



KITCHEN TOP

# Design and Installation Manual

US Vers. 1/2016

A close-up photograph of a kitchen countertop. The countertop is a light, neutral color with a smooth finish. The edge of the countertop is visible, showing a slight overhang. Below the countertop, a dark-colored cabinet or drawer front is visible. The Laplitec logo is printed on the underside of the countertop edge.

Laplitec

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# 1./ PRODUCT

## 1.1/ The Lapitec® range



ARABESCATO MICHELANGELO



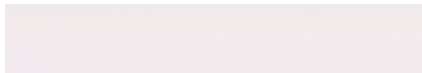
ARABESCATO PERLA



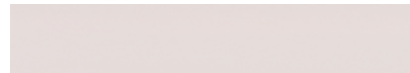
ARABESCATO CORALLO



ARTICO



BIANCO POLARE



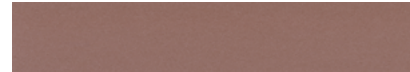
BIANCO CREMA



AVORIO



SAHARA



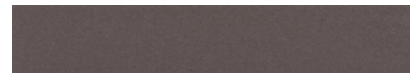
TABACCO



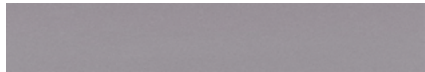
PORFIDO ROSSO



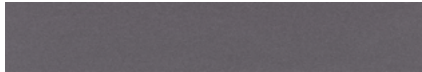
MOCA



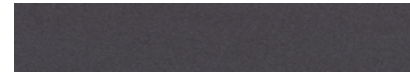
EBANO



GRIGIO CEMENTO



GRIGIO PIOMBO



NERO ANTRACITE



### FOSSIL:

A coarse-grained surface finish, with a roughness similar to split stone or mottled natural stone surfaces.



### ARENA

A smooth sanded finish, with a regular grain that gives a natural dynamism to the whole slab.



### VESUVIO

A structured finish that is soft to the touch - similar to the velvet (leather) finish given to granite.



### DUNE

It evokes desert sand, where the wind delicately models the panorama.



### SATIN

A silky shine with imperceptible roughness.



### LUX

A polished and highly reflective finish.



### LITHOS

Fine rough surface, ideal for kitchen worktops, exterior paving of yachts and swimming pools.

# 1./ PRODUCT

## 1.2/ Certifications and memberships:



Lapitec® is approved and certified by the NSF institute as a material that is safe for direct contact with food.  
The certification guarantees the maximum safety and protection to the final consumer, particularly for kitchen worktops and surfaces that come into direct contact with food.



Lapitec® complies with the Jewish Kosher rules. Tables and kitchen worktops can be kosherised.



Lapitec® is approved Green guard for Indoor Air Quality



Lapitec® is a member of the Marble Institute of America, an association that promotes the use of natural stone and provides information about stone product workmanship standards.



Lapitec® is a member of the National Kitchen and Bath Association.

# 2./ PRINCIPLES OF DESIGN

## 2.1/ Internal angles and sink hole

All internal angles must follow a minimum radius of  $\frac{3}{16}$  in. A greater radius imparts greater structural strength to the material (see figure 1), while any non-radiused angle will create a stress point on the top (see figures 1 and 2).

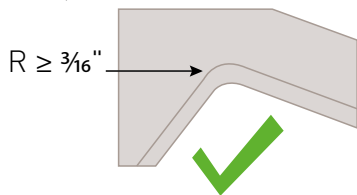


Figure 1

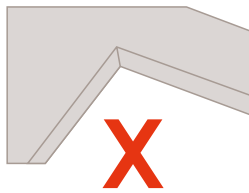


Figure 2

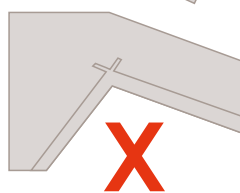
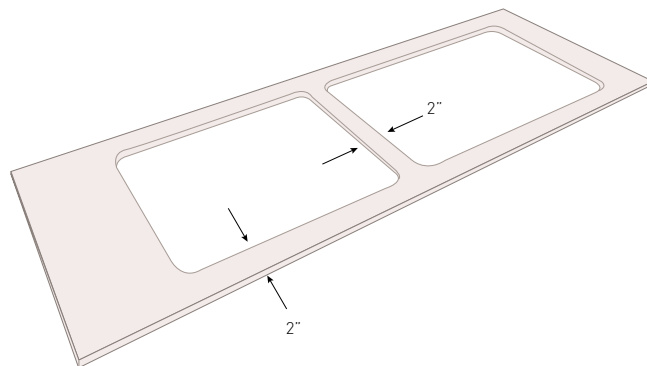


Figure 3

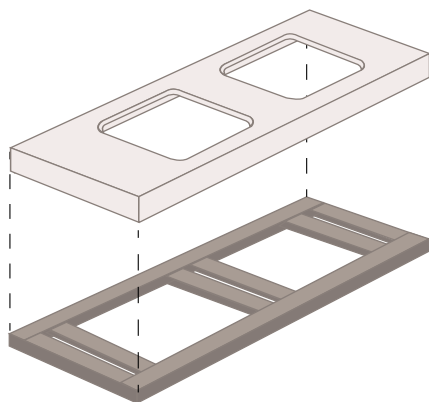
## 2.2/ Minimum distance between edge and sink hole

The minimum recommended distance between the sink hole and the outer edge of the workpiece is 2 in.

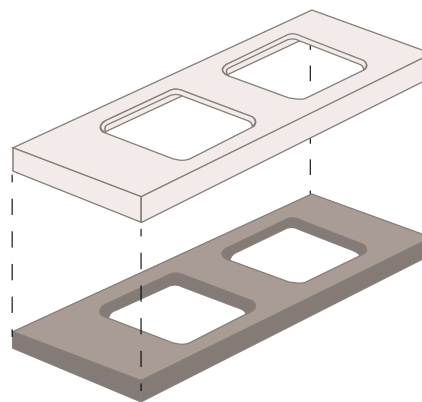


## 2.3/ Top support

Depending on the thickness of **Lapitec**® employed and the configuration of the top, we recommend supporting the top adequately with a reinforcement in **Lapitec**®, or using material having the same thermal expansion coefficient (e.g. granite, **Lapitec**® or Eulithe).



Support with crossbeams



Solid support

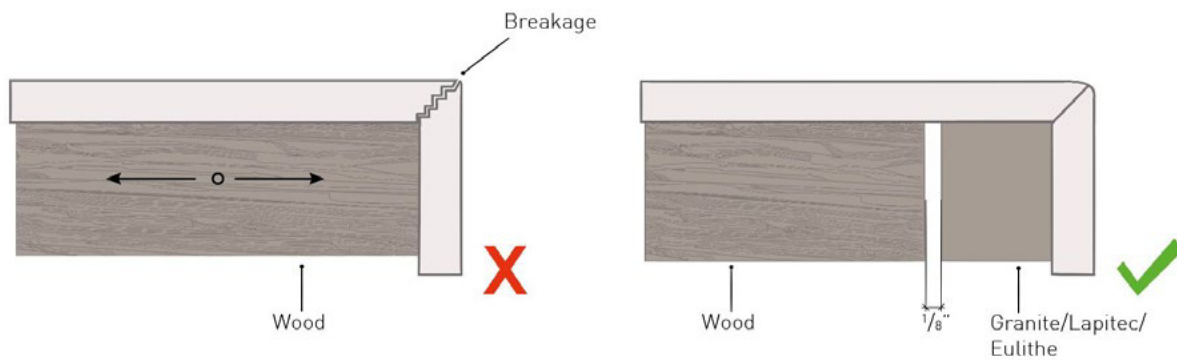
# 2./ PRINCIPLES OF DESIGN

## 2.4/ Outdoor applications

In outdoor applications in the presence of a lamination, it is good practice to support the epron with material having the same thermal expansion coefficient (granite, Lapitec, Eulithe..).

Supporting the two pieces only with a timber substrate should therefore be avoided, because when it is exposed to the weather the wood may tend to expand and create pressures acting on the bonded parts causing them to become detached.

We also recommend maintaining a gap of at least  $\frac{1}{8}$  in between wood and top in order to compensate for any thermal expansion.



## 2.5/ Edges of the top

We recommend processing the workpiece's edges as shown in the drawing. These indications are a good compromise between aesthetics and functionality. Moreover, they considerably reduce accidents.



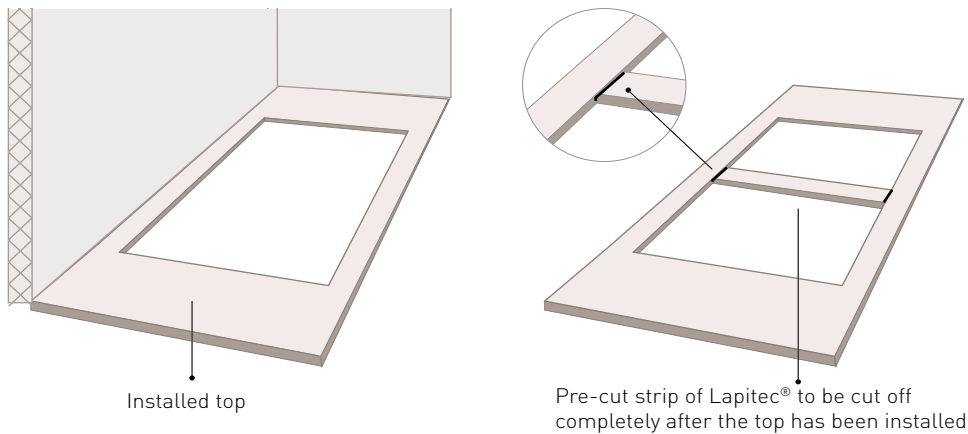
# 2./ PRINCIPLES OF DESIGN

## 2.6/ Design of holes for sink, gas hob or induction hob

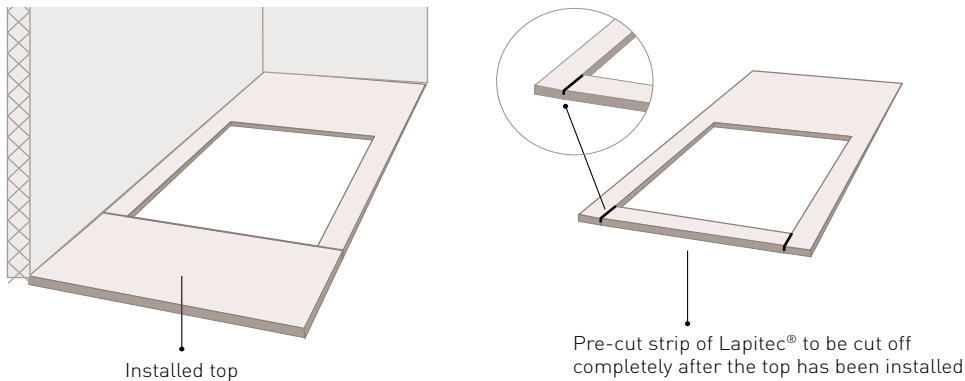
In the presence of one or more large size holes or interrupted/open holes, it is good practice to leave a strip of material in place to support the top. The top, already cut half way through its thickness, will be completely cut once the installation procedures are terminated.

This practice restricts the potential for breakage during handling and installation.

### Case 1: large-size hole



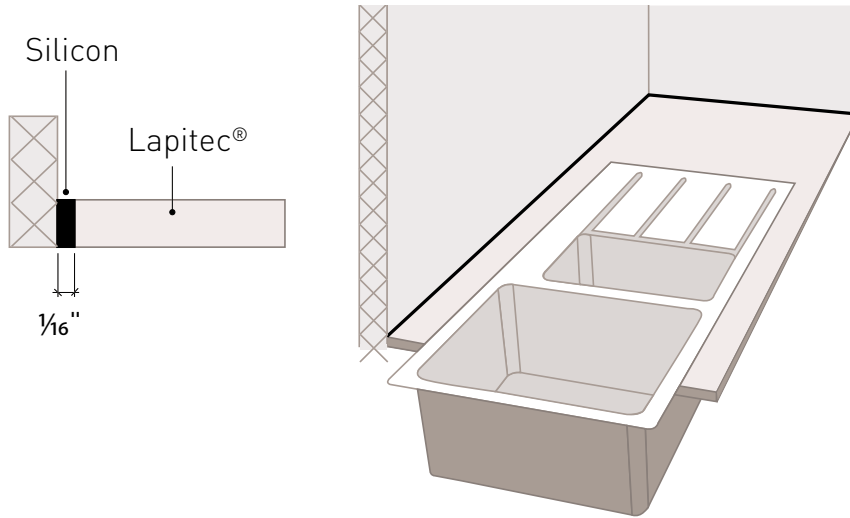
### Case 2: interrupted sink hole



# 2./ PRINCIPLES OF DESIGN

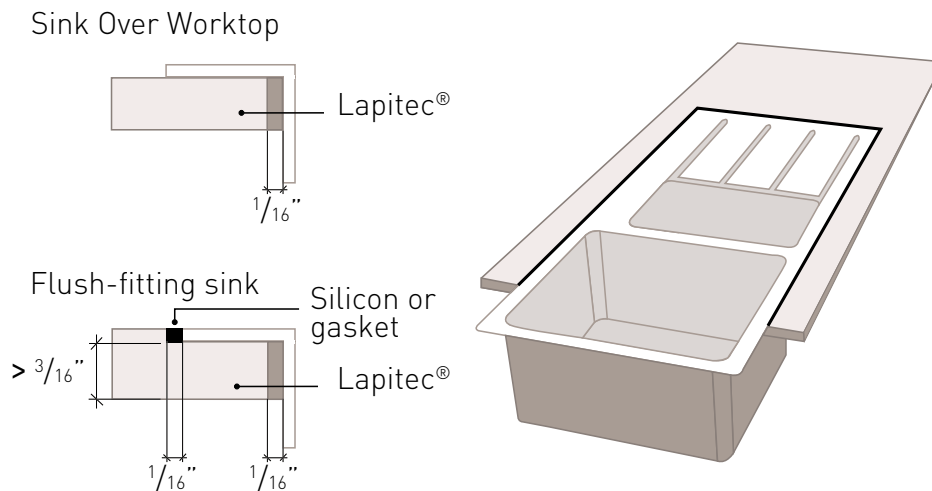
## 2.7/ Minimum distance between Lapitec® and wall

The recommended minimum distance between the **Lapitec®** top and the wall is  $\frac{1}{16}$  in.



## 2.8/ Minimum distance between Lapitec® and sink

The recommended minimum distance between the **Lapitec®** top and the sink is  $\frac{1}{16}$  in.

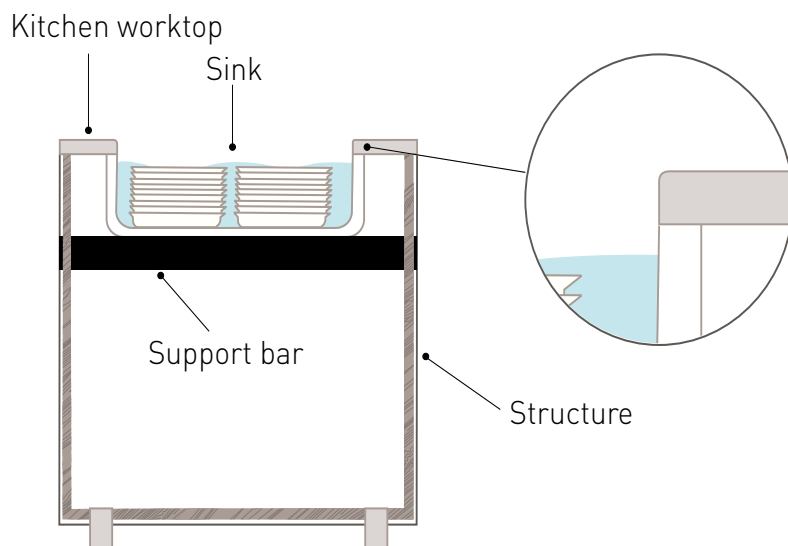




# 2./ PRINCIPLES OF DESIGN

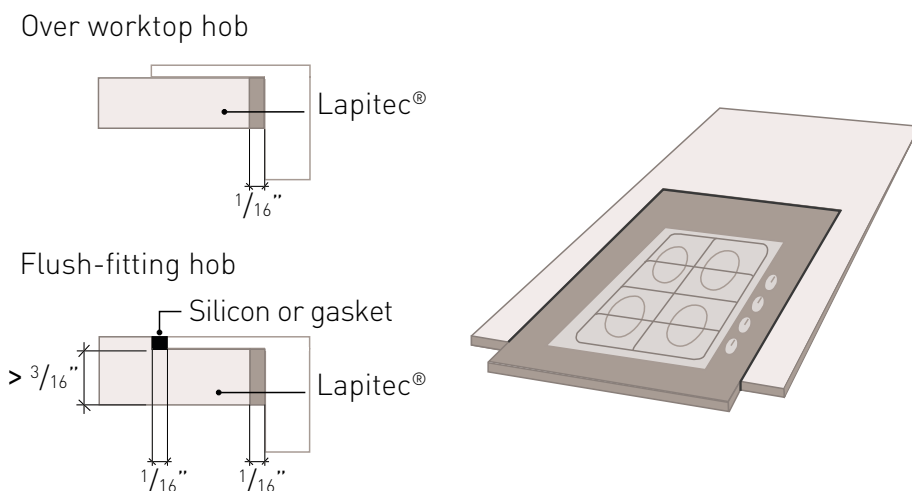
## 2.9/ Sink support

We recommend adding a support bar for large size sinks, to be secured to the structure on which the top is to be placed. The weight of the sink full of water or with additional loads of materials and objects of daily use could cause the sink to become detached and/or lead to breakage of the top.



## 2.10/ Minimum distance between Lapitec® and hob

The recommended minimum distance between the **Lapitec®** top and the hob is  $\frac{1}{16}$  in.



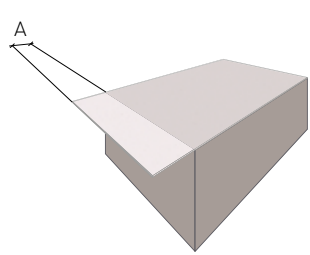
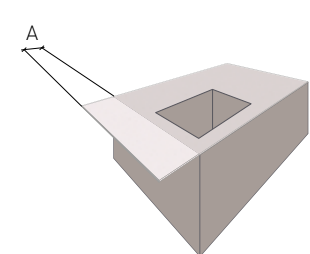
### Warnings

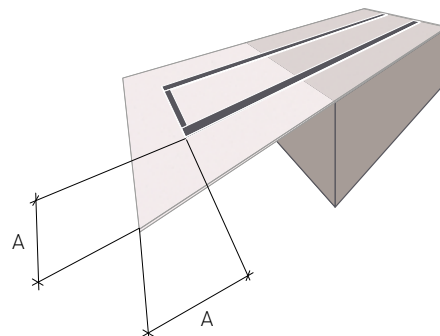
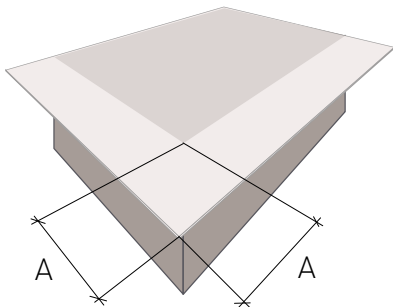
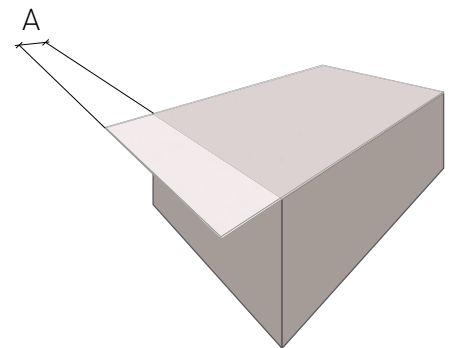
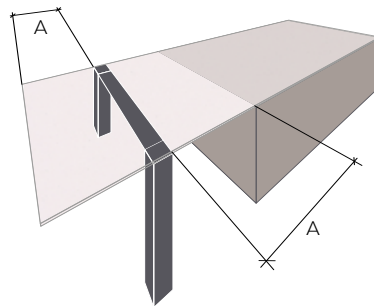
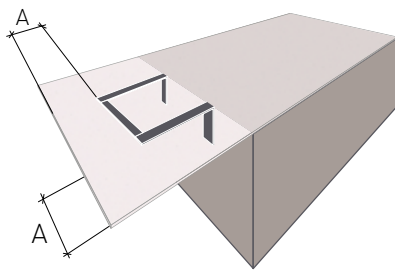
Interpose a sealant capable of compensating for the different thermal expansion occurring during daily use, such as silicon or gaskets supplied by the appliance manufacturer between the Lapitec® top and the components mounted on the top.

# 2./ PRINCIPLES OF DESIGN

## 2.11/ Overhangs

When designing the top, the overhangs should be sized by following the following table in order not to expose the workpiece to the risk of breakage during daily use.

	Thicknesses			Drawing
	1/2 in	3/4 in	1 1/4 in	
Top with unsupported overhang	A < 6 in	A < 12 3/4 in	A < 19 3/4 in	
Drilled top with unsupported overhang	A < 3 1/2 in	A < 8 1/4 in	A < 12 in	



# 3./ WORK PROCESSES

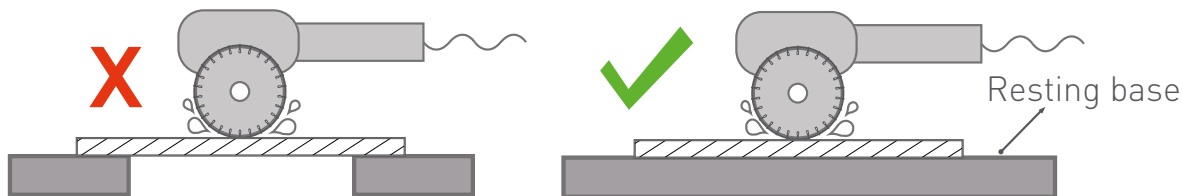
## Warnings:

During any type of manual processing the workpiece should be adequately supported with a flat resting base in good condition, preferably made of wood. For any type of machining process always use high water flow rates.

For cutting and drilling Lapitec® we recommend using tools for ceramic or porcelain materials.

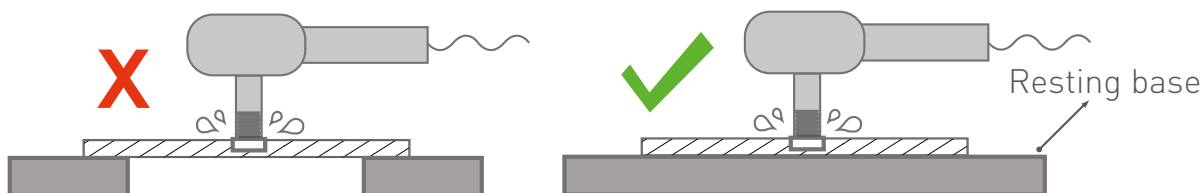
## 3.1/ Cutting

Supplier	Tool
<b>Alpha Tools</b>	Wet core Drill series
<b>Weha</b>	Ceramic line, Drymagic
<b>Italdiamant</b>	EvoGres Series



## 3.2/ Drilling

Supplier	Tool
<b>Alpha Tools</b>	Katana
<b>Weha</b>	Ultradunn
<b>Italdiamant</b>	Slash for Lapitec



## Suggested sequence

The sequences described are subject to possible variations due to ongoing research into improvements in product fabrication. We recommend contacting your dealer or the Lapitec**ACADEMY** service department for any details you may require.

# 3./

## WORK PROCESSES

### 3.3/ Finish for top and edge - LUX

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

### 3.4/ Finish for top and edge - SATIN

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

\*Optional

Consult the tool manufacturer's manual to define the required machining parameters.

# 3./ WORK PROCESSES

## 3.5/ Tools marked Lapitec®



**Saw blade Lapitec® for manual cutting**

Diameters 4-5 in (115-125 mm)



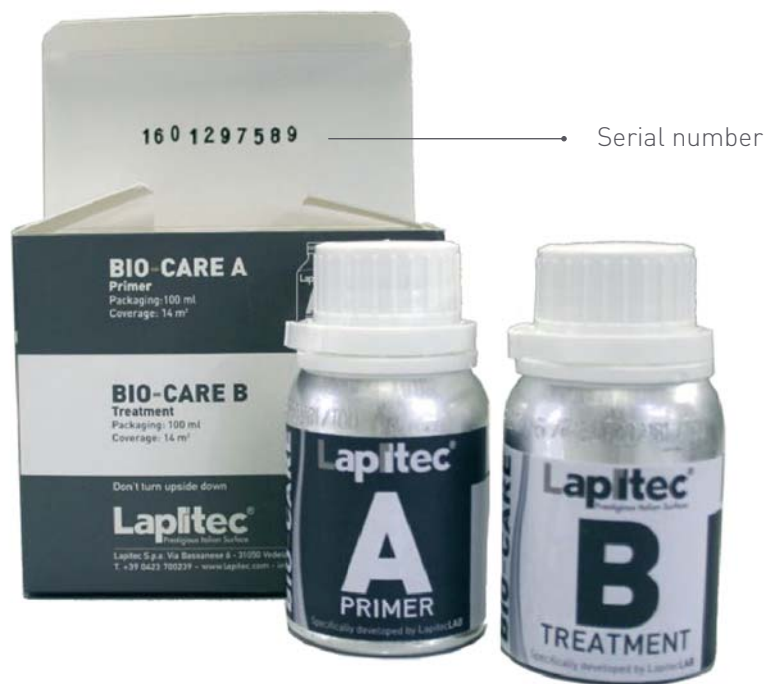
# 3./ WORK PROCESSES

## 3.6/ Post work process treatments - Bio Care

It is **mandatory** to treat the surface prepared by the mason with **Lapitec® Bio-Care**, two products to be used one after the other to ensure antibacterial properties and self-cleaning action and to optimise the aesthetic appearance of the material. **Lapitec®** is produced using **Bio-Careso** the manual application process must be performed only on surfaces that are subject to processing after production. The two components **A** and **B** of the **Bio-Care** line developed by LapitecLAB are formulated to combine chemically with the **Lapitec®** in an inseparable manner, thus rather than forming a surface skin they react with the material and form a coherent body. **Failure to apply the Bio Care treatment may impair the properties of Lapitec®**

Consult the Technical Manual for the complete product datasheet - [www.lapitec.com/download](http://www.lapitec.com/download)

**Warning:** do not turn upside down, keep in a cool, dry place well away from heat sources.



# 3./ WORK PROCESSES

## 3.7/ Assembly using adhesives

Before applying the adhesive make sure the surface to be glued is clean, perfectly dry and free of any form of treatment. If you need to glue a treated surface you must first sand it with a coarse sandpaper (60-80 grit) in order to remove the coatings and create a rough surface that will provide a secure and lasting anchorage.

## 3.8/ Choosing the adhesive

When choosing the adhesive it is advisable to consider the function and use of the machined top in order to identify the most suitable adhesive product.

### STRONGBOND A+B

Adhesive recommended for indoor and outdoor use and in situations with persistent exposure to UV radiation.

**Description:** New generation dual component adhesive with zero yellowing due to exposure to solar radiation for gluing of **Lapitec®**.

### STRONGBOND CARTRIDGE

Adhesive recommended for indoor and outdoor use and in situations with persistent exposure to UV radiation.

**Description:** Pre-coloured adhesive paste for gluing **Lapitec®**, assures excellent adhesion in very short times.

### FROZENBOND A+B

Adhesive indicated for indoor and outdoor use, especially in cold climates.

**Description:** Extra-strong dual-component epoxy adhesive in thixotropic resin for vertical surfaces that is exceptionally soft and spreadable, suitable for gluing of **Lapitec®**.

### FIREBOND

Recommended for indoor applications and especially suitable for high heat resistance and fast processing

**Description:** Adhesive paste for gluing **Lapitec®**. Very quick, soft and with optimal spreadability.

### RAINBOW

The 3 systems can be coloured with universal Rainbow pigments in a colour range coordinated with **Lapitec®** colours.

**Description:** The colouring paste is supplied as a soft, uniform coloured paste. It blends perfectly with all types of adhesives to allow easy colouring of the paste.

Consult the Technical Manual for the complete product datasheet - [www.lapitec.com/download](http://www.lapitec.com/download)



Strongbond A+B

Strongbond cartridge

Frozenbond A+B

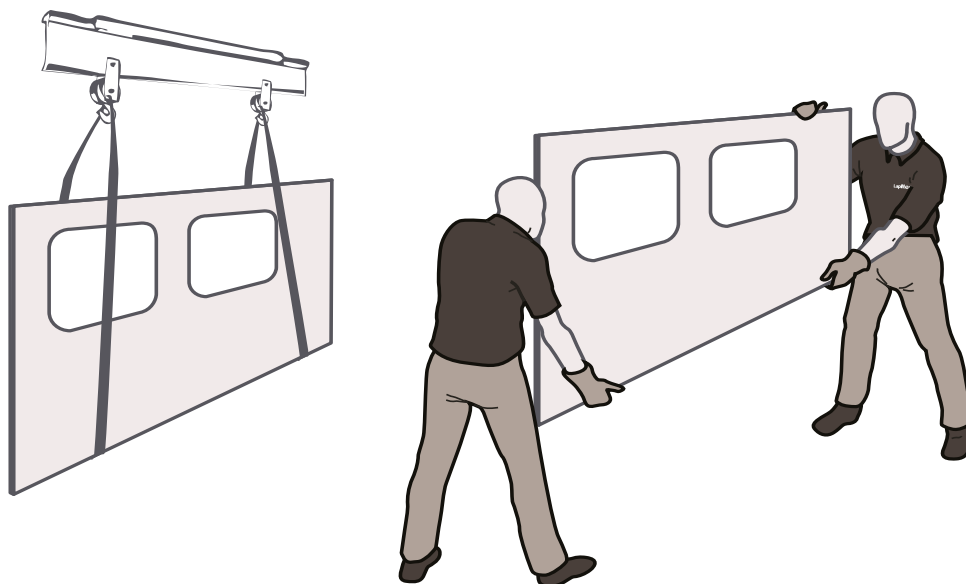
Firebond



Rainbow

# 4./ PACKAGING AND HANDLING

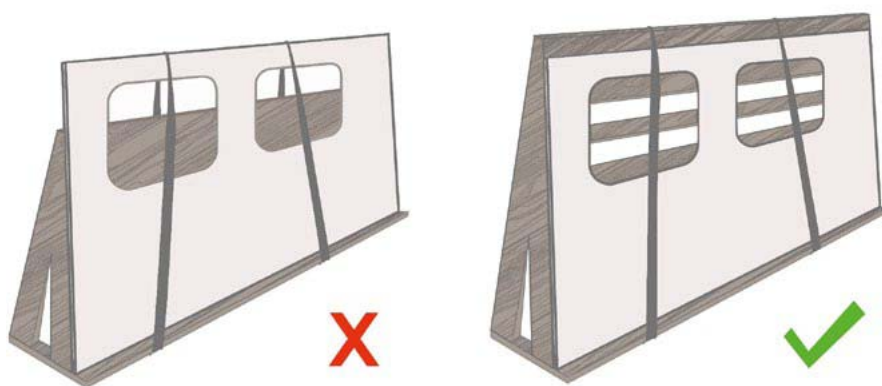
In any case, handling and transport of the workpiece, whether performed manually or using straps and suction lifter pads, must be carried out while keeping it in a vertical position as shown in the diagram below. If there are any openings in the top, they must always be kept towards the top of the slab.



## 4.1/ Packaging and handling

To transport a workpiece made of **Lapitec®** you must use a trestle that allows the slab to be supported over its entire surface area. Supports that are excessively small with respect to the size of the workpiece to be transported can result in breakage of the part.

The workpiece to be transported must not be bound by straps that, if excessively tight, could result in breakage of the part.

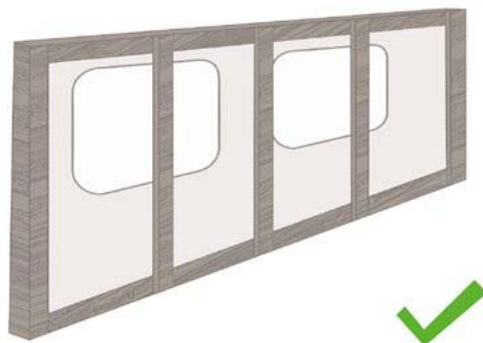




# 4./ PACKAGING AND HANDLING

## 4.2/ Pack with timber frame

Interpose material capable of absorbing any possible impact during transportation between the **Lapitec®** and frame (expanded polystyrene or pressed cardboard).



# 5./ INSTALLATION

## 5.1/ Pre-installation on structure

It is essential to ensure that the resting base on which the **Lapitec®** top will be laid is flat, level and structurally sound. The majority of breakages during assembly and post-installation are caused by an unevenly shaped or inadequate support or the presence of debris or processing residues.

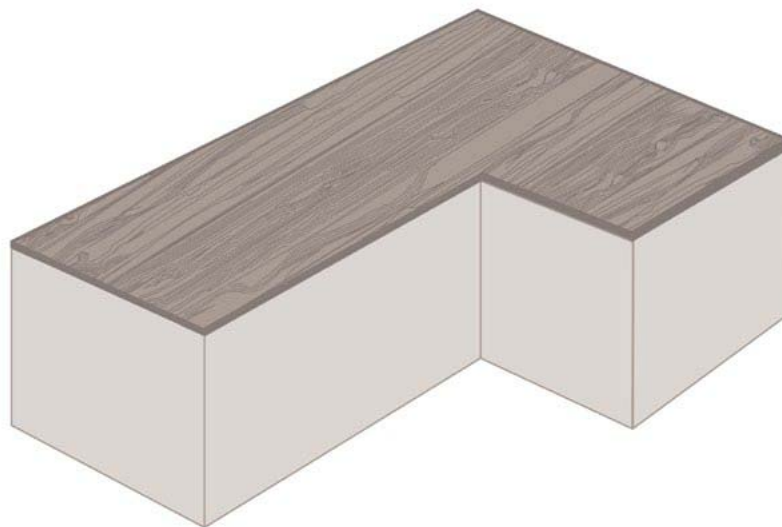
The top surface must rest perfectly on the support; any parts of the surface that are not supported are potentially fragile.

For this reason, never apply isolated spots of silicon but spread the adhesive over the entire supporting area to ensure that it sticks completely to the top.



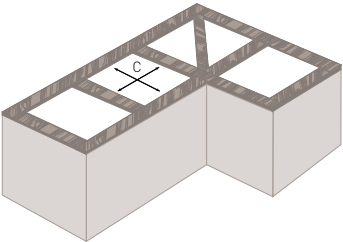
**For tops that are ½ in. thick**, set up a total support that extends over the entire top of the workpiece to give it greater stability. Use marine plywood at least ¾ in. thick to support the top over its entire surface area.

In addition, it is important to ensure that the adhesive utilised to fix the **Lapitec®** to the support is sufficiently elastic (e.g. silicon) in order to compensate for thermal expansion differences between the two materials.

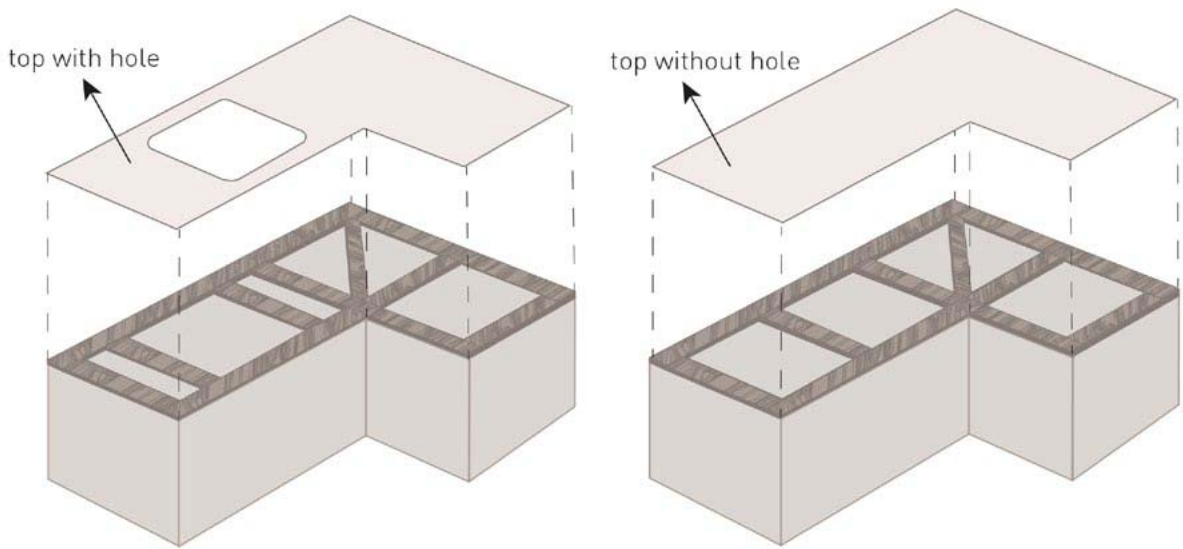


# 5./ INSTALLATION

If you decide to use a slatted structure, maintain the minimum distance between the “C” crossbeams shown in the following table:

Required support	Support distances			Drawing
	½ in	¾ in	1 ¼ in	
<b>Recommended max support distances</b> <b>Maximum load 130 kg</b>	C ≤ 10 in	C ≤ 17 ¾ in	C ≤ 23 ½ in	

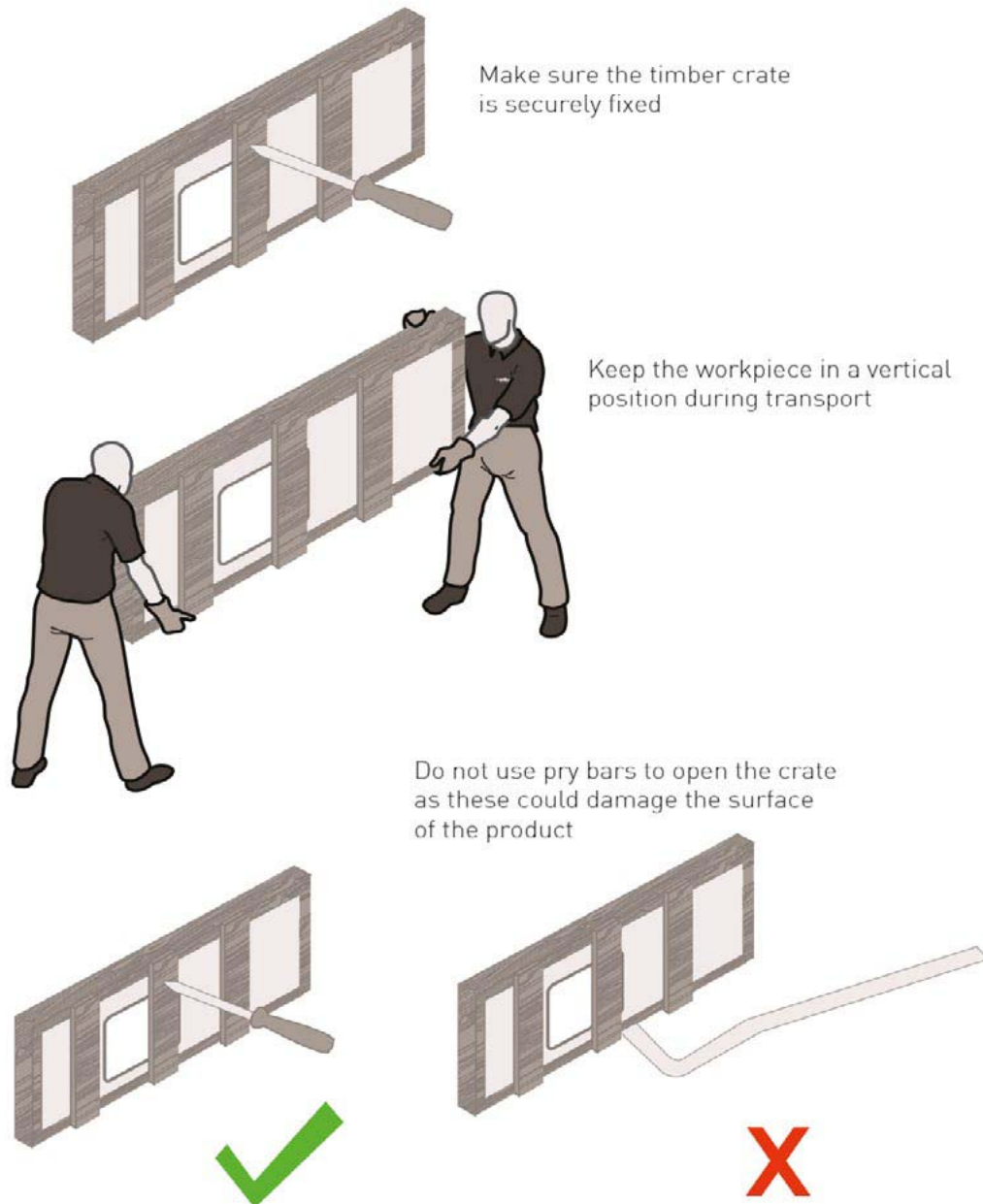
If the top has one or more holes (sink hole, gas...) the most stressed parts need to be appropriately supported so as to give the top the right stability.



# 5./ INSTALLATION

## 5.2/ Handling on the work site

Keep the worktop in a vertical position at all times, ensuring the openings are always towards the top of the slab.

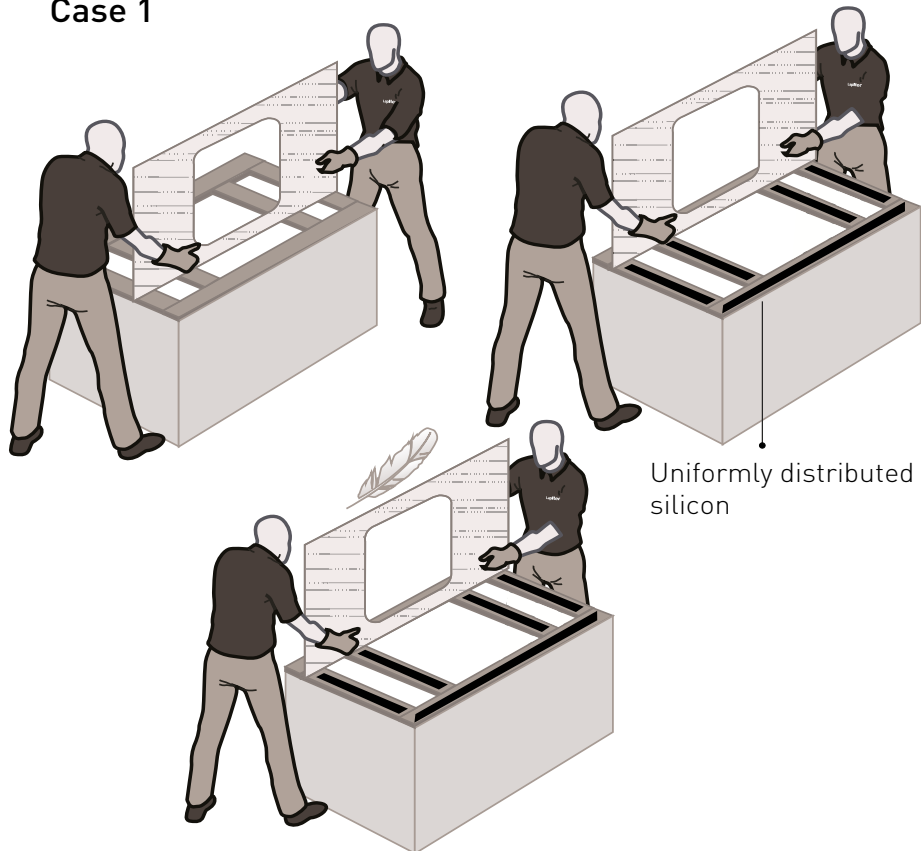


# 5./ INSTALLATION

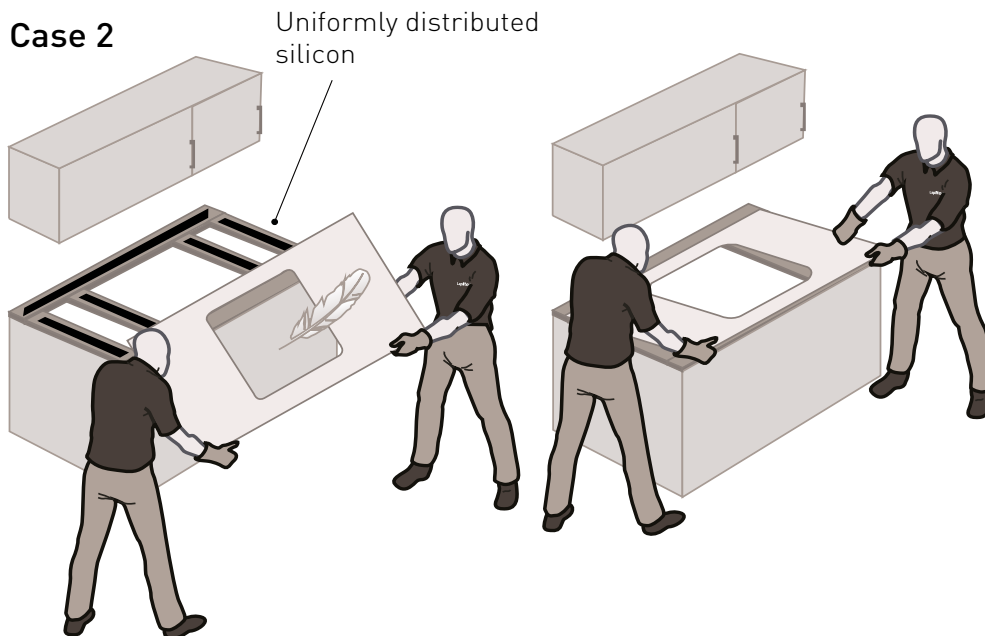
## 5.3/ Positioning the workpiece

When positioning the workpiece it is advisable to follow the recommendations given below to ensure optimal results.

**Case 1**



**Case 2**

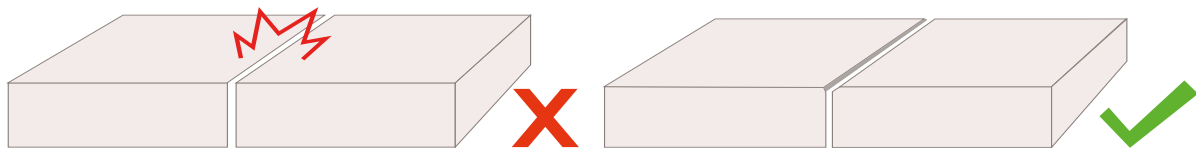


# 5./ INSTALLATION

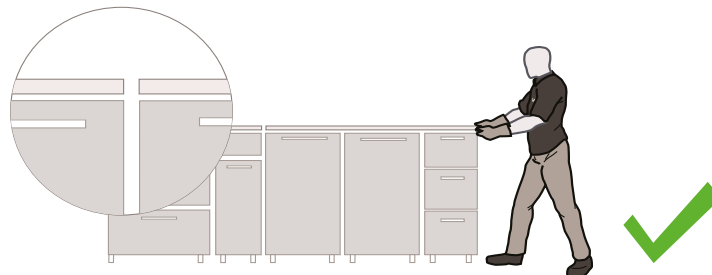
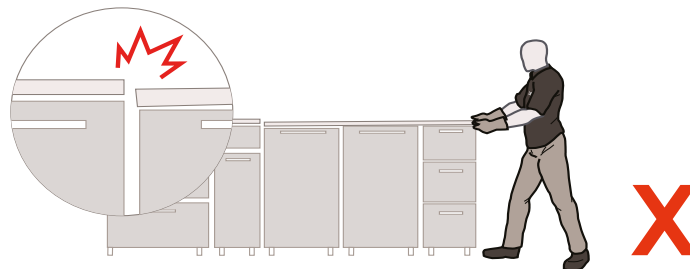
## 5.4/ Installation of workpieces joined without a gap

The procedure of handling and installing machined workpieces is a delicate operation both when performed in the workshop to check the final appearance of the parts and at the time of final installation on the work site. It is always recommended to handle machined workpieces with the utmost care, paying attention to the corners and complying with the following guidelines:

- All corners must have a minimum edge chamfer to ensure the workpiece is structurally solid.



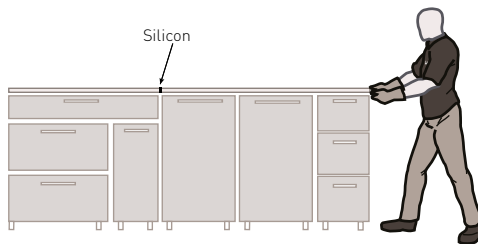
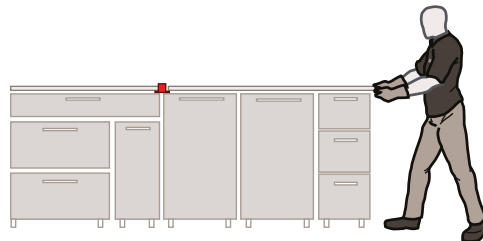
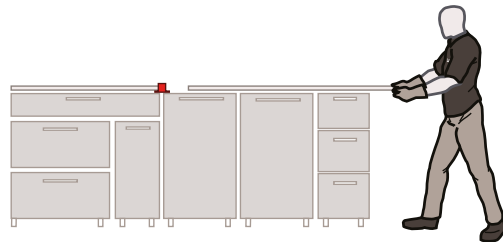
- Before installing make sure the support is level and perfectly flat, otherwise make adjustments or fit shims for adaptation purposes. Adjacent edges must match perfectly without different angles, which could result in edge chipping.



- To avoid hard impact between two workpieces and assist the approach of adjoining surfaces it is good practice to interpose shims at all times and remove them only in preparation for application of the silicon and subsequent final adjustment with minimal movements.

The care devoted during the installation stage is a decisive factor in achieving high quality results.

# 5./ INSTALLATION



## 5.5/ Positioning of parts using suction lifter pads

To avoid chipping the edge of the parts at the time of installation it is good practice to position the parts with the aid of a suction pad lifter system.



# 6./ CARE AND MAINTENANCE

## 6.1/ Routine cleaning

The surface should be cleaned daily to remove stains and residues.

Type of dirt	Type of detergent	Smooth surfaces	Structured surfaces
Rust	Acid	Moist anti-scratch Scotch-brite	Fine bristle brush
Limescale deposits			
Residues of cement, plaster or lime			
Aluminium marks			
Grease	Alkali/Solvent	Damp cloth	Sponge
Coffee			
Ink	Oxidant/Solvent		
Oil			
Rubber	Solvent	Moist anti-scratch Scotch-brite	Fine bristle brush
Wax			
Epoxy adhesive			
Resin			
Indelible marker pen	Oxidant	Damp cloth	Sponge
Wine			
Iodine tincture			
Blood			
Fruit juice	Alkali		
Ice cream			

Acid: acidic detergents, limescale and cement remover products **e.g. Viakal**

Alkali: alkaline detergent, ammonia, degreasing agent **e.g. ChanteClair, Cif, Bam**

Solvent: universal solvent, thinners, white spirit, alcohol

Oxidant: bleach, hydrogen peroxide

### Warnings

do not use strong acids (e.g.: hydrochloric acid, sulphuric acid, hydrofluoric acid, ammonium fluoride) or strong alkalis (e.g.: sodium hydroxide, potassium hydroxide)

On smooth surfaces use a magic eraser sponge without solvent to remove the final traces of dirt that other sponges are unable to shift.

**Warning: avoid products containing hydrofluoric acids and its derivatives.**



# 6./ CARE AND MAINTENANCE

## 6.2/ Regenerative cleaning

Regenerative cleaning is required to remove ingrained or particularly stubborn stains or residues.

Type of dirt	Type of detergent	Name	Manufacturer
<b>Coffee, coca cola, fruit juice</b>	multi-purpose cleaners, alkali based	detertek	Fila
		cpbase	CPSsystem
		coloured stain remover	Faberchimica
<b>Grease, dust from foot traffic, deep cleaning</b>	multi-purpose cleaners, alkali based	detertek	Fila
		hmk r55	Hmk
		intensive cleaner	Lithofin
		lironet	Lotokol
		taski r20-strip	Johnsondiversey
<b>Wine</b>	oxidant	oxidant	Faberchimica
<b>Limescale deposits</b>	Acid-based	detertek	Fila
		cpstore	CPSsystem
		viakal	Procter&Gamble
<b>Rust</b>	Acid-based	cpconcrete	CPSsystem
		diluted muriatic acid	Any manufacturer
<b>Ink, felt-tip pens</b>	solvent-based	cpsolve	CPSsystem
		coloured stain remover	Faberchimica
		Methyl ethyl ketone, nitro thinner, Dielion, turpentine	Any manufacturer
<b>Metal signs</b>		Cif Cream	Unilever
		Clean with a light-blue abrasive sponge applying gentle rubbing action	
<b>Silicon</b>		Zero-sil	Fila
		Via-sil	Saratoga

### Warnings

do not use strong acids (e.g.: hydrochloric acid, sulphuric acid, hydrofluoric acid, ammonium fluoride) or strong alkalis (e.g.: sodium hydroxide, potassium hydroxide)

On smooth surfaces use a magic eraser sponge without solvent to remove the final traces of dirt that other sponges are unable to shift.

**Warning: avoid products containing hydrofluoric acids and its derivatives.**

# 7./ DISCLAIMER

The purpose of this manual is to provide guidelines and tips for the design and installation of **Lapitec®** slabs for kitchen worktops.

The information contained herein reflects the state of the art and technical-scientific and practical knowledge of the manufacturer at the time of publication. For all additional information on the processing and installation of the material please refer to the most recent updated version of the Technical Manual, which is always available in the download area at [www.lapitec.com](http://www.lapitec.com).

However, since this is a natural sintered material, the user should look beyond the advice given in this document and refer to the technical-scientific and operational literature available in relation to this type of material and seek professional expert assistance for the various stages of processing and installation of the ceramic products.

In relation to the above matters, Lapitec S.p.A. cannot be held liable for any damage that may occur due to the application of the information and advice given in this technical manual, which is of a purely guideline nature so the user is always responsible for checking the suitability of all operations before proceeding.

Lapitec S.p.A. reserves the right to make technical changes of any type without any form of advance notice and without direct notification of any third parties. We therefore invite you to refer to the latest updated version of the "Technical Manual" which is always available from the download area of the website [www.lapitec.com](http://www.lapitec.com).

When the material is delivered always check the colour, thickness and machining of the surface because claims of defects present at the time of delivery cannot be accepted if the material has already been installed.

In case of complaints it is advisable to contact Lapitec**ACADEMY**, addressing your e-mail to [academy@lapitec](mailto:academy@lapitec). it; our technicians will be at your disposal.



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