitre join suitable for most situations.

It is important that a 45° angle is maintained along the mitre.

High strength mitre join suitable for areas subject to greater stress.

It is important that a 45° angle is maintained along the top half of the mitre.

The angle can widen below to allow more adhesive into the join for added strength.

Non 45° angles are not recommended.

Not recommended as this joins produces a thin wedge at the tip of the mitre making it more susceptible to chipping or breaking.

Also the greater the radius of the profile the more joint adhesive that would be visible.

5 mm x 5 mm Shadow Line

Another alternative is to use a 5 mm x 5 mm shadow line join. This join is recommended for waterfall ends that go to the floor.

It also allows for more movement in the cabinets over time.
9. Fabrication

9.14 Transportation of Fabricated Surfaces

Correct racking is essential for transporting fabricated pieces to the site in good condition.

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

- Load the fabricated pieces onto a vehicle fitted with an A-frame rack with cross-braces suitable for the size and weight of the slab. Some A-frames can be hoisted off the vehicle.

- 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.

- Strap the pieces securely to the rack to prevent movement during transportation. Take care to prevent the straps from being damaged or cut by the square slab edges.

- Securely fasten the whole stack with the rack to the vehicle. Secure the slabs during loading to prevent falling due to movement or high winds.

- All pieces should always be transported vertically.
10. Vanities

10.1 Vanities Made Entirely from Caesarstone

Caesarstone can be used in several ways to create a vanity unit.

- Where the material itself forms the vanity. A classic example is the Omvivo® Washplane; these are available as single or double units and are constructed entirely from Caesarstone.
- In a more traditional basin design where the top as well as the basin are formed from Caesarstone.
- Where Caesarstone is used in conjunction with a wash basin/vessel to form a vanity top. This can be using an under-counter basin or an over-counter vessel.

These vanities are constructed completely out of Caesarstone.
These vanities have Caesarstone as part of their construction.

Caesarstone Product Collections are ideal for wet area applications such as bathroom vanities.
11. Laundry

11.1 Laundry Tubs

These require additional consideration, as for example, the dual 45-litre tub above that requires a wide cabinet to accommodate it.

The total capacity is 90 litres with each litre of water weighing 1 kg, so it could potentially have a weight of approximately 90 kg if both tubs were filled with water.

This is equivalent to a person standing on the top in an area with a large cutout. Unless the cabinets are reinforced and can adequately support this weight, there is a high risk of a failure.
11.2 Washing Machine and Dryer

Where these appliances are installed below the benchtop, care needs to be taken with providing additional support.

It is advisable that a support panel is placed between the appliances and either a support panel or cabinet be placed either side.

This will ensure that the tops have adequate support.

The other consideration is with the heat generated by these appliances, especially the dryer. Some of these exhaust through the front while others exhaust through the back; some may also need to be ducted.

If required, a panel may be installed below the tops to protect them from the heat.
12. Installation

12.1 Preparing the Base Units/Cabinets

- Caesarstone surfaces are installed on top of cabinets and are not fixed to the wall.
- 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 then secured to the back wall.
- Caesarstone surfaces must be supported on a strong perimeter frame or on a full deck support.
- Verify that the benchtop is sufficiently supported in areas of joins, cutouts and over spaces for appliances such as dishwashers, ovens, washing machines, etc.

![Correct Installation]

- For cutouts longer than 600 mm, provide side-to-side support beams under the surface.
- Provide support under all benchtop joins.
- Attach a board between the cabinet tops on both sides of under-counter appliances that generate heat.
- For surfaces of 13 mm and 20 mm, if extra reinforcement of the cabinets or the surface is considered necessary, lay a moisture-resistant, white melamine, particleboard panel at least 16 mm thick on top of the cabinets, or glue strips of Caesarstone material under the surface.
- For surfaces of 30 mm a full subtop is not required.
12.2 Cabinet Support

Plinths provide a strong and stable base for the cabinets and are considered best practice. It is important that they are properly levelled and secured to the floor and wall.

Ensure that the plinths are level in both directions.

Cabinets should be placed and fixed securely to ensure that there is no movement under load. Also ensure that you have a level surface to place the tops on.
12. Installation

12.3 Underbench Appliances

Underbench appliances such as ovens, dishwashers and microwaves generate heat in a very confined area.

In order to protect the benchtops from this, we do recommend that a solid top is installed above these appliances made from the same material as the cabinet carcasses.

This will provide both support and insulation for the benchtops.

Solid tops are not a replacement for vertical rails. A flat panel, although it adds strength, does not negate the need for solid vertical rails in cabinets where there will be cutouts.

Cabinets should have vinyl-wrapped, solid timber, vertical rails to provide maximum strength.

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

Vertical rails over under bench ovens provide additional support, especially important when the cooktop cutout is above the oven.
12.4 Cooktop Locations

Avoid having the cooktop located above drawer units. This restricts the use of vertical rails and weakens the support structure under the benchtop.

Horizontal rails under a sink or cooktop tend to have a large portion cutout.

This leaves the support inadequate for the tops. Keep in mind that the top also has a cutout for the appliance, resulting in a weak section of top without adequate support below.

Vertical, vinyl-wrapped, solid timber rails are always recommended.
12. Installation

12.5 Benchtops

12.5.1 Preparation for Installation

- 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 that all exposed edges and corners are fabricated and rounded as required.
- Check that the surface is straight and level with a spirit level and long ruler.
- Leave a space of 1 mm per linear metre between straight stretches of the surface and each wall for expansion and contraction, but not less than 3 mm in any event.
- Perform a final visual inspection to ensure that the surface is to your satisfaction.

12.5.2 Joins

- Part the fabricated pieces of surface slightly at the join.
- Place a layer of paper on the cabinet underneath the join in order to prevent the adhesive from sticking the surface to the cabinet.
- Prepare a suitable colour-matched polyester resin adhesive.
  - If necessary, mix the adhesive with pigments with a stainless steel or plastic spatula until achieving the required shade.
  - Use a plastic spatula for mixing light colours. Ensure that the join is clean of debris.
- Spread a generous amount of the adhesive on both sides of the joint.
- Ensure that the groove in the middle of the join is filled with adhesive.
- Close, secure and straighten the join with clamps or a professional joining clamp to create a smooth, flush surface.
- After the adhesive is completely dry, remove the clamps.
- Remove any excess adhesive with a scraper.
- Perform final cleaning with alcohol on a clean white cloth.
  - Do not polish joins on Caesarstone surfaces.
12.6 Adhesive Application

Yellow dots are the suggested positioning of the silicone adhesive onto the cabinet rails or solid panels under the benchtop.

To fix the tops to the carcasses, apply enough flexible silicone adhesive to secure the tops.

Do not over glue the tops, as even silicone, when used in abundance, is extremely strong and will restrict the slabs from moving due to expansion and contraction.

Use the minimum amount required to do the job.

Large pieces will not move easily due to their weight, as such minimal adhesive is required. Smaller pieces will need extra adhesive so they are not dislodged.

Areas such as island bars and breakfast bars with overhangs should be more securely fixed.
12. Installation

12.7 Sealing Between the Surface and the Wall

- Clean the space between the surface and the wall.
- Fill the space generously with a flexible adhesive such as neutral 100% neutral cure silicone.
  - The silicone adhesive prevents water from entering the cabinet.
  - For visible joins between the Caesarstone surface and a different material, use Caesarstone coloured silicone.
  - If the cabinets are supported on adjustable legs, ensure that all legs are evenly tensioned to ensure stability.
12.8 Accessories & Fixtures

Accessories and fixtures can be attached to Caesarstone material by mechanical anchoring, adhesive anchoring, or a combination of both.

Use a combination of the methods below to attach heavy fixtures to Caesarstone material.

12.8.1 Attaching Accessories Mechanically

Drill a hole of the required size and shape through the material.

- Drilling can also be performed after the slab is installed using wet cutting.

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.

- 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.
12. Installation

12.9 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.

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.

The permitted overhang dimension must be determined by a professional. It is dependent on a number of factors, such as:

- The complete length to width ratio of the surface relative to the length and width ratio of the overhang.
- Whether the overhang is supported on one or more sides by a wall or other supporting fixture.

The table below provides approximate guidelines for support required for overhangs.

- Supports are dependent on the application. If the overhangs will be subjected to high loads, then supports should be used regardless of the recommendations below.

<table>
<thead>
<tr>
<th>20 mm thickness slabs (or 40 mm laminated)</th>
<th>30 mm thickness slabs</th>
<th>Support required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 300 mm overhang</td>
<td>Less than 400 mm overhang</td>
<td>No additional support required</td>
</tr>
<tr>
<td>300-500 mm</td>
<td>400-600 mm</td>
<td>Support brackets at 600 mm intervals</td>
</tr>
<tr>
<td>Greater than 500 mm</td>
<td>Greater than 600 mm</td>
<td>Legs, columns or panels</td>
</tr>
</tbody>
</table>
12.10 Tabletops

When installing a Caesarstone surface as a freestanding tabletop, design the base area of the leg or legs to securely support the tabletop.

Spread Caesarstone neutral cure silicone 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.

12.11 Finishing Touches

Once installation is complete, ensure that the slab surface is clean and the work area tidy.

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.

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

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

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

These photos were taken after the installation of the tops was completed. It is a good example of what can happen once you leave the premises. Damage caused by other tradesmen should not be your responsibility.
12.12 Non-Critical Light

In the Home or on Site

Slabs are to be viewed from a normal viewing position. A normal viewing position is looking at the tops at a distance of 600 mm with the surface of the slabs illuminated by non-critical light.

Non-critical light means the light that strikes the surface of the slabs is diffused and is not glancing or parallel to that surface. Slight variations in the colour of the slabs do not constitute a defect.

This is site specific, so it could be an issue in a highly lit environment, but not visible in another.

- Check reflectivity at the factory and on site before fixing the tops to the cabinets.
13. Care & Maintenance

Tough, Yes – Indestructible, No

Caesarstone recommends using water and a mild detergent or a high-quality spray and wipe-type cleaner on a soft cloth or non-abrasive sponge for routing cleaning of Caesarstone surfaces. Consult with your distributor for specific products recommended in your local market.

In general, it is recommended to use cleaning products between pH 5-9, as products outside this range may damage the surface.

⚠️ If cleaning products outside this range are used, as recommended in section 13.5, check their effect in advance on a separate piece of the surface.

It is recommended to leave cleaning products on the surface for no longer than 5 minutes.

⚠️ If it is necessary to leave cleaning products on the surface for more than 5 minutes, check their effect in advance on a separate piece of the surface.

Do not use products that contain trichlorethane or methylene chloride, such as paint removers or paint strippers.

If the surface is exposed to any potentially damaging products, rinse immediately with water to neutralize the effect.

Do not allow dirt and residue to remain on Caesarstone surfaces for extended periods of time.

Products containing oils or powders may leave a residue and should be rinsed off thoroughly.

Thoroughly rinse cleaning materials off Caesarstone surfaces after use.

13.1 Heat Resistance

Caesarstone surfaces can tolerate moderately hot temperatures for brief periods of time. Prolonged exposure will result in discolouring or other types of damage. Excessive localized heat may damage the surface or cause hairline cracks.

⚠️ Do not expose Caesarstone surfaces to excessive heat.

⚠️ If the surface is exposed to temperatures higher than 70°C, support the surface from underneath to prevent warping.

⚠️ Do not allow direct contact between Caesarstone surfaces and very hot pots or other hot cookware. Always use an insulator/trivet.
Concentration of heat on one area of the tops.
The pot has a high thermal load.

Heat causes the benchtop to expand rapidly but in a very localised area while the rest of the benchtop remains cold. This expansion is opposed by the cold, non-expanding adjacent material as well as any adhesive used to affix the benchtops.

A pot placed on the benchtop directly from the cooktops creates two issues: firstly there is the sudden change in temperature of the top (thermal shock); and secondly the thermal load, that is the amount of heat present.

Although the pot and the cup will both cool, the pot will take much longer than the cup due to its larger volume. It must also be remembered that most cups are insulated whilst the pot is not.

Cracking in this situation may not happen the first time, although it may develop over time if the proper precautions are not taken. Also, proximity to weaker areas such as cutouts can be a contributing factor.

Heat-affected area.
High thermal load.

The use of a heat pad eliminates this problem.
There is no heat transfer to the tops.
However, keep in mind that these situations happen after the installation.

Never place hot cookware directly onto the surface of any Caesarstone slab.
13. Care & Maintenance

13.2 Scratch Resistance

Caesarstone surfaces are highly scratch resistant; however, avoid using sharp or hard objects such as knives or screwdrivers directly on the surface.

13.3 Motivo Finishes: Care & Maintenance

These finishes require more routine maintenance than polished finishes due to the different level of smoothness.

- Most marks can be easily removed with a little effort and a recommended cleaning product. For tough stains, gently rub the area with the cleaner and a mildly abrasive pad.
- To facilitate the care and maintenance of these finishes and to help minimize the appearance of fingerprints and other marks that occur during normal use, a surface shield or stone colour enhancer can be used on the surface.

Due to the fact that these finishes are somewhat more sensitive to dirt and damage than the polished finish, it is recommended that the surface be covered with a protective layer during the fabrication process.

13.4 Stubborn Stains or Dried Spills

Caesarstone surfaces are highly stain resistant. If a stain occurs it can usually be easily removed. Before treating the stains as described below, try to remove the stain with a damp, soft cloth with water and soap, or a non-abrasive household cleaner.

- For stains with adhered material, such as food, gum, nail polish or dried paint, first scrape away the material with a sharp scraper and then follow the instructions below.

For more detailed information please refer to our Care & Maintenance Guide, which can be downloaded from our website.
## 13. Care & Maintenance

### 13.5 Treating Stains

<table>
<thead>
<tr>
<th>Type of Stain</th>
<th>Cause/Source of Stain</th>
<th>Treatment Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>Materials containing caustic soda pH 10-14 Fat/grease removers, e.g., oven cleaners</td>
<td>Cannot be removed.</td>
</tr>
<tr>
<td>Heat source</td>
<td>Hot pressure cooker Hot frying pan Hot saucepan Polishing burn Toaster oven Grill Hot plate Oven shelves and trays Hot food spillage</td>
<td>The severity of the burn is indicated by its colour. Yellow stains can sometimes be removed with Caesarstone Cream Cleanser. Brown stains generally cannot be removed.</td>
</tr>
<tr>
<td></td>
<td>Toaster oven Grill Hot plate Oven shelves and trays Hot food spillage</td>
<td></td>
</tr>
<tr>
<td>Heat source</td>
<td>Toaster oven Grill Hot plate Oven shelves and trays Hot food spillage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The severity of the burn is indicated by its colour. Yellow stains can sometimes be removed with Caesarstone Cream Cleanser. Brown stains generally cannot be removed.</td>
<td></td>
</tr>
<tr>
<td>Oil – natural</td>
<td>Olive oil Canola oil, etc.</td>
<td>Caesarstone Cream Cleanser. 10% bleach</td>
</tr>
<tr>
<td>Oil – synthetic</td>
<td>Machine oils</td>
<td>Caesarstone Cream Cleanser,</td>
</tr>
<tr>
<td>Cosmetics</td>
<td>Hair shampoo Medical creams Make-up</td>
<td>Alcohol Caesarstone Cream Cleanser Hydrogen peroxide, max. 30%</td>
</tr>
<tr>
<td>Metal</td>
<td>Metal kitchen tools (e.g., knives) Metal pots Metal belt buckles</td>
<td>Caesarstone Cream Cleanser Metal stains may resemble scratches but they are actually metal residue and easily removed.</td>
</tr>
<tr>
<td></td>
<td>Rust</td>
<td>Oxalic acid Repeat use for stubborn stains.</td>
</tr>
<tr>
<td>Food and beverages</td>
<td>Food colouring Herbs and spices Red wine Pomegranates</td>
<td>Caesarstone Cream Cleanser 10% bleach</td>
</tr>
<tr>
<td>Colours</td>
<td>Ink Markers – water based Markers – oil-based (permanent) Paint Print from supermarket bags</td>
<td>Alcohol Caesarstone Cream Cleanser 10% bleach</td>
</tr>
<tr>
<td>Other</td>
<td>Blood</td>
<td>Caesarstone Cream Cleanser</td>
</tr>
<tr>
<td></td>
<td>Candle wax</td>
<td>Alcohol Caesarstone Cream Cleanser</td>
</tr>
<tr>
<td></td>
<td>Glue from adhesive tape</td>
<td>Alcohol</td>
</tr>
<tr>
<td></td>
<td>Hard water deposits</td>
<td>Scale remover Vinegar</td>
</tr>
<tr>
<td></td>
<td>Soap stains</td>
<td>Caesarstone Cream Cleanser</td>
</tr>
<tr>
<td></td>
<td>Silicone</td>
<td>Alcohol</td>
</tr>
</tbody>
</table>
14. Publications

Caesarstone has a range of technical publications that cover all aspects of using Caesarstone, Motivo and Concetto surfaces.

These guides are available for download from our website, www.caesarstone.com.au
Applicable Standards for your reference:

**Australian Standards**
AS NZS 4386.1-1996 Domestic kitchen assemblies - Kitchen units
AS NZS 4386.2-1996 Domestic kitchen assemblies - Installation
HB 111-1998 The Domestic Kitchen Handbook
AS 5601-2004 Gas installations
15. Environmental Commitment

At Caesarstone, protecting the environment is a top priority. This means that everything we do, in our plant and outside, is governed by an environmental management policy. It begins with safety standards that protect all workers, and continues with ecologically friendly production processes.

As for our customers, they benefit from manufacture that assures totally inert products that prevent the spread of toxins and require almost no detergents.

We at Caesarstone are working for a cleaner, safer and better quality environment. Everyone at Caesarstone is part of this commitment – it’s our way of life.

Caesarstone products are compliant with the National Sanitation Foundation International standard, ensuring that our working surfaces are safe for use in all food environments.

Caesarstone quartz surfaces comply with ISO 14001, ISO 9001 and OHSAS 18001.

Caesarstone surfaces comply with the American GEI (GREENGUARD Environmental Institute) certification, which primarily verifies that Caesarstone’s products meet the most stringent air emission standards.

Caesarstone is a registered member of the United States Green Building Council (USGBC).
16. Respirable Crystalline Silica
Health Hazards & Protection Guide

16.1 Introduction to Guide

As the world’s leading global quartz surface developer and manufacturer, we at Caesarstone view the existence of a safe working environment for all employees, free of hazards and in compliance with all local laws, as a foremost interest.

Caesarstone slabs and products, as finished products, do not present any type of health risk or hazard when transported, shipped or used by the end consumer. However, their fabrication and processing generate respirable crystalline silica dust. The approximately 90% silica present in Caesarstone products (and silica present in other quartz surfaces and granite) requires fabrication and processing to be performed under particularly diligent safety conditions.

It is important to note that the guidelines provided in this Guide are not intended to replace your local laws and regulations, which should be complied with, as further detailed below.

Caesarstone distributors are strongly encouraged to provide their customers with the relevant information related to workplace health and safety, particularly in areas with respirable crystalline silica dust. Furthermore, the instructions in this Guide are addressed to employers and employees who fabricate Caesarstone slabs and products in order to help them control their exposure to respirable crystalline silica dust.

The objective of this Guide is, among other things, to:

- provide information about how the risks and health hazards caused by working in an environment with respirable crystalline silica dust are created; and
- provide certain information to assist in reducing workers’ exposure to respirable crystalline silica dust, including guidance on the safe use of products containing crystalline silica in the workplace and protection that can be used.

16.2 Hazards of Silica Dust

Caesarstone slabs and products are not hazardous when transported, shipped or used by the end consumer. However, Caesarstone slabs contain approximately 90% crystalline silica (quartz, silica sand and cristobalite), and like any natural stone product such as quartz, marble or granite, the fabrication and processing (i.e., cutting, sawing, grinding, breaking, crushing, drilling, sanding or sculpting) of Caesarstone slabs may produce dust containing fine particles of silica. This is known as respirable crystalline silica dust.

There are three dust fractions that are of main health concern: inhalable, thoracic and respirable dust. In the case of crystalline silica, it is the respirable fraction of the dust that is of concern for its health effects. The lungs take in air, extract oxygen, and release carbon dioxide. Anything that stops this process is potentially life-threatening. Silica particles may damage the lung tissue, and to protect against such particles, the body’s defences isolate them in scar tissue. Excess scar tissue, however, decreases lung capacity, which makes breathing difficult. As the scar tissue builds up through continued exposure to dust, the lungs can no longer carry out their main function – the extraction of oxygen and release of carbon dioxide.
As a result, unprotected and uncontrolled occupational exposure and inhalation of respirable crystalline silica particles without the safety measures required by law is dangerous to health and may cause severe illnesses such as silicosis, which is characterized by fibrosis of the lungs. Silicosis is a chronic and non-reversible disease, which may cause severe physical disabilities and may be fatal. The pathological process of silicosis may cause severe complications such as: lung cancer, tuberculosis and autoimmune diseases such as rheumatoid arthritis. Pre-existing physical disorders may aggravate the adverse effects of exposure to silica dust.

Silicosis is an occupational disease that may affect workers in the stone fabrication industry if they process marble, granite, quartz surfaces and other natural stones without safety measures, which has been recognized for over a century. In the quartz surfaces industry, this disease can affect the production/fabrication workers themselves, and any other employee/worker who is present at the fabrication facilities (where there is silica dust) on a regular basis, for example managers and administrative staff.

16.3 General Prevention Principles
Silicosis and other diseases associated with silica dust as stated above can be reduced and controlled by following the required safety precautions, including those described below. Such measures include improved work practices (such as working with wet tools), engineering controls, ventilation and filter systems, respiratory protective equipment and training programmes, as further detailed below and in your local laws and regulations regarding working in environments containing harmful dust. Please note that the recommendations with respect to the work area relate mainly to the production/fabrication facilities, but also to the adjacent offices.

In order to control and reduce/eliminate the health risks associated with crystalline silica, we recommend that a Silica Control Programme be implemented in the workplace in accordance with all the applicable laws, regulations, orders and directives. This programme should be reviewed on a regular basis. Furthermore, permissible exposure limits to respirable crystalline silica dust should be met. Exposure limits for quartz, silica sand and cristobalite (free silica – the respirable dust fraction) differ in each country, and we recommend that you consult with a local expert regarding the mandatory and recommended limits in your country.

It is important to note that the exposure and personal protection precautions are only necessary for the fabrication of Caesarstone products (cutting, sawing, polishing etc.), due to the dust that may be generated in the process, and not from the Caesarstone slab as a product.

The employer is responsible for providing his workers with all the information, tools and safety measures required in order to protect them from the dangers of exposure to silica dust. The workers are responsible for fully implementing the safety instructions. Access to the work area should be restricted to authorized employees only. By a joint effort of the employer and workers, the workplace can become a healthy environment for everyone.
16. Respirable Crystalline Silica Health Hazards & Protection Guide

Wet Tools

The best protection is to avoid exposure to dry silica. Therefore, where possible, implement fabrication techniques in which all cutting, grinding and shaping is performed wet.

- Operate wet tools and cutting machines as they help to prevent the release of silica dust. This applies to both manual and automated tools.
- Work with electrical systems designed by professionals to ensure safety when working with wet tools.
- Control and maintain all water systems in perfect working order according to supplier instructions.
- Take precautions to handle freezing in unusually cold weather.
- Clean and maintain all drainage systems when using water sprays and hoses.
- Wet hosing rather than compressed air should be used for clean up and in no circumstances should dust be swept up with a broom.

Filter (Exhaust) Systems

Although the best solution is to prevent exposure to dust by using wet fabrication techniques, a second type of engineering control is to use ventilation and filtration systems specifically designed to collect respirable particles in the dust, as detailed below.

Implement filter systems that include the following elements:

- Professional extraction hoods
- Enclosure for collecting and containing pollutants
- Ducts for pollutants removal
- Filters positioned between the hood and the fan
- Fans for moving air flow and releasing clean air outside the workplace

Ventilation

Recommendations regarding proper ventilation include the following:

- Ensure that the workplace (including the fabrication facilities, as well as the adjacent offices) have complete and effective ventilation.
- For local exhaust ventilation, dust extraction and pollution control equipment, work only with professional ventilation suppliers who employ qualified engineers for project execution.
- Position the work area as far away as possible from doors, windows and passages in order to stop wind and draft from spreading the dust and hindering local exhaust ventilation.
- Operate local exhaust ventilation at the dust source in order to capture the dust.
- Connect local exhaust ventilation to a dust extraction unit such as a bag filter/cyclone.
- Maintain local exhaust ventilation in good working order as per the supplier’s instructions.
- Keep the dust source as tightly closed as possible to prevent dust dispersal.
- Ensure a constant supply of fresh air into the work area to replace extracted air.
- Release extracted air to a safe place away from doors and windows.
- Replace filters or other parts according to supplier’s instructions.
- Keep air ducts as short as possible.
- Prevent employees from being exposed to local exhaust ventilation.
- Pay attention to unusual noises from fans that may indicate a malfunction.
We advise that you consult with a ventilation expert or engineer in implementing certain of the foregoing recommendations, such as work area positioning and air ducts length.

## Dust Monitoring & Supervision

Dust monitoring and supervision include the following:

- Consult your local regulations and laws as to the Permissible Exposure Limit (PEL) and/or Threshold Limit Value (TLV) limits for the legal permitted level of exposure to the different types of respirable silica dust.
- Execute risk assessment to determine whether existing dust controls are sufficient.
- Work with designated experts to create appropriate dust monitoring systems and consult with industrial hygiene professionals regarding dust sampling strategy.
- Ensure that all dust extraction emissions comply with local environmental rules.
- Keep complete records of dust monitoring campaigns and implement a quality system accordingly.
- Perform regular checks to ensure that the dust intake, filtration and expulsion systems are functioning correctly.
- Ensure that settled dust and polluted air cannot be dispersed or spread to clean areas or outside the work area.
- Select wall tiles and flooring surfaces that are hermetically sealed and easy to clean.
- Display a “Hazardous Dust” sign in all areas with hazardous dust.
- Create and enforce rules for all employees to wear protective respiratory equipment in areas with hazardous dust (as further detailed below).
- Convey to employees in charge of dust supervision the importance of setting a good example on the floor.

We advise that you consult with industrial hygiene professionals or other appropriate experts in implementing certain of the foregoing recommendations, such as creating dust monitoring systems, dust extraction and selection of wall tiles and flooring.

## Personal Protective Equipment

If dust production is not prevented by using water based machinery, workers must wear protective gear, such as P3 masks, which should be used and replaced in accordance with the manufacturer’s instructions. In cases where exposure is particularly heavy, industrial respirators should be used and comprehensive training provided.

- Personal Protective Equipment (PPE) is mandatory in workplaces where risks exist. This should be clearly marked with appropriate signage.
- PPE should comply with your local legal requirements; be designed and manufactured according to safety and health standards; and be used and replaced in accordance with the manufacturer’s instructions.
- Respiratory protection against silica dust should be P3 classification.
- As facial hair can lessen the effectiveness of a dust mask, operators with facial hair should work with air respirators or other suitable alternatives.
- Employees should receive training on the use and maintenance of the PPE, and should check efficacy of all respiratory protection equipment before use.
- Ensure that all employees wear appropriate PPE.
- Keep records of all PPE in use pursuant to applicable law.
- Provide employees who work with silica dust with overalls that prevent dust absorption.
Hygiene

Personnel hygiene is another important factor in health protection, and includes the following:

- Provide bathroom facilities in the plant with toilets, showers, wash basins and individual lockers for storing changes of clothing. Make two checkrooms available to all plant employees: one in which they change from home clothes into clean work clothes and store their home clothes during working hours; and another in which they change out of work clothes at the end of a working day before showering and changing back into home clothes.
- Employees should wear only designated work apparel at the worksite, including footwear and socks.
- Employees should leave their work clothes and shoes in the workplace and never remove them from the plant.
- Launder all employees' working clothes and provide them with clean clothes each day.
- Provide explanations on the importance of separating work clothes from clean clothes.
- Employees should wash their hands and faces, and change clothes before eating.
- Permit eating, drinking and smoking only in designated areas that are not exposed to hazardous dust.

Cleaning

- Clean the workplace, floors and all exposed surfaces on a daily basis.
- Check that the work area is clean at the end of each shift.
- Create a regular, recurring schedule for cleaning all equipment and systems.
- Employ both wet and vacuum cleaning methods.
- Provide ample vacuum connection points for a central vacuum cleaning system.
- Provide ample water connection points for wet cleaning techniques.
- Use vacuum cleaning systems for dry spillage only.
- Use only dry cleaning with brushes when wet cleaning or vacuum cleaning is not possible.
- Clean wet or dry spillage immediately; never wait for the end of day cleanup.
- Do not allow dust and debris to dry out before cleaning.
- Do not sweep with a dry broom, brush or compressed air.
- Do not clean work clothes, machines or floors with compressed air.

Administration, Regulation & Maintenance

- Maintain all equipment in good working order.
- Do not make changes to any working systems without supplier approval.
- Keep instructions and diagram of installed systems in a safe place for reference.
- Ensure that regular checks are performed on inlet airflows, duct air speed and filter pressure index on ventilation systems.
- Check all systems at least once a week or according to supplier instructions.
- Keep inspection reports for a period of time that complies with local laws.
Installing Caesarstone Quartz Surfaces

- In order to protect installers from working in an unprotected environment, all surfaces should be fabricated in the plant and not at the end user's location.
- If the surface needs any grinding or other dust-producing modifications at the installation site, use a wet method in an outdoors area such as a terrace or balcony. This should be performed with the appropriate P3 respiratory protection against silica dust (as detailed above), along with eye and ear protection.
- If an outdoors area is not available, dust produced during modifications should be collected with a manual vacuum with a HEPA filter and the heating/air-conditioning system should be sealed off.
- After completing an installation, thoroughly clean the work surface and remove all dust. Carry out a final check by using a dry cleaning method and clean any remaining dust and debris with a portable vacuum cleaner.
- It is important to clarify that grinding, cutting or polishing surfaces in the end user's home during installation or repair do not put the end user at any risk of disease. Silicosis and other lung diseases caused by respirable crystalline silica dust develop only as a result of long-term, regular exposure.

Training Employees on Safety & Hygiene Issues

One of the keys to creating a safe work environment is providing ongoing training to employees at all levels on safety issues that are specific to their workplace. Employees who are involved in and committed to the safety programme are most likely to comply with them.

Employee training may include the following:

- Create and implement clear guidelines for safe working procedures and good practices in your workplace.
- Provide health safety and hygiene training for all new employees.
- Continue delivering mandatory training sessions to existing employees on an ongoing basis in order to update and review their knowledge of your health and safety procedures.
- Regularly review your safety and hygiene procedures. Safety issues can differ over time, and it is important to ensure that your safety programme evolves as needs change.
- Inform your employees as to how your plant deals with harmful substances such as respirable crystalline silica.
- Provide clear data about the risks associated with Caesarstone fabrication tasks.
- Provide employees with current data on health effects associated with respirable crystalline silica dust.
- Provide training for the use of respiratory protective equipment or other Personal Protective Equipment.
- Keep comprehensive records of all training provided to employees.
- Record employees' attendance at training sessions.
- Encourage employee feedback in order to improve future training sessions.
- Assess employees' knowledge after each training session in order to verify that they understand your plant's safety procedures.
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Health Surveillance

Health surveillance should be implemented based on your local rules and regulations, which may include the following:

- Implement a health surveillance programme for employees who are exposed to respirable crystalline silica, including medical testing and other tests as required by local regulations.
- Keep records following the termination of each employee’s employment for the amount of time required by local regulation.
- If an employee is overexposed to respirable crystalline silica, he should be provided with details of his monitoring result.
- Persons under the age of 18 should not be employed in any role in which they are exposed to silica dust.
- Keep records of the protocol of all tasks that expose workers to respirable crystalline silica.

Other Information & Disclaimers

The information contained in this Guide is, according to the best of our knowledge, current and accurate. However, it is only a summary; it is not possible in this short document to comprehensively cover all the topics mentioned, nor is it possible to cover in detail all areas of concern regarding crystalline silica dust in the workplace.

Furthermore, any recommendations or suggestions made here are general and do not take into account the specific conditions that exist at each fabrication site. In addition, none of the content in this Guide may be construed as a recommendation for using any product or tool in violation of any laws, safety practices or other applicable terms.

We recommend that you also consult with occupational health professionals and other experts concerning all matters regarding control of respirable crystalline silica in each specific workplace.

We also note that the laws and regulations regarding silica dust differ from country to country, and we recommend that you check and observe your local regulations and legislation regarding working in environments containing harmful dust.

In any case where these guidelines contradict your local regulations, your local regulations shall take precedence.

None of the information contained in this Guide creates a contractual relationship between Caesarstone and any fabricator.

16.4 Questions & Answers

1. What are silica and quartz?

Silica is one of the most common compounds on earth. Silica is composed of two elements: silicon and oxygen (silicon dioxide, SiO₂).

Silica is found in nature in various forms, mainly as sand, and also as rocks and stones such as marble, granite, quartz and cristobalite. Silica is a component of many manufactured products in daily use, such as glass, pottery and quartz surfaces. Silica is very commonly used in construction and at various concentrations in bricks, blocks, tiles, slabs, cement and concrete. All human beings are extensively exposed to silica in their daily lives.

2. What are Caesarstone quartz surfaces?

Caesarstone quartz surfaces are an advanced solution for kitchen countertops, bathroom vanities flooring, wall cladding and other internal applications. They are manufactured from approximately 90% quartz and high-quality polymer resins and pigments.

Caesarstone quartz surfaces are in use today in millions of homes around the world, and in many environments that require the strictest standards of cleanliness and sterility, such as: Twinings Tea Development Laboratories, Assuta Hospital in Tel Aviv, the Starbucks Coffee chain in the USA and Canada, the McDonald's chain in Australia, and numerous restaurants around the world.

3. What is silicosis?

Silicosis is an occupational lung disease that may affect workers in the stone fabrication industry if they process marble, granite, quartz surfaces and other natural stones without safety measures. This disease has been recognized for more than a century.

Processing and polishing quartz and other substances containing silica (including other types of work such as cleaning by sandblasting) produce dust containing fine particles of silica. This is known as respirable crystalline silica. Inhalation of respirable crystalline silica over an extended period of time by workers in stone fabrication plants, without the safety measures required by law, may cause occupational lung disease, including silicosis, which is characterized by fibrosis of the lungs. Silicosis is a chronic and non-reversible disease, which may cause severe physical disabilities and may be fatal. The pathological process of silicosis may cause severe complications such as: lung cancer, tuberculosis and autoimmune diseases such as rheumatoid arthritis.

In the quartz surfaces industry, production workers are at risk of developing these diseases, as well as any other employee/worker who is present at the fabrication facilities (where there is silica dust that can originate from quartz or cristobalite, for example) on a regular basis, such as managers and administration staff.

4. Can silica dust hazards be prevented?

Yes. Exposure to silica dust and the diseases that may result from such exposure (including silicosis) can be reduced and controlled if the proper safety measures are implemented. These measures include working with water-injected tools, using dust masks or respirators and installing ventilation and filter systems in the workplace to reduce or eliminate the concentration of silica dust in the air.

For further information, see the Caesarstone Respirable Crystalline Silica – Health Hazards & Protection Guide and information on occupational safety and health administration, among other
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Always apply your local laws and regulations regarding working in environments containing harmful dust.

5. Who is responsible for ensuring the health and safety of stone fabrication workers?

The owners of stone fabrication plants and the employers are responsible for their own health and the health of their workers, in all matters related to work in these plants. Stone fabrication plants that operate according to the legally required safety regulations for working with harmful dust ensure the health and safety of their workers.

The employer is responsible for providing his workers with all the information, tools and safety measures required in order to protect them from the dangers of exposure to silica dust and for enforcing their implementation. The workers are responsible for fully implementing the safety instructions. By a joint effort of the employer and his workers, the workplace can become a healthy environment for everyone.

6. Can Caesarstone surfaces installed in the home be harmful to the consumer?

Absolutely not. Silica is non-toxic and Caesarstone quartz surfaces are completely safe for domestic use.

The health risk lies in the processing procedure, if performed not in accordance with legal requirements, and not in the surfaces themselves.

A small amount of silica dust is sometimes produced during installation or repair of Caesarstone quartz surfaces in the end user's home. This poses no health threat whatsoever to the end user as silicosis and other diseases caused by silica dust develop only as a result of ongoing occupational exposure to silica dust. Silicosis is purely an occupational disease.

7. Does Caesarstone meet industry standards for health and environment?

Caesarstone quartz surfaces maintain the most stringent industry standards for health and environment, as listed below, and presented on the Caesarstone web site.

- Caesarstone products are compliant with the National Sanitation Foundation International standard, ensuring that our working surfaces are safe for use in all food environments.
- Caesarstone quartz surfaces comply with ISO 14001, ISO 9001 and OHSAS 18001.
- Caesarstone is a registered member of the United States Green Building Council (USGBC).
- Caesarstone surfaces comply with the American GEI (GREENGUARD Environmental Institute) certification, which primarily verifies that Caesarstone’s products meet the most stringent air emission standards.
- Caesarstone's recycled range of quartz slabs incorporate 15-40% first quality reclaimed quartz from the fabrication process (postproduction recycled) and post-consumer recycled glass and mirrors.
- Caesarstone surfaces are kosher due to their low porosity.
## 17. Technical Data

### PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>TEST PERFORMED</th>
<th>TEST STANDARD</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Absorption</td>
<td>ASTM C97*</td>
<td>&lt;0.05%</td>
</tr>
<tr>
<td>Density</td>
<td>ASTM C97*</td>
<td>2.2-2.4 gr/cm³</td>
</tr>
<tr>
<td></td>
<td>EN 14617-1*</td>
<td>2.2-2.4 gr/cm³</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>ASTM C880</td>
<td>6,500-10,770 psi; 44.8-74.3 MPa</td>
</tr>
<tr>
<td></td>
<td>EN 14617-2*</td>
<td>40.0 -70.0 MPa</td>
</tr>
<tr>
<td>Dimensional Stability</td>
<td>EN 14617-12*</td>
<td>Class A</td>
</tr>
</tbody>
</table>
| Electrical Resistivity| EN 14617-13*        | Volume resistance ($R_v$) = $0.92 \times 10^{14}$ Ω  
Volume resistivity ($\rho_v$) = $4.88 \times 10^{12}$ Ωm |

### DURABILITY

<table>
<thead>
<tr>
<th>TEST PERFORMED</th>
<th>TEST STANDARD</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Resistance</td>
<td>ASTM D1709*</td>
<td>26.3 lbs (117N)</td>
</tr>
<tr>
<td></td>
<td>EN 14617-9*</td>
<td>4,000 - 10,000 [J]</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>ASTM C170*</td>
<td>21,312- 27,133 psi</td>
</tr>
<tr>
<td></td>
<td>EN 14617-15*</td>
<td>178.3-210.6 MPa</td>
</tr>
<tr>
<td>Abrasion</td>
<td>ASTM C501*</td>
<td>216-696</td>
</tr>
<tr>
<td></td>
<td>ASTM C1243</td>
<td>Volume of chord: $V=132-244$ mm³</td>
</tr>
<tr>
<td></td>
<td>EN 14617-4*</td>
<td>Groove length = 21.8 mm or $V=86$ mm³</td>
</tr>
<tr>
<td>Freeze-Thaw Resistance</td>
<td>ASTM C1026*</td>
<td>No defects after 15 freeze-thaw cycles</td>
</tr>
<tr>
<td></td>
<td>EN 14617-5*</td>
<td>No defects after 25 freeze-thaw cycles</td>
</tr>
<tr>
<td>Mohs Hardness</td>
<td></td>
<td>6.5-7</td>
</tr>
</tbody>
</table>

### STAIN AND CHEMICAL RESISTANCE AND CLEANABILITY

<table>
<thead>
<tr>
<th>TEST PERFORMED</th>
<th>TEST STANDARD</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stain Resistance**</td>
<td>ANSI Z 124.6</td>
<td>Pass</td>
</tr>
<tr>
<td>Wear and Cleanability</td>
<td>ANSI Z 124.6</td>
<td>Pass</td>
</tr>
<tr>
<td>Chemical Resistance</td>
<td>ANSI Z 124.6</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>EN 14617-10*</td>
<td>Class C₄</td>
</tr>
</tbody>
</table>

*Results represent a partial series range.

**Some models require scrubbing to remove certain stains.
<table>
<thead>
<tr>
<th>TEST PERFORMED</th>
<th>TEST STANDARD</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THERMAL PROPERTIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear Thermal Expansion</td>
<td>ASTM D696</td>
<td>-30 to +30°C: 1.3-1.9 x 10^{-5} cm/cm/°C</td>
</tr>
<tr>
<td></td>
<td>EN 14617-11*</td>
<td>-30 to +30°C: 2.1 x 10^{-5} (°C^{-1});</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-30 to +60°C: 2.7 x 10^{-5} (°C^{-1})</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>EN 12664/ISO 8301*</td>
<td>1.75 W/m. °K (mean T of 10°C)</td>
</tr>
<tr>
<td>Thermal Shock</td>
<td>EN 14617-6*</td>
<td>No visual defects after 10 cycles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss in mass = 0.02%-0.05%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss in flexural strength = 0.7%-1.1%</td>
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<tr>
<td>Boiling Water Resistance</td>
<td>NEMA LD3-3.5</td>
<td>Pass</td>
</tr>
<tr>
<td>High Temperature Resistance</td>
<td>NEMA LD3-3.6</td>
<td>Pass</td>
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<tr>
<td><strong>SAFETY</strong></td>
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<tr>
<td>Cigarette Test</td>
<td>ANSI Z 124.6</td>
<td>Pass</td>
</tr>
<tr>
<td>Surface Burning</td>
<td>ASTM E84*</td>
<td>Class 1 and Class A</td>
</tr>
<tr>
<td>Fire Classification</td>
<td>EN 13501-1*</td>
<td>Wall cladding: B-s1-d0</td>
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<td></td>
<td></td>
<td>Flooring and stairs: B-fl-s1</td>
</tr>
<tr>
<td>Static Coefficient of Friction</td>
<td>ASTM C1028*</td>
<td>As received – Dry: 0.8; Wet: 0.6</td>
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<tr>
<td></td>
<td></td>
<td>As renovated – Dry: 0.9; Wet: 0.6</td>
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<tr>
<td>Slip Resistance</td>
<td>DIN 51130*</td>
<td>Oil wet ramp: R9-10</td>
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<tr>
<td></td>
<td>DIN 51097*</td>
<td>Wet barefoot ramp: C</td>
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<tr>
<td></td>
<td>EN 14231*</td>
<td>Wet: 13-21 SRV; Dry: 43-53 SRV</td>
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<tr>
<td></td>
<td>AS/NZS 4586*</td>
<td>Four S rubber pendulum: 25-30 BPN</td>
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<td></td>
<td></td>
<td>Wet barefoot ramp: B</td>
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<tr>
<td></td>
<td></td>
<td>Oil wet ramp: R10</td>
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</tbody>
</table>

*Results represent a partial series range.

**Some models require scrubbing to remove certain stains.
17. Technical Data

<table>
<thead>
<tr>
<th>CERTIFICATE</th>
<th>CERTIFYING BODY</th>
<th>STANDARD/COMMENTS</th>
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<tbody>
<tr>
<td>Kosher</td>
<td>Zomet Institute, Israel</td>
<td>Kosher due to low porosity</td>
</tr>
<tr>
<td>Green Building</td>
<td>United States Green Building Council (USGBC)</td>
<td>Member</td>
</tr>
<tr>
<td>Low Emitting Products</td>
<td>GREENGUARD</td>
<td>Certified for “Indoor Air Quality” and “Children and Schools”</td>
</tr>
<tr>
<td>Pre-Consumer Recycled Content</td>
<td>Scientific Certification Systems</td>
<td>15-40% pre-consumer recycled content in selected colours</td>
</tr>
<tr>
<td>New York City Materials and Equipment Acceptance</td>
<td>New York City Department of Buildings</td>
<td>MEA 202-08-M</td>
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<tr>
<td>Food Equipment Materials</td>
<td>NSF</td>
<td>ANSI/NSF Standard 51</td>
</tr>
<tr>
<td>Quality Management System</td>
<td>IQNet</td>
<td>ISO 9001_2000</td>
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<td>Environmental Management System</td>
<td>IQNet</td>
<td>ISO 14001_2004</td>
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<tr>
<td>Health &amp; Safety System</td>
<td>IQNet</td>
<td>OHSAS 18001</td>
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</table>
18. Conditions of Sale

18.1 Extract from Our Delivery Dockets

*Please Note: Caesarstone Australia Pty Ltd will happily replace any Caesarstone Slab(s) that you feel are unsuitable for the job, provided that the slab(s) have not been cut or altered in any way.*

*We strongly recommend that your client be shown the full slab(s) prior to fabricating to ensure that it is acceptable to them.*

*If you proceed to cut and fabricate the slab(s) then you have accepted the slab(s) as is and Caesarstone Australia Pty Ltd will not be responsible for any future claims regarding pre existing faults, batch, colour variations, size, quartz colour, etc from either yourselves and/or your client.*

*All slabs must be fabricated according to our instructions, a copy of which is available on request. Goods returned after 7 days will incur a restocking fee of 15%. The customer acknowledges that the customer has inspected the goods, the subject of this sale and also that the goods are in good order and condition.*

*Note: Slab dimensions are nominal only. These are to be used for storage and transportation purposes only. Actual slab surface is approx, 50mm less per side, This is taken into account on the pricing of the slabs.*

*These conditions appear on all of our delivery Documents. They set out the terms under which we enter into the contract of sale.*

*Any slabs that have been cut or altered, will not be accepted for return. Any slabs that have had any marking or drawing done by the stonemason on the surface of the slabs will not be accepted. The slabs must be in the same condition that they were sold.*

*Any claims for scratches, or damage after the slabs have left our premises will not be accepted and a refund will not be available.*
DISTRIBUTOR WARRANTY TO THE SUPPLIER

1. Introduction and description of the Distributor Warranty to the Supplier ("Warranty")
   (i) The Distributor sells Caesarstone® slabs ("Slabs") to the Supplier.
   (ii) The Supplier fabricates Slabs into benchtops for sale by the Supplier to consumers.
   (iii) The Distributor has no involvement in the fabrication of benchtops by the Supplier, apart
        from the supply of Slabs to the Supplier.
   (iv) The Distributor provides a voluntary 10 year limited warranty to each consumer in respect
        of the quality of the relevant Slab supplied by the Distributor to the Supplier and used by
        the Supplier to fabricate the relevant benchtop for the consumer. That voluntary 10 year
        limited warranty is provided by the Distributor to a consumer, and is not provided by the
        Distributor to the Supplier.

2. Warranty
   (i) Each Slab sold by the Distributor to the Supplier will be of merchantable quality, apart
       from any defects drawn to the attention of the Supplier at or prior to delivery of the Slab to
       the Supplier.

3. Exclusions and Limitations
   (i) This Warranty does not extend to any defect in a Slab caused or contributed to by any act
       done or omitted to be done by the Supplier involving the transport, delivery, storage or
       fabrication of any Slab.
   (ii) The Supplier must notify the Distributor within 28 days after delivery of any Slab, by notice
       in writing to the Distributor at Unit 3 / 1 Secombe Place Moorebank NSW 2170, of any
       Slab which the Supplier claims is not of merchantable quality.

4. Statutory Rights
   (i) These terms and conditions do not affect any statutory right of the Distributor.
   (ii) The limitations on the Warranty set out in this document do not exclude or limit the
        application of the mandatory conditions and warranties implied by the Trade Practices Act
        1974 (Cth) (the Consumer Guarantees Act, 1993 (NZ)), or any other equivalent or
        corresponding legislation in the relevant jurisdiction where to do so would:
            (a) contravene the law of the relevant jurisdiction; or
            (b) cause any part of this Warranty to be void.
   (iii) The Distributor excludes consequential loss of any kind (including, without limitation, loss
        of profits) and (other than expressly provided for in these terms and conditions) all terms,
        conditions and warranties implied by custom, the general law or statute.
   (iv) The liability of the Distributor to the Supplier for a breach of any express or non-
        excludable implied term, condition or warranty is limited at the option of the Distributor to:
            (a) for services:
                (i) providing the services again; or
                (ii) paying the costs of having those services provided again;
            (b) for goods (including any Slab):
                (i) replacing the goods that breach the Warranty; or
                (ii) paying the cost of replacing the goods that breach the Warranty.
5. Privacy

(i) In order to provide this Warranty to the Supplier, the Distributor requires the information that the Distributor requests from the Supplier when the Supplier purchases a Slab. For that purpose, it may be necessary to give that information, including information which identifies the Supplier personally, to other companies.

(ii) The Distributor may also prepare aggregated user statistics or information summaries to describe the services of the Distributor and their popularity to business partners and prospective advertisers of the Distributor and for other lawful purposes. Such information may be disclosed by the Distributor to other companies appointed by the Distributor for this purpose. This information will not include information which identifies the Supplier personally.

(iii) The Distributor may also from time to time send information to the Supplier regarding the range of products of the Distributor. If the Supplier does not wish to receive this information, the Supplier should advise the Distributor, by notice in writing at Unit 3 / 1 Secombe Place Moorebank NSW 2170.
20. Warranty Exclusions

**Fabrication issues which are outside the control of Caesarstone and our 10 Year Limited Warranty.**

- Any cracks or chips appearing after installation.
- All cracks emanating from sink or cooktop cutouts.
- All cracks emanating from “L” shape cutouts.
- Any chips or cracking, as a direct result of cutting or polishing the slabs onsite, not following the recommended minimum edge profile details or the mitred edges where the join is not cut correctly.
- Any fault that is visible at the time of fabrication or installation and has not been cut around during fabrication.
- All visual imperfections on B-Grade slabs.
- Any issues arising from not batch matching the slabs in the installation.
- Any issues arising from not properly checking colour between slabs even if the batch numbers are the same.
- Changing the original surface finish of the slabs by repolishing, honing, sealing or otherwise altering the factory finish.
- Any creative use of the slabs, such as bending or curving. Although this is possible it is not a process that the distributor has control over and therefore the distributor cannot accept responsibility for it.
- When polishing the back of the slabs, the quality and appearance of the polished surface is not the responsibility of Caesarstone.
- Milling or reducing the thickness of the slab.
- Using mechanical fasteners directly into the slabs.
- Removing the Caesarstone® product information on the back of the slabs.
- Claims for scratches or damage to the surface after installation.
- Not adhering to the Australian Standards when using the slabs as a splashback.
- Any mechanical damage caused by hitting or knocking the slabs.
- Any chemical damage.
- Not allowing sufficient room for expansion.
- Any failure due to inadequate support or movement of the supporting structure.
- Any failure due to improper fabrication and or installation eg, quality of joins, edge profiles.
- Quartz pattern irregularity.
- Organic pigment spots.
- Off colour quartz inclusions.
- Quality and appearance of all joins.
• Cleaning issues.
• Sealing of the surface.
• Sink drainers or drainage grooves.

**Important Note**

It must be remembered that the Caesarstone benchtops are part of the finishes in the kitchen. They are dependent on the quality of the support structure that has been put in place to support them.

This support structure is out of the control of Caesarstone and the stonemason. It is very important that it is fit for purpose as any failure here will result in failure in the benchtops.

**Identification of Our Slabs**

Caesarstone will not accept any liability where we are unable to identify that the slabs are genuine Caesarstone.

In installations where solid tops are used on cabinets and all the branding, batch and slab ID information is inaccessible, we will require proof from the stonemason that the slabs are genuine Caesarstone.

We will require the following information to be provided: invoice number, batch number and slab ID.
Distributed by
Caesarstone Australia Pty Ltd
ACN 121 819 976

www.caesarstone.com.au

<table>
<thead>
<tr>
<th>New South Wales</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Head Office</strong></td>
<td></td>
</tr>
<tr>
<td>Unit 3 / 1 Secombe Place</td>
<td></td>
</tr>
<tr>
<td>Moorebank NSW 2170</td>
<td></td>
</tr>
<tr>
<td><strong>Warehouse</strong></td>
<td></td>
</tr>
<tr>
<td>P: 1300 119 119</td>
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<tr>
<td><strong>NSW Sales, Showroom and Warehouse</strong></td>
<td></td>
</tr>
<tr>
<td>Unit 3 / 1 Secombe Place</td>
<td></td>
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<tr>
<td>Moorebank NSW 2170</td>
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<tr>
<td>P: 1300 119 119</td>
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<td>F: 02 9648 4835</td>
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<td><strong>Showroom</strong></td>
<td></td>
</tr>
<tr>
<td>80 O’Riordan St</td>
<td></td>
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<tr>
<td>Alexandria NSW 2015</td>
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<td>P: 1300 119 119</td>
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<tr>
<td><strong>Victoria</strong></td>
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<tr>
<td><strong>Showroom &amp; Warehouse/Distribution Centre</strong></td>
<td></td>
</tr>
<tr>
<td>57 Corporate Drive, Heatherton VIC 3202</td>
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<tr>
<td>P: 1300 119 119</td>
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<tr>
<td>F: 03 9549 9099</td>
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<td><strong>Queensland</strong></td>
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<td><strong>Showroom &amp; Warehouse</strong></td>
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<tr>
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<tr>
<td>P: 1300 119 119</td>
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<td>14-18 Quantum Link, Wangara, WA 6065</td>
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<td><strong>Showroom</strong></td>
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<tr>
<td>Home Base EXPO</td>
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<td>P: 1300 119 119</td>
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<tr>
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<tr>
<td><strong>South Australia</strong></td>
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</tr>
<tr>
<td>C/O- Rapid Haulage 214 Victoria Road, Largs Bay SA 5016</td>
<td>P: 1300 119 119</td>
</tr>
<tr>
<td><strong>New Zealand</strong></td>
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<tr>
<td><a href="http://www.caesarstone.co.nz">www.caesarstone.co.nz</a></td>
<td>0800 303 606</td>
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