Processing Manual

Vers. 0/2020

LAPITEC

This manual has been designed with the aim of providing guidelines and helpful suggestions for the processing of **Lapitec®**.

The information contained herein reflects the highest level of technical-scientific and operational knowledge possessed by the manufacturer at the time of publication. You are therefore invited to consult the latest, most up-to-date version, which is always available in the download area of the website www.lapitec.com.

In any case, given that this is a natural sintered material, the user is advised not to limit themselves to the instructions provided in this document but rather to consult the vast technical-scientific and operational literature available on this subject, and to employ the services of professional experts for the various stages of processing and installation of the ceramic products.

In regards to the above, Lapitec S.p.A. shall not be held liable for any damage that may result during the application of the information and suggestions contained in this technical manual, insofar as considered merely information and suggestions, which must always be verified beforehand by the user.

Moreover, Lapitec S.p.A. reserves the right to make technical changes of any type without any prior warning and without direct communication to any parties.

INDEX

1. LAPITEC® SINTERED STONE

1.1/ CHARACTERISTICS

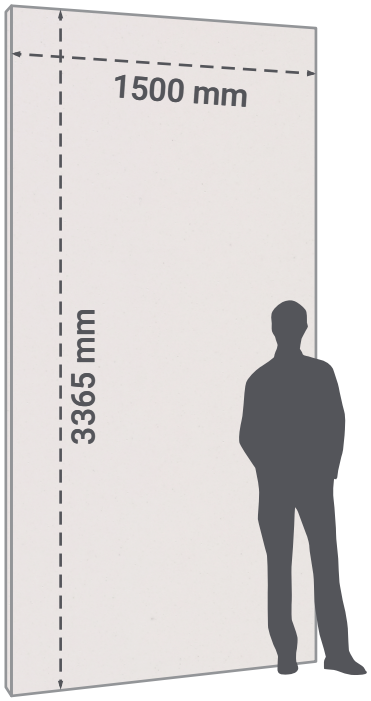
Lapitec® is a sintered stone, an innovative material manufactured in large size sheet form using an exclusive patented technology and it can be used both indoors and outdoors.

Lapitec® sintered stone is resistant to wear, atmospheric agents, exposure to sunlight (UV), heat, frost and absorption.

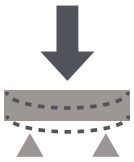
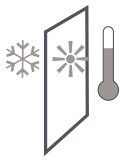
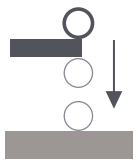
The various **Lapitec®** surface finishes make it suitable for use both for floors and for walls.

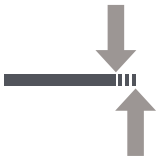
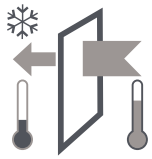
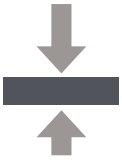
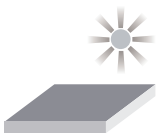
Lapitec® is compatible with a wide range of adhesives and fastenings that allow installation of various types of supports. It can be used without limitations in different environments, even particularly severe ones (damp environments, saline atmospheres, in the presence of aggressive pollutants, etc.).

Standard dimensions



1.2/ TECHNICAL DATA SHEET

TECHNICAL SPECIFICATIONS		STANDARD	VALUE
	Standard dimensions	EN 14617-16	3365x1500 (12-20 mm) 3365x1460 (30 mm)
	Thicknesses	EN 14617-16	12 – 20 – 30 mm
	Density	EN 14617-1	2,4 kg/dm^3
	Water absorption	EN 14617-1	0.02%
	Flexural strength (R_{tf}) after 25 freeze-thaw cycles (R_{Mf}) after 20 thermal shock cycles (R_{sf})	EN 14617-2	55 N/mm^2 54.1 N/mm^2 54.3 N/mm^2
	Deep abrasion resistance	EN 14617-4	140 mm^3
	Frost resistance	EN 14617-5	Resistant
	Coefficient of thermal shock resistance (after 20 cycles)	EN 14617-6	0.9%
	Impact resistance	EN 14617-9	1.97 Joule (thickness 12 mm) 3.3 Joule (thickness 20 mm)
	Acid and alkali resistance	EN 14617-10	C4 - Resistant
	Coefficient of linear thermal expansion	EN 14617-11	5.8 x 10^{-6} °C^{-1}

TECHNICAL SPECIFICATIONS		STANDARD	VALUE
	Dimensional stability	EN 14617-12	A
	Fire reaction	EN 13501-1	A1
	Thermal conductivity	EN ISO 10456	1,3 W /m · °K
	Specific heat capacity	EN ISO 10456	840 J/kgK
	Aqueous vapour diffusion resistance	EN ISO 10456	no value (dry) ∞ (wet)
	Non-slip properties	DIN 51130	R9 (Velvet) R10 (Vesuvio, Lithos, Dune) R12 (Urban) R13 (Fossil, Arena)
	Compressive strength	ASTM C170	439 N/mm^2 (dry) 483 N/mm^2 (wet)
	Colour resistance to light	DIN 51094	No variation
	Water absorption - capillary	EN 1925	0,006 g/m^{2}s0,5

Lapitec® is a fireproof material, classified A1. When exposed to fire it does not ignite, does not release fumes and does not spread flames.

Violent thermal fluctuations such as direct exposure to a flame may cause the material to break.

2. MANUAL PROCESSING

2.1/ INTRODUCTION

Lapitec® is a sintered stone supplied to the worksite ready for installation (cut, drilled and processed).

A good design and accurate site survey will allow all processes to be carried out at the company premises, avoiding the need for inconvenient and critical adjustments in the worksite.

Should processing be necessary in the worksite, it is recommended to strictly follow all instructions provided in this manual, using the tools supplied and/or recommended by Lapitec SpA.

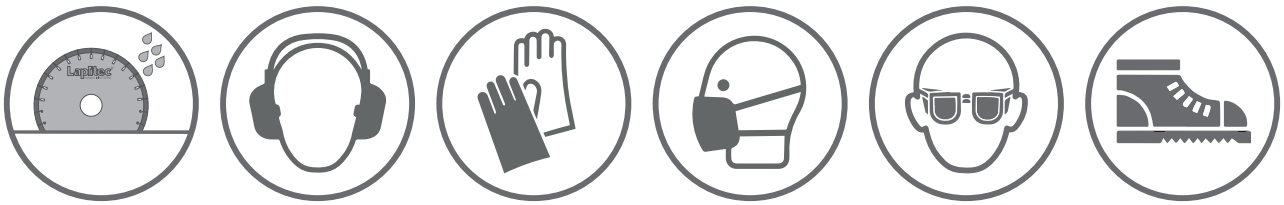
If it becomes necessary to perform any type of process, it is good practice to carry out preliminary tests for both cutting and drilling in order to acquire familiarity and avoid unfortunate inconveniences.

On request, the company can provide manufacturing scraps to use for this scope.

To perform manual processes, it is recommended to abide by health and safety legislation in force.

Each worker must have the PPE (Personal Protective Equipment) specific to the required processes.

Following are our recommendations.



2.2/ SLABS STORAGE

The slabs are packaged either on A-frames and/or in crates. Individually, they must be transported with care and stacked on their side, regardless of their format, making sure to insert materials between the different pieces, and between the slabs and the support, to prevent any potential breakages (e.g. wooden shims). The slabs must be suitably supported so as to avoid any flexion and must be housed in spaces that are not subject to any accidental impact (passageways or manoeuvring areas).

If they must be deposited outdoors, they must always be protected against the rain by a sheet, thus preventing any stagnation on the slabs. If the slabs are wet during packaging, the packaging must be completely removed and the slabs must be arranged in such a way as to perfectly dry.

During any manual processing, the slabs must be properly supported. The support must be sufficiently rigid, perfectly flat and in good condition. A wooden support is preferable to a metal one in order to prevent scratches due to rubbing on the Lapitec surfaces.

2.3/ MANUAL CUTTING

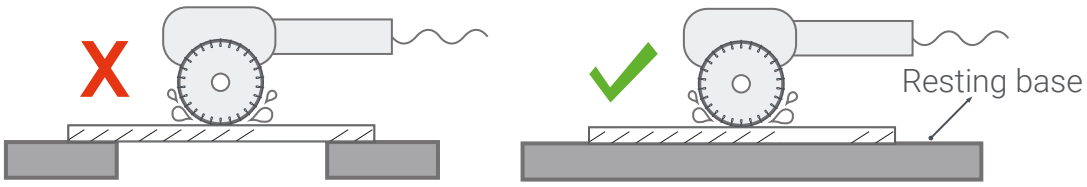
The instructions provided in this paragraph refer to manual cutting only; for benchtop processes (saw, waterjet or CNC), refer to the specific chapters.

In order to proceed, it is necessary to use the cutting tools supplied and recommended by Lapitec SpA, or alternatively, tools whose full compatibility with the indicated type has been checked, always with plenty of running water for cooling and to reduce dust. Lapitec SpA does not recommend dry cutting.

Processing must always start from the finished surface and proceed toward the unfinished one.

Once cutting is complete, it is recommended to lightly sand (with a sandpaper pad, 60/120 grit) the top and lower edge of the newly cut side. This technique will prevent inconvenient chipping and prevent the risk of cuts (the hardness of **Lapitec®** leaves the edges quite sharp).

Supplier	Tool	Grinder rotation
Lapitec®	Saw blade for manual cutting	13.000



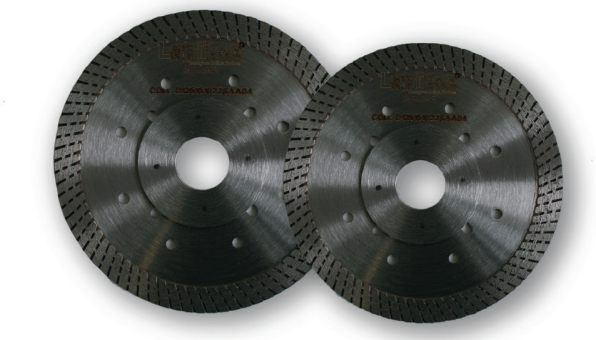
2.3.1/ Tools - blade for cutting on job site

To process the material on-site, Lapitec SpA supplies and suggests specific tools, all tested and guaranteed. The approved tools are available at Lapitec SpA, which declares their suitability for use.

Continuous rim diamond blades for manual tools (angle grinders, flex...)
Ø 115 mm attachment Ø 22 (*) RPM from 11,000 to 13,000
Ø 125 mm attachment Ø 22 (*) RPM from 11,000 to 13,000
Ø 230 mm attachment Ø 22 (*) RPM from 9,000 to 11,000
(*) adaptor also available for Ø 20

Lapitec® saw blade for manual cutting
Diameters 115-125-150-230 mm

The sequences are subject to possible variations due to the continuous effort to improve processing products. It is recommended to contact the supplier or the LapitecACADEMY service for all clarifications.



2.4/ MANUAL DRILLING

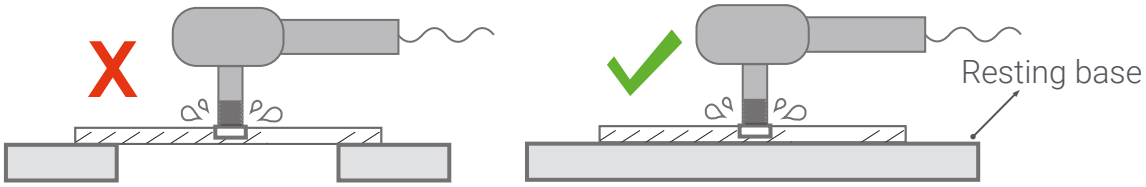
If cut-outs need to be made (for piping, wiring, air vents...) Lapitec can be drilled using the tools listed below and the indicated methods.

The part to be drilled must be suitably supported, as in the case of cutting; during drilling operations, all types of percussions must be avoided so as to prevent breakages.

To proceed with drilling, water must be used for cooling and to reduce dust. Lapitec SpA does not recommend dry cutting.

Processing must always start from the finished surface and proceed toward the unfinished one.

Attention: drilling must always start from the finished surface and proceed toward the unfinished one.



2.4.1/ Tools - crown drill bits for drilling on the job site

To process the material on-site, Lapitec SpA supplies and suggests specific tools, all tested and guaranteed. The approved tools are available at Lapitec SpA, which declares their suitability for use.

Diamond hole saw for drilling with manual tools (drills...)

Holes Ø 06 mm attachment HEX RPM 1,800 - 2,000 (for drill)
Holes Ø 08 mm attachment HEX RPM 1,800 - 2,000 (for drill)
Holes Ø 10 mm attachment HEX RPM 1,800 - 2,000 (for drill)
Holes Ø 12 mm attachment HEX RPM 1,800 - 2,000 (for drill)
Holes Ø 14 mm attachment HEX RPM 1,800 - 2,000 (for drill)
Holes Ø 06 mm attachment M14 RPM 1,800 - 2,000 (for flex)
Holes Ø 08 mm attachment M14 RPM 1,800 - 2,000 (for flex)
Holes Ø 10 mm attachment M14 RPM 1,800 - 2,000 (for flex)
Holes Ø 12 mm attachment M14 RPM 1,800 - 2,000 (for flex)
Holes Ø 14 mm attachment M14 RPM 1,800 - 2,000 (for flex)
Holes Ø 15 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 20 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 25 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 30 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 32 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 35 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 40 mm attachment M14 RPM 3,000-11,000 (for flex)
Holes Ø 50 mm attachment M14 RPM 3,000-11,000 (for flex)

In the workshop with Fast Line: wet drilling
Workshop core drills diameter 35 mm M14 1,500-2,500

2.5/ FINISHES

2.5.1/ Finish for countertop and side - LUX

Supplier	Tool	Sequence adopted
Sanwa - Kenma (Alpha Tools)	Dia Ceramica - Ex Ceramica Series	150R - 300R - 500R - 1000R - 2000R - 3000R
Weha	Es Wet Use - Ex Series - Hybrid Flash	1 - 2 - 3 - 4 - 5 - 6 - 7 50 - 100 - 200 - 400 - 800 - 1500 - 3000 H1 - H2 - H3
Italdiamant	Ds Series	50 - 100 - 200 - 400 - 800 - 1500 - 3000

2.5.2/ Finish for countertop and side - SATIN

Supplier	Tool	Sequence adopted
Sanwa - Kenma (Alpha Tools)	Dia Ceramica - TF Ceramica Series	150R - 300R - 500R*
Weha	Es Series - Hybrid Flash	50ES - 100ES - 200ES - 400ES - 800ES* H1 - H2
Italdiamant	Ds Series	50 - 100 - 200 - 400 - 800*

*Optional

See the technical manual of the tool manufacturer to determine the best working parameters.

2.6/ ASSEMBLY USING ADHESIVES

This paragraph deals with processes for bonding **Lapitec®** slabs to each other. For instructions on how to bond **Lapitec®** onto other supports, see the specific Finishes Manual.

Lapitec SpA has performed bonding tests on numerous products, not only for their technical performance, but also for the compatibility of their tone with the colours of **Lapitec®** slabs.

A number of Tenax branded products are proposed below, custom made for **Lapitec®** slabs and our colour range, inclusive of their technical specifications.

2.6.1/ Good standards for the use of adhesives

Before applying the adhesive, check that the surface to be glued is clean, properly dried and free of any type of treatment. If it is necessary to glue on a treated surface, it must be sanded with coarse sandpaper (60-80) so as to remove the treatments and create a rough surface that guarantees certain and long-lasting adhesion.

For greater certainty on overhanging (45°) bondings, it is good practice to place a square or “L” profile measuring approximately 30 x 30 mm on the non-visible rear side of the material, along the entire gluing length of the lintel.

When it is not possible to use **Lapitec®** to support the finished piece, choose a material with the same expansion coefficient as **Lapitec®** (e.g. Granite).

Disclaimer

When selecting the adhesive, the intended function and use of the workpiece must be considered in order to identify the most suitable product.

2.6.2/ STRONGBOND Cartridge

Adhesive paste to glue **Lapitec®** suitable for both indoor and outdoor applications, also with persistent exposure to UV rays.

The Strongbond cartridge is characterised by its excellent adhesion in very short times (1 hour, 1 hour and 15 minutes), allowing the cutting and polishing of glued pieces. The surface of the hardened product is smooth, shiny and easy to polish.

Instructions for use

The product is packaged in special twin-cartridges containing 215 ml in a ratio of 2:1. The two chambers of the cartridge contain resin and a pre-dosed hardener.

All surfaces of the support to be treated must be clean, dry and without traces of dust and grease. In the case of glossy and/or smooth surfaces, it is recommended to sand the support before applying the adhesive.

Remove the threaded tip and pull out the stopper. Secure the mixer to the cartridge with the threaded nozzle.

Before applying the adhesive, it is good practice to extrude about 5-10 g of product (half a cup of coffee) equivalent to a bead of about 30-45 cm. This operation should be repeated each time the mixer is changed. After use, clean the tip with a piece of paper and close the cartridge. Throw away the used mixer. Use only guns compatible with the 2:1 cartridge.

The product will not harden under +1°C.

Parameter	Value	Parameter	Value
Product	Epoxy resin	**Shelf life**	24 months
Type	Vertical application	**Pot life**	45-60 minutes
Scope	Indoor and Outdoor (Guaranteed for 15 years)	**Workpiece can be handled after**	15 minutes
Subject to yellowing	No	**Max. working temp.**	60°/-25°C
Colour	All colours	**Trowel**	Stainless steel or clean plastic
Product package	215 gr	**Gel time at 25°C**	3-5 minutes

2.6.3/ STRONGBOND A+B

New generation dual-component adhesive with zero yellowing in the sun for **Lapitec®** bonding, suitable for indoor and outdoor use. Paste product without solvents and with medium reactivity. Good hardness. The adhesive hardens even at 0°C. The appearance of the hardened film is still shiny and dry even in conditions with a poor humidity rate and temperature. Its use is suggested for white materials where it must be guaranteed that the resin will not yellow in the sun. Does not stain and does not alter the colour. The hardening of the resin is only marginally affected by the temperature. Product with VOC=0.

Instructions for use

The resin and hardener must be stored in their original containers. The hardener must be kept tightly closed to prevent hardening. Do not place in contact with other resins or hardeners, which even if dry, may alter the properties of the product. In automatic dosing systems, avoid contact with metal parts unless they are in stainless steel. Take the required amounts (in weight) of the two components from their containers, according to the indicated usage ratio, mix them vigorously and then proceed with their use. Use clean plastic or stainless steel tools during mixing. The use of metal tools (except for stainless steel) may damage the quality of the resin.

Never place any unused adhesive paste that has already been mixed with the catalyst back into the container.

If the colour of the adhesive paste needs to be corrected, use the special Rainbow colouring pastes.

Make sure the material on which the Strongbond resin is applied is completely dry and clean.

Close the containers tightly after use and avoid prolonged contact with the air.

Parameter	Value	Parameter	Value
Product	Epoxy resin	**Catalyst**	70% in weight
Type	Vertical application	**Pigment**	1-2%
Scope	Indoor and Outdoor (Guaranteed for 15 years)	**Shelf Life**	12 months
Subject to yellowing	No	**Pot life**	24 hours
Colour	Clear	**Workpiece can be handled after**	1 hour and 15 minutes
Product package	500 gr	**Max. working temp.**	60°/-25°C
Catalyst package	350 gr	**Trowel**	Stainless steel or clean plastic
Pigment packages	75 ml	**Gel time at 25°C**	20-25 minutes

2.6.4/ FROZENBOND A+B

Extra-strong dual-component epoxy adhesive in a very soft, spreadable thixotropic paste for vertical application, ideal for indoor and outdoor use, particularly suited to colder climates. Recommended for outdoor use. High adhesion strength on multi-materials and resistant to weather. Can be applied even on damp surfaces. Also suitable to bond different types of materials: **Lapitec**®-stone, **Lapitec**®-glass, **Lapitec**®-cement, **Lapitec**®-composite honeycomb panels, **Lapitec**®-wooden or laminate panels. The surfaces to be bonded should be sanded beforehand. It is advisable to check the flatness of the finished workpiece after one month.

Instructions for use

The resin and hardener must be stored in their original containers. In automatic dosing systems, avoid contact with metal parts made of copper, brass or similar alloys that may rust. Use plastics resistant to corrosive liquids, never use PVC. Take the required amounts (by weight or volume) of the two components A and B from the two containers, in the ratio 1:1. Mix vigorously and then use.

During mixing, use clean tools. Never place any unused adhesive paste that has already been mixed with the catalyst back into the container. If the colour of the adhesive paste needs to be corrected, use the special Rainbow colouring pastes. Make sure the material on which the adhesive is applied is completely dry and clean. If using automatic dosing machines, we recommend checking the dose each day. When cleaning the tools, use only grease-free solvents such as acetone and butyl acetate. Always use gloves and goggles during use (see the safety data sheet). Close the containers tightly after use and avoid prolonged contact with the air.

Parameter	Value	Parameter	Value
Product	Epoxy resin	**Catalyst**	100% in weight
Type	Vertical application	**Pigment**	3%
Scope	Indoor and Outdoor	**Shelf Life**	2 years
Subject to yellowing	Slight over time on light colours	**Pot life**	24 hours
Colour	Beige	**Workpiece can be handled after**	4 hours
Product package	500 ml	**Max. working temp.**	60°/-25°C
Catalyst package	500 ml	**Trowel**	Plastic, clean
Pigment packages	75 ml	**Gel time at 25°C**	2 hours and 30 minutes

2.6.5/ FIREBOND

Adhesive paste to glue **Lapitec®**, suitable for indoor applications with high resistance to heat and fast processing. Excellent adhesion in very short times, 60-90 minutes with excellent workability, thus allowing the rapid processing of bonded pieces even at low temperature. The surface of the hardened product is very smooth, shiny and easy to polish. Good stability in sunlight.

Instructions for use

Before applying the product check that the material is clean, dry and free of dust. Take the required amount of adhesive paste from the container/jar/tin, add 2-3% of hardener paste, mix vigorously and then use. Never place any unused adhesive paste that has already been mixed with the catalyst back into the container.

If the colour of the adhesive paste needs to be corrected, use the special Rainbow colouring pastes. The colour must be added before the catalyst, mixing the required quantity to obtain the desired colour, then add the catalyst for hardening. An excessive amount of colouring paste or powdered pigments may alter the final characteristics of the adhesive paste.

Close the containers after use. Store the adhesive paste and catalyst away from light and the sun.

Parameter	Value	Parameter	Value
Product	Polyester resin	**Catalyst**	2-3% in weight
Type	Vertical application	**Pigment**	3%
Scope	Interiors	**Shelf Life**	6 months
Subject to yellowing	Yes	**Pot life**	40/50 minutes
Colour	Beige	**Workpiece can be handled after**	40/50 minutes
Product package	2x500 ml	**Max. working temp.**	120°C
Catalyst package	33ml tube	**Trowel**	Plastic
Pigment packages	75 ml	**Gel time at 25°C**	2-3 minutes

2.6.6/ RAINBOW

The systems described above can all be coloured with universal Rainbow pigments in a range of colours aligned with **Lapitec®** colours. The colouring paste blends perfectly with all types of adhesive pastes, making them easy to colour.

The paragraph below indicates the correspondence between colours in the **Lapitec®** range and Tenax products.

Instructions for use

Add the colour or colours to the adhesive to obtain the desired shade. Mix thoroughly. Several colours can be added. It is important not to exceed the maximum recommended quantity, 2-3% in weight. An excessive amount of colouring paste may alter the quality of the adhesive. Close the containers after use. Store in the original containers. Store away from light and the sun.

Parameter	Value	Parameter	Value
Product	Coloured paste	**Dosage**	2-3% in weight
Package	75 ml		

2.6.7/ Lapitec® range correspondence

Lapitec® Material	Strongbond Colour	Description on label
Arabescato Bernini	ARABESCATO BERNINI	ARABESCATO BERNINI
Arabescato Canova	ARTICO	ARTICO - CANOVA - MICHELANGELO
Arabescato Corallo	BIANCO CREMA	ROMA - CORALLO - CREMA
Arabescato Donatello	BIANCO POLARE	CASABLANCA - DONATELLO - PERLA - POLARE
Arabescato Michelangelo	ARTICO	ARTICO - CANOVA - MICHELANGELO
Arabescato Perla	BIANCO POLARE	CASABLANCA - DONATELLO - PERLA - POLARE
Artico	ARTICO	ARTICO - CANOVA - MICHELANGELO
Avana	AVANA	AVANA
Avorio	AVORIO	AVORIO
Bianco Assoluto	BIANCO ASSOLUTO	BIANCO ASSOLUTO
Bianco Crema	BIANCO CREMA	ROMA - CORALLO - CREMA
Bianco Polare	BIANCO POLARE	CASABLANCA - DONATELLO - PERLA - POLARE
Berlin	GRIGIO CEMENTO	BERLIN - GRIGIO CEMENTO - LONDON
Brooklyn	TABACCO	BROOKLYN - TABACCO
Ebano	EBANO	EBANO
Grigio Cemento	GRIGIO CEMENTO	BERLIN - GRIGIO CEMENTO - LONDON
Grigio Piombo	GRIGIO PIOMBO	GRIGIO PIOMBO
London	GRIGIO CEMENTO	BERLIN - GRIGIO CEMENTO - LONDON
Moca	MOCA	MOCA
Nero Antracite	NERO ANTRACITE	NERO ANTRACITE
Nero Assoluto	NERO ASSOLUTO	NERO ASSOLUTO
Porfido Rosso	PORFIDO ROSSO	PORFIDO ROSSO
Sahara	SAHARA	SAHARA
Tabacco	TABACCO	BROOKLYN - TABACCO
Casablanca	BIANCO POLARE	CASABLANCA - DONATELLO - PERLA - POLARE
Roma	BIANCO CREMA	ROMA - CORALLO - CREMA

2.7/ BIO-CARE

Bio-Care is a technology whereby Titanium Dioxide (TiO_2) is applied to full body **Lapitec®** during the production process. It is an exclusive patent that gives the material antibacterial and self-cleaning properties. The functions of Bio-Care can be reactivated at any time by applying the Bio-Care kit. This treatment must be applied on the visible parts each time the material is processed (drilling, surface processing and cutting).

Failure to use Bio-Care may inhibit the properties of the Titanium Dioxide (TiO_2) and compromise the typical qualities of **Lapitec®**.

How to apply

Make sure the surface is clean, dry and free of dust. Spread the Bio-Care One product evenly using a solvent-resistant cloth. When the product assumes a more viscous consistency (due to the evaporation of most of the solvent after about 2 minutes), remove the excess Bio-Care One with a clean cloth, taking care to remove any stains or shadows.

Attention: any shadows or stains left on the surface will become permanent once the treatment has completely hardened.

Treatment	Quantity gr/m²	Workpiece can be handled after
Bio-Care One	5-6	40 minutes

The surface can be handled 40 minutes after application; the treatment will have completely set and tests can be carried out after 7 days. The treatment can be manually applied on smaller surfaces. On slabs, the treatment must be applied using dedicated machinery. Given the minimal amount of product, it is recommended to apply **Lapitec®** Bio-Care One on several workpieces to be treated in a sequence.

Warning: do not turn upside down, store in a cool, dry place far from sources of heat.

2.8/ REPAIR KIT

The repair kit is composed of a 395nm UV torch, a coloured **Lapitec®** filler, 2 trowels, 1 diamond sheet 400 grit (usable on all finishes except Lux).

Instructions for use

Using the supplied trowel, thoroughly mix the filler until all the internal components are completely blended, then apply it in small quantities (drops) on the parts to be repaired.

Turn on the UV lamp and hold it over the repair to activate the solidification process (approx. 15-20 seconds). Manually check the compactness of the filler. Repeat the procedure until all chips have been filled.

Then protect the non-repaired section of the **Lapitec®** top with some masking tape to prevent the sandpaper from damaging the surface. Use the supplied diamond sandpaper to sand off any excess filler.

Then apply Bio-Care only on the repaired part to prolong the aesthetic effect of the repair over time.

Disclaimer

Failure to properly mix the filler may cause a difference in colour with respect to the **Lapitec®**.

The characteristics of the UV Lamp must be the same as those indicated by Lapitec, otherwise the filler may not completely react. For the Lux finish, use polishing paper for granite with grit up to 3000.

Poor chamfering on the edge of the workpiece may be the cause of chipping. For more information see the **Lapitec®** Technical Manual.

Duration of filler: 3 months in closed jar.

Hazard identification

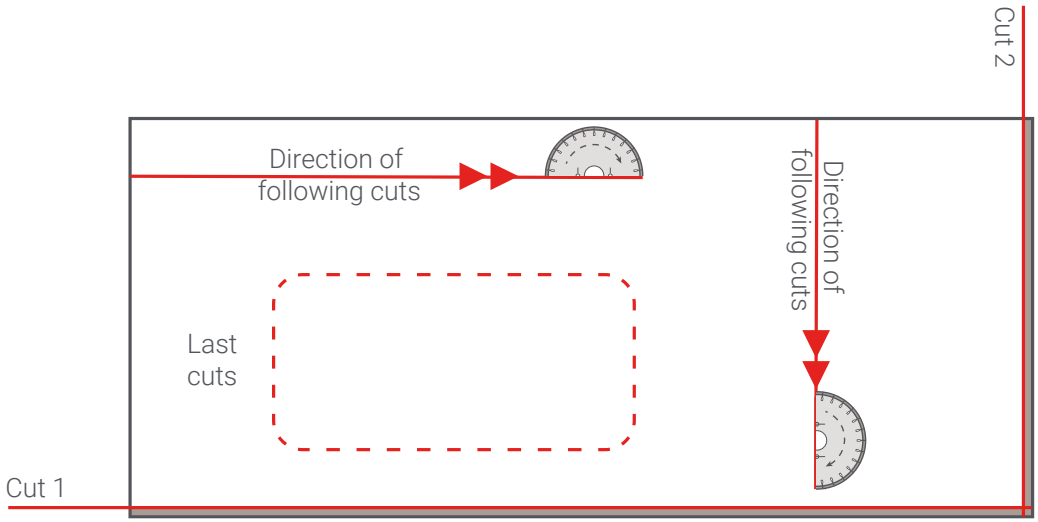
Classification of substance or mixture: the product is classified as hazardous pursuant to the provisions set out in Regulation (EC) 1272/2008 (CLP) (and subsequent amendments), the product therefore requires a safety data sheet compliant with the provisions of Regulation (EC) 1907/2006 and subsequent amendments. Any additional information regarding risks to health and safety and/or the environment are reported in sect. 11 and 12 of this data sheet.

watch the
video tutorial

3. MECHANICAL MACHINING

3.1/ FUNDAMENTAL PRINCIPLES

Before performing any operation, the sheet must be trimmed with a longitudinal and transversal cut with incremental distance from the edge with respect to the thickness of the sheet (see the trimming diagrams). The subsequent cuts will be done starting from the rough side toward the side that was trimmed previously as indicated in the figure below. Trimming the 4 sides, there will be no restriction in the direction of the subsequent cuts.



Warnings

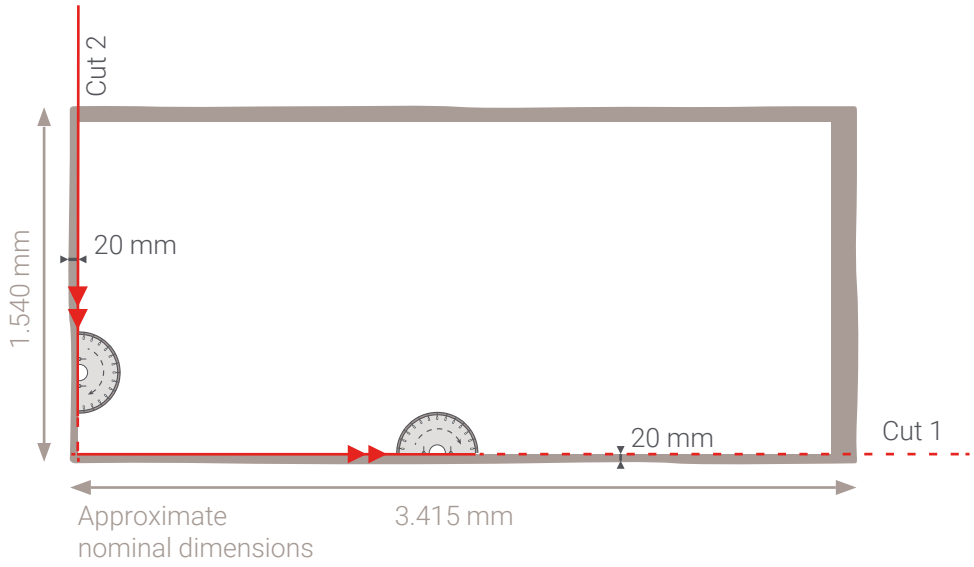
During use of the machinery, always comply with safety standards.

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry, even better if positioned vertically.

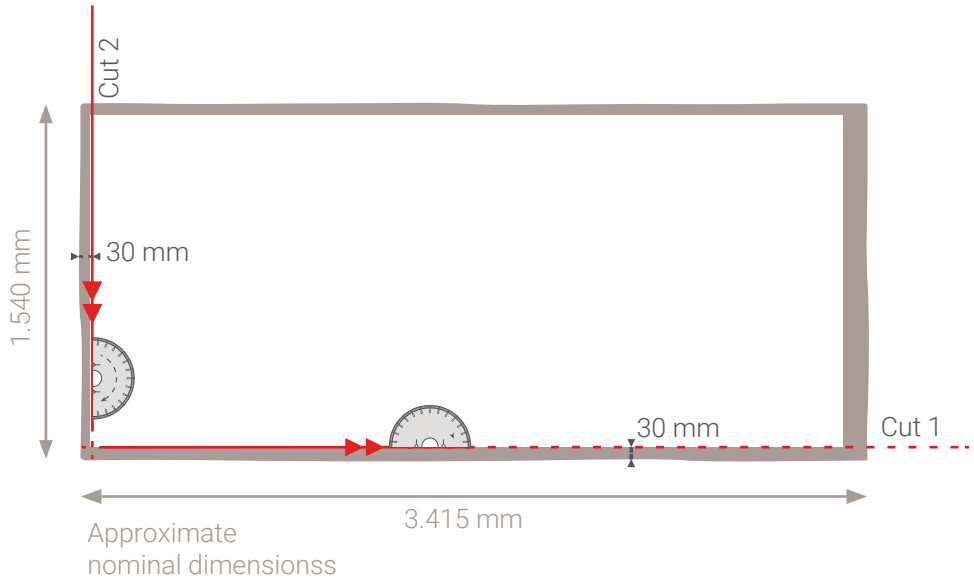
The cutting direction must always be in agreement with the rotation of the disc.

3.1.1/ Trimming diagrams

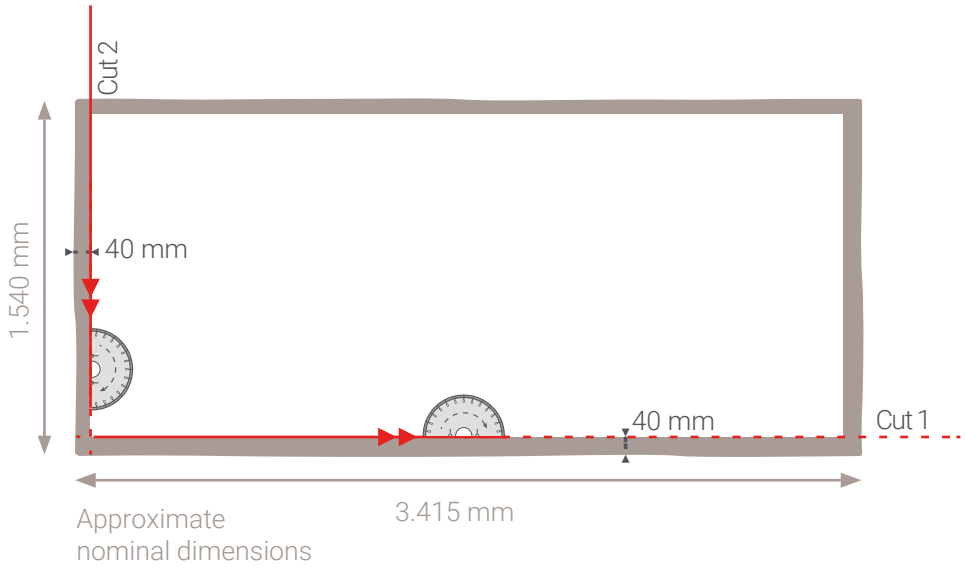
Thickness 12mm - Minimum trimming 20 mm



Thickness 20 mm - Minimum trimming 30 mm



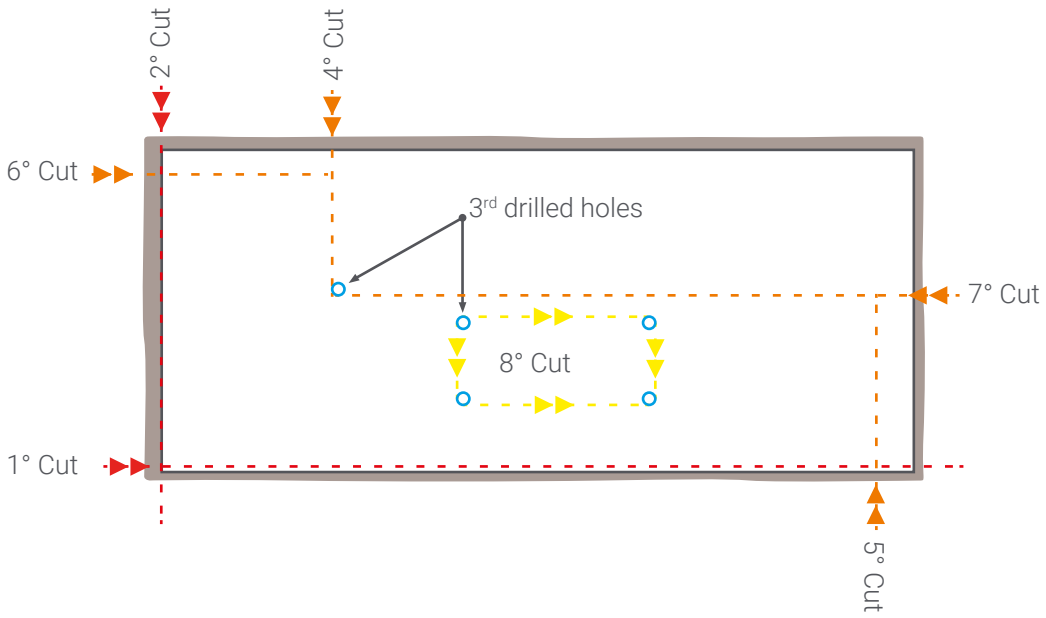
Thickness 30 mm - Minimum trimming 40 mm



3.2/ OPERATIONS WITH BRIDGE SAW

3.2.1/ Order of operations

Example of cutting diagram for bridge saw



Order of operation phases:

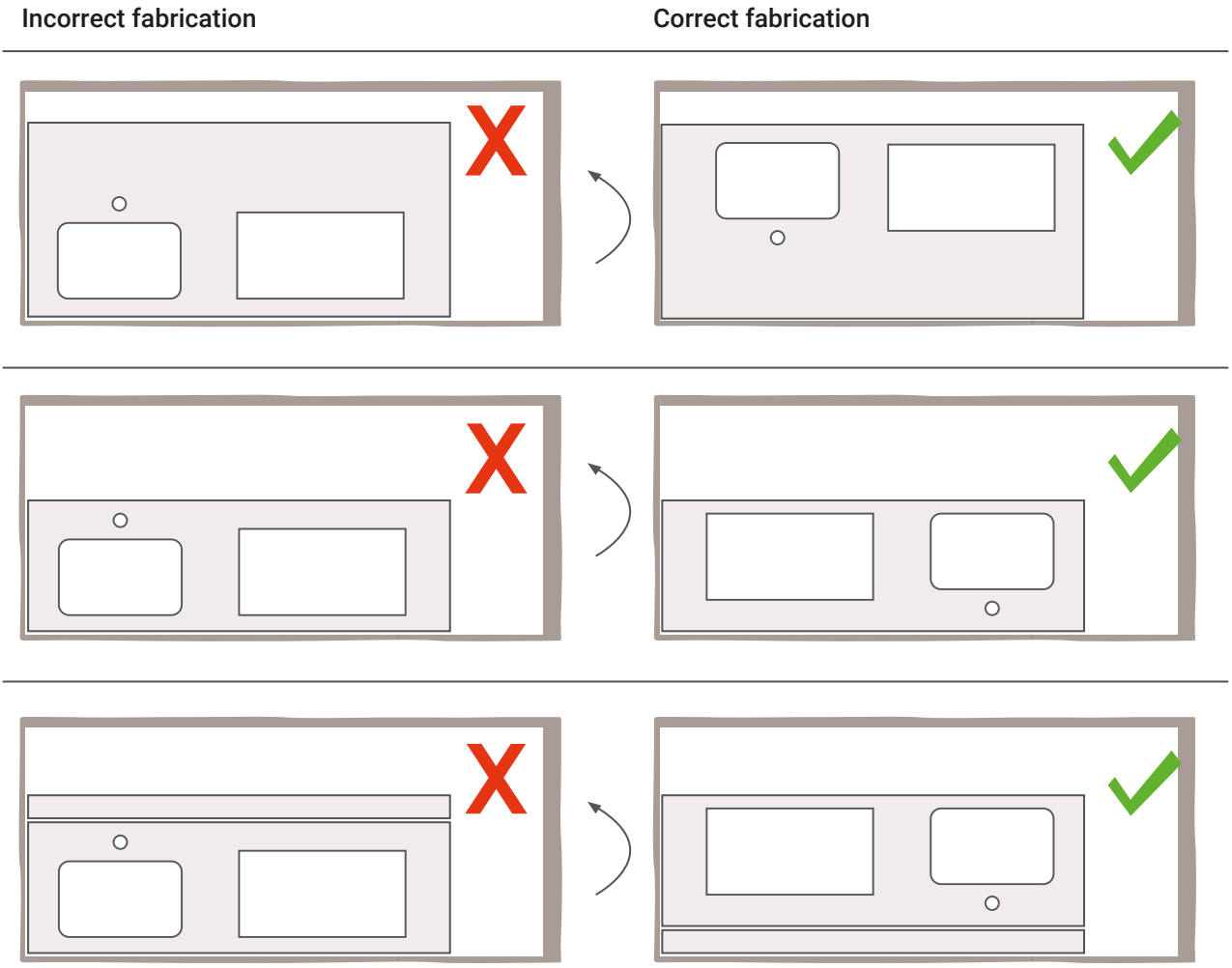
1. Sheet trimming (Red dashed line)
2. Dilling holes (Light blue dashed line)
3. Perimeter cuts of the countertop (Orange dashed line)
4. Interrupted cuts (Yellow dashed line)

Warnings

The cutting direction must always be in agreement with the rotation of the disc.

3.2.2/ Piece orientation

We recommend making the sink or stovetop holes toward the central part of the sheet and the lintels on the external sides of the same.



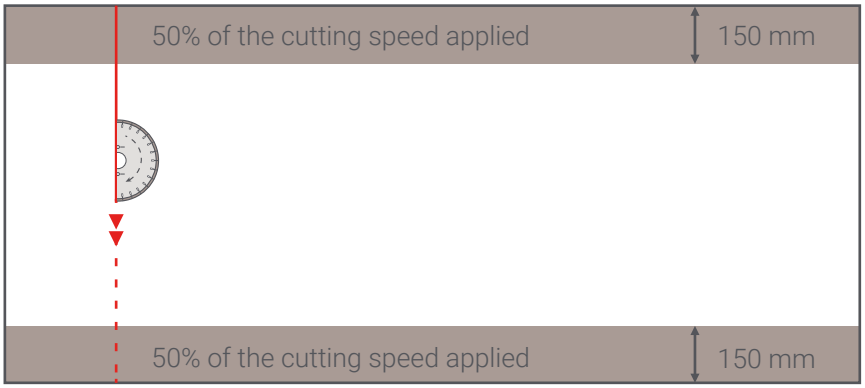
3.2.3/ Lapitec disc tool

General measures

During cutting, use abundant water. The jet of water must be pointed to the front and side with respect to the disc plate, as close as possible to the cutting area (as illustrated in the figure below).

Attention: an insufficient flow of water will cause the disc to overheat, compromising the success of the operation and the tool itself.

Ensure the cutting bench is in good condition and flat. If the bench is not in good conditions it is recommended to insert a mat in high-density technical rubber between the material and the milling bench, thus reducing the vibrations and improving the finish of the cut.



Slow the feed rate down to 50% for the first 150 mm and the last 150 mm.

For cuts on small size pieces, we recommend blocking the material with special stops to avoid movement during the operation.

Attention: All data refers to Lapitec® brand discs

DISC ROTATION PARAMETERS

Saw Blade Ø	Spindle revolutions g/min	Peripheral speed m/sec
300	2100-2300	34-37
350	1800-2000	34-37
400	1600-1800	34-37
450	1400-1600	34-37
500	1260-1460	34-37

Note: if the number of spindle revolutions is fixed, you must choose the disc that requires the number of revolutions closes to those of the spindle.

CUTTING PARAMETERS

Type of cut	Feed rate mm/min 12 mm	Feed rate mm/min 20 mm	Feed rate mm/min 30 mm
Cut entering from the top of the slab	100	100	100
Straight cut	1400-1800	800-1000	600-700
Inclined cut	800-1000	450-600	300-400

Warnings

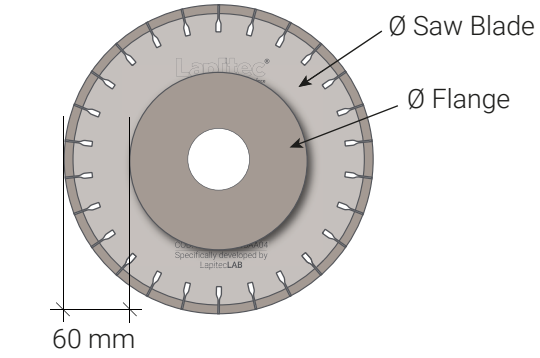
Any increase of spindle absorption indicates the need to sharpen the disc using an honing stone.

The parameters listed above should be understood to refer to machines with larger size flange, well directed and abundant water, flat bench and decelerations. In the absence of the aforementioned conditions, reduce the feed to the minimum of the listed parameters (e.g. 12mm feed rate 1400m/min).

The disc must be chosen based on the characteristics of the machine, the thickness of the material being cut and the angle of inclination. The exposed part of the disc must be reduced as much as possible, considering 1 mm of passage beyond the material to be indispensable.

For reduction of the diameter of the central hole, we recommend using only the rings supplied by the disc manufacturer that came with the disc.

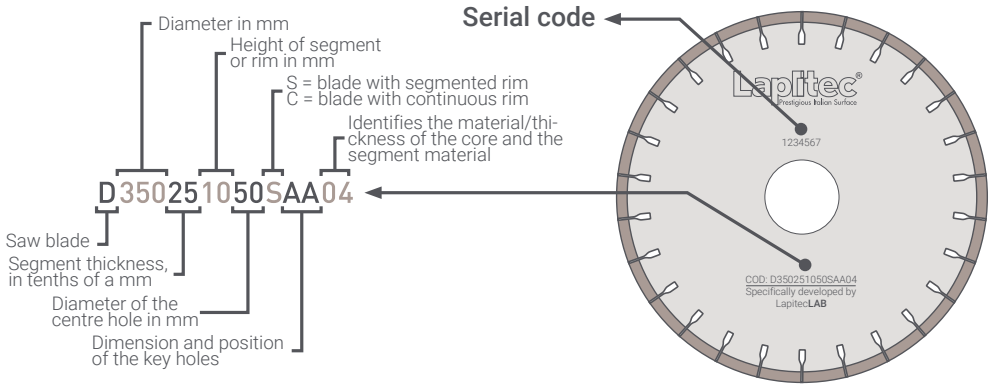
Flange sizing



Recommended

Lapitec® discs coding

All discs developed by LapitecLAB are sold under the **Lapitec®** brand and follow a coding system for identification and reordering. Use **Lapitec®** brand discs only to cut **Lapitec®**. Use of the **Lapitec®** disc to cut other materials may cause damage to objects or people.



Lapitec® discs

Diameters 300-350-400-450-500 mm

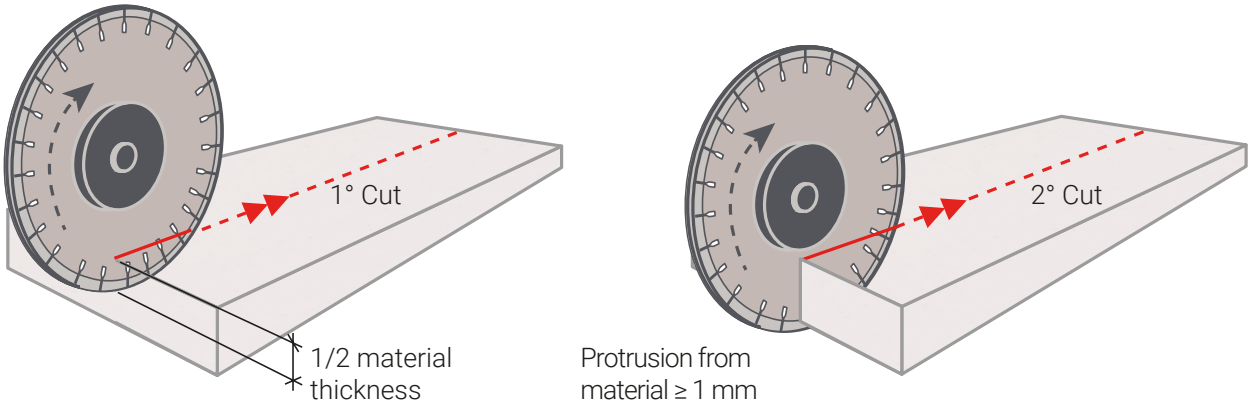
Note: custom sizes are available on request.

3.2.4/ Step-cutting

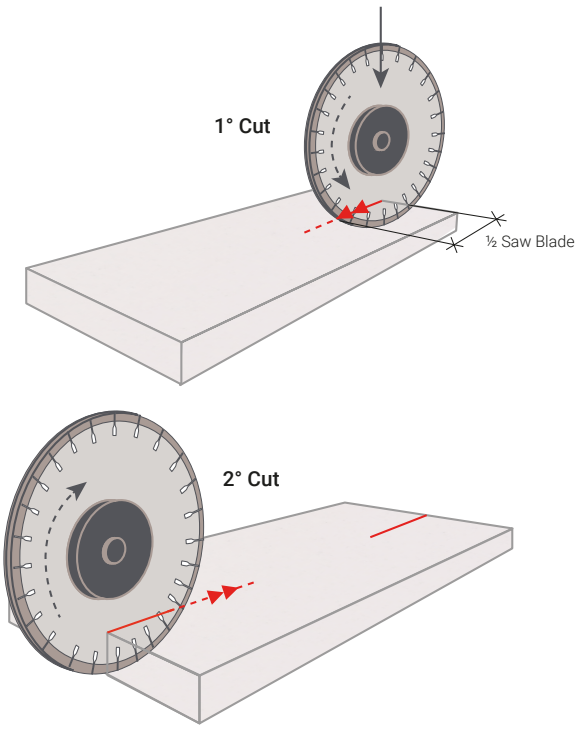
In the event that one or more of these specific conditions are present, step-cutting is recommended:
- you do not have the larger size flange;
- there is no abundant water;
- the disc is in poor condition;
- the resting surface not flat.

Type of cut	Feed rate mm/min 12 mm	Feed rate mm/min 20 mm
Straight cut	1600 - 2000	1200 - 1400
Inclined cut	900 - 1000	600 - 700

STEP-CUTTING DIAGRAM

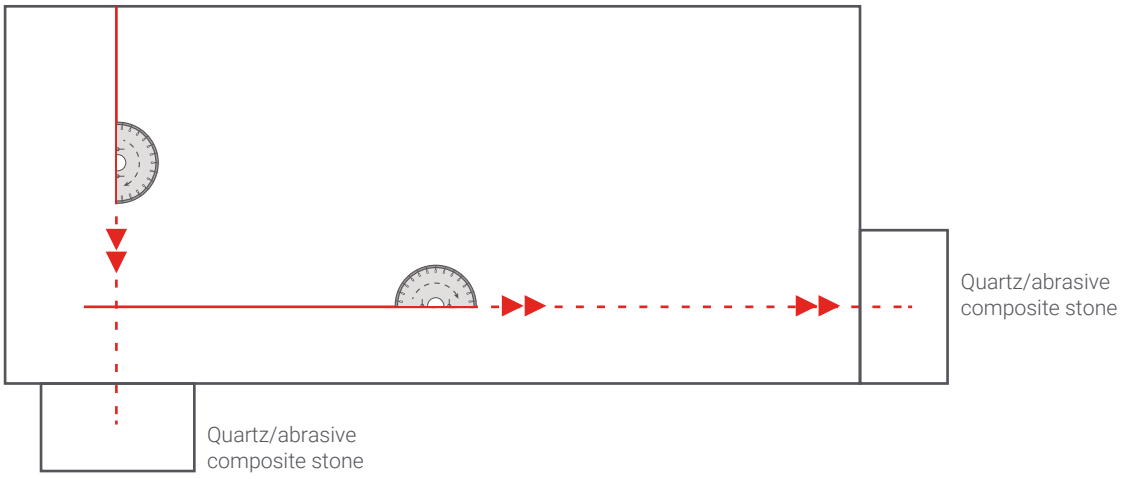


PRE-CUTTING DIAGRAM

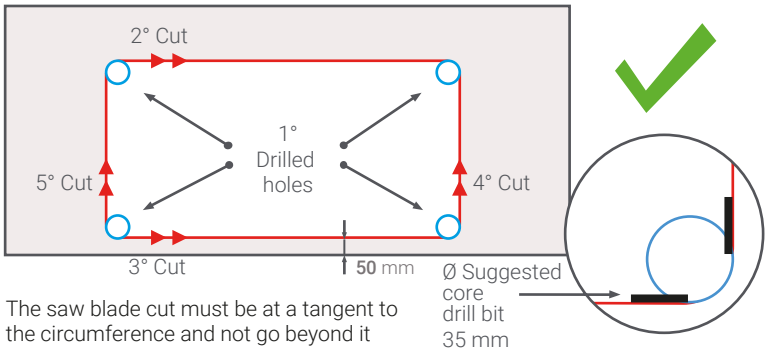


3.2.5/ Quartz agglomerate/abrasive stone

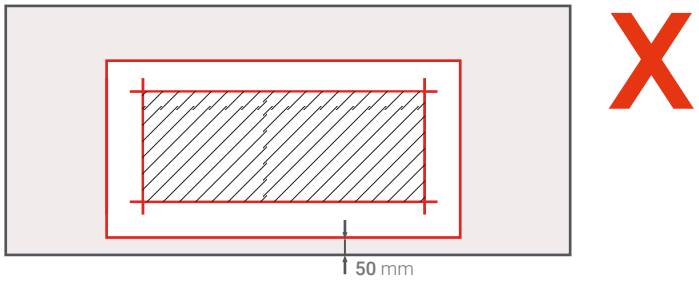
We recommend positioning a piece of quartz agglomerate/honing stone at the output of the **Lapitec®** disc cutting line. This will allow deviations of the disc as the material exits to be limited, avoiding unpleasant chipping and also allowing the disc to be sharpened.



3.2.6/ Sink cut diagram with disc



The saw blade cut must be at a tangent to the circumference and not go beyond it

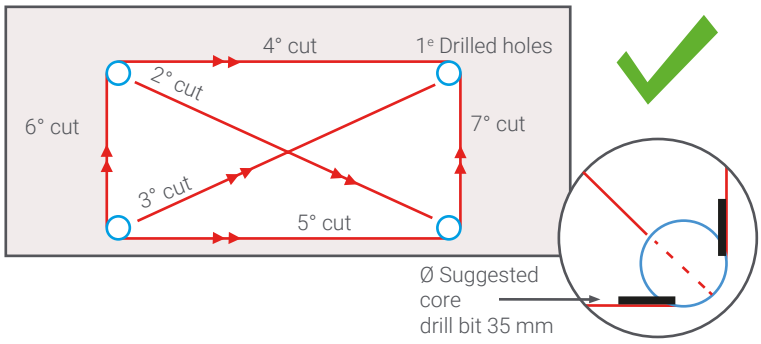


Specific measures

In the event that one or more of the following conditions are present:

- the resting base is not flat
- islands measuring more than 2600x600 mm
- sinks measuring more than 560x480 mm

We recommend following the cutting diagram indicated below:



3.3/ OPERATIONS WITH WATERJET

3.3.1/ Parameters of operations with WaterJet

Low pressure entrance hole parameters (Piercing)

Thickness	Minimum pressure Bar	Minimum pressure Psi	Abrasive 80 Mesh kg/min
12 - 20 - 30	600	8700	0,35-0,45

Tips

When possible, drill the entrance hole on the outside of the sheet. Alternatively, the entrance hole a few tenths of an inch from the cutting perimeter is, in any case, never less than 5 mm from the same.

High pressure cutting parameters

Thickness	Minimum pressure Bar	Minimum pressure Psi	Feed rate mm/min	Abrasive 80 Mesh kg/min
12	3600-3800	52200-55100	500-900	0,35-0,45
20	3600-3800	52200-55100	400-500	0,35-0,45
30	3600-3800	52200-55100	200-300	0,35-0,45

Tips

The above data refers to the maximum recommended values. To obtain a better finish, reduce the feed rate.

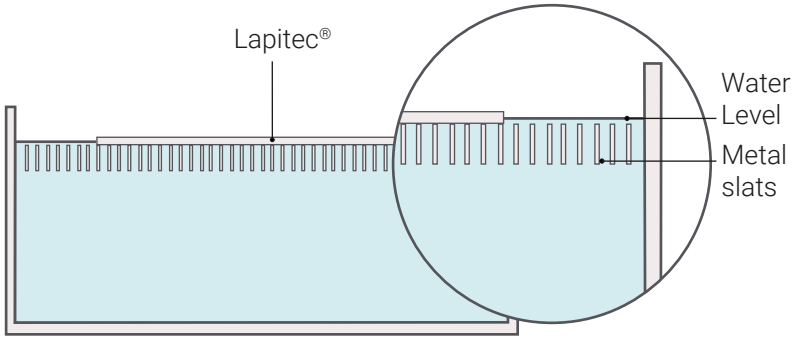
For waterjet machining also, it is recommended to carry out the trimming procedure described in the “Trimming diagrams”, in paragraph 3.1 FUNDAMENTAL PRINCIPLES.

Make sure the work bench is in good condition and flat. Moreover, the piece must lie perfectly without the interference of any machining scraps or discontinuous elements.

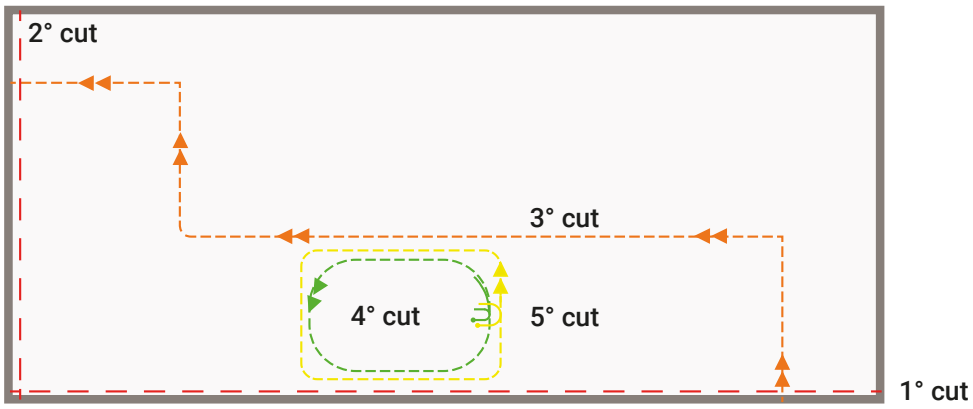
For angles equal to or less than 90°, it is recommended to join the angle with a bend radius ≥ 5 mm.

WATER LEVEL IN WATERJET TANK:

To improve the finish on the underside of the piece, it is recommended to keep the water level higher than or at the same level as the bench surface Ø.



3.3.2/ Cutting sequence



Operation phases:

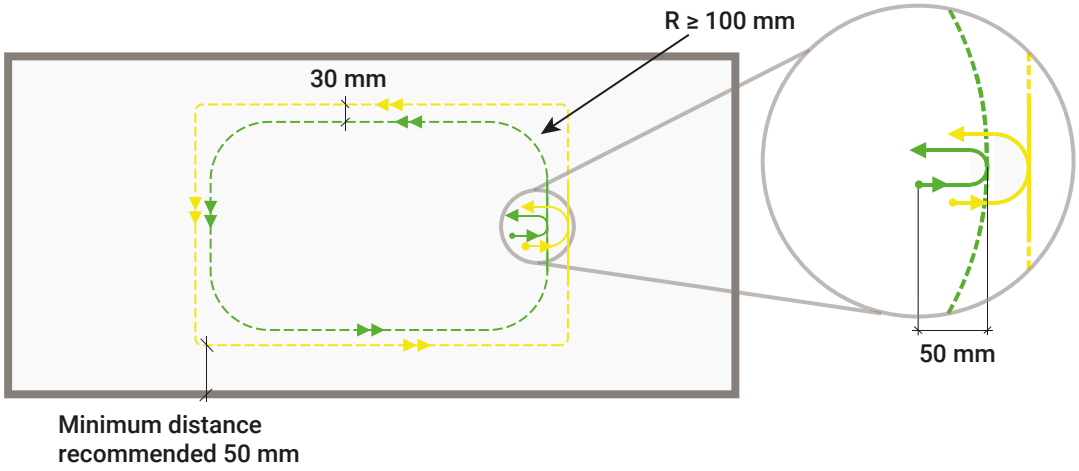
1. Sheet trimming (Red dashed line)
2. Sheet trimming (Red dashed line)
3. Piece shape cut (Orange dashed line)
4. Sink pre-cut, if necessary (Green dashed line)
5. Sink cut (Yellow dashed line)s)

3.3.3/ Sink cut diagram

IIn the event that one or more of the following conditions are present:

- the resting base is not flat
- islands measuring more than 2600x600 mm;
- sinks measuring more than 560x480 mm;

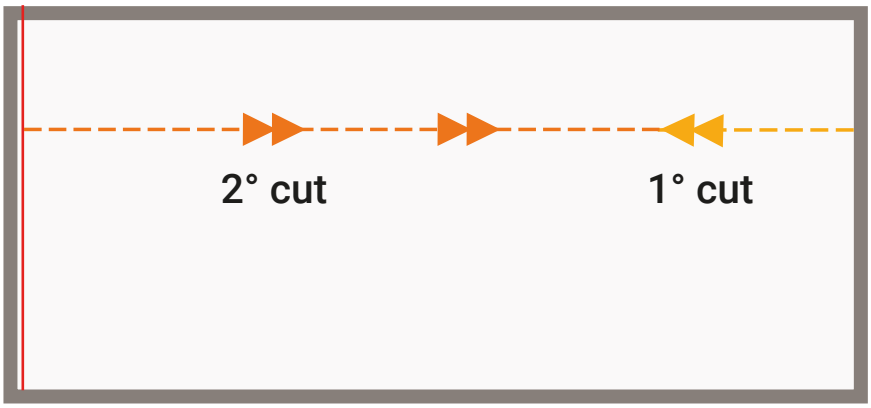
We recommend following the cutting diagram indicated below:
NOTE: the cutting of the sink opening must begin inside the pre-cut as indicated in the figure below.



3.3.4/ Pre-cutting diagram

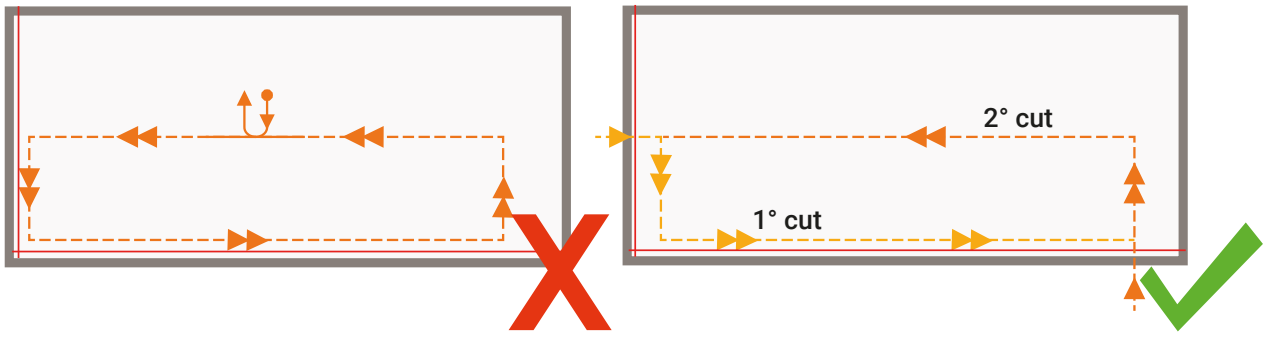
Specific measures: In the event that one or more of these specific conditions are present, step-cutting is recommended:

- you do not have the larger size flange;
- there is no abundant water;
- the disc is in poor condition;
- the resting surface not flat.



3.3.5/ Cutting diagram

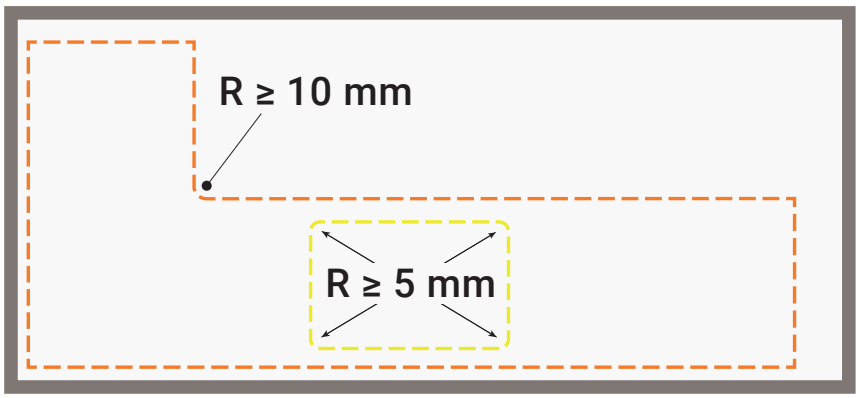
When you want to cut the shape of the countertop, it is advisable to subdivide the geometry into two parts, always beginning with the cuts at the exterior of the sheet. Cutting the shape will always be done after the trimming cuts.



3.3.6/ Radii

All the internal corners relative to a hole must have a minimum radius of 5 mm, internal corners referring to general geometry of the piece (e.g. L-shaped countertop) must have a minimum radius of 10 mm.

A higher radius confers greater structural resistance to the finished product, otherwise any corner not rounded creates a point of stress on the countertop.



3.4/ OPERATIONS WITH CONTOURING MACHINE

3.4.1/ Lapitec® finger bit tool

Parameters

Data refers to **Lapitec®** branded tool measuring Ø 22 mm for through cuts.

Thickness	Spindle revolutions g/min	Feed rate mm/min
12	3800-4200	350-400
20	3800-4200	300
30	3800-4200	200-250

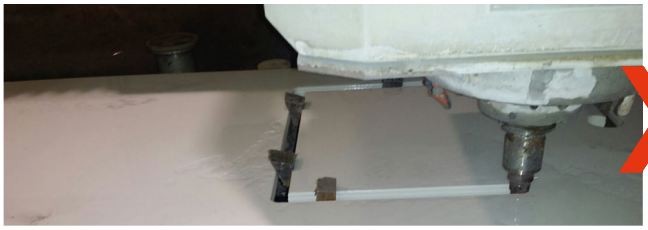
Do not make cuts with an oscillating tool. An excessive reduction in the cutting speed may cause the cutting tool diamond to close, thus generating excessive force on the material and subsequent breakage of the workpiece.

During machining, use plenty of water carefully directed toward the outside and inside of the tool (as shown in the figure below).

3.4.2/ Sink cut with contouring machine

Before starting to process with a contouring machine, check that the work surface is properly configured to guarantee correct execution.

All processes must be performed in compliance with the instructions in the Technical Manual, without using supports other than the suction cups and Teflon positioning stops. Use of devices that exert mechanical force on the workpiece may cause the latter to break.



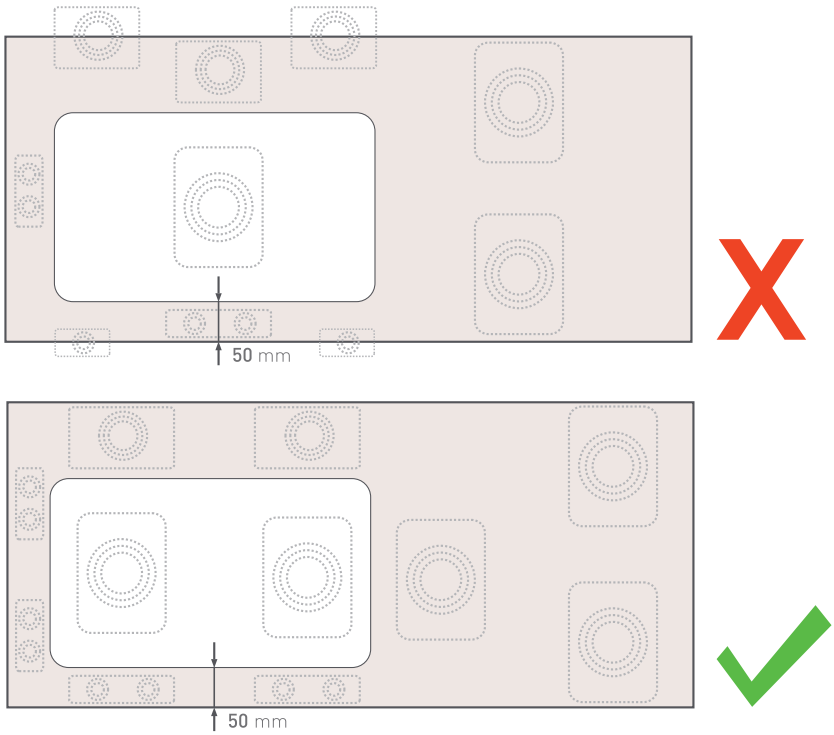
WEDGES

GRIPPERS

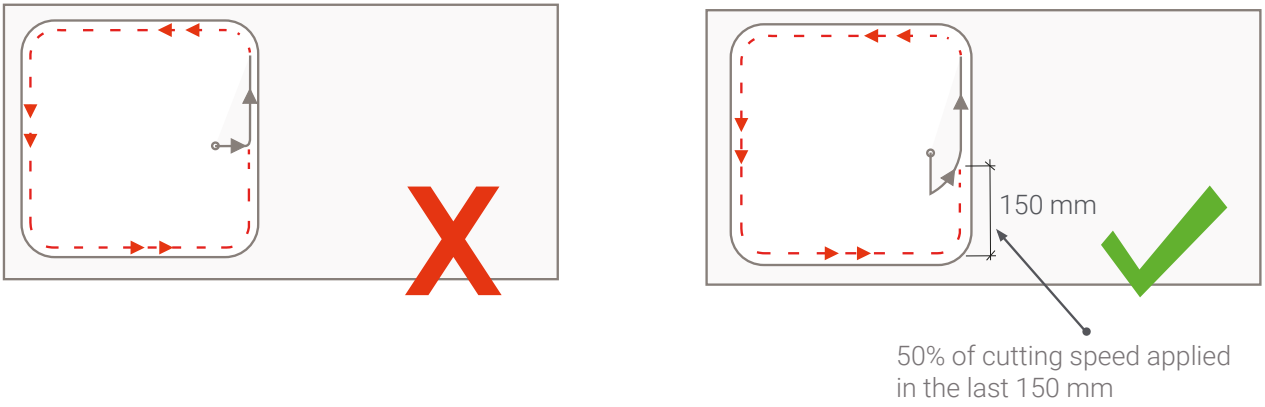
PISTONS

We recommend appropriately distributing the suction cups in order to sustain the most stressed areas of the piece during the operation. Use suction cups suitable for supporting the tightest areas (like the photo on the side).

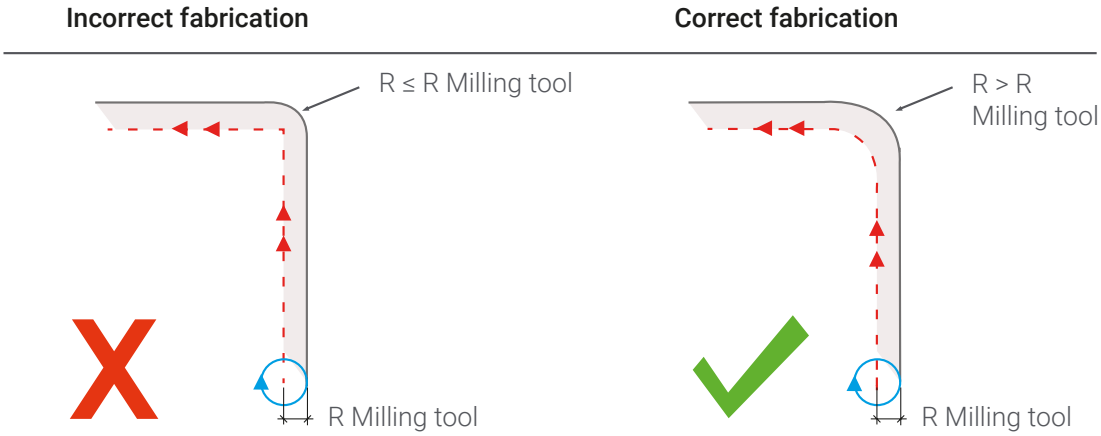
Before positioning the piece, ensure that the suction cups are clean and that there is no residue from previous operations, otherwise we recommend rinsing them abundantly with clean water before use.



The radius of entry of the milling tool must be wide in order to facilitate the exit of the tool at the end of machining and prevent chipping that may compromise the workpiece.



It is advisable to make internal connections with a larger radius than the one of the milling cutter, this way the machine will perform a more fluid motion that is also less stressful for the material.



When using the milling tool on 12 mm and 20 mm thicknesses, it is good practice to centre the tool with respect to the thickness of the slab in order to reduce vibration and also the force exerted on the workpiece and tool.

Moreover, the tool should not oscillate during cutting.

Processing tips

Any breakage of the tool is attributable to:

- feed speed too high
- number of revolutions lower than the nominal revolutions of the tool
- insufficient cooling water

Any breakage of the piece is attributable to the fact that the material being cut bears the weight in a single point.

Solutions to implement:

Where possible, support the parts with suction cups that will be removed after the cut or execute the cut in a way that does not let the weight stress a corner, subdividing the side into two segments.

Warnings

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.

3.4.3/ Lapitec® drilling tool

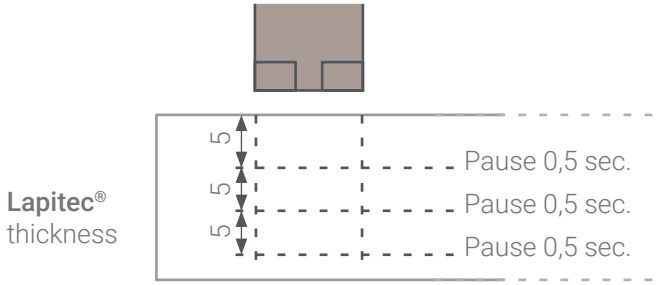
Parameters - Data refers to Lapitec® branded tool.

Available diameters	Spindle revolutions g/min	Feed rate mm/min
Ø 30	2000	20-30
Ø 35	1800	20-30
Ø 55/60	1200	20-30
Ø 70	900	20-30
Ø 100	650	20-30

Tips

During the operation, use abundant and well directed water on the exterior and interior of the tool.

To avoid slivering, we recommend against boring with oscillation.



To avoid openings on the back of the workpiece, stop 2 mm from the bottom and complete drilling by hammering from the side opposite to the hole.

Warnings

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry. For the faucet holes, we recommend placing a suction cup near the holes in order to correctly support the piece, avoiding compromising the final product.

3.4.4/ Lapitec® router for incremental cutting (finishing)

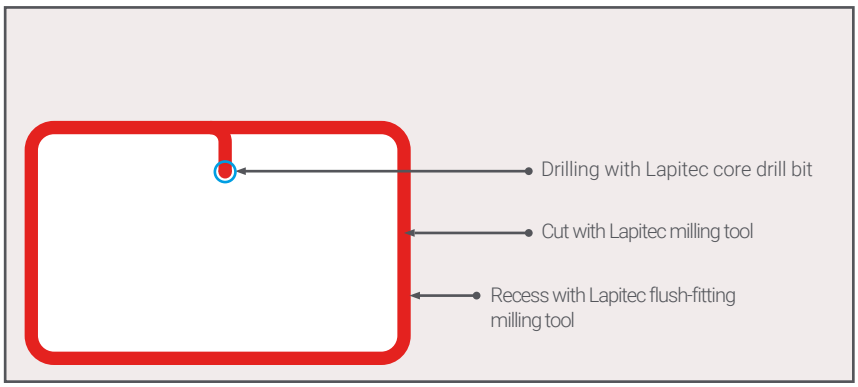
Parameters - Data refers to a Lapitec® branded tool

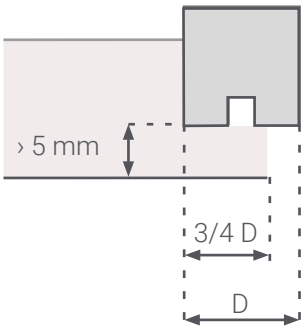
Available diameters	Spindle revolutions g/min	Feed rate mm/min	Removal*
Ø 6	7500	100-200	0,5-1
Ø 8	7500	200-300	0,5-1
Ø 10	7000	300-400	0,5-1
Ø 12	6500	600-800	0,5-2
Ø 16	6000	800-1500	0,5-2

*Use tools with Ø 12 and 16 to make the recess, Ø 6, 8 and 12 to finish the corners.

Tips

During machining, use plenty of water carefully directed toward the outside and inside of the tool.





We recommend proceeding with the routing operation after executing the sink cut. It is also advisable to ensure that after the drop, at least 5 mm of material thickness remain.

During the operation, use abundant and well directed water on the exterior and interior of the tool.

Warnings

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.

3.4.5/ Lapitec® bushing tools

For blank drilling **Lapitec®**, we recommend using **Lapitec®** brand bushings.

Available diameters	Spindle revolutions g/min	Feed rate mm/min
Ø 6	6000	15-20
Ø 7 (KEIL)	6000	15-20
Ø 8	6000	15-20
Ø 10	6000	15-20
Ø 11 (FISCHER)	6000	15-20
Ø 12	6000	15-20

Tips

During the operation, use abundant and well directed water on the exterior and interior of the tool.

Warnings

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.

3.4.6/ Lapitec® Keil/Fischer drilling kit

Tool for acute angle drilling for mechanical couplings using the Keil/Fischer system.

Given the hardness of the material, to avoid excessive wear of the Keil/Fischer slitting tool for blind holes, Lapitec Spa suggests making a pre-hole using the hole saw (described above).

Type	Spindle revolutions g/min	Feed rate mm/min
KEIL Ø 7	6000	25-30
FISCHER Ø 10	6000	25-30

3.4.7/ Lapitec® router for incremental cutting (roughing)

Tool for continuous sink cutting, without suction cups.

Parameters - Data refers to a Lapitec® branded tool Ø 16 mm.

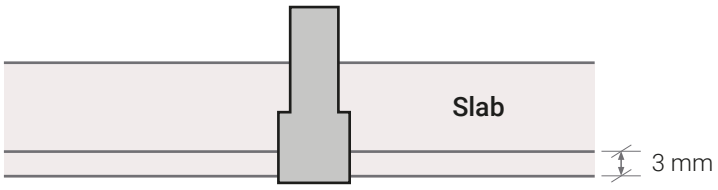
Thickness	Spindle revolutions g/min	Feed rate mm/min	Max removal mm
12 - 20 - 30	6500	400-600	2

In order to avoid chipping in the lower part of the workpiece, which may compromise the use of the workpiece itself, it is recommended to finish the cut in passes, leaving 3 mm of material, then remove the residual material in a single pass, sinking by at least 1 mm and with a speed equal to 50% of that previously used.

Remember that the increment/sinking between passes must be carried out in an area free of material (hole).

Tips

During machining, use plenty of water carefully directed toward the outside and inside of the tool.



Warnings

After each machining operation, was the surface with plenty of clean water before the piece dries.

3.4.8/ Lapitec® stubbing wheel tool

Parameters - Data refers to a Lapitec® branded tool.

Available diameters	Spindle revolutions g/min	Feed rate mm/min	Max removal mm
Ø 50	4500-5000	300	2
Ø 88	4000-4500	500	2

Tips

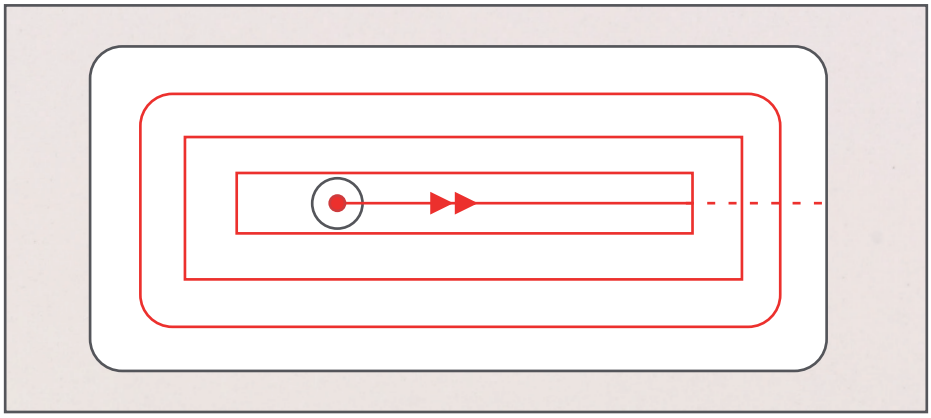
Remove a maximum of 2 mm per pass.

During the operation, use abundant and well directed water on the exterior and interior of the tool.

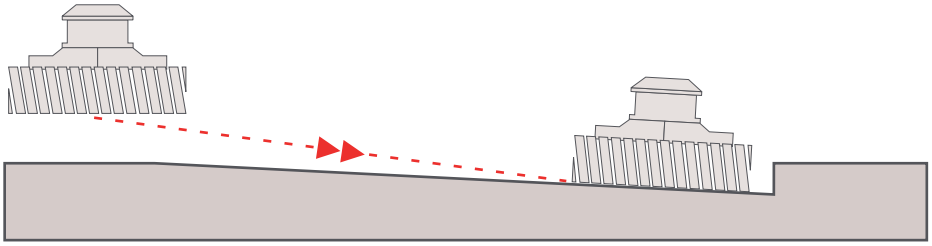
Warnings

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.

Pocket milling diagram



Approach diagram



3.4.9/ Spherical milling tool for drip drainers*

For the **Lapitec®** channel milling cutter, we recommend using granite/ceramic spherical grinders.

Parameters - Data refers to tool measuring ø 8 mm.

Grinding wheel	Spindle revolutions g/min	Feed rate mm/min
1	6000	250
2	6000	400
3	6000	400
4	6000	200

Tips
During the operation, use abundant and well directed water on the exterior and interior of the tool.

Warnings
After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.

3.4.10/ Engraving tool*

To make surface incisions, we recommend the use of a granite tool in PCD (polycrystalline diamond).

Thickness	Spindle revolutions g/min	Feed rate mm/min	Max removal mm
12 - 20 - 30 mm	8000-10000	80-120	1,5

Tips
During the operation, use abundant and well directed water on the exterior and interior of the tool.

Warnings
After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.
* See the manufacturer's technical data sheet for the tool to define the appropriate processing parameters.
The tool operating parameters may vary depending on the manufacturer.

3.4.11/ Shaping or forming tool

For profiling **Lapitec®**, we recommend using granite/ceramic grinders.

Parameters - Data refers to tool measuring ø 80 mm.

Grinding wheel	Type	Spindle revolutions g/min	Feed rate mm/min
1	Metallic	5000-5500	1000
2	Metallic	5000-5500	2500
3	Metallic	5000-5500	2500
4	Metallic	4500-5000	1000
5	Polishing	2500-3000	900
6	Polishing	2500-3000	900
7	Polishing	2500-3000	900

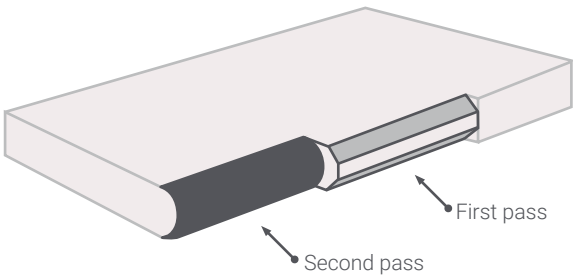
Suggestions

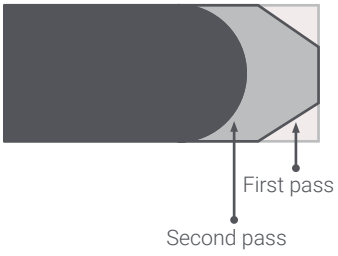
During machining, use plenty of water carefully directed toward the outside and inside of the tool.

Warnings

After each operation, it is advisable to abundantly rinse the surface with clean water before the piece is dry.

For profiling shapes with large removals. We recommend subdividing the removal into 2 passes of the 1st metallic tool or using the breaker tool.





3.4.12/Polishing the countertop

For **Lapitec®** polishing, it is recommended to use polishing grinding wheels for granite.

Parameters - Data refers to tool measuring ø 100 mm.

LUX FINISH

Grinding wheel	Grain	Spindle revolutions g/min	Feed rate mm/min	Compression *	Passes
1	GR 50	1200	6000	0,5	1
2	GR 100	1200	6000	0,5	1
3	GR 200	1200	6000	0,6	1
4	GR 500	1200	6000	0,8	2
5	GR 1000	1200	4500	1	1
6	GR 2000	1200	4500	0,5	2
7	GR 3000	1200	4500	1	2

SATIN FINISH

Grinding wheel	Grain	Spindle revolutions g/min	Feed rate mm/min	Compression *	Passes
1	GR 50	1200	6000	0,5	1
2	GR 100	1200	6000	0,5	1
3	GR 200	1200	6000	0,6	1
4	BRUSH 180 G	1500	3500	1	1

*This data is specific to Breton® machines equipped with a polishing system with spindle power absorption control.

Warnings

After each machining operation, was the surface with plenty of clean water before the piece dries.

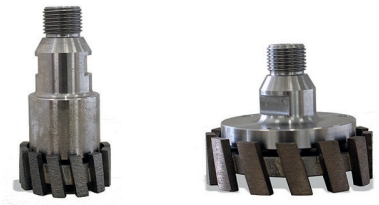
3.4.13/ Lapitec® brand tools

Lapitec® finger bit
Diameter 22 mm

Lapitec® drilling tools
Diameters 30-35-60-70-100 mm

Lapitec® router for incremental cutting (finishing)
Diameters 6-8-10-12-16 mm

Lapitec® router for incremental cutting (roughing)
Diameter 16 mm



Lapitec® stubbing wheels
Wheel diameter 55 and 88 mm

Lapitec® bushing tools
Hole saw diameter 6 -7-8-10-11-12 mm

Keil-Fischer Lapitec® drilling kit

4. DESIGN PRINCIPLES

4.1/ INTERNAL CORNERS AND HOLES

All the internal corners relative to a hole must have a minimum radius of 5 mm, internal corners referring to general geometry of the piece (e.g. L-shaped countertop) must have a minimum radius of 10 mm.

A higher radius confers greater structural resistance to the finished product (see figure 1), otherwise any corner not rounded creates a point of stress on the countertop (see figures 2, 3 and 4).

We also recommend creating a minimum radius of 5 mm in the presence of columns or elements that require cutting of the countertop.

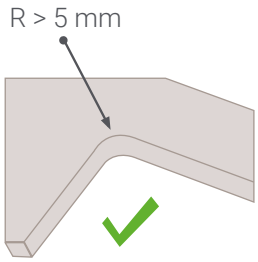


Figure **1**

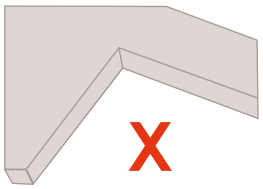


Figure **2**

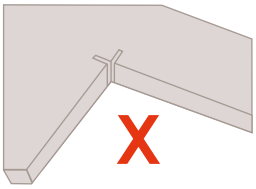


Figure **3**

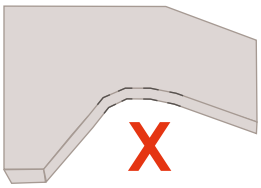
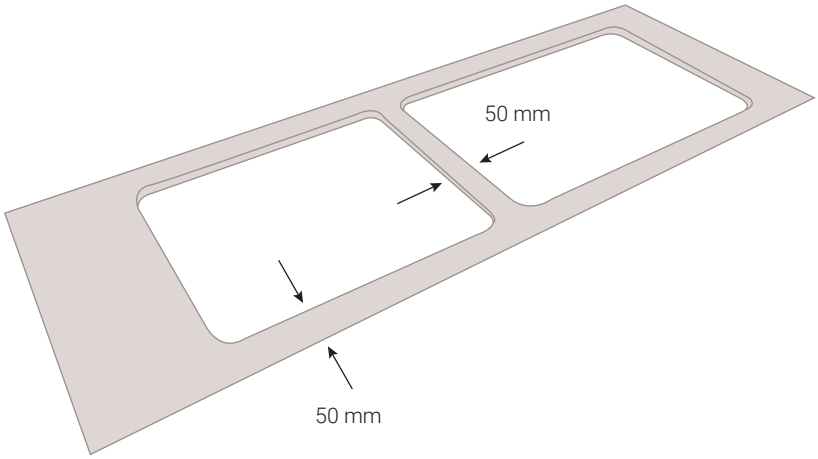


Figure **4**

4.2/ MINIMUM DISTANCE BETWEEN EDGE AND CUT-OUTS

The minimum recommended distance between the **Lapitec®** top and cut-out is 50 mm.



Warnings

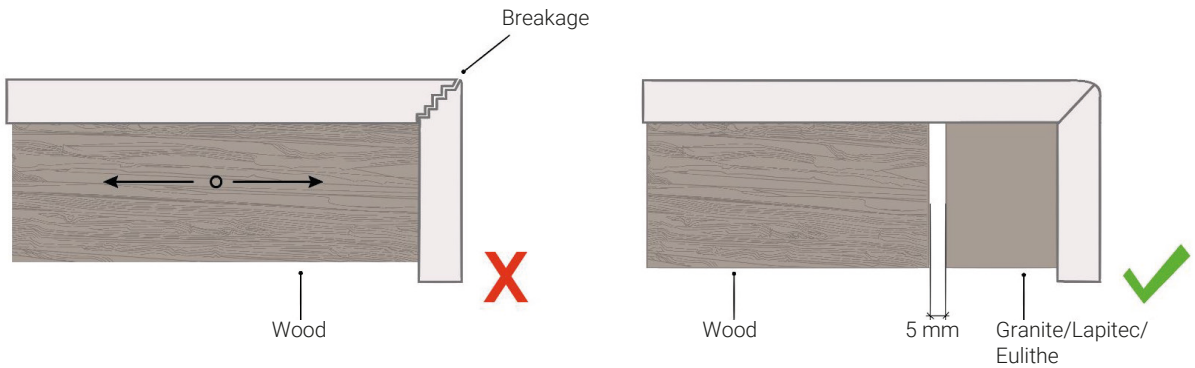
Between the **Lapitec®** top and the elements inserted therein, it is necessary to interpose a sealant able to compensate the varying thermal expansion due to daily use, such as silicone or other sealants.

4.3/ OUTDOOR APPLICATIONS

In outdoor applications in the presence of lamination or 45° bonding, it is recommended to support the lintel with material having the same thermal expansion coefficient (granite, Lapitec, Rigid Foam...).

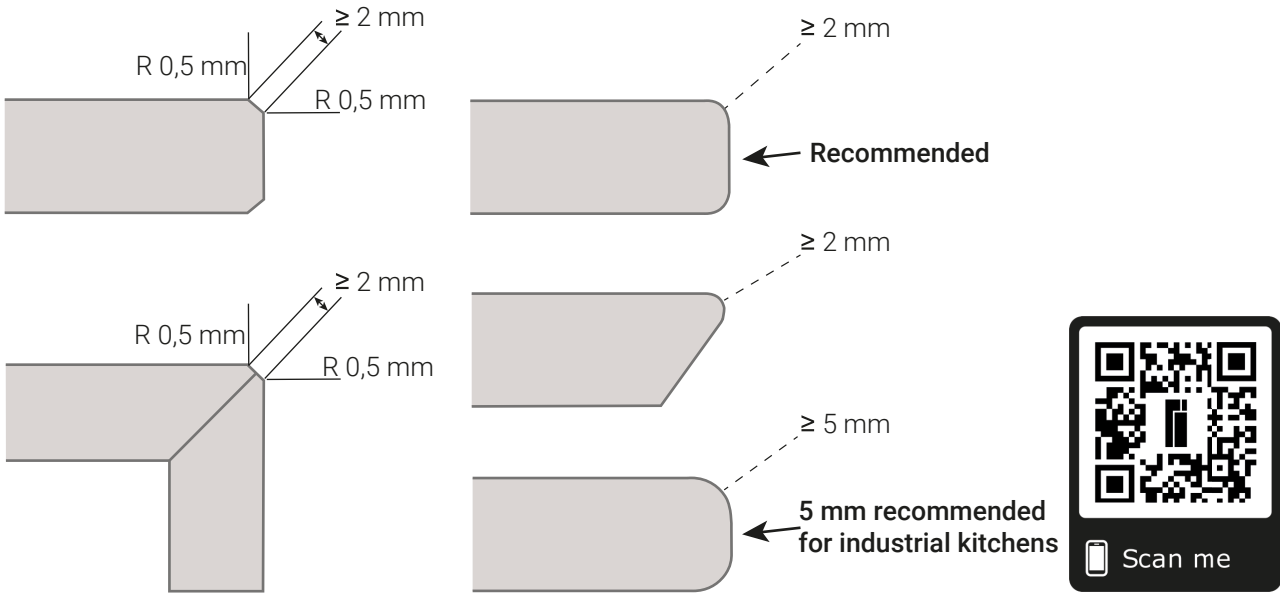
Therefore, the adhesive bond between the two pieces should not be supported with wood, which when exposed to the sun and weather may expand or swell, subsequently exerting pressure on the bonded parts and causing their detachment.

Moreover, it is recommended to maintain a gap of at least 5 mm between the wood and the top in order to absorb any thermal expansions.



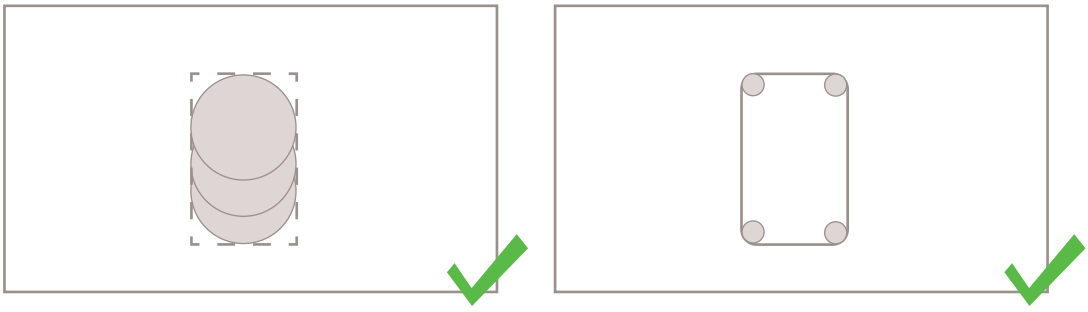
4.4/ EDGES OF THE COUNTERTOP

It is recommended to process the edges of the workpiece as indicated in the drawing. These instructions represent a good balance between aesthetics and functionality, while also guaranteeing a considerable reduction in the number of accidents with the product.



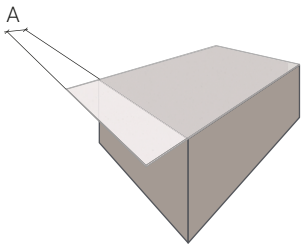
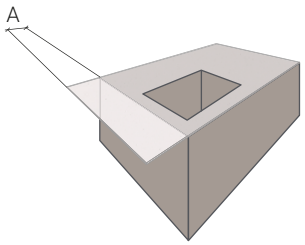
4.5/ ACCESSORY HOLES

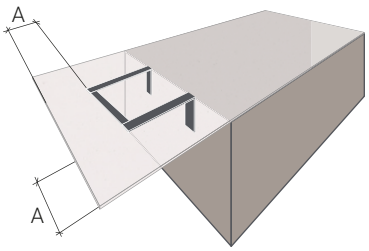
It is recommended to make circular cut-outs for accessories/switches as per the images shown below.

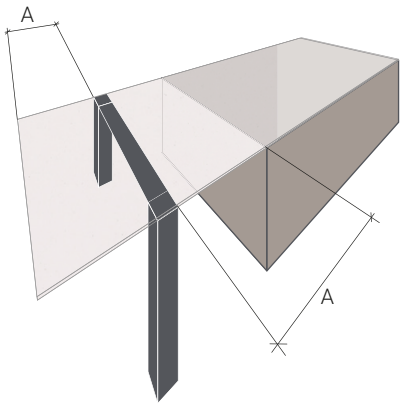


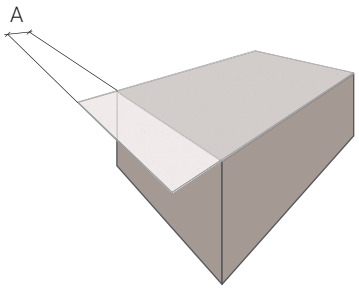
4.6/ OVERHANGS

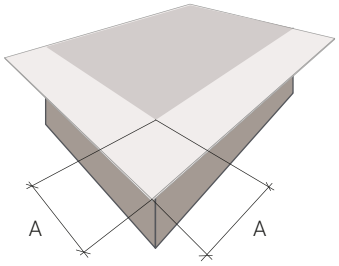
When designing the top, it is a good idea to size the overhangs in accordance with the following table so as not to expose the workpiece to the risk of breakage during daily use.

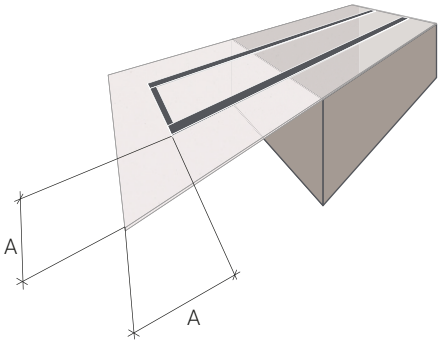
	Thicknesses			Drawing
	12 mm	20 mm	30 mm	
Worktop with unsupported overhang	A ‹150 mm	A ‹350 mm	A ‹500 mm	
Worktop with cutout with unsupported overhang	A ‹90 mm	A ‹210 mm	A ‹300 mm	

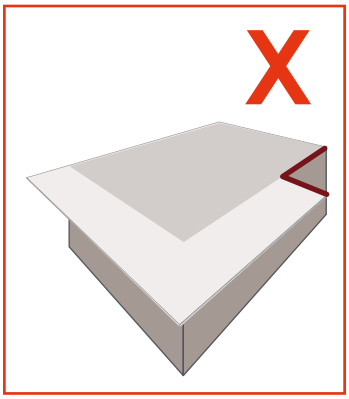










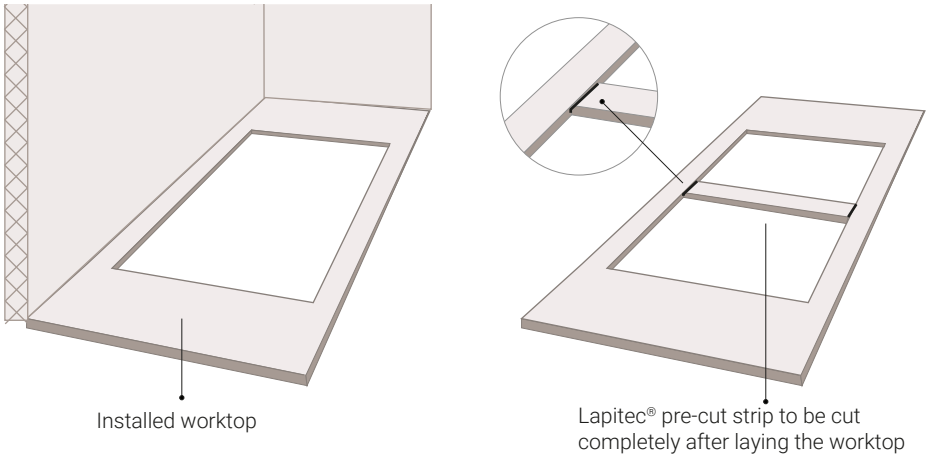


4.7/ LARGE HOLES

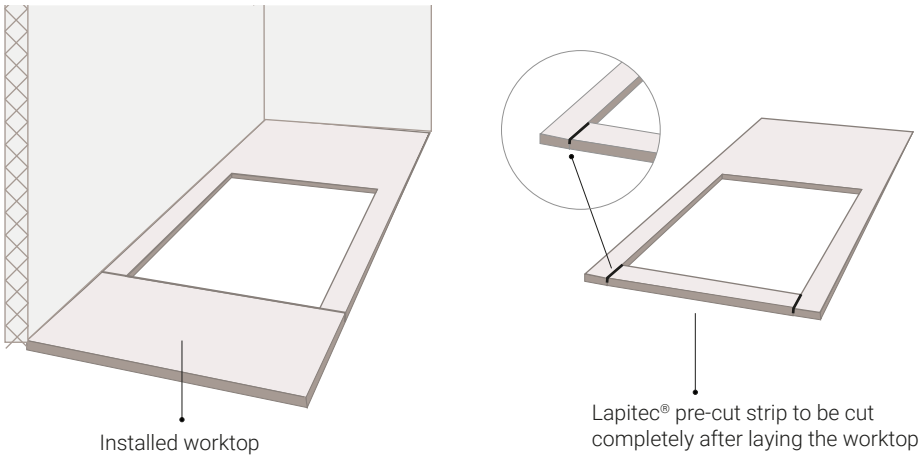
In the case of one or more large-sized cut-outs, or interrupted/open cut-outs, it is recommended to leave a strip of material to stiffen the top. The strip, already cut halfway into its thickness, will then be cut when installation is complete.

This will limit the possibility of breakage during handling and installation stages.

Case 1: large-sized cut-out



Case 2: interrupted sink cut-out



5. CLEANING, MAINTENANCE AND CARE

5.1/ ROUTINE CLEANING

For routine cleaning of **Lapitec®**, it is recommended to use a microfibre cloth to remove the dust from the surface. The **Lapitec®** top should be washed with warm water, possibly with the addition of a neutral detergent in the doses recommended by the manufacturer (such as vetril, glassex or FilaBrio). Then rinse with clean water and dry with a damp microfibre cloth or soft, non-abrasive sponge. For best results, it is recommended to clean any stains immediately without allowing them to dry.

WHAT NOT TO DO

Do not use dish-washing detergents, oily soaps, impregnating agents or other treatments. Certain detergents available on the market contain wax or polishing additives, which after several applications may leave an oily film on the surface that compromises the cleanliness and appearance of the **Lapitec®**.

5.2/ EXTRAORDINARY CLEANING

When routine cleaning is not sufficient, specific procedures must be carried out depending on the stain to be removed; in these cases, the use of aggressive, recommended products will not compromise the beauty of the top. The amount of time the stain is left on the surface has a strong influence on its removal, therefore cleaning is recommended as soon as possible.

It is recommended to start cleaning on a small portion of the area, checking the efficacy before applying the product across the entire surface. Do not use under any circumstances hydrochloric acid or caustic soda concentrates and products containing hydrofluoric acid and its derivatives.

Below is a table identifying the types of stains that may occur on the finishes and the products recommended by Fila Solution for their removal. Technical data sheets available on the website www.filasolution.com. The choice of detergent must be made based on the products reported in this table, or otherwise making sure that any other product has identical characteristics to those expressed herein.

Before proceeding, Lapitec SpA recommends contacting the provider of the cleaning products to obtain the most up-to-date documentation, always following the provided instructions.

After cleaning, the surfaces must be washed with plenty of warm water in order to remove all traces of the detergent used and dried with a cloth.

In the case of special needs, Lapitec SpA customer care can be contacted by writing to customercare@lapitec.com

Type of dirt	Type of detergent	Smooth surfaces (Lux, Satin)	Structured surfaces (Lithos, Vesuvio, Dune)
Limescale deposits	Descaler detergent (such as Fila Deterdek)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Aluminium marks	Descaler detergent (such as Fila Deterdek)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Pencil	Descaler detergent (such as Fila Deterdek)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Grease	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Coffee	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Ice cream	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Fruit juice	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Blood	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Wine	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Beer	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Ink	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Nicotine	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Urine and vomit	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Marker pen	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Coca Cola	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Hair dye	Degreaser detergent (such as Fila PS87)	Moist cloth	Non-abrasive sponge
Rubber	Degreaser detergent (such as Fila PS87)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Chewing Gum	Degreaser detergent (such as Fila PS87)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Rust	Descaler detergent (such as Fila No Rust)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Silicone	Specific detergent for the removal of silicone (such as Fila Zero Sil)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush
Candle wax	Solvent (such as Fila Solv)	Moist scratch-proof scotch-brite	Fine sorghum or plastic bristle brush

Notes

Stains such as ink, paint, wax, oil/grease can also be removed using solvents such as a nitro thinner or turpentine. Before applying the product on the entire surface of the finish, it is recommended to test its efficacy on a small portion first.

Do not use hydrochloric acid or caustic soda concentrates and products containing hydrofluoric acid and its derivatives.

Warnings

If the material is not cleaned after installation, or in the case of poor cleaning, Lapitec SpA denies all liability in regards to the efficacy of cleaning and maintenance operations.


DOBBIADENE
Superiore
di Cartizze

6. LAPITEC SPA

Customer Care

All of the experience gained on international projects and through different assignments is exploited to perfect the product and accessories sold by Lapitec S.p.A. Through direct contact with customers, Lapitec SpA searches constantly for new solutions to make the service more and more complete and efficient for the various needs of use.

Should there be particular needs, please contact Lapitec SpA customer care at

customercare@lapitec.com

LapitecACADEMY - Training center

LapitecACADEMY is the division that handles training and supporting professionals who work with **Lapitec®** through training in the company and direct assistance. Thanks to the Academy Community service, all innovations and technical developments are promptly spread throughout the entire network of collaborators.

By participating in training courses conducted by LapitecACADEMY, each professional can earn Approved Fabricator certification and learn useful tips and techniques for working with **Lapitec®**.

academy@lapitec.com

+39 0423 703811

LAPITEC

NATURALLY ITALIAN

Lapitec S.p.A.
via Bassanese 6
31050 Vedelago (Treviso) Italy
tel. +39 0423 703811
fax. +39 0423 709540
info@lapitec.com - www.lapitec.com