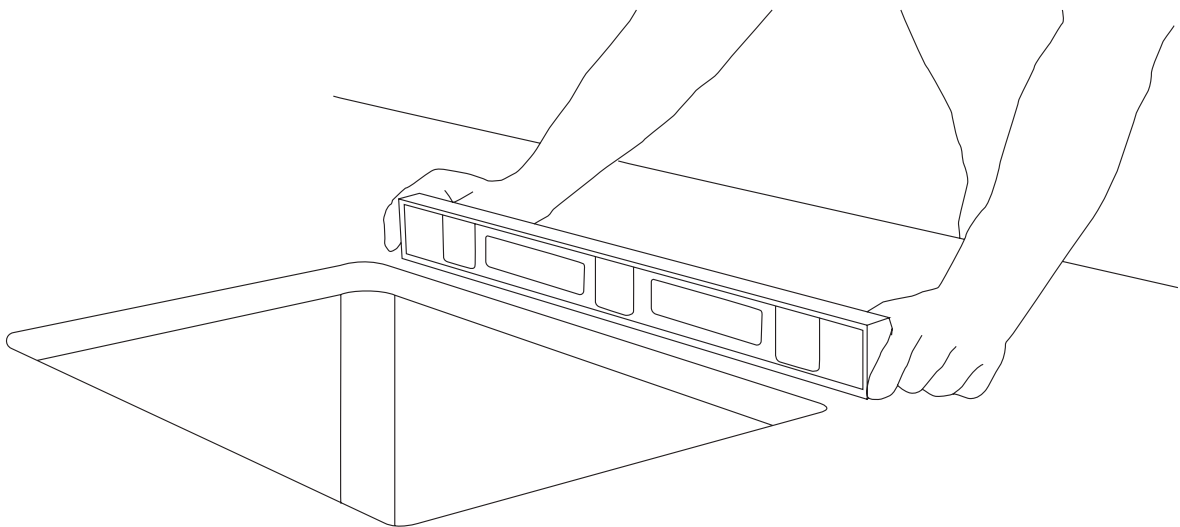




DESIGN AND INSTALLATION OF
TERRAZZO HPST™ COMPAC®
COUNTERTOPS



TECHNICAL MANUAL



DISCLAIMER

The purpose of this manual is to provide the fabricator with a general guide for the design and elaboration of COMPAC® Terrazzo HPS™ countertops.

Before elaborating the countertop, we recommend reviewing all the information related to COMPAC®, such as the manual of good manufacturing practices or the cleaning and conservation recommendations. These documents can be found on our website www.compac.es or by contacting COMPAC® directly.

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PRECAUTIONS

1 - COUNTERTOP DESIGN CRITERIA

The following considerations should be considered when designing the countertop in order to avoid future claims.

1.1 - Inner corners and cut-outs

It is mandatory that all inner corners must be rounded. The larger the radius, the stronger the corner.

The inner corners of L or U shapes countertops should have a minimum radius of 10 mm (3/8"). When this is not possible, for example in the case of mitered countertops, it is recommended to make a joint in the inside corner between the countertop parts. Sinks should have a minimum radius of 20 mm (4/5") and boxes a minimum radius of 5 mm (13/64").

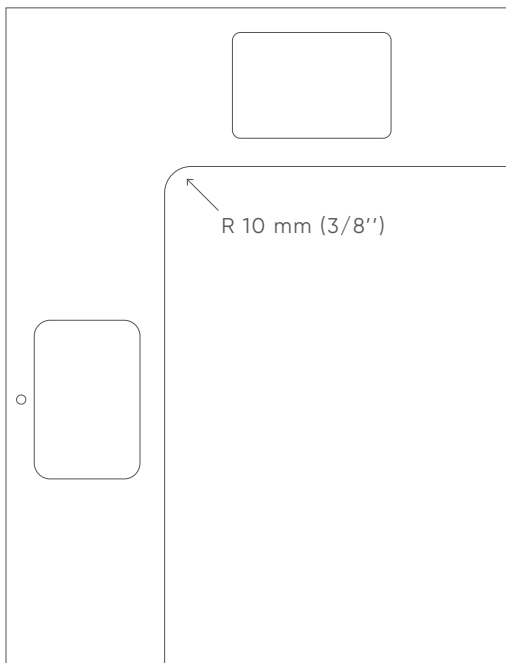


Image 1 A - Minimum radius countertops L or U shapes.

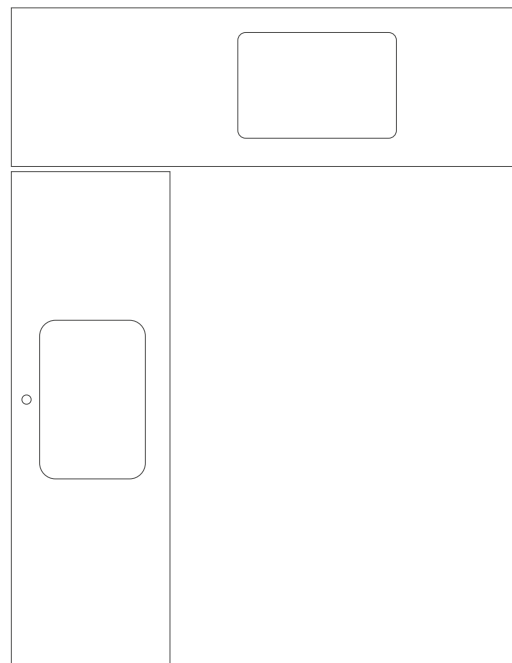


Image 1 B - Countertops in L, angle of 90°.

Recommended examples of cut-outs such as sinks, hobs and boxes are shown below.

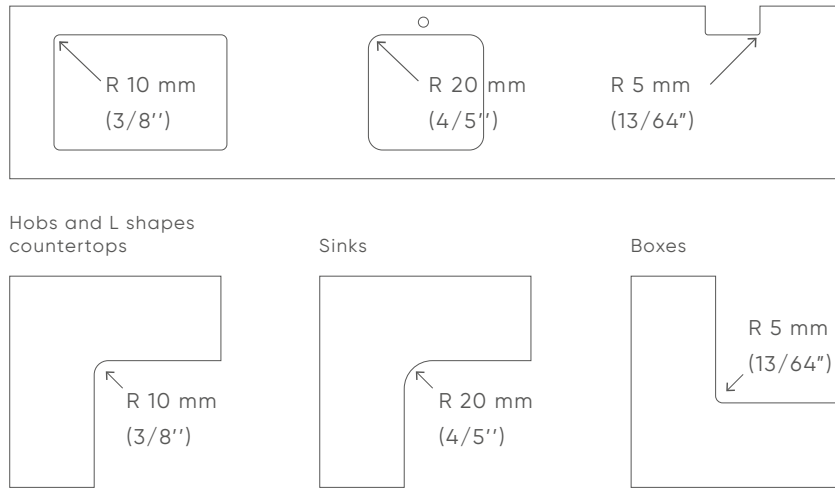


Image 2 - Minimum radius examples.

1.2 - Minimum distances

• ELECTRICAL APPLIANCES

Never fit the dishwasher and/or washing machine under the countertop. Leave sufficient space to allow heat dissipation. In the case of furniture, sufficient space should be left to allow adequate ventilation.

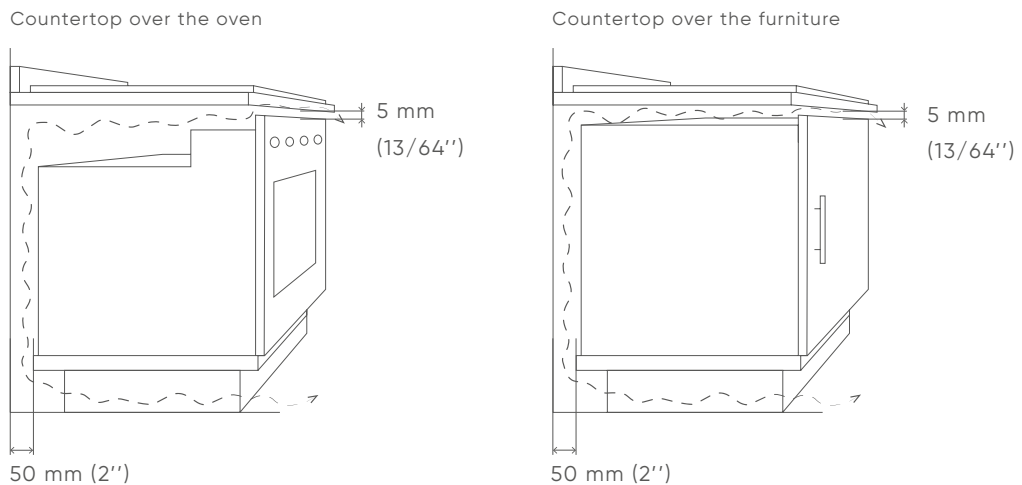


Image 3 - Minimum distances from electrical appliances to the countertops.

• HOB OR STOVES

For the installation of the hob or stove, it is necessary to leave a minimum distance of 3 mm (1/8") between the hob and the countertop in order to prevent possible expansions due to temperature rises.

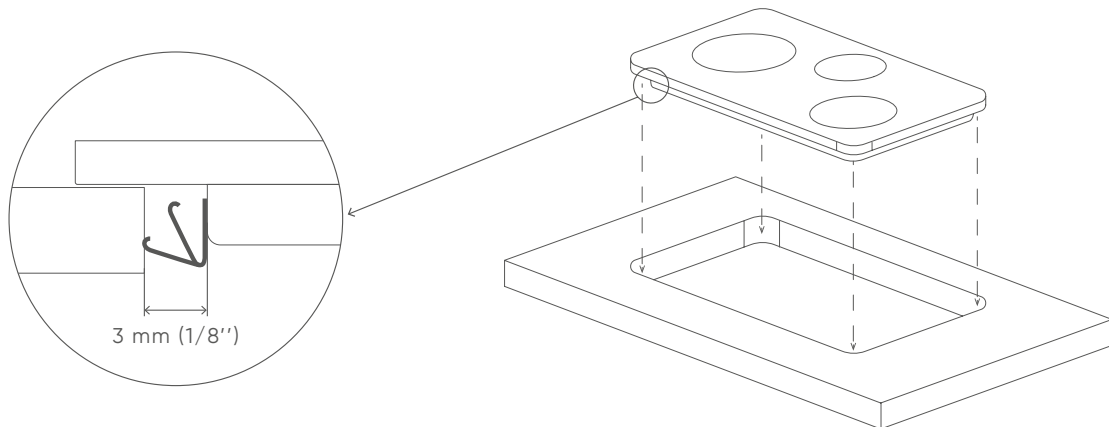


Image 4 - Minimum distances hob-countertop.

For hobs, the distance from the end of the cooking point to the cladding shall be at least 50 mm (2"). In the case of stoves, the minimum distance shall be 80 mm (3").

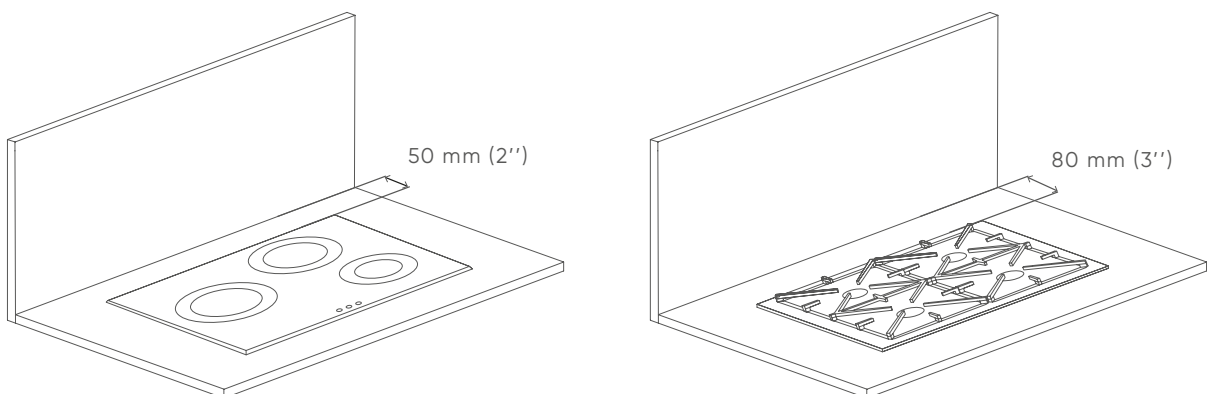


Image 5 - Minimum distance from hob and stoves to cladding.

• COUNTERTOP OVERHANG

In the case of overhangs*, the following recommendations should be considered depending on the thickness of the slab used:

Thickness 12 mm (1/2")	Thickness 20 mm (4/5")	Thickness 30 mm (1 3/16")	Required support
< 50 mm (2")	< 300 mm (12")	< 400 mm (16")	Not required
50 – 100 mm (2" – 4")	300 – 500 mm (12-20")	400 – 600 mm (16-24")	Brackets every 600 mm (24") length
> 100 mm (4")	> 500 mm (20")	> 600 mm (24")	Columns, panels or legs

*The overhang may not be greater than 1/3 of the total length of the countertop including a support.

• ACCESSORIES

Holes drilled to join accessories such as plugs, switches, etc., should be made using circular drills. For larger openings, drill holes next to each other.

If the hole to be drilled is close to a corner, leave a minimum distance of 50 mm (2") between the corner and the hole.

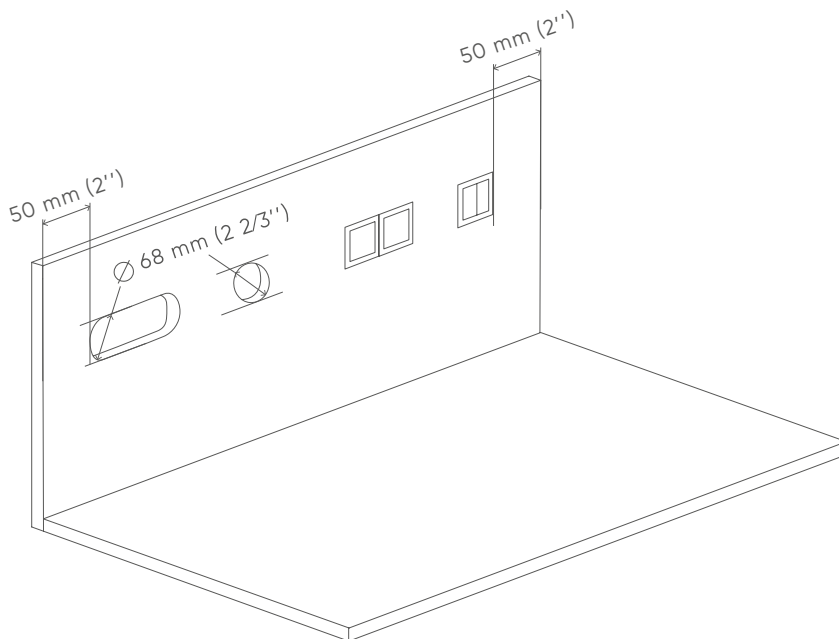


Image 6 - Accessory holes.

• DRAINER GROOVES

The grooves should have a maximum depth of 4 mm (5/32") in all thicknesses (12, 20 and 30 mm). A minimum distance of 6 mm (1/4") must be left between each groove.

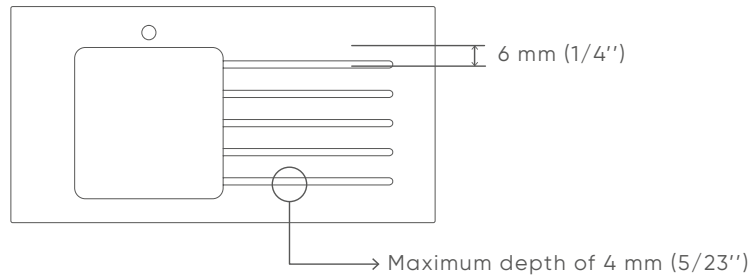


Image 7 - Drainer grooves example.

• PERIMETER EXPANSION JOINTS

An expansion joint should always be left between the flat surface of the countertop and the wall to absorb expansion of the material due to temperature changes. The minimum width of this joint must be 3 mm (1/8"). The minimum joint must be respected around the entire perimeter of the countertop, including the corners.

2 - INITIAL PREPARATION

2.1 - Measurement of the countertop

The furniture supporting the countertop must be positioned and levelled for a correct measurement.

First, measure the length at the front and the length at the back of the furniture. If the countertop is to be fitted between two walls, deduct about 4 mm (5/32") so that the countertop can be fitted without any problems. This small gap will later be covered by the backsplash or wall cladding. Measure the width of the two ends of the furniture on which the countertop is to be placed. Add 2 cm (3/4") to this measurement for the overhang.

Indicate the corners and the edges of the countertop that will be visible and therefore must be polished.

Indicate the holes for the sink or hob. For the measurement, take one of the sides as a reference and indicate the distance to the center of the sink or hob. Provide the measurements of the sink and indicate whether it is under the countertop or over the countertop, in order to polish the edge or not. If it is under the countertop, consider the overhang to be applied to the countertop above the sink, 5 mm (3/16") on each side. Indicate the radius of the corners.

Indicate the required diameter and the location where you want to place the tap.

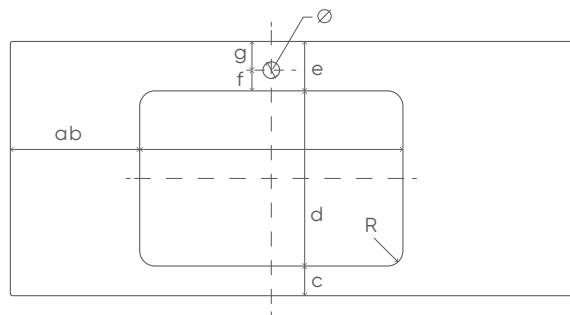


Image 8 - Initial measurement of the sink.

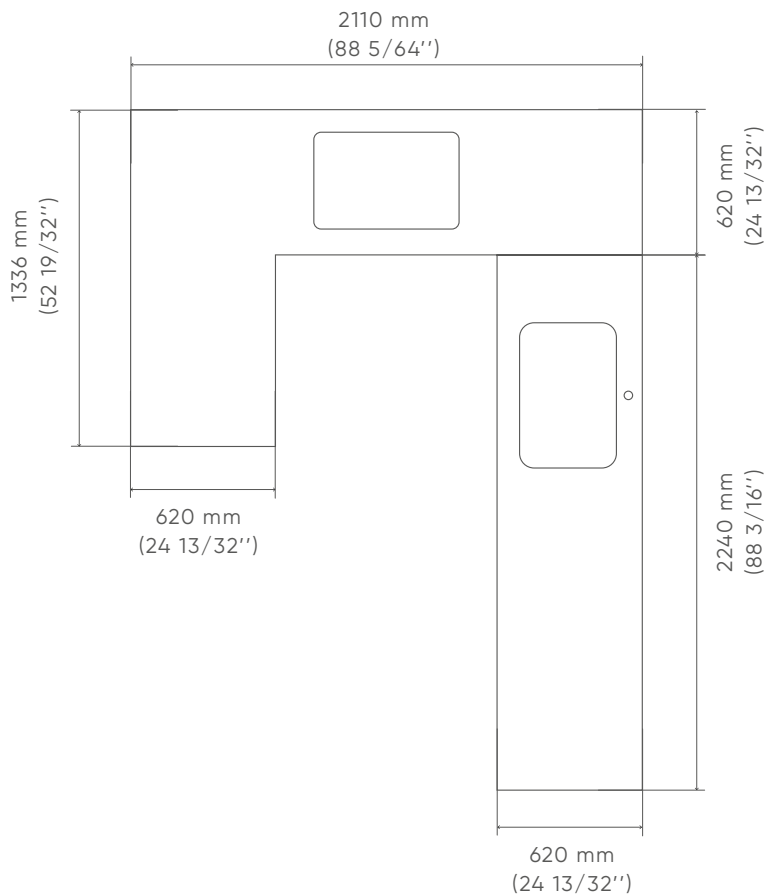


Image 9 - Initial measurement of the countertop.

2.2 - Material inspection

Before starting the elaboration, the following aspects should be checked. For a proper inspection, it is necessary to remove the protective film:

- If more than one slab is used, check that the tonality is compatible between them.
- Pattern conforms with samples and expectations.
- Dimensional control (width, length, thickness).
- Absence of defects: contaminations, shadows, badly polished areas, cracks, scratches...
- Slabs edges.

In the event of irregularities or minor imperfections in the slab, it is the responsibility of the elaborator to decide whether the slabs are suitable for the intended usage. No claims for these defects will be accepted once the slab has been cut.

The elaborator must keep the batch/batches of slabs used for each job. An example of how to read a label is shown below. The batch number can also be found on the back of the slabs.

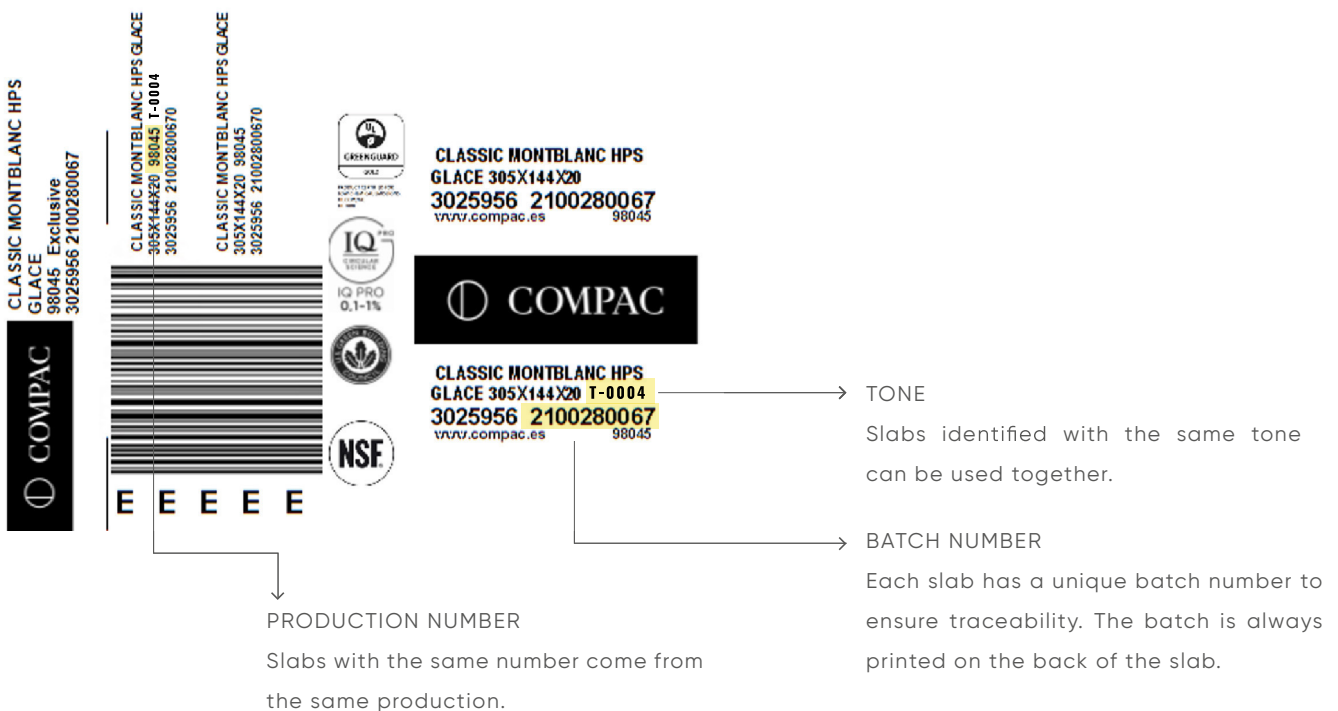


Image 10 - COMPAC®label.

3 - COUNTERTOP ELABORATION

3.1 - Cutting

The following tips should be followed to avoid possible defects:

- The cutting table must be flat and resistant.
- Place fasteners near the cutting line to prevent the slab from moving.
- Always use suitable cutting discs in good condition and perfectly aligned.
- Always use water-cooled tools during the cutting, polishing and drilling process.
- Follow the safety recommendations given by the manufacturer of the cutting machine.

3.2 - Edge polishing

Always use water-cooled tools for edge polishing. Never polish the surface of the countertop, only the edge.

For manual polishing, water grinders should be used with special abrasives suitable for handling our products in wet conditions.



Image 11 - Wet-process grinder for stone polishing.

It is recommended to work at low speeds for coarser abrasives (e.g., abrasive 120). Do not work at very high speeds, as it may burn and/or scratch the material. Never work at speeds higher than 3500 revolutions per minute. Never leave the grinder static and work with plenty of water.

The correct abrasive process used will be 120, 220, 300, 400, 600 and polish with resin bonded diamond polishing pads for Polished finish.

The correct abrasive process used will be 120, 220, and polish with resin bonded diamond polishing pads for Glacé finish.

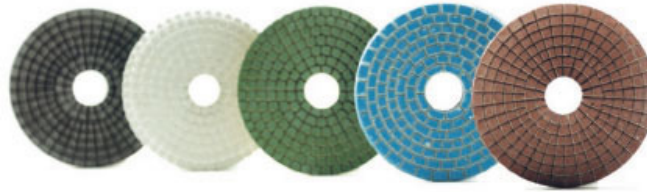


Image 12 - Abrasives for the edge polisher.

When polishing the edge of a dark design, abrasive 600 is not recommended as it may cause colour fading.

It is recommended to work for light colours at a pressure around 3 bar and for dark colours at a pressure around 2.5 bar following the same sequence as shown above.

3.3 - Edge elaboration

It is recommended to bevel the outer edges of the countertop in order to improve the impact resistance and avoid possible breakages as shown below.

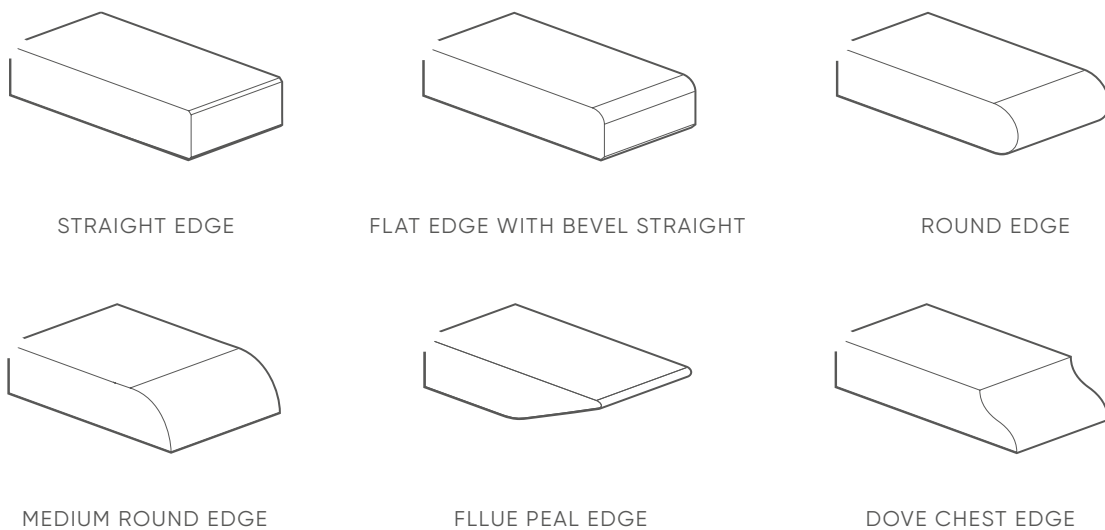


Image 13 A - Exterior edges types.

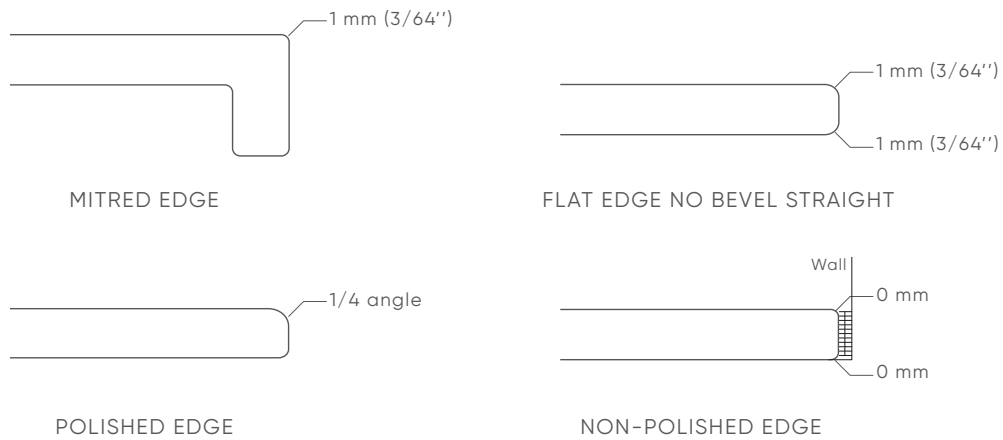


Image 13 B - Exterior edges examples.

4 - INSTALLATION OF THE COUNTERTOP

Before starting the installation, it is important to check that the kitchen units on which the countertop is going to be installed are solid, fully supported on the floor and leveled.

The countertop must rest on the kitchen units all round. In addition, the use of support every 600 mm is recommended.

Use our coloured **FIX COMPAC®** products for the elaboration of the joints.

For the gluing of skirtings, sockets or skirting boards, use **JOINT COMPAC®** adhesive in the same colour as the material.

Kitchen and bathroom countertops should be fixed to the wall with **JOINT COMPAC®**. This will prevent water leaks that could damage furniture or objects underneath the countertop. To do this, fill the joint between the countertop and the wall with a generous amount of the adhesive.



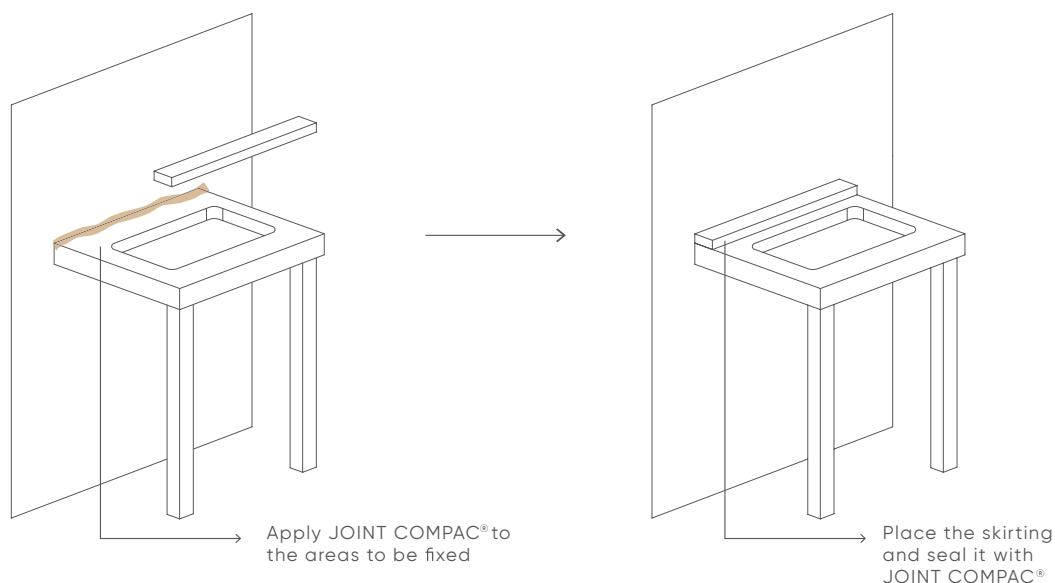


Image 14 B - Application of JOINT COMPAC®.

4.1 - Basic recommendations for the use of FIX COMPAC® thixotropic filler for bonding parts and repairs

FIX COMPAC® thixotropic putty is specially formulated for bonding pieces of Terrazzo HPS™ countertops (miters, skirts, joints, etc.) and for repairing materials already in place.

The complete pack for use by elaborators consists of:

- Component 1: cartridge of putty (coloured paste) based on polyester resins and mineral fillers in 650 grams format.
- Component 2: hardener cartridge (PBO paste catalyst) for catalysing the 60 grams putty.



Image 15 - FIX COMPAC®.

• WARNINGS OF USE

- Mix the putty with 1-3% hardener (component 2).
- Avoid the use of the wrong hardener dosage. Too much or too little hardener can cause changes in the shade of the product when catalysed.
- For the first application, it is recommended to use the minimum dose of hardener to estimate the application time of the mixture.
- Store in a cool and dry place.
- Uncured FIX COMPAC® can be removed from tools and surfaces with solvent. Once cured, the product can only be removed mechanically.

• PREPARATION OF THE SUPPORT

- The surface must be dry and free of dirt, dust and/or greasy residues.
- The joint shall always be made by facing the two rough sides of the material, the unpolished sides. If they are polished, they must be roughened with a 60 abrasive disc.
- It is recommended to protect the surface where the putty is to be applied with masking tape, to facilitate subsequent cleaning.

• PUTTY APPLICATION

- Mix the two components 1 and 2 until an uniform mass is formed. Apply the mixture with a spatula to one of the parts to be joined on the rough side and join it to the other using light manual pressure and shearing movements to distribute the paste well and move the excess to the outside. Adjust the final position of the pieces exactly before drying begins. Allow it to cure for a few minutes. Remove the excess burrs with a sharp spatula when the paste no longer has a pasty consistency.
- If bevelling is required, performed smooth polished with a 4,000 r.p.m. manual polishing machine and a 400 disc. In case the skirt goes into the air, two metal brackets have to be glued to the material with FIX COMPAC®.
- It is the responsibility of the elaborator to manage the waste generated in the process with authorised waste managers and in accordance with the legislation in each country.

4.2 - Basic recommendations for the use of JOINT COMPAC®

JOINT COMPAC® neutral mono-component silicone sealant adhesive is specially formulated for bonding and sealing joints in Terrazzo HPS™ countertops pieces, as it does not stain or attack the substrates. It ensures excellent adhesion, permanent flexibility and produces a total watertightness in the joints.

JOINT COMPAC® is coloured exclusively for our products, achieving an homogeneous chromatic effect between the joints and the material.

The adhesive is used to glue skirting boards, sockets and to seal joints, thus preventing the penetration of liquids. For gluing parts that are going to be exposed to the air, such as skirting or miters, use FIX COMPAC®.

If there are areas stained with sealant, they must be cleaned before drying, as once dried they can only be removed by scraping.

It cures on contact with moisture. The skin formation time is about 10-20 minutes. It is recommended to protect the area with masking tape, facilitating subsequent cleaning.

5 - CARE AND MAINTENANCE

5.1 - Initial cleaning after installation

After installing the countertop, it is normal that on the surface remains traces of putties and other products used during installation, so it is necessary to carry out an initial cleaning before use.

To avoid damaging the countertop after installation, these recommendations should be considered:

- To remove putty residues, apply a little solvent (not containing dichloromethane) and rub with a non-abrasive scouring pad. Rinse with plenty of water and dry. Never leave the solvent on the surface for more than one minute.
- When spatulas or other tools are used to remove dirt from the countertop, preferably made of plastic, care should be taken to avoid scratching the material.

- Once the surface has been cleaned of all traces of products derived from the installation, clean the entire countertop with a neutral soap and a microfibre cloth or non-abrasive scouring pad. Rinse with water and dry with paper.
- Never apply water repellents or gloss enhancers to the surface of the countertop, as these create a surface layer that wears away over time and can lead to claims of staining or loss of gloss. Claims related to the use of any of these products will be declined.
- Never polish the exposed face of the countertop.

5.2 - Daily care and cleaning of the countertop

Due to their exceptional physical and chemical characteristics and no porosity, Terrazzo HPS™ COMPAC® products only require regular cleaning using a neutral cleaner, rinsing with water and drying with a cloth or paper towel. By following these guidelines, it will maintain its natural shine and appearance for many years.

A summary table for the cleaning of stubborn stains is attached below. On our website you can find the cleaning and care manual for our materials (www.compac.es).

TYPE OF STAIN	CLEANING
Colorant, Red wine, Tomato, Coffe, Turmeric	Soapy bleach (90% water, 10% bleach)
Ink, Marker, Paint	Alcohol or Soapy bleach (90% water, 10% bleach)
Metal residue from pots, pans and other Oxide, Belt buckles	Hydrochloric acid 10% or Neutral soap
Oil or Greases	Weak degreaser
Shampoo, Make-up, Cream	Alcohol or Oxygenated water 30%
Limescale	Limescale remover or Vinegar

6 - FABRICATION GUIDELINES SPECIFIC TO TERRAZZO HPS™ EXTERNAL COUNTERTOP

- Terrazzo HPS™ external countertop slabs offer fabricators all the same advantages of easy fabrication as traditional Terrazzo. Due to the different composition, Terrazzo HPS™ external countertop slabs give off a smell during fabrication that is different from traditional Terrazzo; and it may be necessary to exert slightly more pressure when working manually.
- When cutting 45° miter edges, do not exceed a feed rate of 1 m (40") per minute.
- Set the RPM at 1600.

💡 Measuring can also be easily performed by digital templating, which significantly increases the efficiency, accuracy and speed of templating.

7 - INSTALLATION GUIDELINES SPECIFIC TO TERRAZZO HPS™ EXTERNAL COUNTERTOP

7.1 - General

- Support Terrazzo HPS™ External Countertop on a full substrate of concrete, brick or cement board. Do not use wood as it can swell in an outdoor environment.

7.2 - Grill Installation Guidelines

- The grill should be supported by a concrete or brick structure or a dedicated frame, not by the Terrazzo HPS™ External Countertop.
- Create seams for all inside corners around the grill or on appliance cutouts. A 5 mm (3/16") seam is recommended for each corner seam (see diagrams A and B).
- Create 5 mm (3/16") seams that follow the grill edges.

- Provide a minimum gap of 15 mm (5/8") between the grill and the edge of the cutout.
- Do not completely surround the grill with the surface – at least one side must be open (see diagram B).
- Use of ceramic heat resistant tape and heat resistant silicone on the surround of the grill/appliance cutout is strongly recommended.
- Ensure that the grill pane is located above the level of the Terrazzo HPS™ External Countertop surface.

Diagram A:

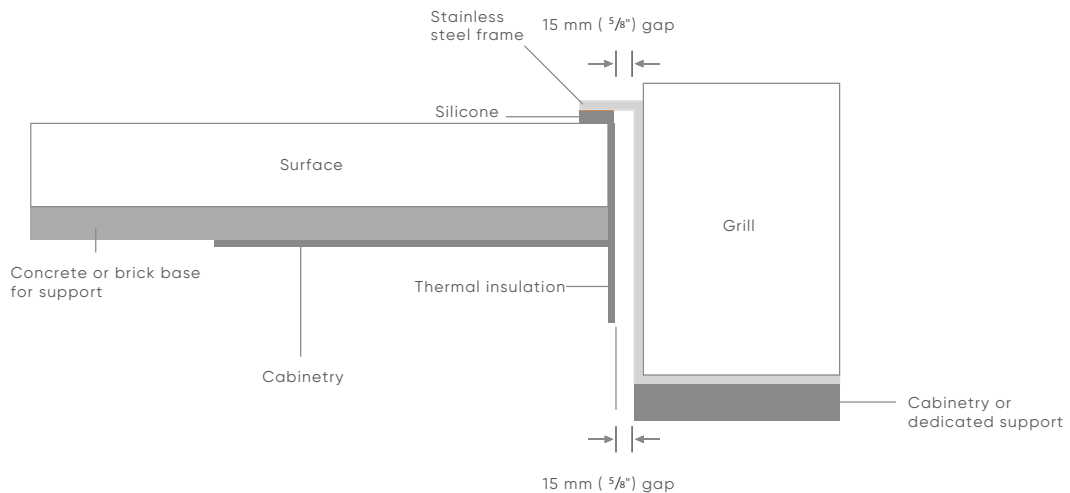
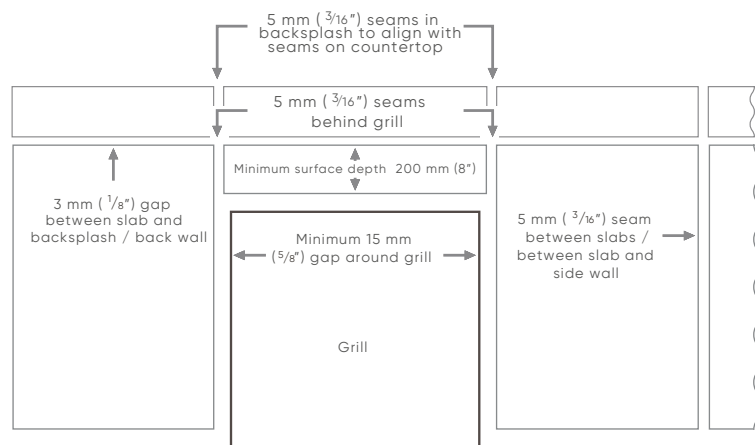


Diagram B:



8 - ADHESIVES

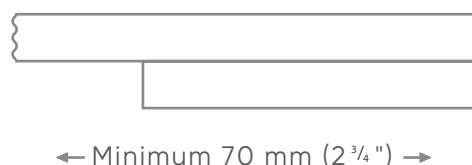
- To seam Terrazzo HPS™ External Countertop use 100% silicone suitable for outdoor use or Sealant, without silicone.
- To connect Terrazzo HPS™ External Countertop to the substrate or to install as a backsplash use thinset.
- To glue edges, use an adhesive suitable for outdoor.
- Denatured alcohol is recommended for cleaning during installation. Use of acetone is forbidden on Terrazzo HPS™ External Countertop.
- Thoroughly clean areas to be joined with denatured alcohol.
- Apply a layer of protection such as beige masking tape. Do not use blue painter's tape as the adhesive in the tape may react chemically with the silicone and damage the surface. Any tape used should not be left on the surface for longer than the working period.

Note: Before using, please read and follow the adhesive manufacturers' instructions, including regarding safety. Pay attention to the guidelines regarding weather and temperature conditions at the time of application.

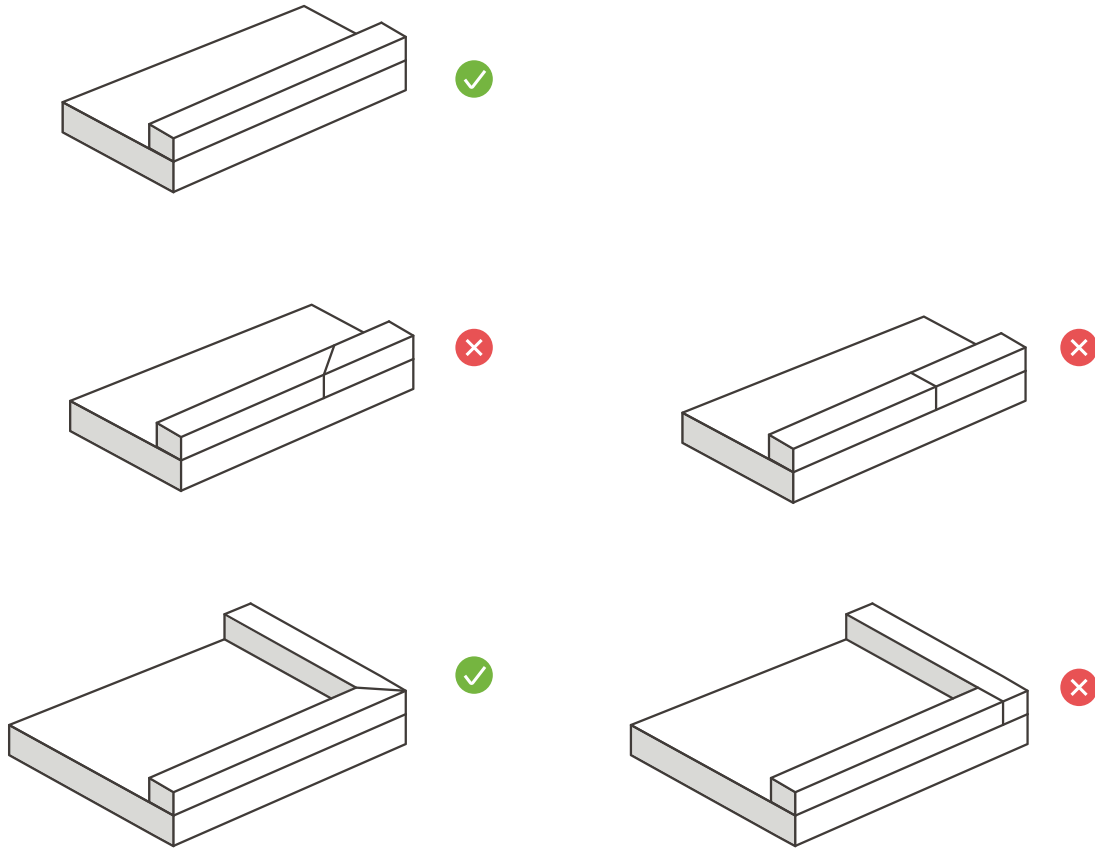
8.2 - Gluing Edges

To create edges thicker than the slab thickness, use one of the following methods:

- Create 45° miter edges.
- Glue a strip of 20 mm (3/4") thickness and at least 70 mm (2 3/4") depth underneath the surface as shown below:



- Create joins in laminated edges as shown in the diagrams below:



9 - GRILL TYPE & OPERATION

- Do not use charcoal grills; the heat range cannot be regulated and embers may damage the surface.
 - Do not use high-powered grills that reach extremely high temperatures as this may damage the surface or backsplash.
 - Do not operate grills at temperatures above 700°F (370°C); although this is not a surface temperature limit, operation at extreme temperatures may cause damage or failure.
 - Do not use self-cleaning options in grills; this setting may reach up to 1000°F (538°C).
- 💡 Do not use the grill if snow or ice is on the surface. Remove the snow or ice and warm the grill slowly for at least 10 minutes to reach the required cooking temperature.

10 - CARE & MAINTENANCE

Care & maintenance, and stain removal for Terrazzo HPS™ External Countertop are the same as for traditional Terrazzo. In addition, we recommend the following to keep your Terrazzo HPS™ External Countertop its best:

- Cover the surface when not in use.
- Do not leave metal objects on the surface as they may cause rust stains.
- Do not use deep fat fryers and turkey fryers on the surface.
- Clean any stains or residue as soon as possible to prevent them from drying on the surface.
- Use of acetone is forbidden on Terrazzo HPS™ External Countertop.

PRECAUTIONS

- Do not place objects directly removed from the fire (pots, pans, etc.) on the surface. Use heat insulators (wood, steel, etc.) to avoid damaging the surface due to the shock caused by the temperature difference (thermal shock).
- Avoid leaving standing water on the surface of the countertop continuously (dish drainer, wet rags, etc...).
- To avoid marks caused by cutting knives, utensils or sharp tools, protect it by using specific cutting boards.
- Do not use paint strippers, caustic soda or products with a pH greater than 10 or with a chlorine base: oven cleaners, toilet cleaners, furniture polishes, oil soaps and unblocking products. Under no circumstances use products containing hydrofluoric acid or dichloromethane. If you use bleach or solvents, rinse with water and never leave them in contact with the surface for a long time. If any of these products are spilt, remove them as soon as possible with plenty of water and a neutral pH soap.

