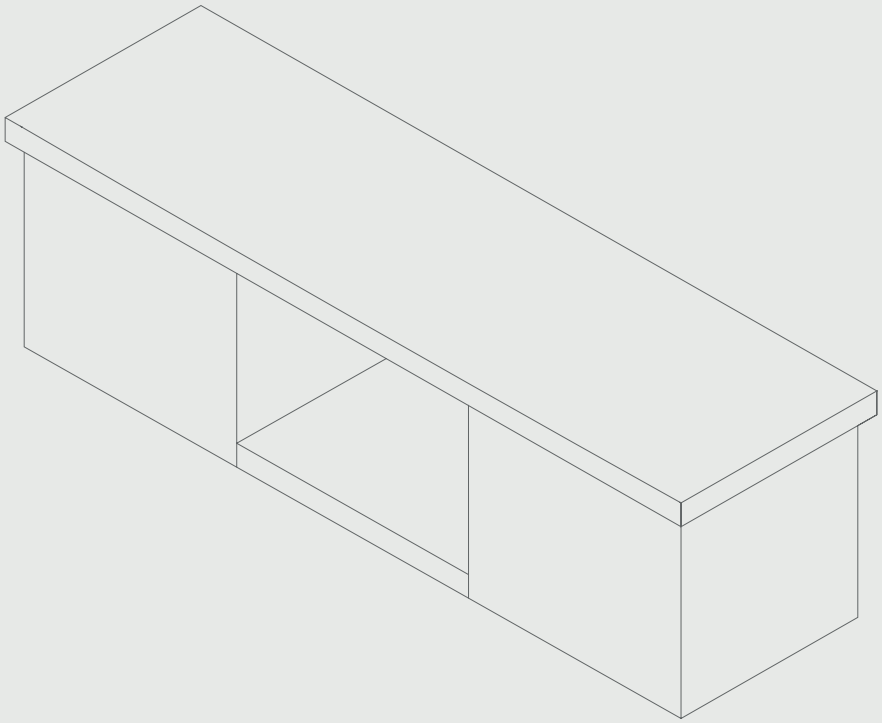
AETERNA



TECHNICAL MANUAL: INSTALLATION

Sintered Slab Collection

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VERSION: MARCH 2026

GENERAL INSTALLATION RECOMMENDATIONS

FOR OPTIMUM RESULTS WHEN USING 6 MM & 12 MM THICK AETERNA™ SINTERED SLABS, ENSURE ALL NECESSARY INSTALLATION CONDITIONS ARE IN LINE WITH NATIONAL APPLICABLE STANDARDS AND THAT LOCAL BUILDING CODES ARE MET AND PROCEDURES FOLLOWED.

- Use professionals with demonstrated experience in laying large-format slabs.
- Ensure installation is in accordance with all local building codes.
- Ensure the installer is familiar with and following all Installation Specifications outlined in ANSI A108 and all applicable / referenced sections therein.
- Follow the manufacturer's recommendations for all products used when installing slabs.
- Read the information in the technical guides before using any Aeterna™ Sintered Slabs.
- Always use the recommended tools – DRY CUTTING IS NOT RECOMMENDED.
- Make sure that the work area is safe, clean, ventilated and well lit in order to properly complete the installation and inspection required when installing large slabs.

INSTALLATION

When you receive your product, check that:
- It's actually what you ordered
- The packaging wasn't damaged during transport or handling operations
- The integrity and appearance of each slab were not damaged during handling operations

This inspection must be carried out on every slab (which must be cleaned beforehand) in a place that allows for a thorough visual inspection. Any damage or inconsistency must be reported before installing or fabricating the slabs. Essential information (name, colour, type, format, thickness, etc.) can be found on the side of the slab.

1. SUBSTRATE PREPARATION

A full adhesive bed is crucial. This means that the adhesive layer between the back of the slab and the substrate must be compact and free of voids. Ensure the substrate is completely flat, stable and non-deformable, with no risk of cracks or shrinking as the mortar cures.

The substrate should have the following characteristics:
- Maximum allowable substrate variation can be no more the 1/8" over 10" and 1/16" over 24". When thin bed epoxy mortars are used, the variation can be no more than 1/16" over 36" with no abrupt irregularities greater than 1/32". This applies to both floor and wall installations. Any unevenness should be levelled using precision self-levelling materials.
- Ensure the area is free of debris, stones and other contaminants.
- No moisture is present in the substrate – the area cannot be damp at time of install. If it has a residual moisture of over 3%, the substrate should be waterproofed.
- No efflorescence (crystalline deposit of salts).
- No dust, grease or any other substance that might affect the bonding material's performance.
- It is important to make sure that the substrate is properly prepared and cured before beginning to install Aeterna™ Sintered Slabs.

In the event of substrates of over 40 mm (15/8"), in order to reduce stress from structural movements, an unbonded screed should be made on a polythene membrane, inserting a joint around the whole perimeter of the floor. In other cases, a bonded mortar screed should be made.

2. DRY LAYOUT AND STARTING POINT

Complete a dry layout of the slabs on or adjacent to the installation surface to ensure proper blending and graphic alignment. Bookmatch or Continuous Bookmatch design slabs must be trimmed from an edge such as that it does not interfere with pattern alignment. Careful planning is required prior to cutting and installation. Review the plan for the installation and setting of the slabs, and all the necessary installation steps in advance to avoid delays and issues during the setting of the slabs.

3. ADHESIVE OR BONDING MATERIAL

The following guidelines can help you choose the right product:
- Traditional substrates (cement screeds): class C2 highly deformable adhesive (class S1 or S2)
- Installation in cold, humid settings or during the winter: class F quick-setting adhesive
- Installation in hot, dry, well-ventilated settings or during the summer: class E extended open time adhesive. When a layer of film forms on the adhesive, it loses its adhesion and can no longer be used. In general, extended open time adhesives are always recommended for large-format slabs.
- Installation on low-porosity substrates (e.g. existing porcelain stoneware flooring) or highly humid substrates: class F quick setting adhesive to promote curing. Waterproof membranes can facilitate curing as they ensure appropriate micro-ventilation.
- Installation on gypsum or plasterboard substrates and anhydride or calcium sulphate screeds: a coat of primer is required before installation.
- Outdoor wall installation: class S2 highly deformable adhesive that can absorb the coverings' movement.

Use a high-performance Cementitious Bond coat in accordance with ANSI A118.4 or better or an ISO C2E S2 type or better. For installations that may be exposed to mild chemical attack, specify epoxy bonding material ANSI A118.3 or ISO R1 or better, and an epoxy grout ANSI A118.3 or ISO RG. Prepare and mix according to manufacturer's instructions.

4. ADHESIVE FLOATING AND BUTTERING METHOD

A full adhesive bed can be achieved by:
- Back-buttering the slabs
- Tapping down the slabs first manually and then with a mechanical tool
- Spreading the adhesive using appropriate tools

With large format slabs, ensure the entire underside of the slab is in contact with the substrate and thinset, including fully to edges of all corners, so as to prevent any voids. For this purpose, the floating and buttering method must be used.

Apply an even coat of thinset to the substrate, and also to the complete underside of the slab. The type of trowel to use will depend on the final cut size of each slab and the evenness of the substrate.

The following guidelines should be taken into account when applying the setting material:
- The coat of thinset should not be thicker than 10 mm (3/8").
- The thinset should be applied horizontally to walls. On floors, it should be applied parallel to the longest side of the slab.
- Make sure that the furrows / ridges in the thinset are uniformly distributed.
- On floors, use a 6 mm (1/4") V notched trowel for the substrate and a 3 mm (1/8") V notched trowel for the underside of the slabs.
- Be sure to mix only enough adhesive to use within the manufacturer's open working time of a maximum of 30 minutes.
- Once the adjustment time is over, clean the tile/slabs joints of any residue along their entire length, width and depth.

5. LAYING SINTERED SLABS

Handle all slabs in accordance with the Material Handling manual to minimize breakage when handling.

5.1 FLOOR INSTALLATION

Before installation:
- The substrate is suitable for installation and the intended use.
- The product is exactly what you ordered.
- All the materials used for installation (adhesive, grout, sealant, etc.) are suitable for large-format slabs.

Installation guidelines:
- Apply the adhesive to the substrate using a notched trowel (we recommend a 6 mm (1/4") V notched trowel) in one direction only (preferably parallel to the shorter side, in the event of rectangular slabs).
- Use a notched trowel (usually 3mm) to apply the adhesive to the back of the slab in the same direction it was spread on the substrate.
- Take the slab with the adhesive layer and place it on the substrate using a suction cup holding tool. Move the slab gently 2 or 3 cm in all four directions. Specific tools can help position the slabs accurately, one next to the other.
- Tap the slab down evenly, using an anti-bounce float trowel (don't use mallets, or rubber mallets) or a vibrating plate. Vibrating plates are recommended in the event of cut, drilled, and machined slabs only.
- Protect the installed floor from accidental loads by ensuring that the adhesive has fully cured (according to the supplier's instructions) before walking on it.
- Protect ungrouted joints from dust and debris. Thinner slabs (6 mm) are naturally flexible but will become flat again when placed on a flat surface. Therefore, make sure to adapt the slab's surface to the substrate (whether horizontal or vertical).

5.2 WALL INSTALLATION

Wall installation is similar to floor installation. Installation guidelines to follow:
- Wait for the adhesive to cure according to the supplier's instructions before performing any operation on the covering (e.g. holes, incisions) or applying loads
- Thinner slabs (6 mm) are naturally flexible but will become flat again when placed on a flat surface. Therefore, make sure to adapt the slab's surface to the substrate (whether horizontal or vertical). The following systems can be useful:
  - Temporary supports may be needed to secure and hold the slab in place on the wall or ceiling during installation and removed once the adhesive has cured.
  - Support systems or "kickstands" temporarily may be secured to the floor to keep the slab in place until the adhesive has cured for thicker, heavier slabs or ceiling installations.
- In the event of exposed safety systems (sprinkler, alarm sensors, etc.), anchor the clips to the substrate (using plugs, nailing machine, etc.) before applying the adhesive.
- In the event of concealed safety systems (sprinkler head openings, etc.), make an incision on the back of the slab before applying the adhesive. On-site incisions must be made 40 cm apart.
- Leave the mortar to set for at least 24 hours or per setting material instructions. If wall surfaces are to be covered in large-format sheets to a height of over 3 metres (118 and 1/8"), installation systems that combine adhesives with mechanical clips can be used. The type of clip will depend on the weight of the slab sheets and height of the wall covering.

6. GROUTING INSTALLATION JOINTS

Before proceeding to grout the joints, make sure that all the joints between the slabs are clean and empty, with no bonding material or dirt in them. The sheets must be grouted at least 24 hours after they are laid in the case of walls and 48 hours in the case of floors. Choose one of the wide ranges of high-performance unsanded grouts on the market, available in different chemistries and colours. To fill the joints, use a rubber trowel and follow exactly the manufacturer's instructions located on the grouting product packaging. Remove any surplus grout with a sponge moistened in clean water. Do not wait too long before doing so as prolonged contact between the grout and unglazed surface will make any remains harder to remove and leave a grout haze on the surface. For installations that may be exposed to mild chemical, attack use an epoxy grout. Wait as per the recommended curing time on the manufacturer's instructions for grout to harden and set before using the space.

Technical joint installation:
Movement joints are required with any slab installation to allow for mechanical, thermal, and hygrometric stresses and movement. These joints include:
- Perimeter joints, which are installed at the borders of the tiled surface and the construction's hard elements
- Subdivision joints, which involve the thickness of the slab, adhesive, and substrate
- Expansion joints, which involve only the slab and the adhesive layer

Sizing sub-section areas with expansion joints:
- 20 - 25 m^2 for interior installations
- 9 - 15 m^2 for exterior installations
- Length/width ratio: < 1.5 joint width: on the basis of mechanical and hygrothermic stresses of the slab installation and elastic capacities of the joint materials.

7. COUNTERTOP INSTALLATION

Anatolia® suggests handling the cut surface in a vertical position. In the event that the holes are arranged closer to one side, it is advisable to keep that side upward. Recommendations are given in the Material Handling manual.

The furnishing on which the slab is installed must be suitable for its end use and be chosen based on:
- The shape of the furnishing
- Intended use
- Durability requirements (based on the room where it will go)
- Aesthetic features in the event of exposed or semi-concealed elements. Because furnishings are so different, it's impossible to know their minimum thickness beforehand. Therefore, this value must be provided by the furnishing's supplier. In any case, these slabs only have an aesthetic purpose. They do not have any structural function. The loads resulting from the use and assembly of the furnishing must be borne by structural elements.

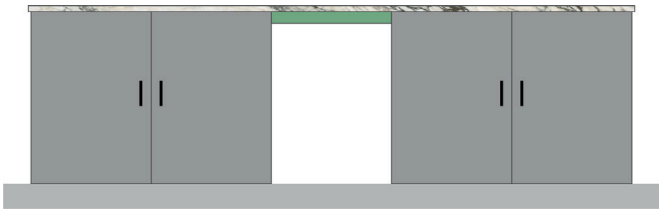
The 12 mm Sintered Slabs can be adhered onto a full support or on reinforcements. For 6 mm, it must be adhered onto suitable full support for countertop use. In both cases, using elastic and deformable adhesives capable of overcoming the different thermal expansion of slab and support is advisable. Spreadable adhesives are also available on the market which guarantee adhesion on any type of support and good deformability. Gluing the slabs onto quartz agglomeration reinforcements is absolutely prohibited. In the case of gluing on reinforcements, ensure the optimal arrangement of the reinforcements in the most delicate points of the surface, such as the internal perimeter of the holes (sink, cooking surface, water mixing tap) and along the entire external perimeter.

The following is a list of the main types of existing supports:
- Wood
- High density polystyrene
- Extruded polystyrene
- Marine plywood panels
- Honeycomb aluminum sandwich panels

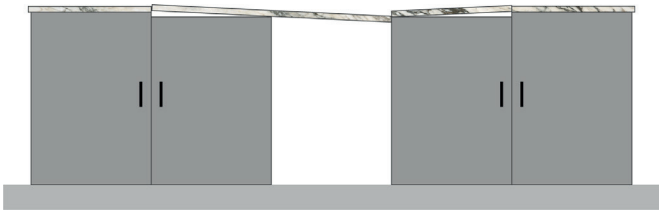
Backer boards may be required when furnishings have large openings, and the slab needs to be drilled or machined extensively. If the backer board is not included in the order, it can be applied behind the slab at the workshop, using special machinery, high-quality epoxy resins, and fibreglass backer board with an appropriate weight.

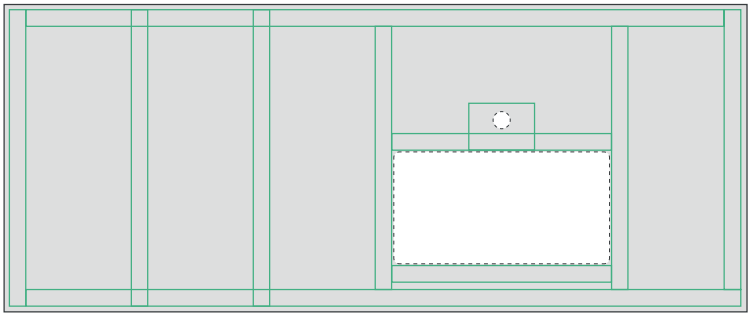
RECOMMENDATIONS

YES



NO





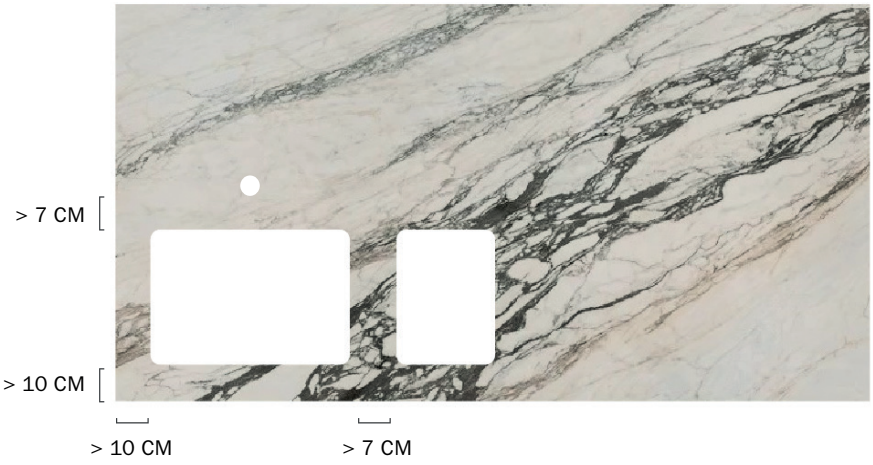
Arrange the structure of the cabinets being covered so that it is level, stable, clean and suitable to receive the weight of the countertop. The structure of the furniture must be checked periodically in terms of levelling, compensating for any misalignments.

RECOMMENDATIONS

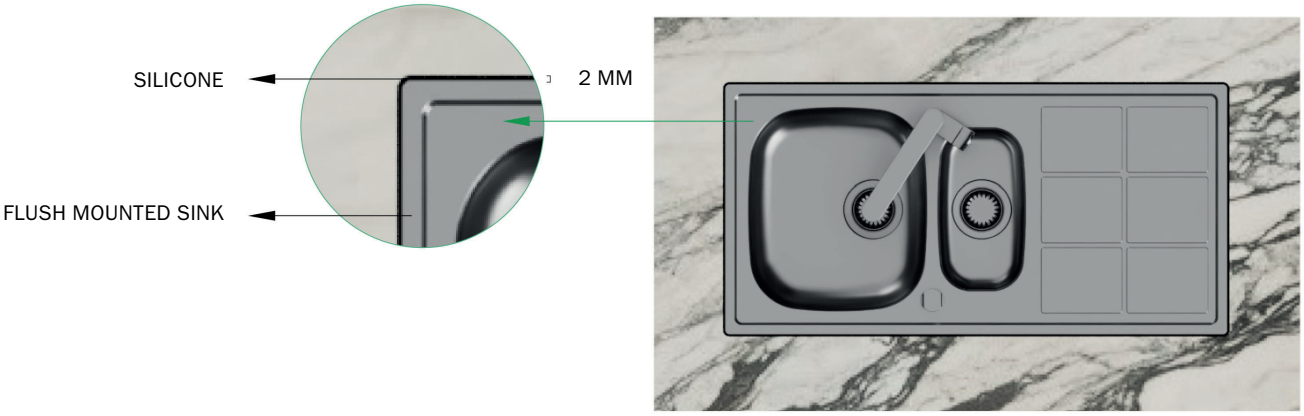
YES

NO

Holes, openings, and cut-outs must be made at an appropriate distance from the edge (distance minimum), where there shouldn't be any additional machining. This minimum distance depends on the stress on the slabs and the overall machined surface. Indicatively, it should be > 7 cm. Should the shape of the slabs not allow for such a distance, it's advisable to divide it into square or rectangular parts. The minimum distance permitted between cut-outs and/or the edge of the slab is > 10 cm.

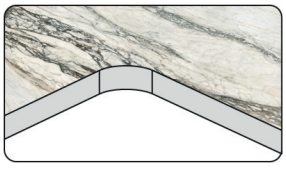
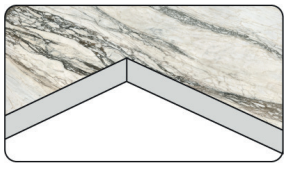
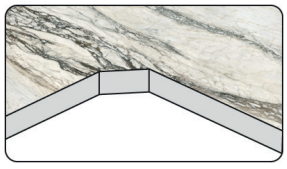
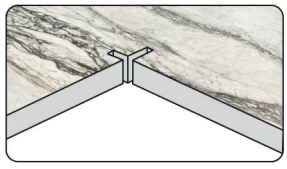


Flush-mount housing and cut-outs for the elements to be flush-mounted (sinks, cook tops, etc.) must provide an additional perimeter space of about 1.5mm that functions as an expansion joint.



As a general rule, 90-degree angles are not recommended, whether you're using water jet cutters or angle grinders. The corners of rectangular internal shapes, which usually accommodate steel accessories (e.g. washbasins, hobs), need to be rounded. The radius is usually 10 mm* and, in any case, must not be less than the slab's thickness. The same approach can also be used in corners with different angles (obtuse or acute angles). In the event of cut-outs, round holes must be made at the corners performed before performing the linear cut.

RECOMMENDATIONS

YES	NO	NO	NO
			

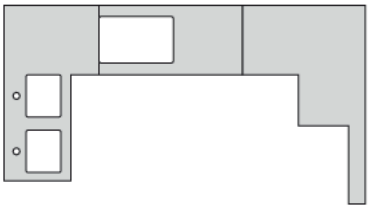
Joints between slabs and other materials whenever these slabs are combined with other surfaces (e.g. furnishings, walls, metal accessories, window fixtures) require elastic grouting, it's important to define the distance between them, taking the following into account:

- Expansion coefficient of the adjacent elements (for sintered slab it's 5.8x10-6).
- Any movement and/or deformation the elements may be subject to grouting elasticity.

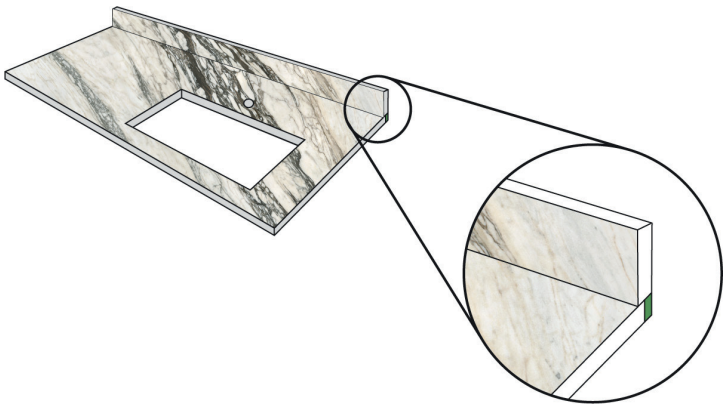
When designing and fabricating a countertop with Aeterna™ Sintered Slabs, the following must be taken into account:

- Type and shape of the furnishing.
- Colour and aesthetic effect of the slab.
- Type of structure available. In any case, slabs are to be used solely as coverings. They do not have any structural function. Any criticality resulting from improper use of the sintered slab countertop must be considered during the design stage. Here are a few recommendations to follow:
  - Geometry: diagonal cuts are not recommended for joining different portions. It's always better to make straight cuts for square and rectangular portions of slabs that don't have particular imbalances in their unmachined areas. Particularly complex shapes should be broken down into rectangular portions to be reassembled during installation.
  - If multiple slabs must be processed in order to obtain graphic continuity (e.g. bookmatch), take care in cutting the portions to be paired. This type of process, even when carried out at the highest trade standards, can imply slight graphic shifts. Anatolia® will not be held liable for this.

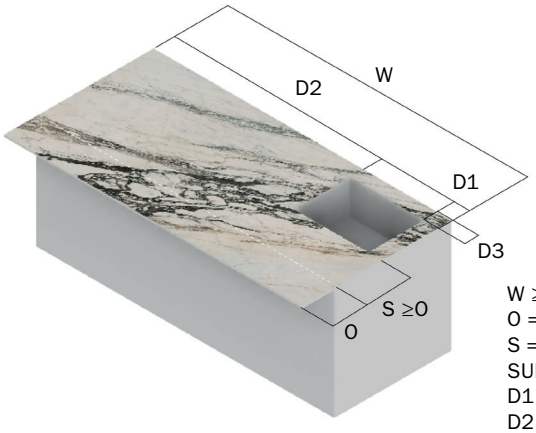
RECOMMENDATIONS

YES	NO	NO
		

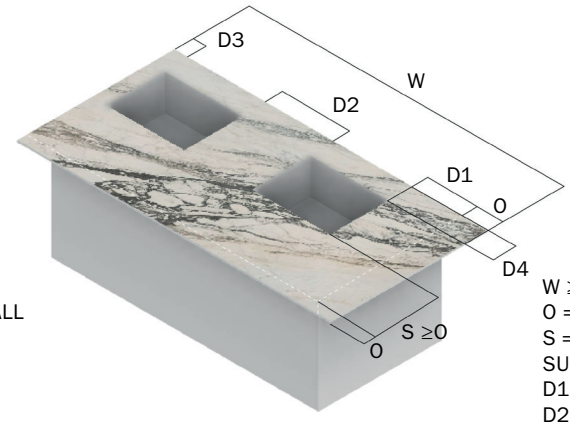
An empty space of at least 3 mm that functions as an expansion joint must be provided between the product and the wall against which it is rested, for seaming 2 mm between the pieces is recommended.



The maximum overhang the surface can sustain without having to provide additional support is 15 cm (6 mm thicknesses must always be installed with full support for countertop use). The entity of static capacity (sustainable weight) is subordinate to whether or not there are holes in the immediate vicinity. We always recommend a specific assessment in that excessive weight near the holes can cause the surface to break. For overhangs greater than 15 cm, up to a maximum of 30 cm, an adequate support must be provided. The creation of overhang is not recommended in the case of holes or openings on the slab positioned at less than 6” from the edge of the cabinet. In case of holes or openings at a distance between 6” and 24” from the edge, the depth of the overhang should be reduced 50% with respect to the indications in the points below.

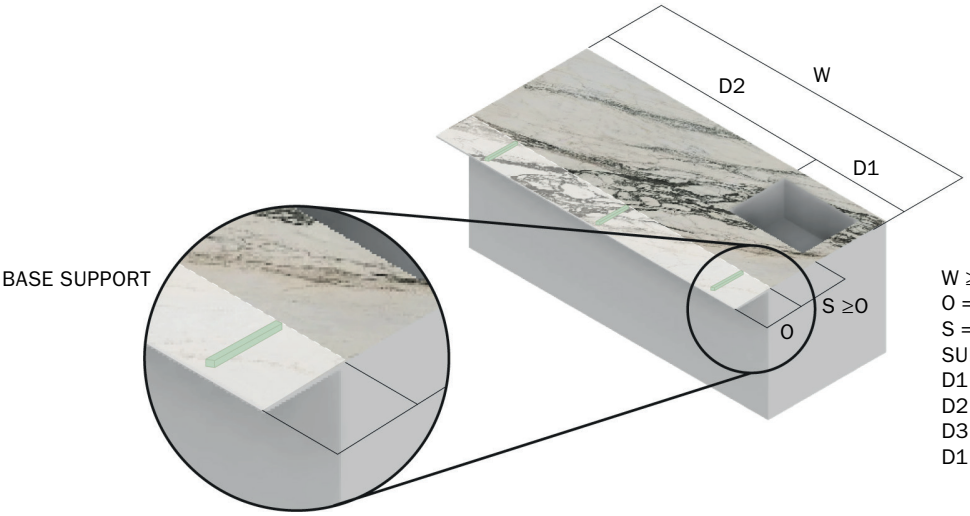


W ≥ 600 MM
0 = PROTRUDING WALL
S = AREA WITH SUBSTRATE
D1 ≥ 100 MM
D2 ≥ 100 MM
D3 ≥ 100 MM
D1 + D2 ≥ 0



W ≥ 600 MM
0 = PROTRUDING WALL
S = AREA WITH SUBSTRATE
D1 ≥ 600 MM
D2 ≥ 600 MM
D3 ≥ 100 MM
D4 ≥ 100 MM

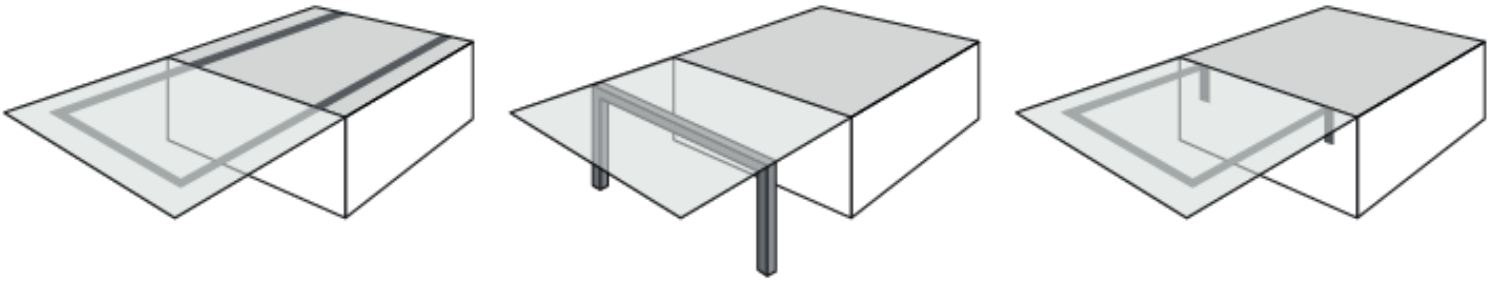
For standard lengths that exceed an overhang of 30 cm, an adequate support must be provided from the bases, at least every 60 - 62 cm.



W ≥ 600 MM
0 = PROTRUDING WALL
S = AREA WITH SUBSTRATE
D1 ≥ 100 MM
D2 ≥ 100 MM
D3 ≥ 50 MM
D1 + D2 ≥ 0

Bear in mind in the design phase:
- Possible overloads due to dynamic loads
- Possibility of impact

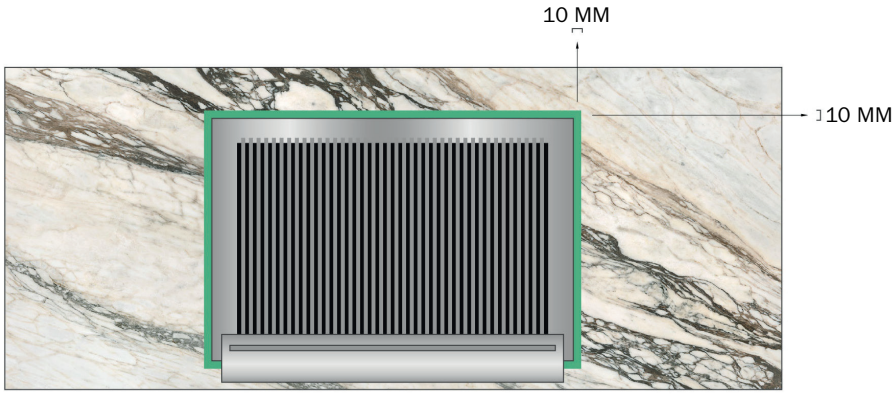
Aeterna™ Sintered Slabs do not require sealing after installation before use.



Joining & Seaming Adhesive:
To join ceramic elements (e.g. straight edge) use two-component epoxy or polyurethane resins of the same colour as the material, taking care to avoid the formation of gaps. After the pairing and before the resin sets, eliminate any trace of excess resin. Grind the edge to obtain a chamfer at least 1/16" wide. To glue the countertop to the structure and/or to seam 2 pieces, we recommend using an elastic and transparent adhesive (e.g. silicone). To fill the coupling joints between the flush-mount element and the slab (when applicable) use an elastic and transparent adhesive (e.g. silicone) or plastic gaskets supplied by the manufacturer of the appliance/sink.

Heat Emitting Area:
Heat related parameters of the product; 5.4°- 6.1x10-6 °C (thermal expansion).

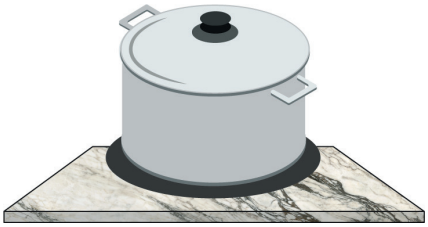
Barbeque grill area recommendations:
- Metal material expands more than Aeterna™ Sintered Slabs. Therefore, do not contact directly, leaving minimum 10 mm between barbecue grill and filling thermal insulation (like insulation band) is recommended.
- Before installation, polishing the edges of cutout is recommended to eliminate any micro cracks.



8. OTHER INSTALLATION TYPES

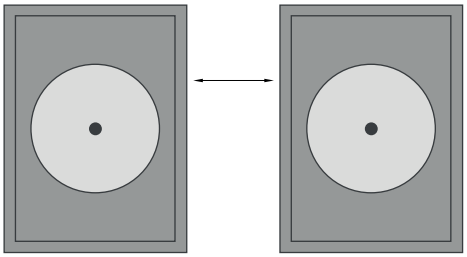
8.1 INDUCTION COOKING INSTALLATION

Induction cooking is a modern method of cooking that utilizes electromagnetic induction to heat cookware directly. Since the cooking surface of an induction cooktop remains relatively cool, spills and splatters are less likely to burn onto the surface. Plus, because there are no exposed heating elements, the surface is easy to wipe clean with a cloth.



Caution:

- Reinforcement mesh underneath is not allowed with this cooking system. Always refer to manufacturer's instructions with regards to suitability and compatibility for the final countertop design and construction.
- Induction cooking isolation recommended trivets and mats sold by the manufacturer MUST be used with induction systems to avoid damage.
- When using induction units, follow all manufacture instructions and recommendations with regards to distances from all edges, seams and adjacent cooktops and appliances.



- The invisible induction system is only validated for use on surfaces installed indoors. Under no circumstances should this system be installed on outdoor countertops/islands.

RECOMMENDATIONS

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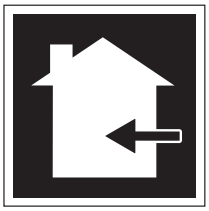
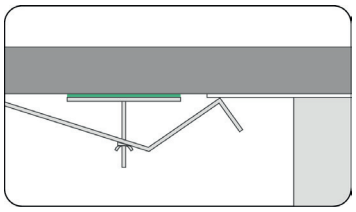
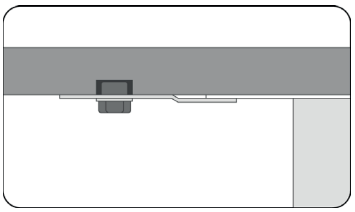
	
INDOOR	OUTDOOR

- Minimum distances to edges depend on the type of induction unit selected. The minimum distance (D) from the center axis of each induction burner to any edge/joint (front, back and sides) shall be 250 mm minimum.
- Installation process Install the units by following the manufacturer's instructions. The only valid installation procedure is by using its Epoxy adhesive + Sink Clips + Z Clips. Other types of installation (e.g. as Drill + Insert + Screw) are NOT allowed under any circumstances.

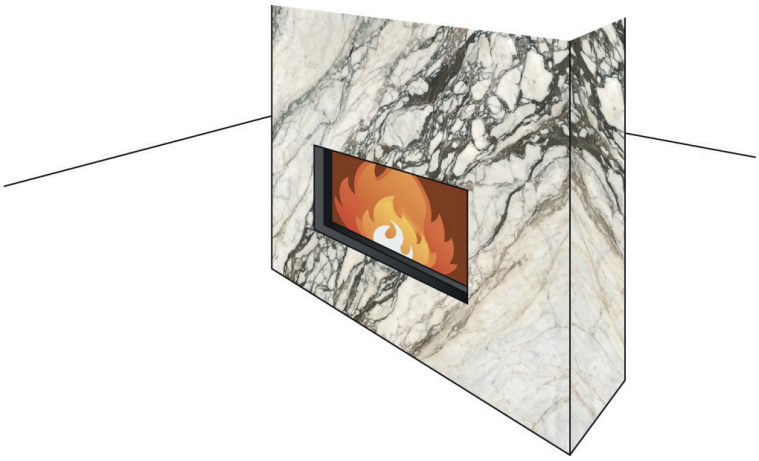
YES	NO
	

- Never heat empty cookware, as it can reach very high temperatures and damage sintered slab surface.
- The countertop surface can only heat up to reflect the heat of the pot. We recommend that you use equipment with temperature sensors.
- Follow the appliance manufacturer's recommendations for proper ventilation under the countertop.
- Warranty does not cover possible damages caused by improper use.

8.2 FIREPLACE INSTALLATION

Recommendations:

- Outer Panelling; for the thermal insulation, the inner chamber must be separated by a refractory wall for heat.
- Aeterna™ Sintered Slabs cannot be used inside a fire box.
- Refer to fire insert manual for required setting and clearance.



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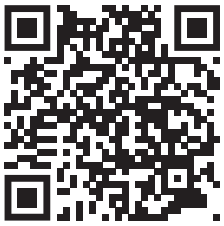
TECHNICAL INFORMATION
WARRANTY

For additional information, please refer to the available resources.



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