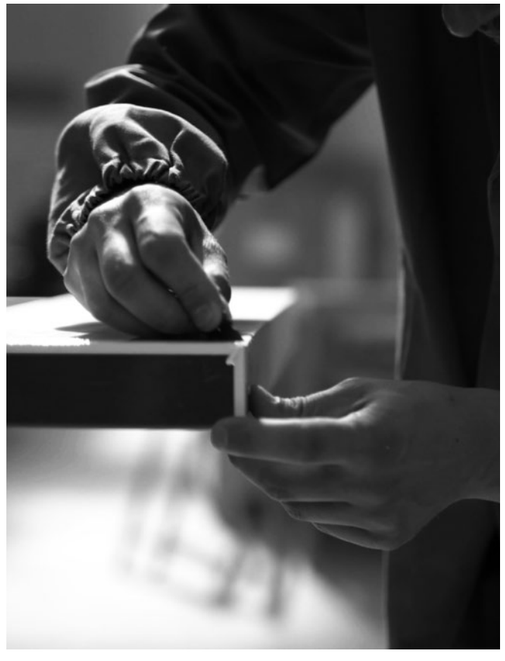
# CUTTING TIPS

SAPIENSTONE

# EDGE CUTTING AND TREATMENT

## BY DISC, WATER JET, CNC & EDGE TREATMENT

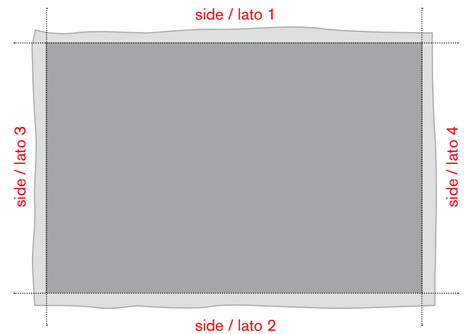


The successful processing of a slab does not depend so much on the type of tool—whether it is a Disc, Water Jet, or Milling Cutter—but rather on the cutting methods and sequence used. As a general rule, it is always advisable to break down the slab as much as possible by removing the parts that are not relevant to the project. During all processing phases, the more the slab is reduced to its final dimensions, the greater the advantages in workability. It is very rare for a slab to be unworkable; there are more or less conservative approaches, as well as more or less invasive sequences and methods. Less conservative sequences and methods can lead to conditions that cause slab breakage. Some slabs may have different workability due to mineralogical characteristics, but this does not mean they should be considered defective.

With these clarifications in mind, we will now outline some fundamental points that form the basis of successful processing.

### Cutting and cutouts

Non-rectified large format ceramics must be detensioned, by making a small cut on all four sides, before starting to carry out any other work.
We recommend using any type of cutter (disc, waterjet, CMC etc.). We also recommend making cuts on the long sides first (1 and 2) followed by the short sides (3 and 4).

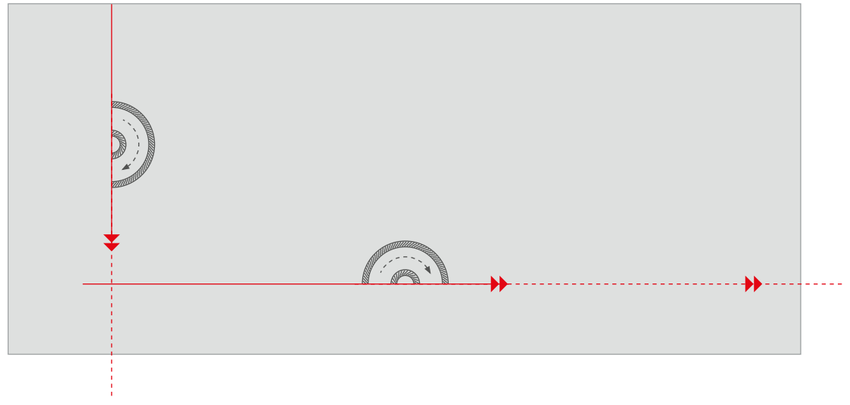



### Installation Instructions

We recommend wet cutting or the score and snap method during the installation process.
Do not dry cut using power tools during the installation process.
Improper installation techniques could expose installer to harmful dust.

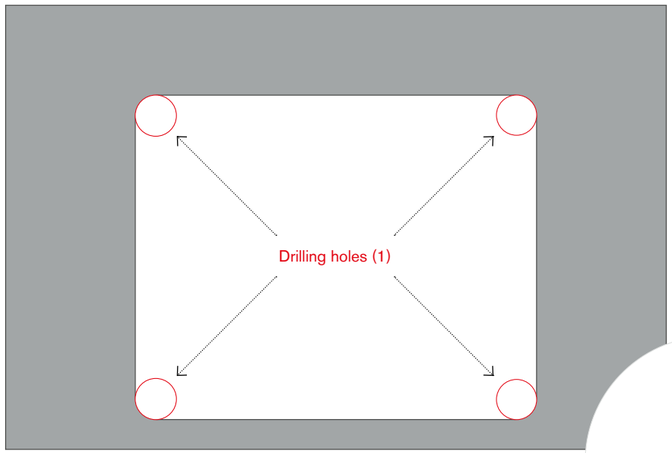
### Disc cutting

Ensure that the workbench is stable and level. Select an appropriate disc taking into account the type of material which needs to be cut (PORCELAIN STONEWARE), thickness, angle and type of machinery used.
When making cuts on small pieces, it is good practice to secure them with the appropriate tools to prevent movement and potential breakage.
Reduce the cutting speed by 50% at the beginning and end of the cut, over a length equal to the diameter of the disc being used.

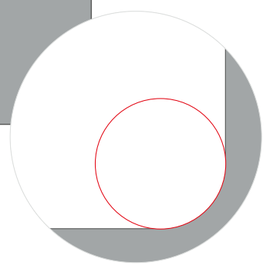


## Internal cuts with disc cutter for basins, cooktops, etc.

After having detensioned the large format ceramic around the entire perimeter, firstly make holes in each corner - minimum 35 mm (1.4 in) diameter holes are recommended. Then make 4 cuts on the large format ceramics starting with the longest cut and innermost one.
The cut must be at a tangent to the circumference of the hole, without going beyond it.




Ø recommended
hole 35 mm (1.4 in)



The minimum distance between the cut and the edge of the slab must not be less than 50 mm (2.0 in).

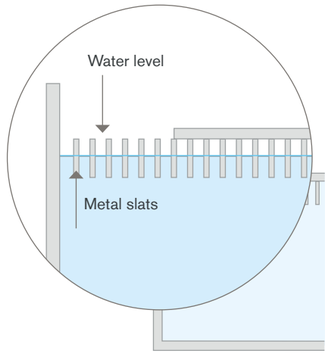
## Important.

- Ensure the work surface is straight, clean, and stable;
- Use blades specifically designed for porcelain stoneware;
- The smaller the diameter of the blade, the higher the spindle rotation speed;
- The slower the feed rate, the better the quality of the cut;
- The blade must cut through the full thickness of the slab, extending at least 1 mm beyond it;
- Cool both the slab and the blade properly during cutting;
- Use plenty of water, making sure to direct the stream directly onto the cutting area.

The values shown are indicative only and refer to an appropriate machine in good working order with adequate discs.
For disc cutting, the operators expertise is vital in setting the parameters correctly, depending on the ceramics to be cut and the result required. It is also important to follow manufacturer's recommendations in respect of cutting discs.

## Water-jet cutting

Sapienstone slabs can also be processed using water jet cutting.
It is important to set the cutting parameters by considering all relevant factors: the type of material, its thickness, and the type of machine being used.
Water jet cutting allows for perfect shapes and clean, highly precise cuts.
Before starting any processing, always check the flatness of the workbench and the condition of the supports.
Replace worn support slats on the bench to ensure the surface rests evenly.
When the slab requires multiple cutouts, always begin with the largest one first, followed by the smaller ones (for example: cut the sink hole first, then the faucet hole).
Water level
It is always recommended to drill holes at the corners before making cutouts, in order to avoid excessive stress at the intersection points of the cuts.
The minimum distances between hole and edge, and between holes, remain unchanged (min. 50 mm).
For water jet cutting as well, it is advisable to outline the perimeter cut before starting the actual processing.





## Indications for water-jet cutting

| Ø ORIFICE | Ø NOZZLE | H2O PRESSURE (HIGH) MPA | H2O PRESSURE (LOW) MPA | ABRASIVE FLOW KG / MIN | ABRASIVE TYPE |
|---|---|---|---|---|---|
| 0,3048 mm<br>0.012 in | 0,889 mm<br>0.035 in | 3800 | 700 | 0,32 (11.25 oz) | Grana #80 |

## SPEED MT/MIN

| | |
|---|---|
| Thickness 12 mm (0.48 in) | 0,7 - 1.0 |
| Thickness 20 mm (0.80 in) | 0,3 - 0,5 |

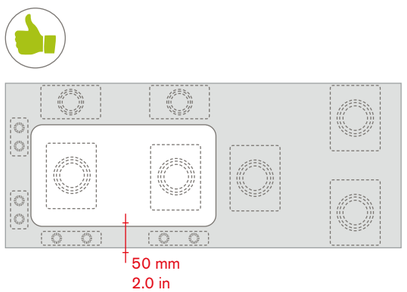
Reduce the speed by 20-30% for cuts other than at a 90° angle.

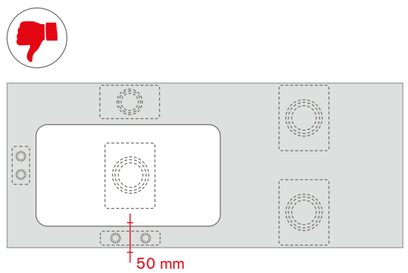
The figures shown are indicative only and refer to an appropriate machine in good working order with adequate equipment.
For waterjet cutting, the operators expertise is vital insetting the correct parameters, depending on the ceramics or porcelain to be cut and the result required.

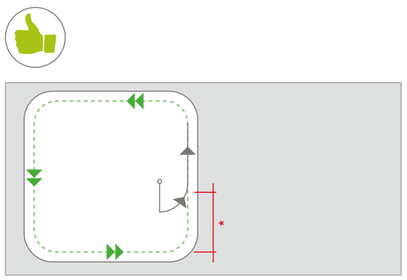
## CNC Cutting

Ensure the work surface is in optimal condition.
Place a sufficient number of suction cups to provide the best possible support for the slab.
Proper and functional positioning of the suction cups is essential for the success of the operation, placing them especially under areas most stressed during the process.

Distribute the suction cups evenly, including in the section that will be removed. Otherwise, the cut part could bend before the process is complete, causing cracks and breakages that would make the slab unusable.
Use plenty of water, directed precisely onto the tool.



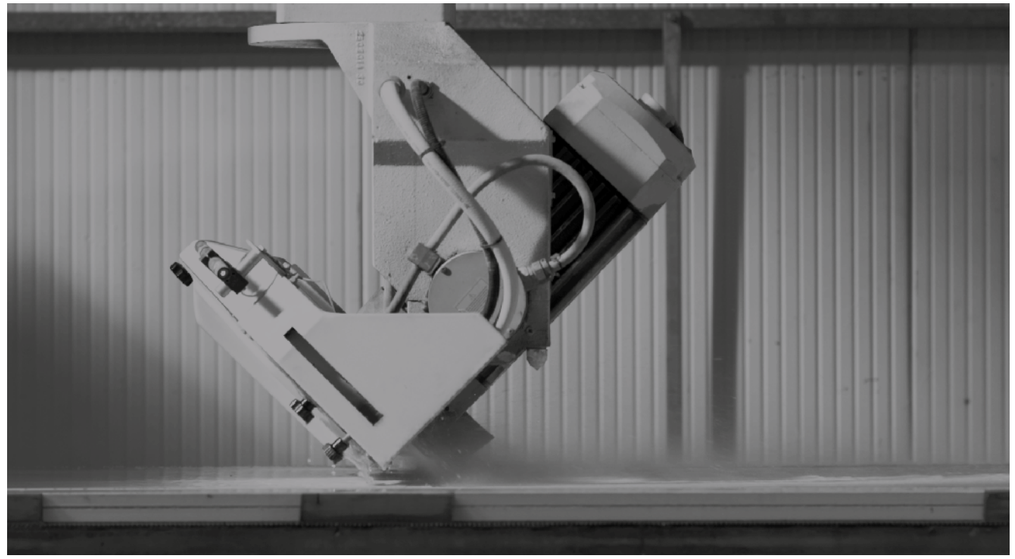




*50% of cutting speed applied in the last 150 mm (6.0 in)

## CNC Cutting Parameters

During CNC cutting, the operator's experience is essential in correctly setting the processing parameters, based on the material being worked and the desired result.
The manufacturer's guidelines for the cutting tools are also very important and should always be followed. We recommend starting with more conservative settings.



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