



MASTER MARBLE



Cutting Guide

November 2024



1. Pre-Fabrication

1.1 Planning

CHECK THE SUBSTRATE

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

SIZE, SHAPE AND LOCATION

Plan the size, shape and location of the surface pieces. See section 1.4 for considerations regarding placement of joins.

MINIMIZE WASTAGE

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

ALLOW FOR REMOVAL OF PERIMETER

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

1.2 Measuring

MEASURING METHODS

The three most common methods of measuring are: by template; by dimension; and by electronic devices as described in sections 1.2.1, 1.2.2 and 1.2.3.





1.2.1 Measuring by Template

- Mark on the cabinets the location of the seams to be fabricated in the surface.
- Construct a solid template or frame template for each piece of the surface as described below.
- Mark on the template the center point of items to be installed in the surface, such as sinks and cooktops/hobs.
- Verify the location and the space available for items to be installed in the surface, taking into account the relation between the items and the surrounding area, e.g., a cooktop/hob centered underneath a vent; a sink centered underneath a window.
- Mark on the template any required information for fabrication, e.g., edges requiring polishing, adjoining edges, etc.
- Take a few control measurements in order to confirm the angles, dimensions and arrangement of the cut pieces later in the workshop
- Transfer the template measurements to the slab by one of the following methods:
 - Lay the template on the slab and copy it onto the slab.
 - Scan the template in an industrial scanner. The scanner converts the template measurements into shapes and dimensions and sends them to the computer of the cutting machine.

Constructing a Solid Template

Master Marble recommends constructing solid templates out of polypropylene sheets cut to size, as follows:

- 💡 Place the polypropylene sheets on the cabinet.
- 💡 Position the edges of the sheet to correspond with the seam lines and the edge of the cabinet or the wall.



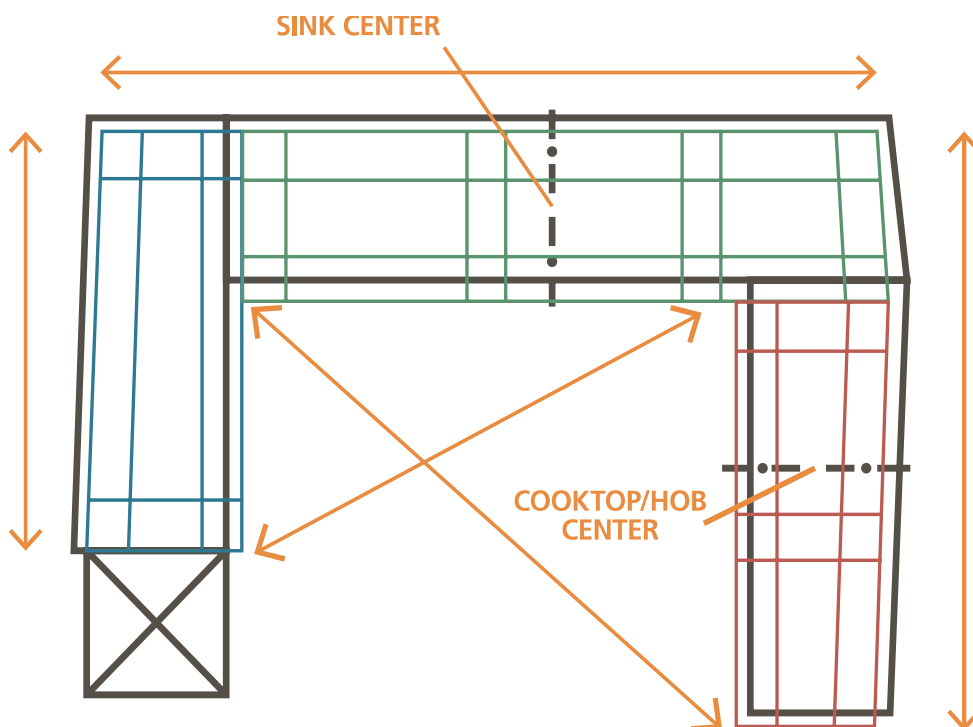
MASTER MARBLE

- Cut the template to the external shape and dimensions required, including overhangs and space allowed for circumferential gaps.
 - It may be necessary to join two or more sheets of polypropylene to create the correct size and shape for each part of the template.
 - Master Marble does not recommend the commonly used method of constructing templates out of cardboard as it is easily damaged and distorted.

Construct a frame template out of any light, stable, rigid material, using plastic strips approximately 70-100 mm (2 3/4-4") wide and 0-4 mm (1/16") thick.

Position length strips along the length of the surface piece, including overhangs and space allowed for circumferential gaps. Align the ends of the length strip with the seams marked on the cabinet.

Glue plastic width strips approximately every 300-400 mm (12-16") across the width of the template with rapid-drying adhesive. Align the two end width strips with the seams marked on the cabinet.

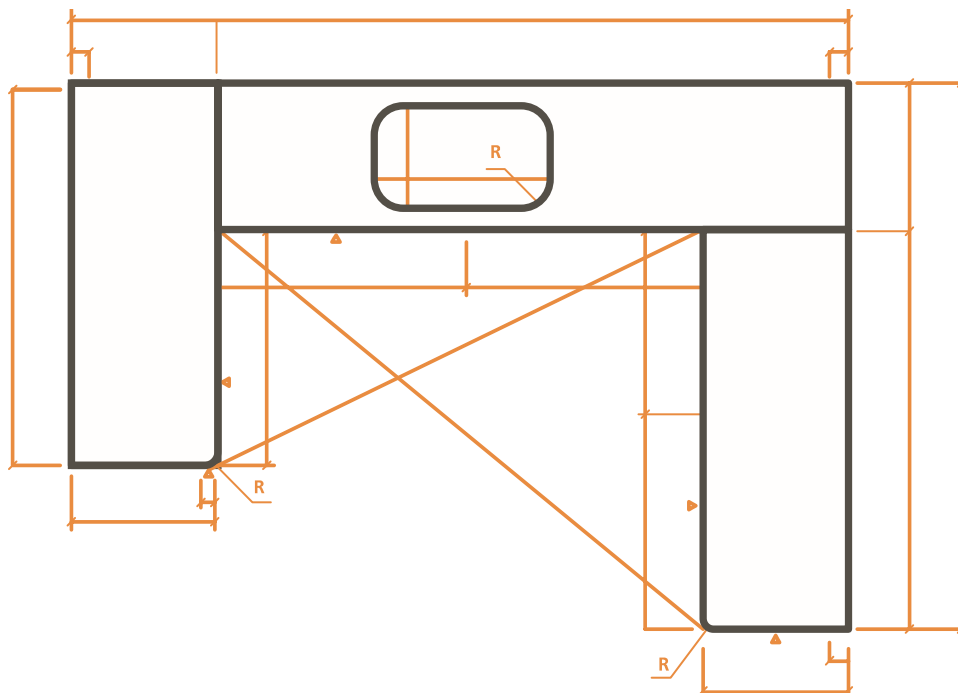


Example of template



1.2.2 Measuring by Dimension

- Create a clear diagram on which to record the measurements, preferably on a computer or professional drawing board with a ruler.
- Use the front line of the installation as the central line of the diagram from which to draw all other measurements. If the front line is not perfectly straight, create a straight line on the cabinet to use as the central line.
- Mark on the diagram the center point of items to be installed in the countertop, such as sinks and cooktops/hobs.
- Check that the sum of the dimensions that make up one side are equal to the length of the whole side.
- Do not assume that corners are exact 90° angles. Measure the sides or use an angle measure. A deviation of 1° in a 90° angle creates a deviation of 52 mm per 3 m (2" per 118")



Measuring can also be performed via laser, which is automatically converted by computer software into a work plan.



1.2.3 Measuring Using Electronics

Advanced electronic measurements that produce a form of CAD file can be made using a variety of technologies including e-templating, Proliner[®] and LT-2D3DTM Laser Templators.[°] These have major benefits to fabricators using CAD files for automated equipment like CNCs and Water Jet cutting.

Only those trained on the equipment should use it and care should be taken to check several dimensions manually to ensure the equipment is functioning correctly.

All critical points must be recorded to allow the equipment to create an accurate file and the trained operator must add details such as overhangs, radiuses, sink locations, etc. Finished edges must be indicated and defined.

These units will typically give accuracy to within 2 mm (1/16") but still require someone with knowledge of installation challenges to be present on site.



LT-2D3DTM Laser Templator

* Proliner is a trademark of PRODIM INTERNATIONAL. BV; and LT-2DiIDTM is a trademark of Laser Products Industries.



1.3 Slab Optimization

MINIMIZE WASTAGE

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

CHECK FLATNESS

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

VISUAL CONSISTENCY

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

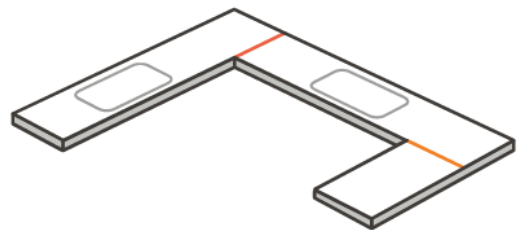
SLAB ORIENTATION CONSISTENCY

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

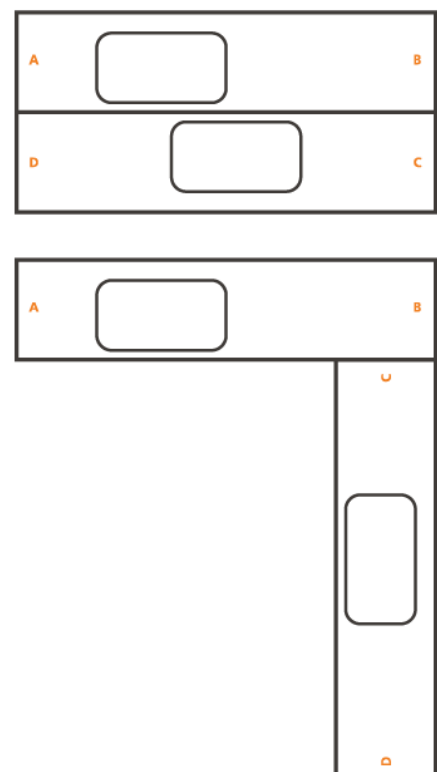
It is possible to create 7.2 m (283") of countertop from one slab.



Example of template arrangement before cutting the slab.



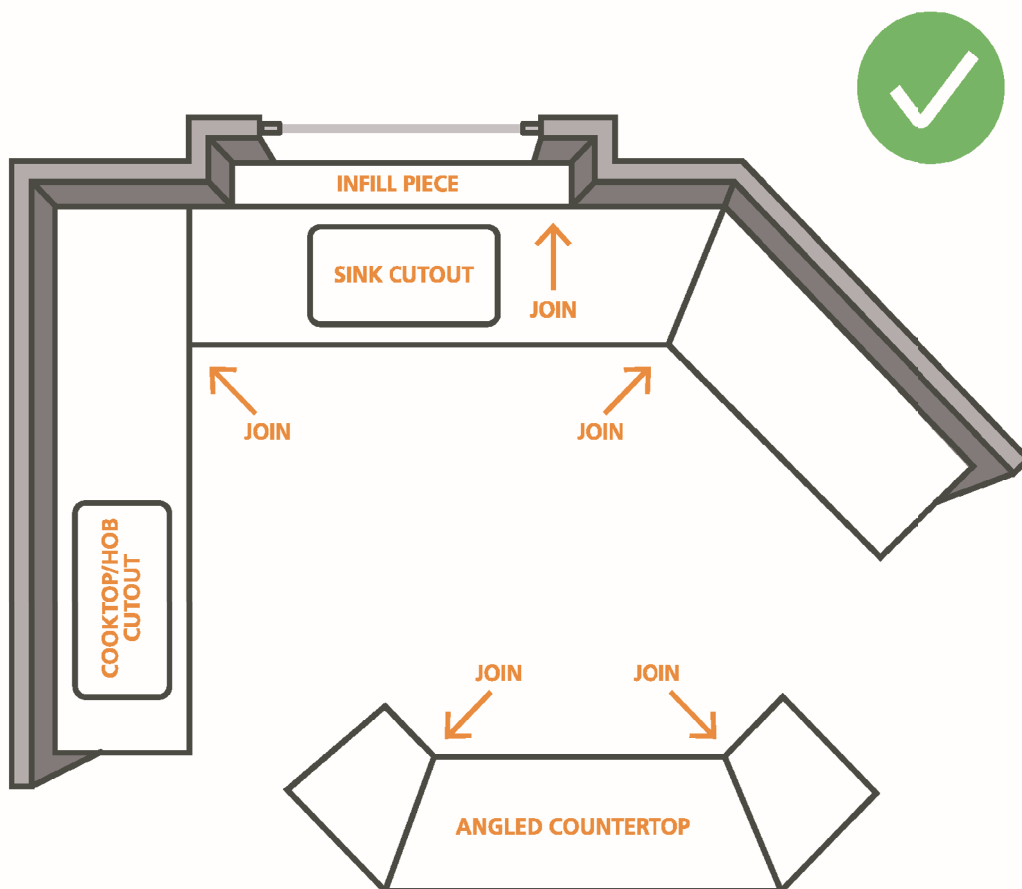
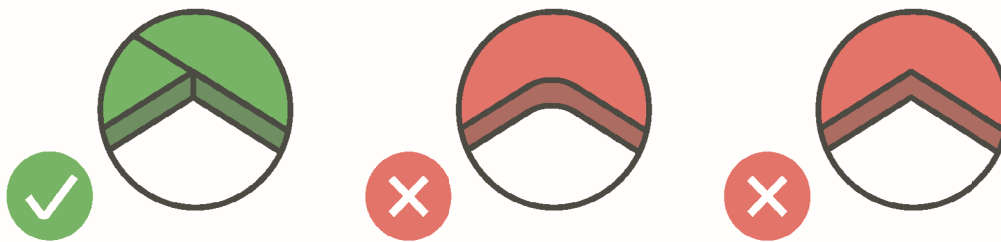
Example of plan of slab pieces





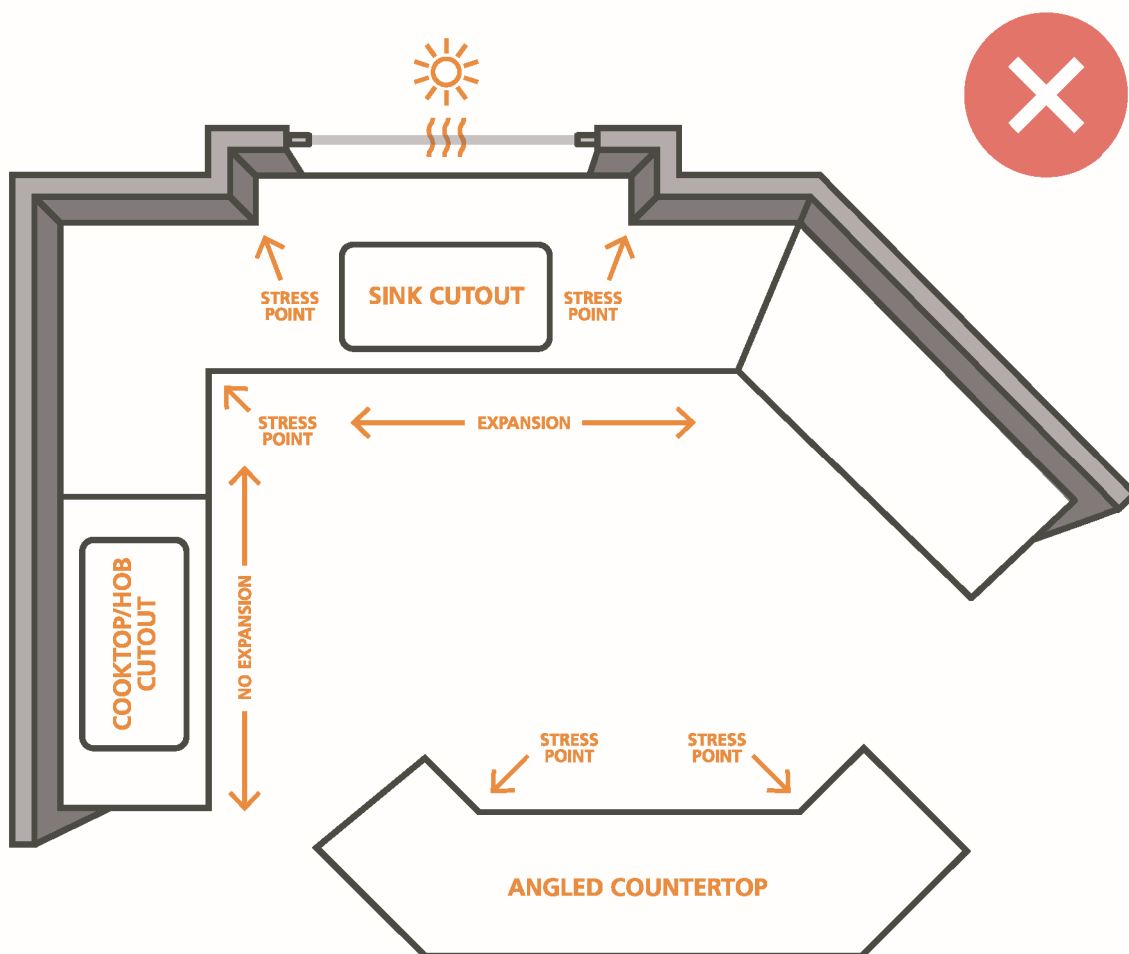
1.4 Positioning Joins

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



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

Cracking does not indicate a material fault; it is the result of externally induced, mechanical stress on the countertops. 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.





2. Fabrication

2.1 Cutting the Slab

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

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

REMOVE SLAB PERIMETER

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

- Before the slab is cut, check the color match of the pieces to be seamed.
- Use a silica stone to keep diamond cutting tools sharp.

2.2.1 Measuring by Template

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

We do not recommend polishing the back of slabs as the factory-polished side can easily be damaged during the process.



2.2.2 Cutting Straight Lines

AUTOMATED

Machine cut straight lines with a CNC.



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

2.2.3 Cutting Curved Lines

AUTOMATED

Machine cut curved lines by one of the following methods:

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

MANUAL

Cut curved lines manually by one of the following methods:

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





2.2.4 Cutting Holes

AUTOMATED

Machine cut holes by one of the following methods:

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

MANUAL

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

2.2 Seams

BONDING AREA FOR ADHESIVE

Cut an X-shaped pattern approximately 1 mm (1/32") deep in the edges to be seamed in order to enhance the bonding area for the adhesive.

SUPPORT STRIPS

Attach wooden support strips to the cabinetry under seams. The center of the seam should rest on the support strip.

SUPPORT IN AREAS OF HEAT

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



Do not polish seams on Master Marble.

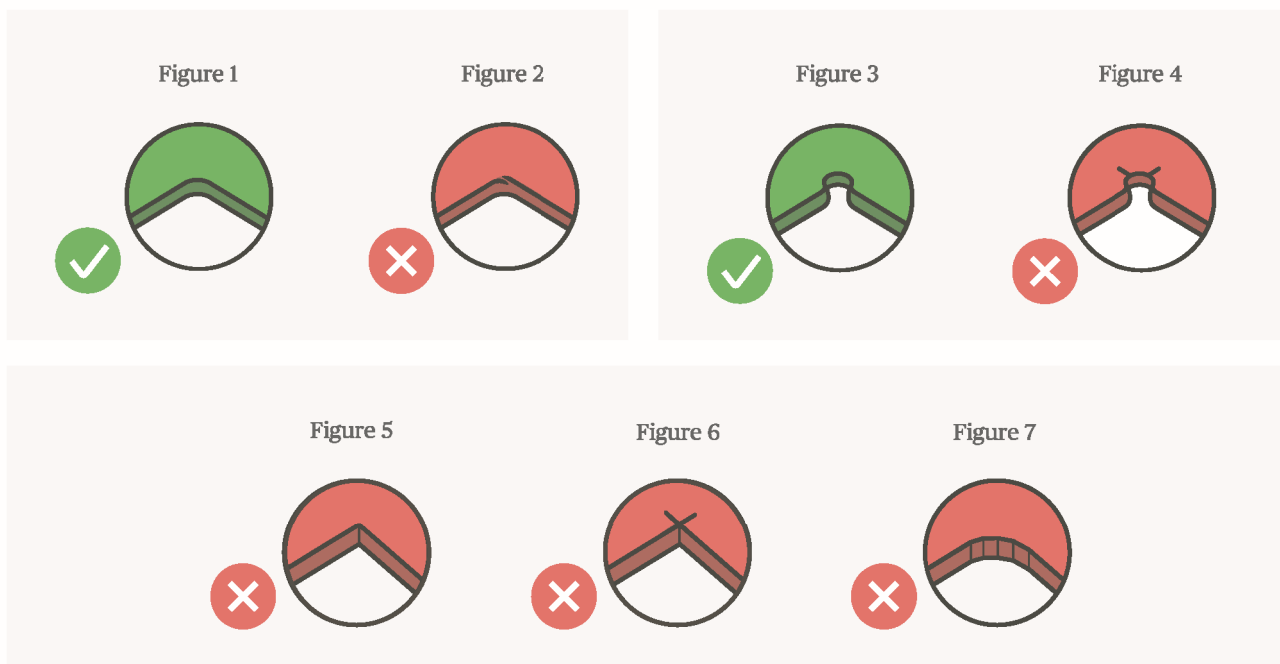


Use of acetone is forbidden on Master Marble surfaces. Alcohol is recommended for cleaning during installation.

2.3 CutOuts

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

- Fabricate cutouts according to the instructions of the fixture manufacturer.
- Fabricate a minimum radius of 10 mm (3/8") with a core bit/cup drill for all seen and unseen corners in cutouts; see figure 1. The larger the radius, the stronger the corner.
- In the event that fabricating a 10 mm (3/8") cutout corner radius would prevent the proper installation of an item that requires a 90° angle corner, drill beyond the corner with a core bit/cup drill; see figure 3.
- Take care not to cut beyond the rounded edge in cutouts as in figures 2 and 4. Damage to the area may lead to the formation of hairline cracks.
- Do not cut square corners or cross cut corners as in figures 5 and 6.
- Do not cut a large radius in sections as in figure 7.





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

The distance between a cutout and an edge or seam must be no less than 60 mm (2 3/8"). The greater the distance, the stronger the area.

If the distance between a cutout and an edge or seam is less than 150 mm (6"), the area must be supported by a support strip of Master Marble.

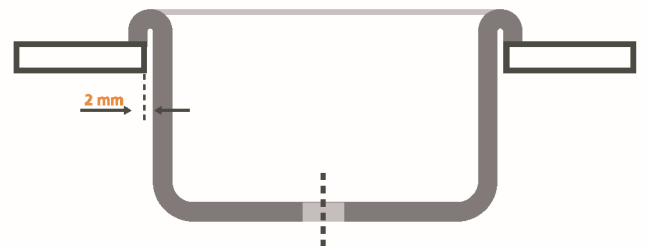
2.3.1 Fabricating Cutouts for Fixtures

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

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

OVERMOUNT INSTALLATION

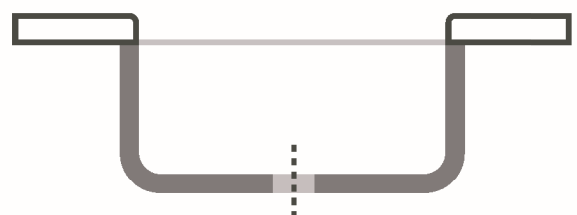
In overmount installation, the lip of the cooktop/hob or sink extends above the surface and rests on it. Smooth the edge of the cutout and leave it unpolished. Leave a space between the fixture wall and the surface.



FLUSH-TO-BOWL

UNDERMOUNT INSTALLATION

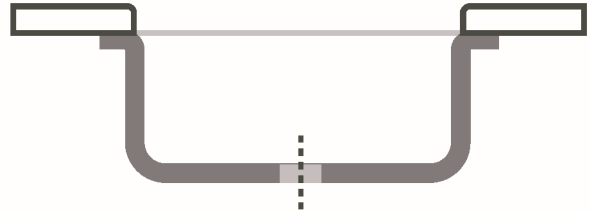
Some installations require a cutout that is flush to the inside wall of the sink. This typically reduces the exposure of the bonded edges but is difficult to produce exactly to match the sink.





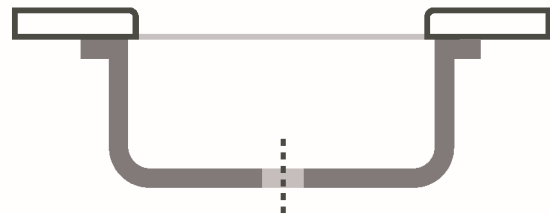
STEPPED BACK TO CURVE OR BEVEL OF BOWL INSTALLATION

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



OVERHANG INTO BOWL UNDERMOUNT INSTALLATION

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



2.4 Fabricating Edges

VISIBLE EDGES

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

TOP EDGES

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

MINIMUM EDGE PROFILE

All edges must have a minimum edge profile of 3 mm (1/8"). The larger the surface area of the edge, the more resistant it is to chipping.



EDGE DETAILS

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

CONFIRM WITH CUSTOMER

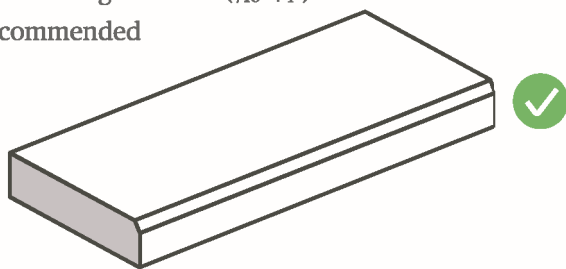
Before cutting, visually confirm the edge profile with the customer as edge terminology can vary between different companies and regions.

2.4.1 Single Thickness Edges

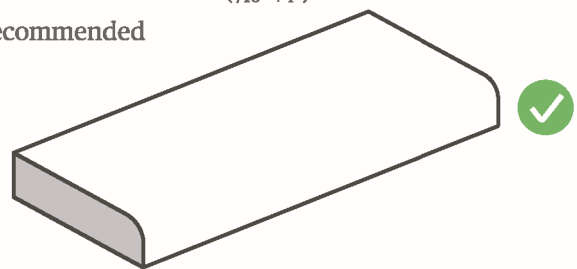
Single thickness edges are the original thickness of the slab.

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

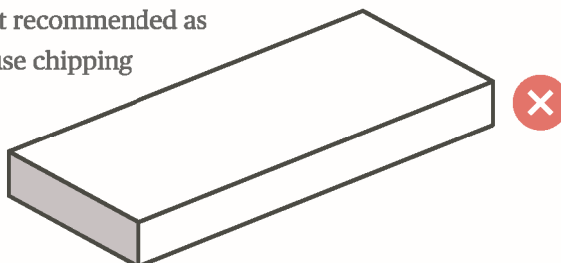
Beveled edge 4-6 mm ($\frac{1}{16}$ - $\frac{1}{4}$ ")
recommended



Pencil round 4-6 mm ($\frac{1}{16}$ - $\frac{1}{4}$ ")
recommended



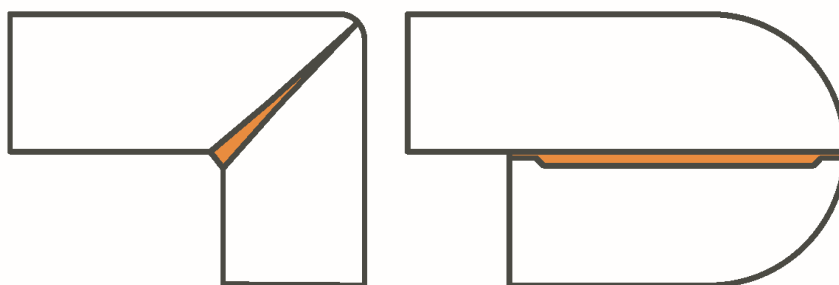
Square edge not recommended as
impact may cause chipping





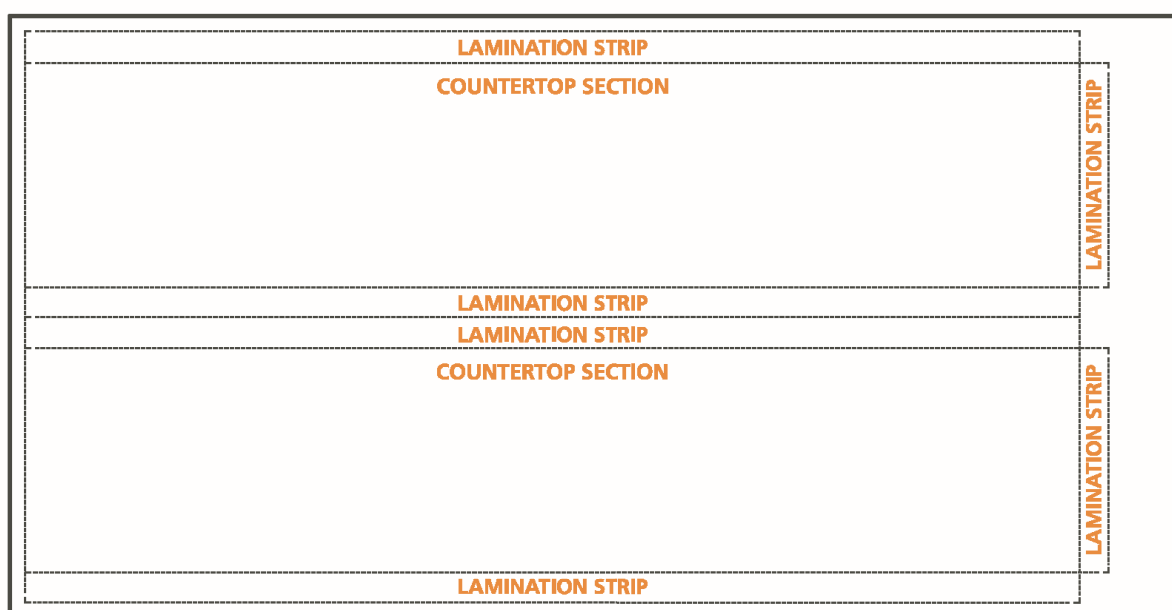
2.4.2 Laminated Edges

Lamination is the process of gluing one or more strips of Master Marble along the bottom edge of another piece of Master Marble 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.



COLOR MATCH LAMINATION STRIPS

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





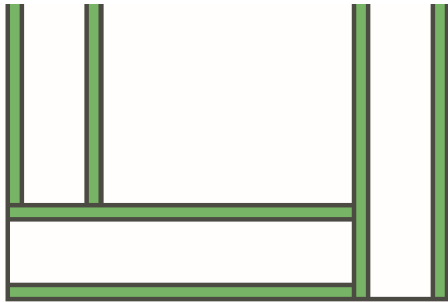
ALIGN JOINS WITH SEAMS

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

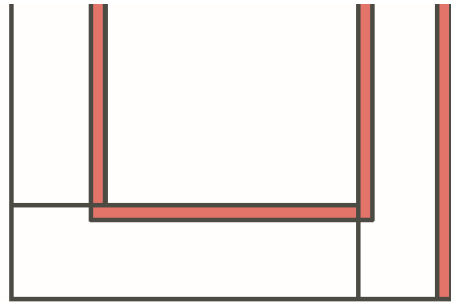
MITER CUT EDGES

The preferred method of laminating edges requiring longer edge skirts is the miter cut; see section 2.4.4.

POSITIONING LAMINATION STRIPS



Underside of countertops showing correct positioning of lamination strips.



Underside of countertops showing incorrect positioning of lamination strips.

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



2.4.3 Multilayered Edges

CHARACTERISTICS OF MULTILAYERED EDGES

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

FABRICATION OF MULTILAYERED EDGES

REDUCE

Before gluing the lamination strip to the underside of the surface, reduce the lamination strip from approximately 3 mm ("Xa") behind the edge to ensure flush closure of the visible joint and to leave space for the adhesive. Leave a few unreduced points on the strip to maintain the full height of the strip when attached to the surface.

CHECK FLUSH JOINT

Place the reduced lamination strip against the underside of the surface to check the closure of the joint. If it is not perfectly flush, smooth the points of contact until the edges are flush.

GLUE

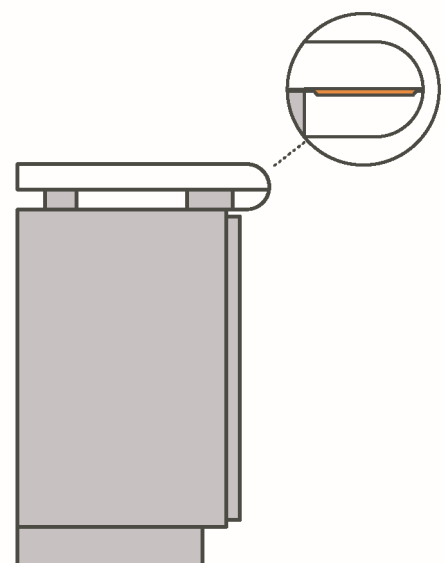
Glue the lamination strip to the surface.

CLAMP

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

POLISH

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





2.4.4 Miter Edges

CHARACTERISTICS OF MITER EDGES

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

FABRICATION OF MITER EDGES

CUT STRIP

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



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

STANDARD MITER JOIN

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



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

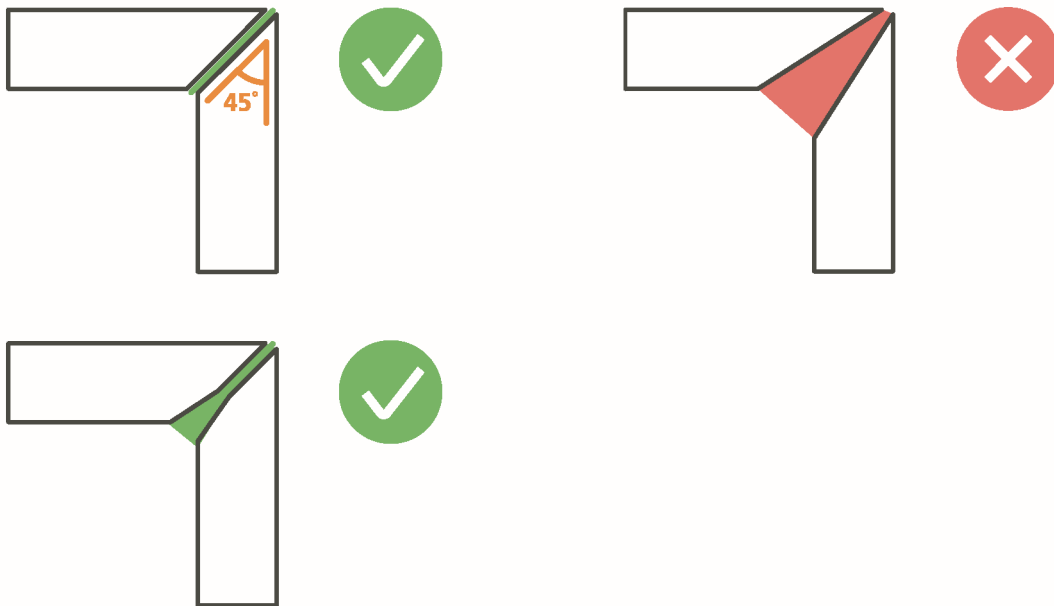
HIGH-STRENGTH MITER JOIN

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



DO NOT CREATE ANGLES LESS THAN 45°

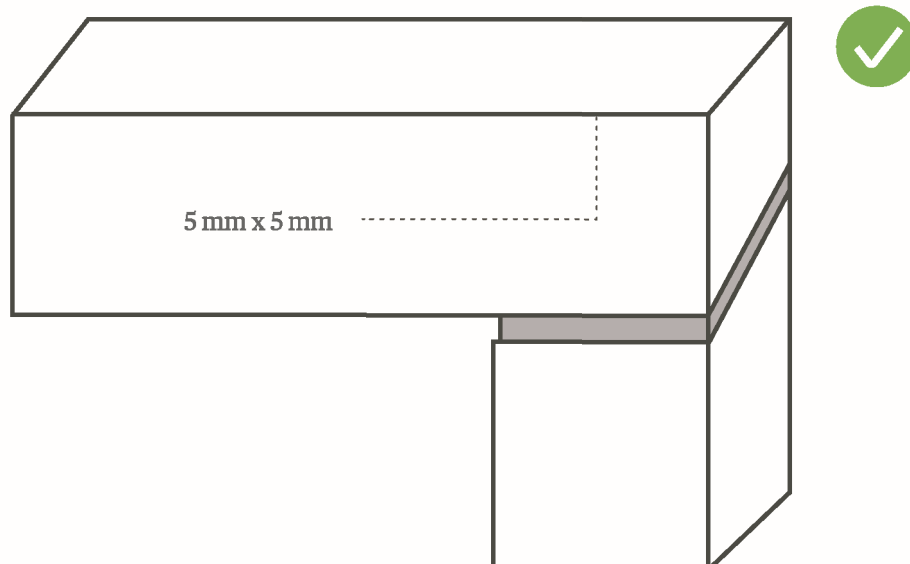
These joins produce a thin wedge at the tip of the miter, making it more susceptible to chipping or breaking. Also, the greater the edge radius, the more joint adhesive is visible.



It is recommended to use a miter clamp in order to create an accurate 90° angle, to tighten the joint and prevent the adhesive showing.

SHADOW LINE

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





2.5 Polishing Edges

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

GENERAL GUIDELINES



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

- Ensure that the area to be polished is clean of debris.
- Use water-cooled tools for polishing; dry polishing may overheat and damage the area.
- Use a polishing bob/drum for polishing rounded or curved inside corners and small cutouts with exposed edges.
- Each stage of polishing should remove the marks of the previous stage. When a uniform finish is achieved, progress to the next stage.
- Do not polish edge profiles in excess of the factory surface polish.



When a significant amount of material must be removed from the edge, a water-cooled diamond grinding wheel can be used before the coarsest pad.



It is recommended NOT to use polishing stones for manual polishing.

Methods

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

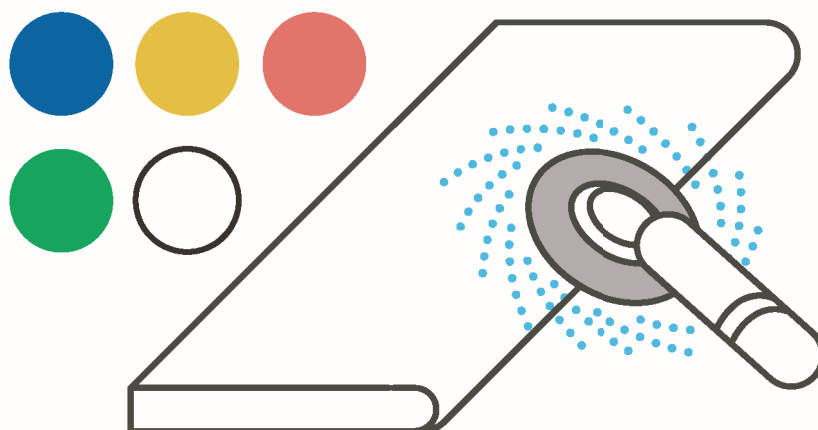
- Use suitable diamond polishing pads with water.
- Perform polishing by progressing through the various grit sizes from coarse (lower number) to fine (higher number).
- Polish edge profiles in a progressive manner according to the tables provided.



2.5.1 Miter Edges

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

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

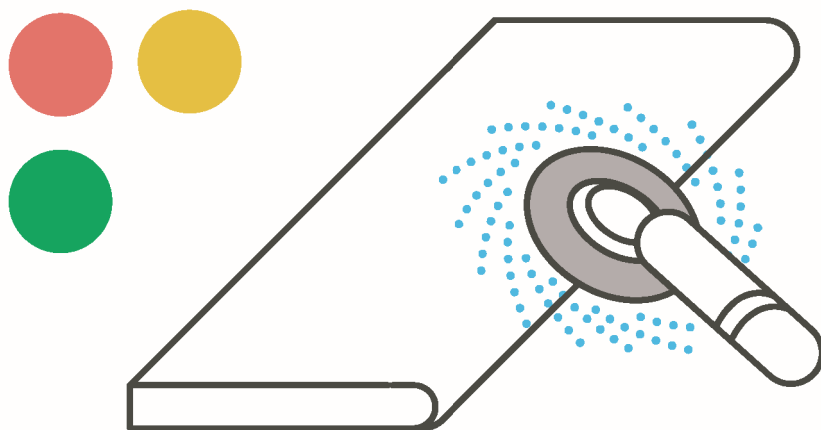




2.5.2 Concrete, Honed/Matt and Natural Finishes

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

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

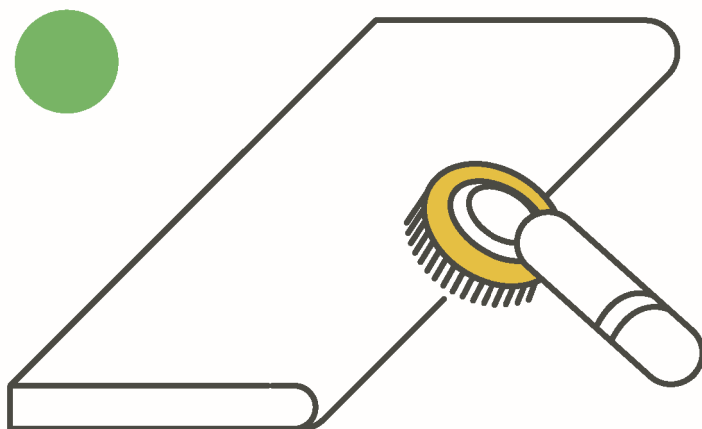




2.5.3 Rough Concrete Finishes

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

ACCESSORY	GRIT SIZE
Green diamond polishing pad	60
Diamond polishing pad	80
	120
	400
	800
	1200
	1800





2.6 Support Strips

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

WHOLE LENGTH FRONT AND BACK

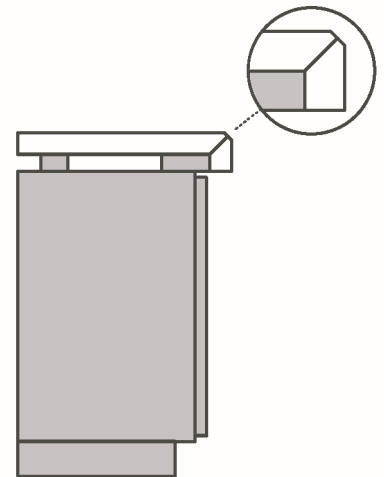
Glue the support strips along the whole length of the front and back of the cabinet.

HEIGHT AND WIDTH

The strips should be a minimum of 70 mm (2 1/4") wide, and the same height as the part of the lamination strip that protrudes underneath the slab.

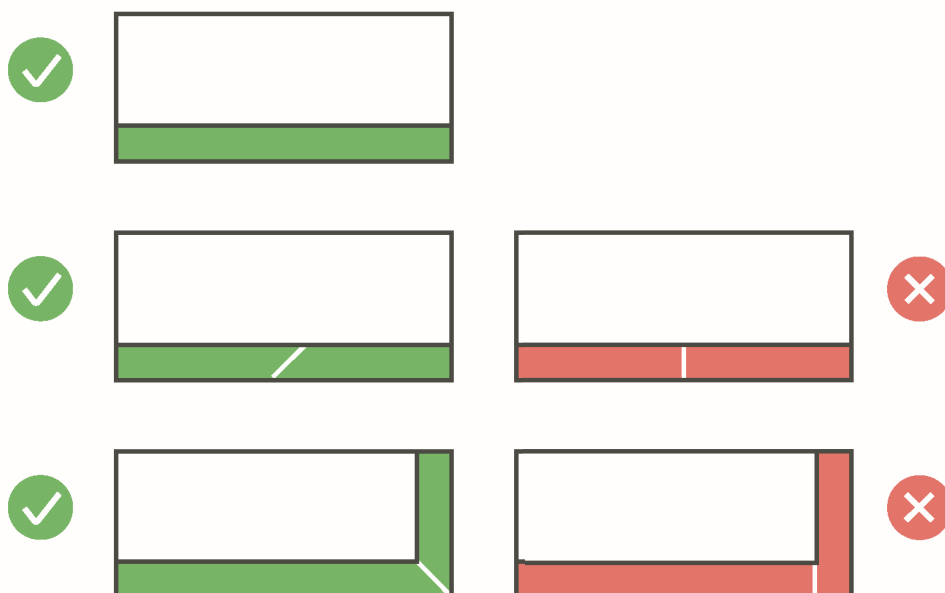
ALIGN JOINS

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



45° JOINS

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





3. Installation

3.1 Preparing the Base Units/Cabinets

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

DO NOT FIX TO WALL

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

CABINET REQUIREMENTS

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





SUPPORT

- Ideally, Master Marble surfaces should be supported on a subdeck. It is also acceptable for them to be supported on a strong perimeter frame provided that all necessary supports are installed.
- For areas larger than 600 x 900 mm (24" X 36"):
 - for 13 mm and 20 mm surfaces, use a 15 mm (1/2") plywood subdeck
 - for 30 mm surfaces use a 50 mm x 25 mm (2" X 1") wooden batten/center spine of clear pine or stronger - a full subdeck is not required.
- Provide front-to-back support underneath the surface every 500-600 mm (20-24").
- Provide additional support for any cabinets wider than 600 mm (24").
- For any area with less than four sides, e.g., opening for a dishwasher or undercounter refrigerator, provide support every 200 mm (8") for 20 mm slabs and every 400 mm (16") for 30 mm slabs.
- In cabinets where there will be cutouts or ovens, install vinyl-wrapped, solid timber, vertical rails for additional support. This is especially important when the cooktop/hob cutout is above the oven.
- For cutouts longer than 600 mm (24"), provide side-to-side support beams under the surface.
- Verify that the countertop is sufficiently supported in areas of seams, cutouts and over spaces for appliances such as dishwashers, ovens, washing machines, etc.
- Examples of support are: wooden beams inside cabinets; upright countertop to floor panel.



Provide support under all countertop seams.

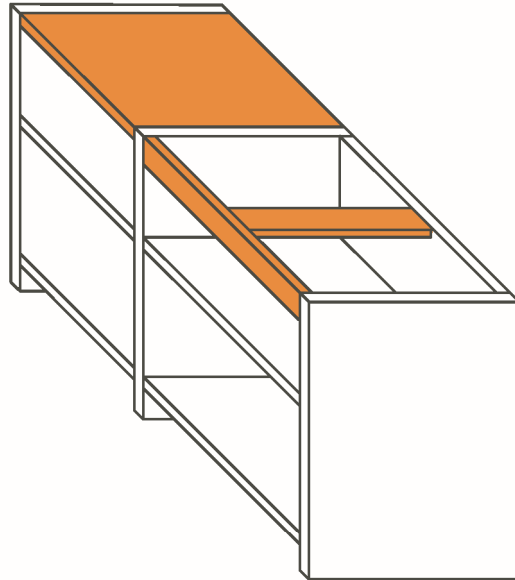


Attach a solid top on top of undercounter appliances that generate heat. This will provide both support and insulation for the countertops. This is not necessary in the case of fully integrated appliances with integral heat insulation where it would prevent proper alignment with the cabinet doors.



DRAWER CABINETS

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



3.2 Countertops

3.2.1 Preparation for Installation

CHECK PIECES IN FINAL POSITION

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

CHECK EDGES AND CORNERS

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

CHECK LEVEL

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

ALLOW FOR EXPANSION AND CONTRACTION

Leave a space of 1 mm ($\frac{1}{32}$ ") per linear meter between straight stretches of the surface and each wall for expansion and contraction, but not less than 3 mm ($\frac{1}{8}$ ") in any event.



VISUAL INSPECTION

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

3.2.2 Seaming

- Part the fabricated pieces of surface slightly at the seam.
- Place a layer of paper, plastic film or plastic tape on the cabinet underneath the seam in order to prevent the adhesive from sticking the surface to the cabinet.
- Prepare a suitable color-matched resin adhesive.
 - 💡 If necessary, mix the adhesive with pigments using a stainless steel or plastic spatula until achieving the required shade or use a precolored methyl methacrylate type adhesive with a dispensing gun.
 - 💡 Purge about 50 mm (2") of adhesive from the mixing nozzle to ensure proper mixing when using the precolored methyl methacrylate type adhesive.
- Ensure that the seam is clean of debris. Clean the edges to be joined with alcohol.
- It is recommended to apply tape to the edges of the surface to be seamed in order to prevent staining by adhesives.
- Spread a generous amount of the adhesive on both sides of the seam.
- Ensure that the X-shaped pattern in the middle of the seam is filled with adhesive.
- Close, secure and straighten the seam with clamps or a professional seaming clamp to create a smooth, flush surface.
- After the adhesive is completely dry, remove the clamps.
- Remove any excess adhesive with a scraper or razor blade held at an angle to avoid chipping the adhesive. Perform final cleaning with alcohol on a clean white cloth.



Do not polish seams on Master Marble surfaces!

3.2.3 Sealing Between the Surface and the Wall

TENSION LEGS EVENLY

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

CLEAN SPACE

Clean the space between the surface and the wall.

FILL SPACE

Fill the space generously with a flexible adhesive such as 100% silicone.

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

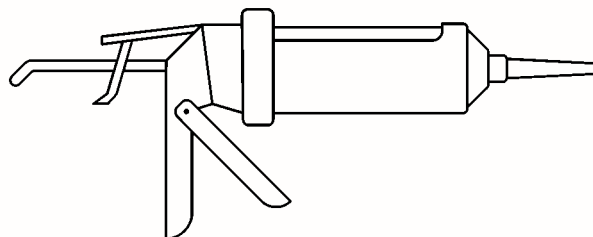
3.2.4 Attaching Master Marble to Cabinets

CARCASS/SOLID TOP

Attach the Master Marble to the carcass/solid top with dabs of 100% silicone approximately 300 mm apart.

STAND-ALONE PIECES

Stand-alone pieces smaller than approximately 1 m² (10 sq ft) should be fixed with a suitable flexible adhesive.





3.3 Sinks

FOLLOW MANUFACTURER'S INSTRUCTIONS

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

USE 100% SILICONE

Seal the sink to the surface with 100% silicone.

PROVIDE FULL SUPPORT

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

DO NOT USE SINK CLIPS

Do not attach sink clips or any mechanical fasteners directly to the Master Marble surface.



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

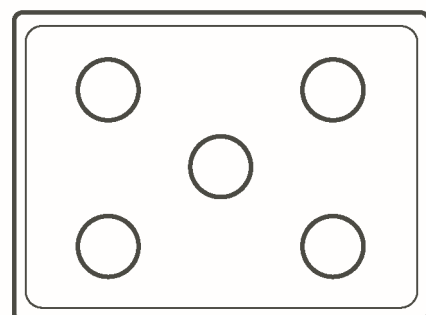
3.4 Cooktops/Hobs

FOLLOW MANUFACTURER'S INSTRUCTIONS

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

AVOID COOKTOPS/HOBS ABOVE DRAWER UNITS

Try to avoid installing cooktops/hobs above drawer units as it restricts the use of vertical rails and weakens the support structure under the countertop. If it is unavoidable, drill 5 holes of 80 mm (3 1/8") diameter in the base of the cabinet underneath the cooktops/hobs to allow for ventilation and cooling. If there are shelves, ensure that space is left at the back for ventilation.

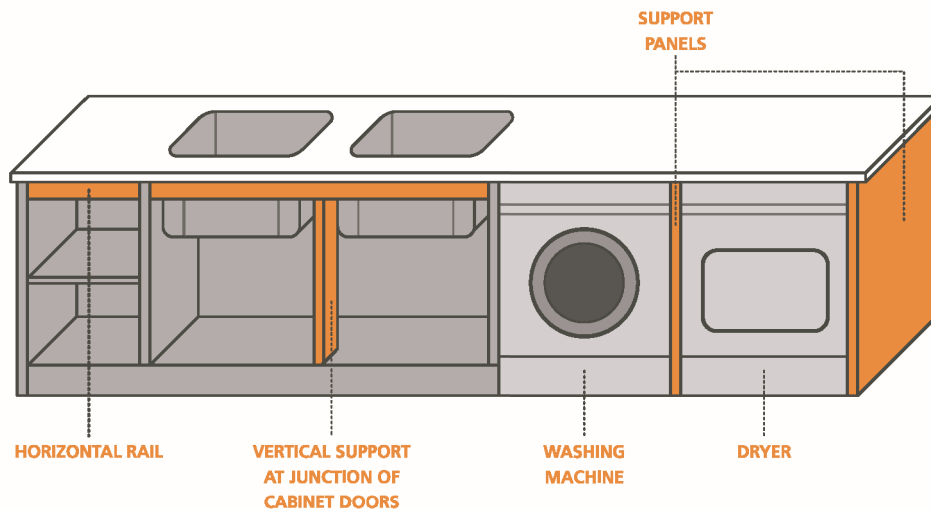




INSTALL RAISED COOKTOPS/HOBS OVER CUTOUTS

Raised cooktops/hobs should ideally be installed over cutouts for ventilation and dissipation of heat. If a cutout is not created, drill 5 holes of 80 mm ($\frac{1}{2}$ ") each in the surface underneath the cooktops/hobs and in any cabinet tops if present.

3.5 Utility Rooms



UTILITY SINKS

Utility sinks require additional reinforcement and support. The dual 45-litre (12 gallon) sink above, which requires a wide cabinet to accommodate it, has a total capacity of 90 litres (24 gallons) so it could potentially hold 90 kg (200 lb) of water. This is equivalent to a person standing on the top in an area with a large cutout.

WASHING MACHINE AND DRYER

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



These principles apply also to wine refrigerators.



3.6 Accessories

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

3.6.1 Attaching Accessories Mechanically

- Drill a hole of the required size and shape through the material.
- When the back of the slab is accessible (e.g., sink surrounds, countertops 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.

- When the back of the slab is inaccessible attach the accessory to the substrate behind the material with anti-corrosive screws or bolts of the appropriate size and strength, with the screws or bolts slip-fitted through the material.
- For both types of mechanical attachment: For holes of up to approximately 40 mm (1 1/2"), leave a minimum of 50 mm (2") between the edge of the hole and the edge of the surface/cutout to maintain the strength of the surface. For larger holes, the minimum remaining surrounding surface must be proportionately larger.



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



3.6.2 Attaching Accessories with Adhesive

- Most accessories are supplied with an integral self-adhesive pad, which can be attached directly to the surface.
- If the accessory is not supplied with a self-adhesive pad, attach the accessory to the surface with an appropriate adhesive, e.g., 100% silicone.

3.7 Overhangs

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

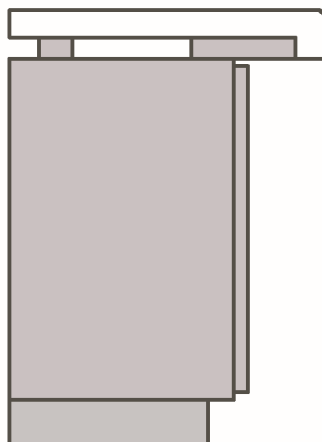
REINFORCEMENT

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

PERMITTED OVERHANG CONSIDERATIONS

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





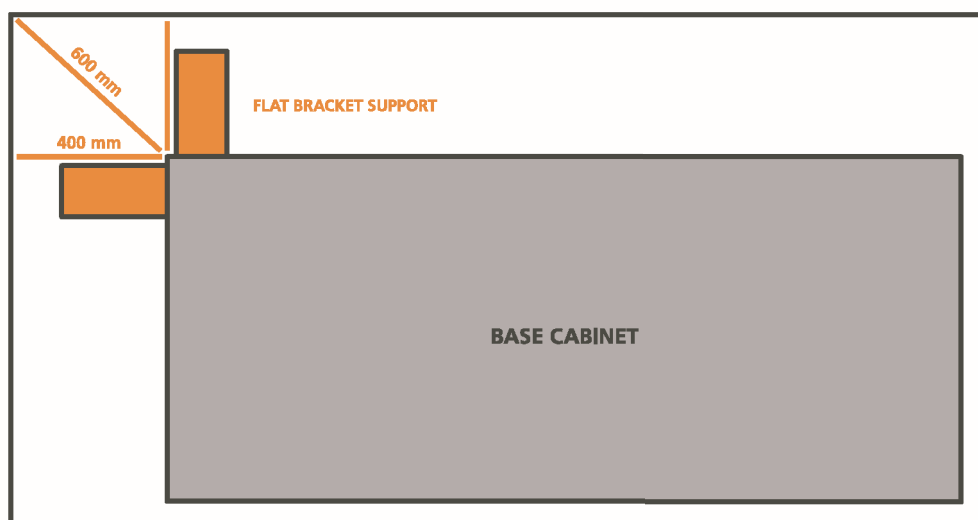
20 MM THICKNESS SLABS	30 MM THICKNESS SLABS	SUPPORT REQUIRED
<300 mm (12")	<400 mm (16")	No additional support required
300-500 mm (12-20")	400-600 mm (16-24")	Support brackets at 600 mm (24") intervals
>500 mm (20")	>600 mm (24")	Legs, columns or panels at 600 mm (24") intervals



Overhanging surfaces of 13 mm require more support than 20 or 30 mm. Reinforce 13 mm overhangs with strips of Master Marble or a metal frame.

OVERHANG SUPPORT GUIDELINES

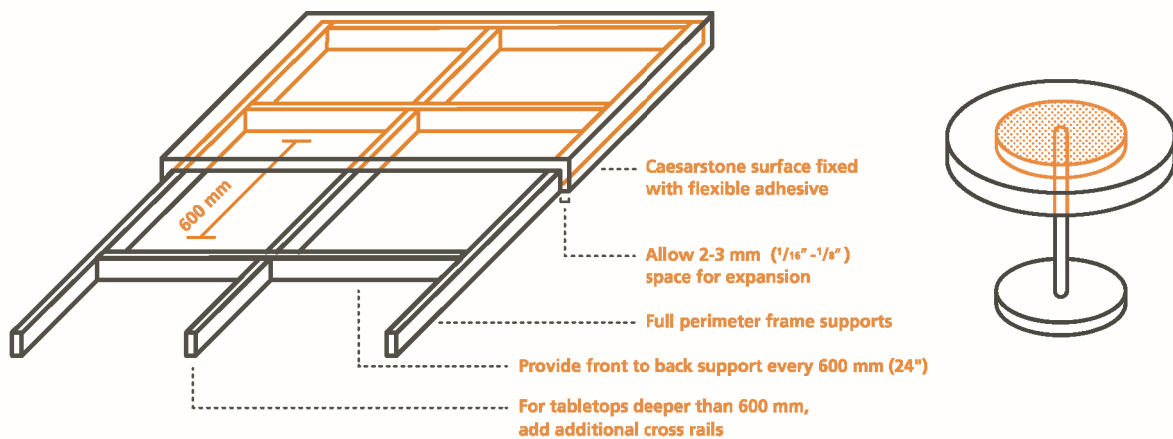
If the outside corner of a two-direction overhang extends beyond the recommended unsupported overhang limit, provide support by flat brackets as indicated in the diagram below in addition to the recommended support.





3.8 Tabletops

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



3.7 Overhangs

POST-INSTALLATION CLEANING

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

PROTECT SURFACE FROM OTHER WORK

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



MASTER MARBLE

WARN OF POTENTIAL DAMAGE BY OTHER TRADESMEN

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 exercise due care.

OBTAIN CUSTOMER SATISFACTION IN WRITING

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

PROVIDE WARRANTY AND CARE & MAINTENANCE INSTRUCTIONS

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



MASTER MARBLE

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