TECHNICAL MANUAL

Superior quality raw materials like kaolin, clay, feldspar, silica, and colouring inks are imported from Europe and other parts of the world to manufacture Adicon Slabs, without compromising on its breaking strength, water absorption, dust, termite and chemical resistance.

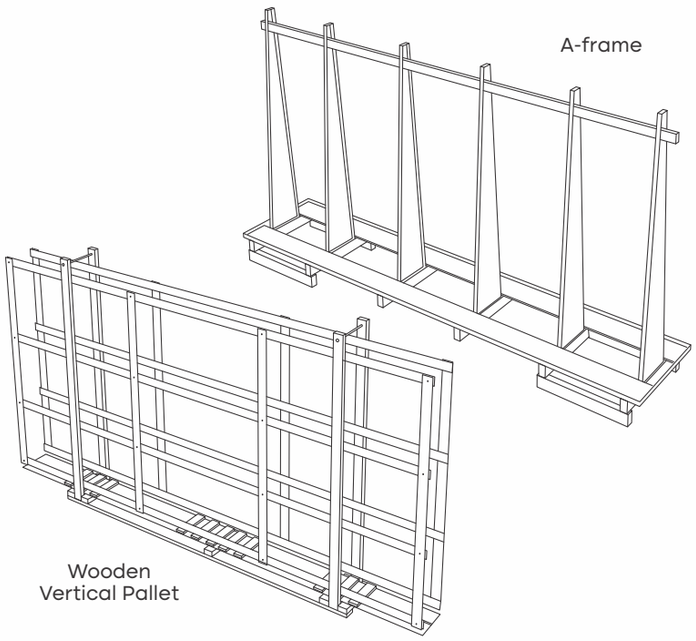
Adicon Slabs are exceptionally hard, resist thermal shock better than any material available today, are virtually nonporous and are a green product. Installation is quicker and easier because of the dimensions of the product. Flooring, wall cladding, kitchen counter tops, vanity tops, steps and risers, and bath surrounds are all possible.

Packaging

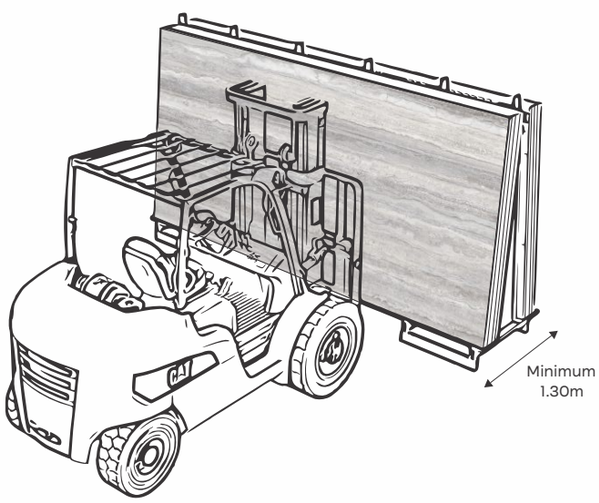
A-frames & Wooden Vertical Pallet

To protect the integrity of the big-slabs during transport, optimized packaging has been specially designed and produced for the products.

The slabs are packed and shipped in specially made Wooden Vertical Pallet and on specific A-frames (specially designed to improve the carriage of these products in containers), taking care to protect every single slab from knocks and scratches as best as possible.

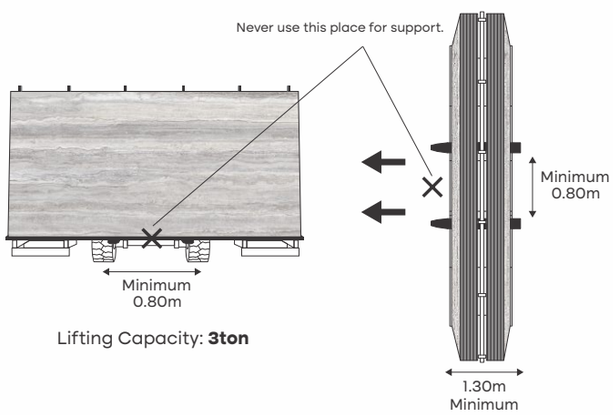


Handling the slabs on the construction site



A-frame handling from long side (A)
(Recommended choice)

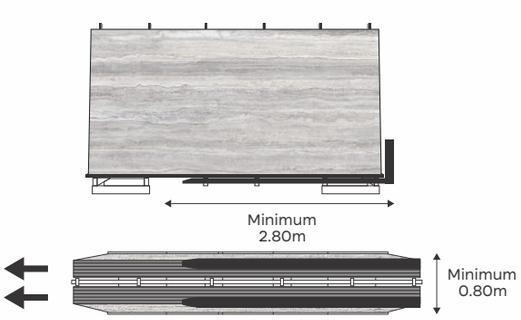
We recommend you use forks with a length of at least 1.30m, widening them to the maximum limit to make the most use possible of the crate's surface.



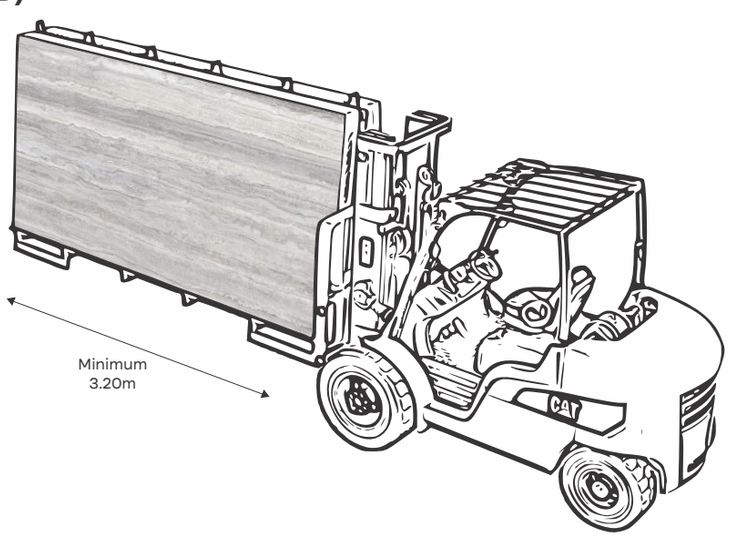
Lifting Capacity: **3ton**

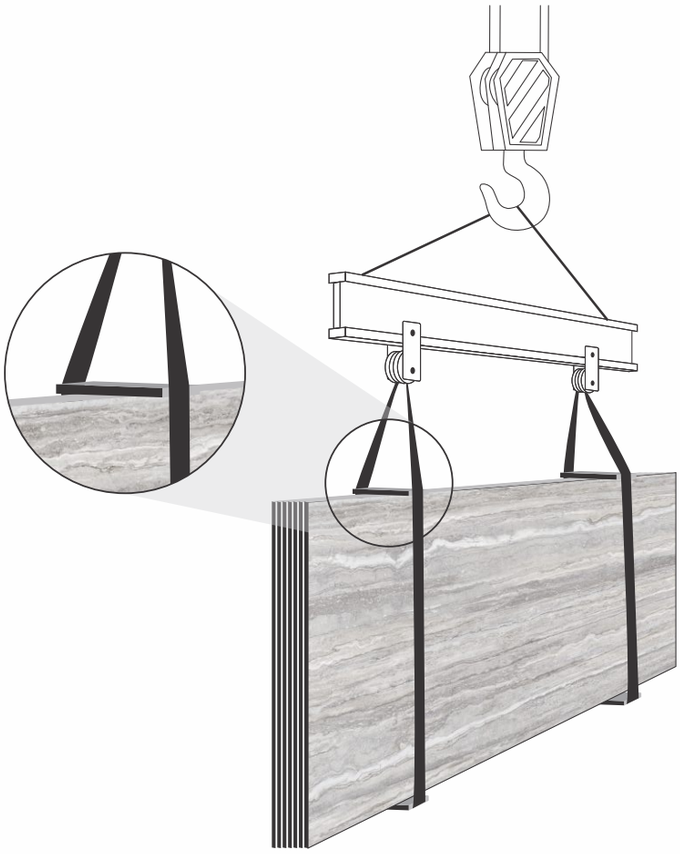
A-frame handling from short side (B)

We recommend you use forks with a length of at least 2.80m, widening them to the maximum limit to make the most use possible of the crate's surface.



Lifting Capacity: **5ton**





Handling with crane

Always pay attention to the movement and handling of the slabs to prevent splintering or breakage. TheSize recommends using the following type of clamp for lifting and moving individual slabs:

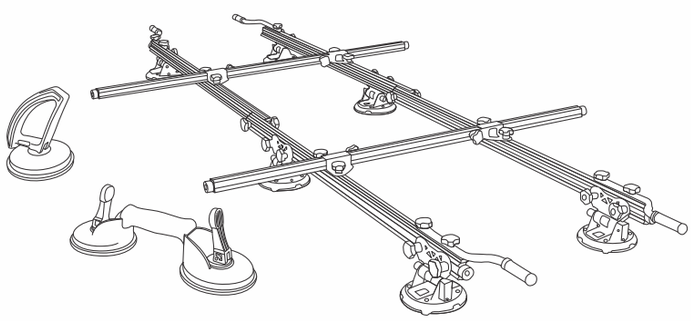
Ensure that for deliveries an oversized stone slab or board is supplied on the steel A-frame as backing support. Strap in Maximum to ensure no horizontal movement occurs during transport.

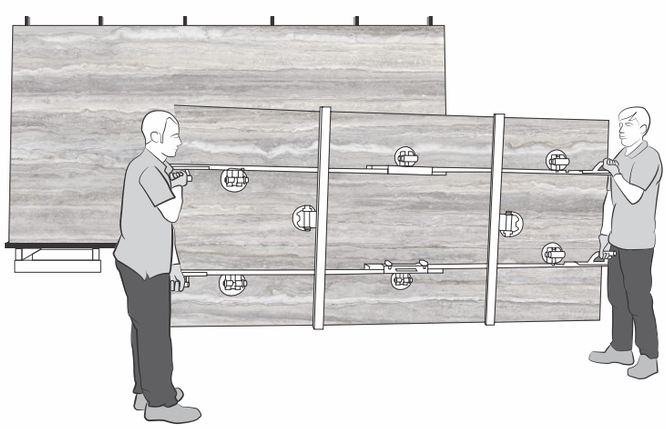
Panels can also be moved with a vertical clamp and overhead crane. To assist the movement of individual mm panels where the clamp doesn't close to 6mm, a rubber saddle can be made up (see photos) or vacuum suction lifters
can be used.

When transporting to site, in particular benchtops with cut outs, always lay bench against a solid substrate such as MDF or similar. Ensure that backing support is at least 2cm wider than the benchtop, strap or tape, or both together, so handling will be easier and will avoid potential damage to panels in particular to cut outs. Always carry panels vertically not horizontally.

Equipment

When handling the slabs, from removing them from the crates through to fitting them on the wall or floor, we recommend you use equipment designed specifically for handling large slabs.





Handling with manual suction cups

In the case of two workers, perform the handling using manual suction cups (preferably equipped with a pressure adjustment function). The workers must remove the slabs by lifting them in the middle, then moving them in an upright position, positioning themselves at the two ends of the long side.

Manual handling

In addition to professional handling machinery, such as pneumatic handling machines or gantries, or the frame stated earlier, the slabs are usually moved (on the construction site and in the warehouse) by workers provided with tools that are commonly available and easy to use.

It is important to remember that manual handling must only be carried out where site conditions are amenable, such as:

- ample room for manoeuvre;
- ground-floor location;
- easy access;
- limited number of slabs to be laid.

IN ANY CASE, THE SLABS MUST ALWAYS BE **HANDLED INDIVIDUALLY** AND **ENSURING THE WORKERS' COMPLETE SAFETY**.

Special cuts & finishes

Tops

Adicon slabs have a wide range of applications in interior design and both the 12mm versions can be used (after plating with a support panel) and the 20 mm versions, which do not require reinforcement underneath.

Whatever processing is envisaged, it is a good idea to have the final tile made at professional machining centres specializing in this type of product.

Tops CNC machining

Also in this case, the discs and the various tools must be diamond-enhanced for stoneware and water-cooled, with a rotation speed ranging from 1900 to 2500rpm (revolutions per minute) and a travel speed of 1-2 m/minute depending on the type of tool.
With this machine you can make the flush fit finish, which must be scored prior to making the cutout for the sink.
With CNC machines, you can make the flush fit finish by proceeding as stated below:

1. Drill the first hole
2. Make the score
3. Cut out the hole for the sink

Tops processing

The slabs can be cut, shaped, and transformed with cutouts for sinks or holes for taps, using the professional machines in use at machining centres, such as disc cutters, CNC machines and water jet cutters.

Tops disc-cutting

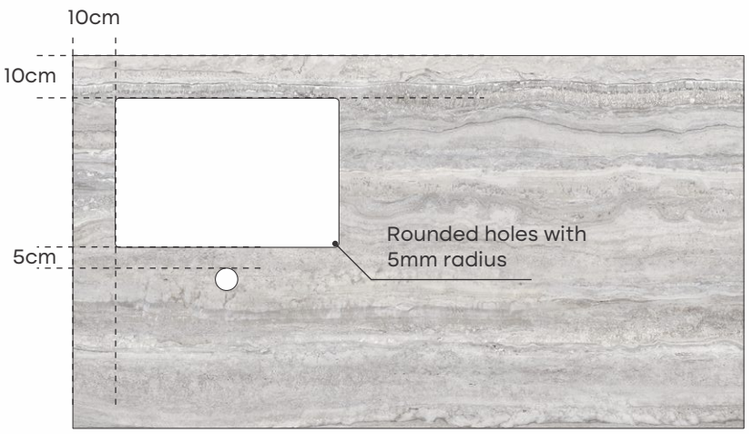
Use water-cooled continuous and segmented rim diamond discs for stoneware, with input and output speeds reduced by 50%.
The rotation speed and the travel direction must be set in based on the disc size and the processing type.
45° cuts are made with machines with tilting discs and, in the case of L-shaped workpieces, it is advisable to make a hole in the corner before proceeding with the linear cuts.
The same diamond discs can be mounted on manual grinders for finishing purposes, using the same procedures. The disc should only protrude from the lower part of the slab, very slightly (1-2 mm).

Tops water jet cutting

This is by far the most powerful type of processing and the one that allows the most types of cutting, shaping or holes to be made, and provides the cleanest edge requiring minimum final rounding.

The slabs must rest firmly on the support grid, which must be flat and devoid of residues from prior processing.

The hole for the cutout must be made inside the cutout area using carefully controlled speed and pressure based on the thickness of the slab being cut and the kind of processing required.



Holes for cutouts

During the top design stage, when making the holes for the taps and the cutouts, apply a minimum distance of 10cm from the outer edges, with respect to the edges and in the event of a series of cutouts (double sink or opening for a hob).

The inner corners must have a minimum radius of 5 mm.

The top outer edges must always chamfer.

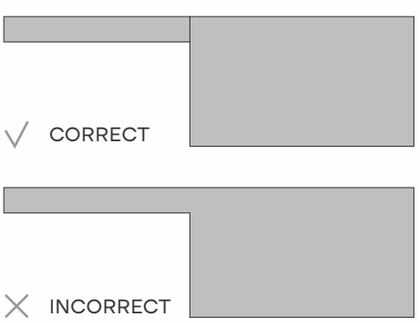
We recommend radiuses of more than 1/4" when the kitchen design allows as it makes the countertop firmer.

✓ CORRECT ✗ INCORRECT ✗ INCORRECT ✗ INCORRECT

The correct way to create a cutout, except with waterjet and digital control bits, is to first drill the corners and then the rest of the cuts.

⚠ All cutout corners must have a minimum diameter of 1/4". Never leave 90º angles.

Guidelines for cutouts



✓ CORRECT

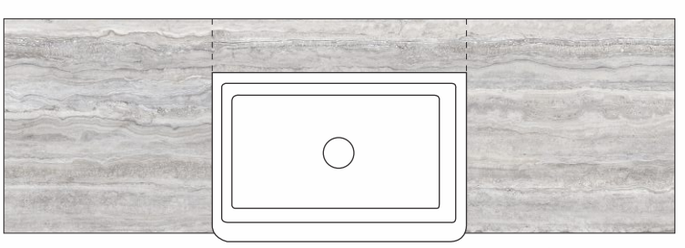
✗ INCORRECT

- Two straight cuts must never be joined
- No squared inner corners
- All inner corners must have one radius

If the countertop design so allows, avoid large cutouts. Experienced manufacturers make large cutouts but following their own risk assessment.

If the countertop design so allows, avoid stone countertops with unbalanced weights:

Irregular cuts are also not recommended such as for a "farmhouse sink"; in these cases, add joints to the countertop design:



✓ CORRECT

Observations

L-shaped countertops

Dividing L-shaped countertops into several parts is recommended to avoid 90º corners in one part.

Make sure the furniture is in perfect conditions and level before installing this type of countertop.

✓ CORRECT ✗ INCORRECT

Sinks

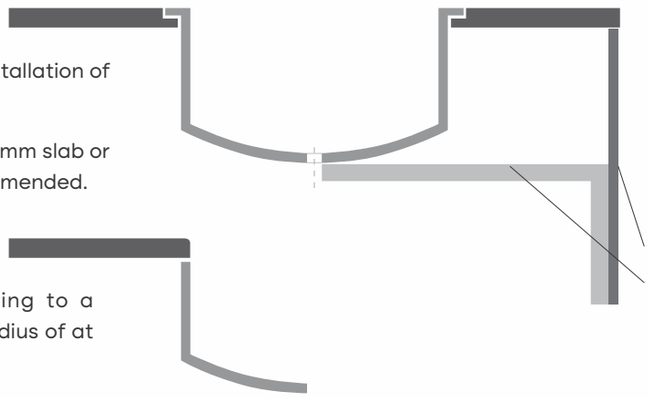
Flush sinks

The Size only recommends the installation of flush sinks in 12mm and 20mm.

Removing more than 6mm on a 12mm slab or 10mm on a 20mm slab is not recommended.

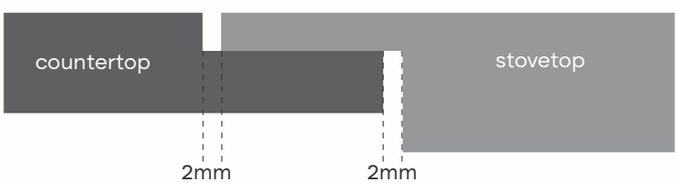
Undermount sinks

To reduce the risk of splintering to a minimum, a round edge with a radius of at least 2mm is recommended.



For large-size sinks, place a rod support structure under the sink so the weight is on the rods and not the countertop.

Glass-ceramic / induction stovetops



The minimum distance between the countertop and a stovetop must be 2mm.

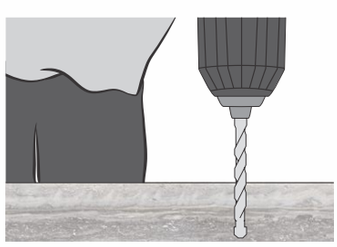
Use the right heat-resistant silicone or the joints supplied by the stovetop manufacturer.

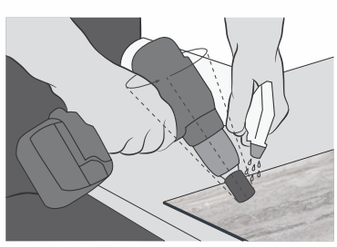
Removing more than 6 mm on a 12 mm slab or 10 mm on a 20 mm slab is not recommended.

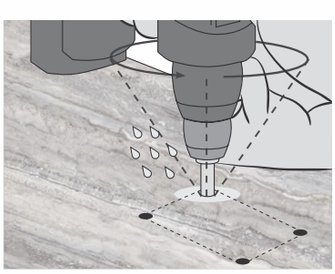
Circular holes

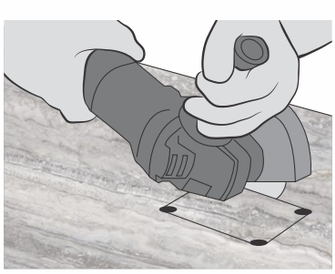
Using a diamond bur, start cutting the hole with the hammer drill function switched off, cutting the slab at an angle of approximately 75°.

Slowly straighten the drill, moving it carefully from side to side and taking care to keep both the bur and the slab wet.









Rectangular holes

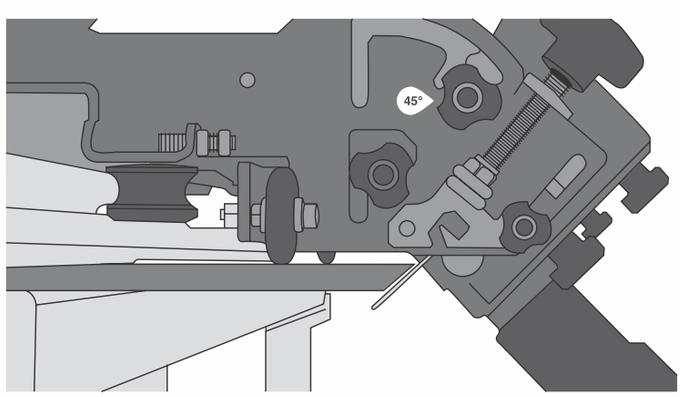
First of all, using a pencil, mark out the rectangular hole required. Using a drill with a diamond bit (6mm to 7mm), start cutting the slab with the hammer drill function switched off, working at an initial angle of approximately 75°. Then proceed to cut out the hole, applying constant pressure and carefully moving the drill from side to side. It is very important to keep both the drill bit and the slab wet. Proceed by cutting along the marked line, using an angle grinder with a diamond disc fitted.

45° Angles

The edge used in this application must then be manually bevelled with a suitable tool, and final-polished (only the 12 mm slabs, i.e. those made of two 6-mm slabs coupled together) using polishing wheels in increasing order of abrasive force.

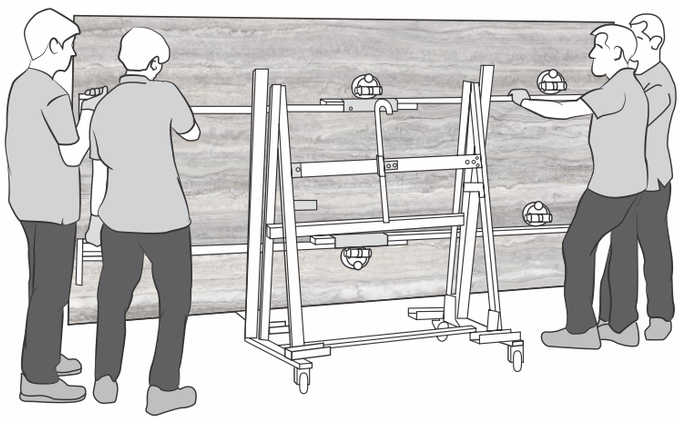
Start cutting the slab with a 45° angle using the cutting bar accessory. Proceed by slowly cutting at a 45° angle, at a constant speed, along the entire edge of the slab.

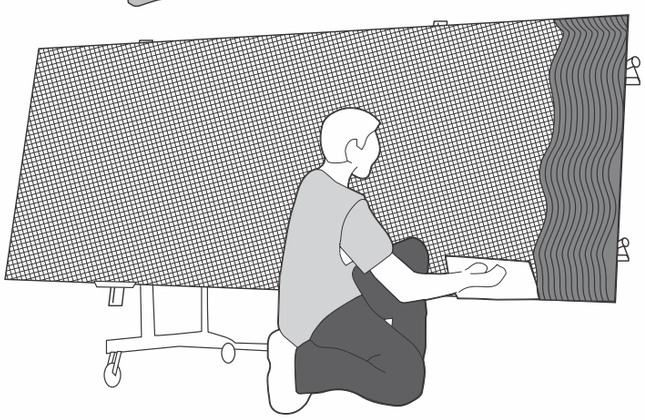
Lastly, hone the slab's sharp edges with a rubber pad or a diamond pad.



Laying & fixing

Before carrying out any process on the slab and installing it, it is necessary to verify conformity of the material and the possibility of matching with shades already present at the building site. We do not accept complaints about materials that have been processed and installed.





Large format Adicon SLABS always require back-buttering. Back-buttering describes the process of applying a layer of adhesive to the back of the tiles using a trowel.

Using a specialist wheeled transport cart, fix the large format slab in a vertical position on the handling frame with the use of suction cups. Use a 10x10mm square toothed trowel for applying your adhesive to the wall or floor and when back-buttering, use a 3x3mm square toothed trowel for the back of the tile.

Using the handling frame with suction cups, bring the slab into a vertical position and slowly lower it to horizontal. The Adicon SLABS should be firmly pressed into the adhesive along a straight edge, collapsing all adhesive ridges. Use a levelling system to avoid lippage and frequently checks that your Adicon SLABS are even using a suitable box level. Levelling systems are available with 2mm 3mm and 5mm tile spacers.

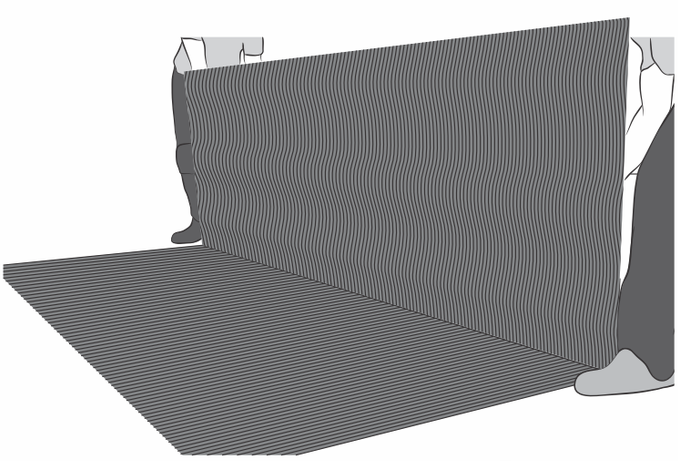
Periodically check the tiles backs to make sure there is full contact between the adhesive and tile. If not, apply additional adhesive to the tile or use a troll with larger notches in your adhesive. As you are working wipe off excess mortar with a wet sponge.

The growth in popularity of large format tiles, with their increased weight and smoother backs, presents new fixing challenges to the professional tiler.

Correct preparation of the subfloor or laying surface is crucial. The laying surface should be rigid, non-flexing and capable of supporting the expected load with minimal or no deflection. A level subfloor is extremely important in order to keep tiles from cracking. Sanding high spots and the use of a levelling compound on low spots is essential. It is also important that Adicon SLABS are clean and dry, if necessary wash them with clean water and dry them thoroughly before fixing.

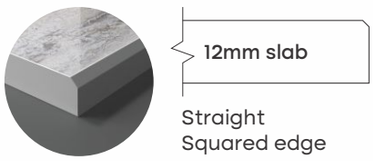
Whatever your specific requirements, whether they be for standard or large formats or within the internal or external applications, selecting the appropriate cement-based, fibre-reinforced or ready-mixed adhesive is vital to ensuring the success of your project.

Once your subfloor is clean and dry, spread the adhesive on the surface to be covered with a 10x10mm square toothed trowel, covering an area 5cm to 10cm more than the size of the Adicon SLABS. Always apply the adhesive in stripes running parallel with the short edge to remove air pockets and bubbles. By using this method, full coverage of the Adicon SLABS with adhesive is ensured.

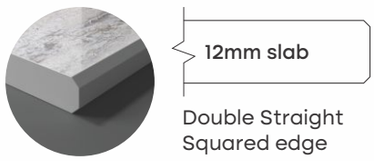


Edge profile

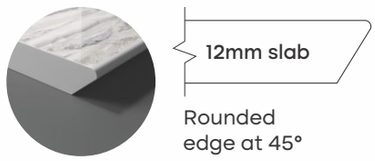
These surfaces boast a 12mm thickness that makes them extra durable and sturdy and the full body offers the possibility of various edge profiles providing complete creative freedom.



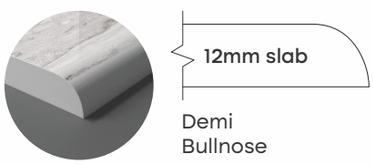
Straight
Squared edge



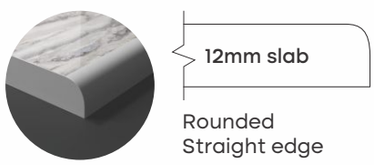
Double Straight
Squared edge



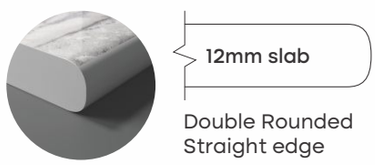
Rounded
edge at 45°



Demi
Bullnose



Rounded
Straight edge



Double Rounded
Straight edge

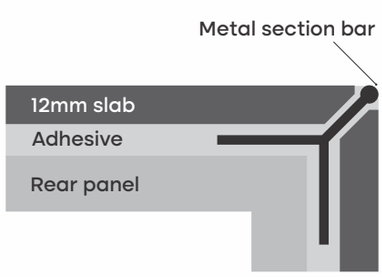
Tops edges

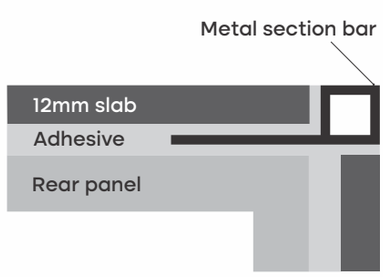
Whatever kind of edge you intend to use will have to be completed with a chamfer or bevel around the perimeter and its finish can be produced using either automatic machines or manually, using suitable discs.

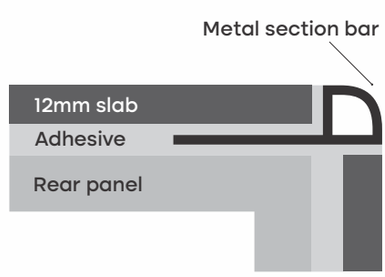
A straight edge must be at least 2mm wide, while rounded edges must have a curvature angle of at least R 2mm, and a third edge can be made with 12mm thick with an angle of less than 30-35° and an upper finish as specified.

Metal section bars

Alternatively and depending on style requirements, metal section bars can be used for the thinner slabs which are quite commonplace nowadays.







Cleaning, maintenance & care

The slabs are extremely easy to clean and do not require particular maintenance work.

The production process (involving very high-quality raw materials and high firing temperatures) makes the finishes of slabs non-absorbent and their surfaces almost completely non-porous, which means that cleaning operations are simple and efficient.

In fact, the ceramic structure does not allow dirt to penetrate inside the slab.

Post-installation cleaning

After processing and gluing the material, clean the ceramic surface to remove any contaminants (patinas, residues of fillers or adhesive, etc.) that may be present. It is crucial to perform this step properly because it may cause halos if done incorrectly.

To clean structure surfaces, we advise quickly removing stains with plenty of water and a liquid vacuum cleaner to remove the dirt that could deposit on the surface structure. It is important to complete the cleaning phase before the adhesive hardens completely because, give the surface structure, it would be more difficult to remove the adhesive after it has hardened completely.

For correct cleaning, always follow the specific instructions provided by producers of cementitious and epoxy fillers and adhesives used to install slabs to find out which products to use plus methods and waiting times.

If installing slabs outdoors, we suggest cleaning up right after installation during the coolest hours of the day.
Do not use abrasive substances or equipment. Under no circumstances use hydrofluoric acid or products that contain it.

The indications listed in this paragraph are not valid for series and finishes. Consult paragraphs 14.1.1 for instructions for these finishes.
Any inability to remove residues of materials used during installation after they have dried cannot be considered a material defect.

During installation and cleaning, sweep the glossy finished products frequently to avoid surface scratches.

Type of dirt	Type of detergent
Beer, wine, coffee	Sodium hypochlorite (bleach) in solution or alkaline detergent
Ice cream	Sodium hypochlorite (bleach) in diluted solution
Tyre rubber	Organic solvent (trichloroethylene)
Greases and oil	Alkali-based detergent
Inks	Sodium hypochlorite (bleach) in solution or alkaline detergent
Indelible felt-tip	Organic solvent (trichloroethylene acetone)
Resins	Organic solvent (turpentine, white spirit, thinner)
Lines from aluminium	Acid detergent or abrasive cream/powder detergent
Rust	Acid-based detergent
Fruit juices	Sodium hypochlorite (bleach) in diluted solution
Other stains	Abrasive cream detergent

WARNINGS:

- Always comply with the dosages and times recommended by the producer and test in advance on uninstalled material or hidden parts of the installed surface.
- If using acid detergents, before cleaning wet the grouts with plenty of water or protect them from the detergent's corrosive action.
- In a location requiring special cleaning parameters (kitchens, hospitals, shops, etc) or with particularly stubborn types of dirt (outdoor pavings, workshops, etc.), the cleaning procedures recommended above should be combined with scrubber-drier machines and specific products.
- Before starting cleaning procedures, always read the technical datasheets provided in the catalogues for each collection with great care.