



TECHNICAL MANUAL

T-TONE

Superior Porcelain Countertop

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## THE INVENTION THAT RECREATES THE SPACES...

An innovation that inspires those who design the living spaces of the future with its aesthetics, technology, unique features, and sizes... Sizes vary, but quality never does.

Equipped with the superior features of Kalesinterflex, Turkey's largest porcelain slab, the T-ONE porcelain countertop offers products suitable for kitchen countertops owing to its rectified 162x323 and 160x320 size alternatives in 12mm thickness.

## NEW SIZE IN PORCELAIN SLAB

T-ONE Porcelain Countertop consists of porcelain slabs that have 160x320cm sizes, 12mm thickness.



12mm



# THE INNOVATIVE FACE OF LIVING KITCHENS

The Kalesinterflex porcelain slab, which designs the future in living spaces, now brings a new interpretation to kitchens. T-ONE kitchen countertops, manufactured with porcelain ceramic, enable you to design customizable spaces with durable and aesthetic surfaces.



Low Water Absorption (Near Zero)



Long-lasting



High Scratch Resistance



Fire resistant (Flame Resistant)



High Heat and Frost Resistance



Hygienic



Easy to Clean



High Breaking Strength



High Stain Resistance



High UV Rays Resistance



High Abrasion Resistance



Resistant to Household Cleaning Materials



High Scratch Resistance



High Breaking Strength



High Stain Resistance



High Abrasion Resistance



High Heat and Frost Resistance



Fire resistant (Flame Resistant)

Not valid for glossy product.



# 01

## Quality Control Criteria

- A-Size
- B-Thickness
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- F-Surface Quality
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## Quality Control Criteria for 12mm T-ONE

The T-ONE porcelain countertop is equipped with the superior features of Kalesinterflex. Kalesinterflex, Turkey's first and only large porcelain countertop, is manufactured with high-quality standards and years of experience. Before the porcelain slab is processed, it should be thoroughly inspected, and any defects should be reported to the manufacturer. After the porcelain slabs are transformed into a countertop, defects will be out of warranty.

### A — Size

The term 'Full Length' used for the size refers to the unrectified product. It is an appropriate size for similar procedures, such as cutting in the production of countertops or furniture. In this context, a usable area format in 1620 x 3230 sizes may be obtained from the slabs.

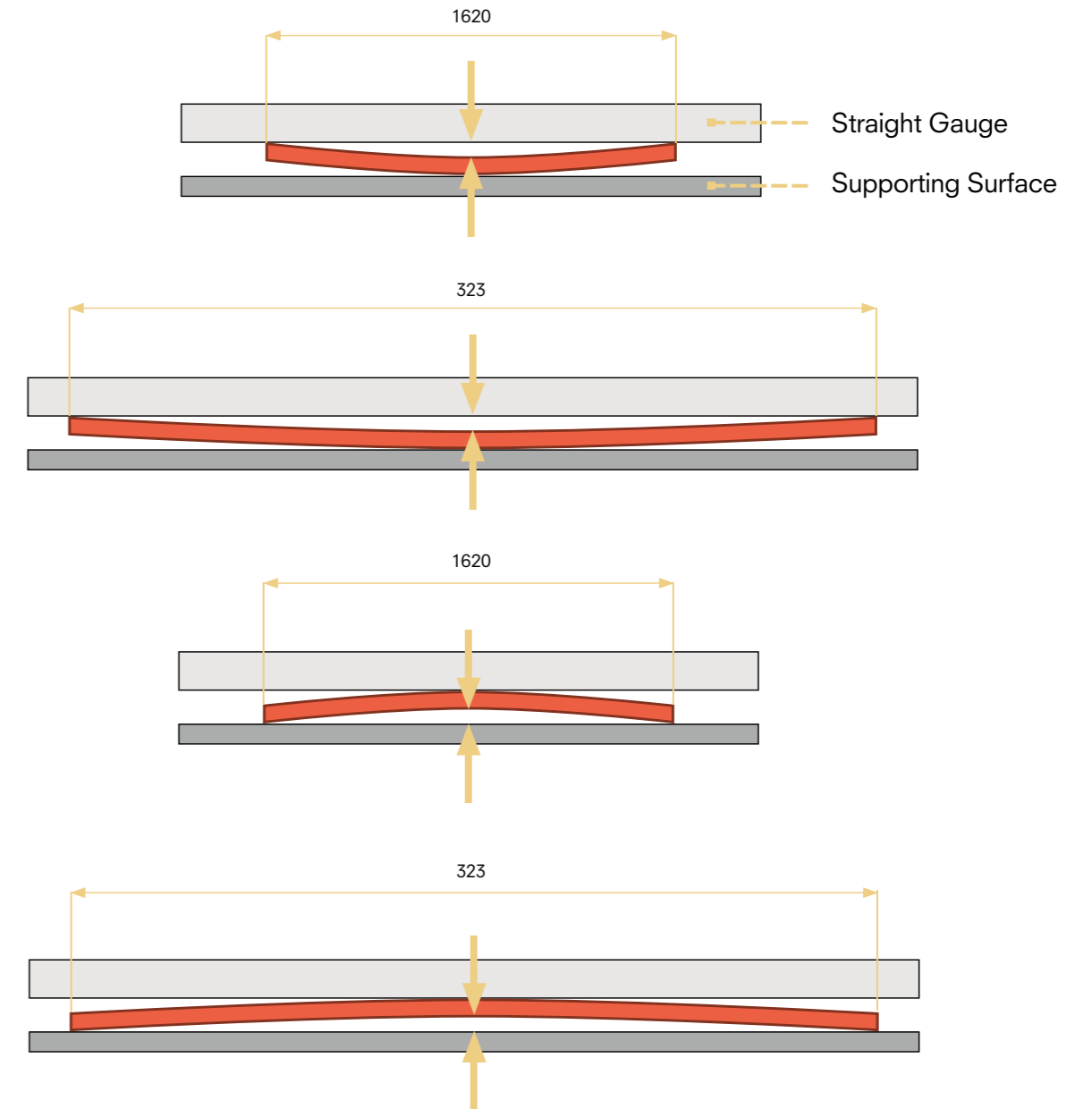
Sizes of 12mm Kalesinterflex Slab	
Sizes before rectification	Min. 1620x3230mm
Sizes after rectification	1600x3200 ± 0,8mm

### B — Thickness

Sizes of 12mm Kalesinterflex Slab	
Nominal Thickness	12mm
Tolerance	±0,5mm

### C — Planarity

In order to control the flatness, the porcelain slab is placed on a completely horizontal, fixed, and calibrated reference surface, and its glazed and embossed smooth surface faces upwards. Then, the calibrated metal gauge is manipulated on the product, the gaps formed between the surface and the metal gauge are measured with the feeler gauge, and the maximum value is recorded as the flatness value.



## D — Color Tone

Manufactured from natural raw materials using industrial techniques, porcelain slabs have fewer color and tone variations, unlike natural stones. Porcelain slabs in different sizes and thicknesses may not have the same color and tone despite having the same pattern. Slabs with different colors and tones are found in the color palette determined by Kaleseramik. While using the products, the color codes written on the labels should be taken into account and attention should be paid to the color-tone differences accordingly.

## E — Surface Quality

Porcelain slabs are manufactured at high temperatures above 1200 degrees. These conditions cause some defects on the surfaces. Porcelain slabs are classified into two different surface quality categories: first quality (Q1) and second quality (Q2). By the standard, porcelain slabs are positioned horizontally. Then, the defects on the surface are visually checked under natural or artificial light from a distance of not less than 1 meter. The descriptions for first-quality and second-quality criteria are given below.

Q1-First Quality	
Surface Quality Error	Radius $\leq$ 2mm
Scratches	Scratches should not be seen from a distance of 1m and above.

\*Q2 - Second Quality Any condition that exceeds the first quality criteria, except corner and edge cracks/fractures longer than 10cm, is classified as second quality.

## F — Graphic variations of material

Each T-ONE product series is manufactured with one or more different graphics (face). Slabs produced with the same graph have minimum graphic tonality deviations that remind the innate diversity found in natural materials.

Pattern continuity is critical in book match graphics printed on more than one slab. For T-ONE products, deviation in pattern continuity is determined as a maximum of 2cm. belirlenmiştir.

## G — Labelling and marking

Each porcelain slab has an identification label containing sensitive information such as product code, color tone, size, date and time of production, and quality.





The background of the slide is a white marble with intricate, flowing veins in shades of grey and gold. In the bottom-left corner, the numbers '02' are displayed in a large, bold, orange font.

02

**Carrying &  
Storage  
Criteria**

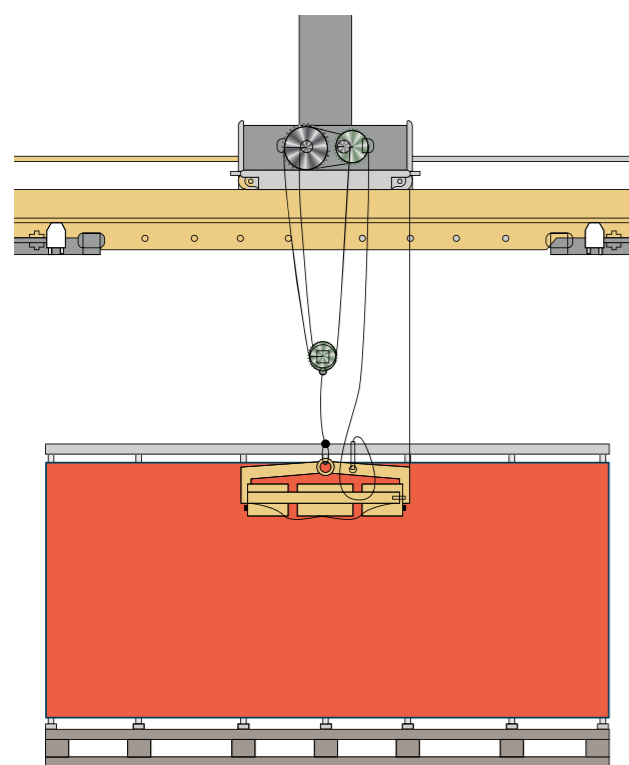
## Carrying and Storage

<b>T-ONE 12mm</b>	
Size	162*323
Weight (kg/m <sup>2</sup> )	152,24 kg

### Carrying with Slab Lifter

T-ONE Porcelain Slab should be carefully lifted and lowered to avoid deformation.

You may use a gripper below.



Single Lifting Equipment

The slabs should be lifted one by one. While lifting the polished surface slabs, you should remove any plastic or nylon protective coatings on the slabs's surface.

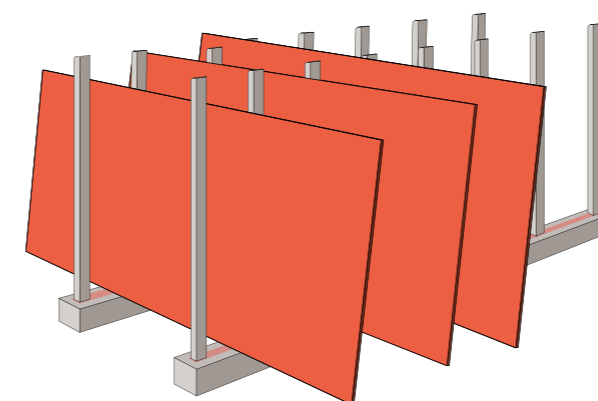
### Storage

The places to which the T-ONE porcelain slabs will be put in the support stand used to prevent possible damage to the products should be wood or rubber.

There should be sufficient support points behind the stands based on the lengths of the slabs. Since the slabs are long, the number of support points should be no less than three. There should be at least four support points behind the 323cm slabs.

Another rule to be considered is that the slabs should be lined up from small to large on the stand, and the large ones should never be placed in front of the small ones.

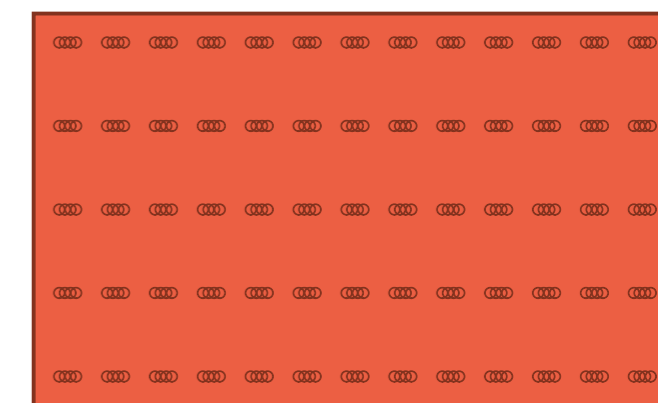
Support stands should not be smaller than the slabs. If the slab wells out of the stand, cracks, and breaks may occur due to the impacts.



After the slabs are lined up on the support stand, they should be fixed to it with the help of a safety rope or another system used for the same purpose.

Slabs positioned vertically on the scaffold stand may lean slightly. It doesn't indicate that the product has defects, and this state has no negative impact on functionality. When the slab is placed on a horizontal surface, this lean disappears.

In any storage method, it is strongly advised not to stack polished surface slabs on top of one another. If there is a necessity to follow the stack method mentioned above, it is recommended to separate the slabs using appropriate spacers.



Beeswax Slab Dividers

While stacking polished and finished products, spacers such as polystyrene sheets or wooden strips should be placed between the slabs to protect the wax on the products and prevent contact between the slabs.

## T-ONE

### Quality control for 12mm T-ONE Porcelain Countertop

Kalesinterflex porcelain slabs are created with superior production technology. If there are any defects in the slabs, they should be reported before production. Objections, which will be made after the product is processed and the countertop is installed, will not be accepted.



### Size

The term unrectified is used for products with 162\*323 sizes. The manufacturer can obtain a piece of 160\*320 sizes from each slab.



# 03

**Product Control Criteria  
Before Manufacturing**

## Product Control Criteria Before Manufacturing

Before manufacturing, the application firms should carefully carry out the essential quality control procedures for the T-ONE porcelain slabs. The surface of the slab should be thoroughly cleaned and carefully reviewed.

The points to be considered while inspecting the T-ONE porcelain slabs are listed below:

- Cracks and breaks,
- Stain and deformations formed on the surface of the slab,
- Possible polishing differences on the surface of polished slabs,
- Flatness of the Slab,
- Appearance of different tones in the surface color of the slab.

In preventing possible defects before starting production, it is essential to examine the points above carefully.

During the manufacturing phase of T-ONE porcelain slabs, the defects noticed before or after the assembling process will not be accepted as justification for product return or replacement. Slabs can be replaced if a defect is noticed before cutting or processing.

### Flatness of the Surface

To check the flatness of the T-ONE porcelain slabs, you should put them on level ground and examine them with the help of a gauge, which has a smoothness you can be sure of.

#### Important

The bending tolerance of the slab from one end to the other is 2mm in width and 6mm in length.

### Tonality

Due to the natural raw materials from which it is manufactured, T-ONE may include tone variations.

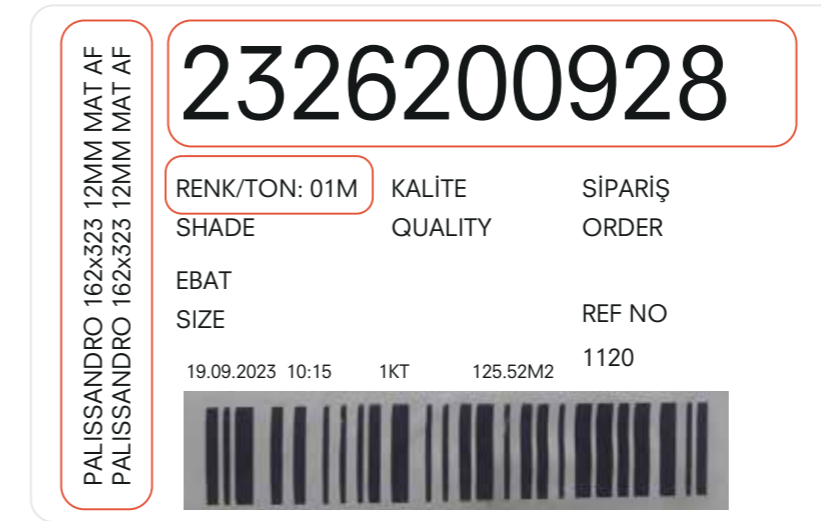
These differences are numbered in the color/tone section of the labels on the slab.

Products with the same color and thickness and the color/tone number have the same tonality.

#### Note

Slabs should be examined in an environment with adequate light during purchase or before manufacturing.

T-ONE porcelain slabs have an identification label that contains sensitive information such as product code, color tone, size, date and time of production, quality characteristics, and finishing details.



Label before opening A-frame



Single label on the porcelain slab

# 04

## Cutting, Manufacturing and Assembling Suggestions

- A-Cutting Information
- B-Cutting With A Bridge Saw Blade
- C-Parameters
- D-Waterjet
- E-Cnc/ Digitally Controlled Drill
- F-Manufacturing Suggestions
- G-Carcass Application For Countertop
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# Cutting, Manufacturing and Assembling Suggestions

## A — Cutting information

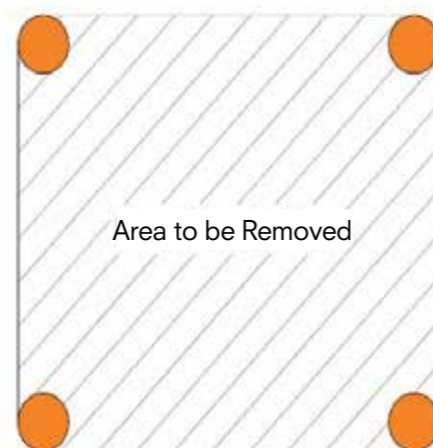
- You may use waterjet cutting machines utilized in marble and natural stone cutting to process T-ONE porcelain slabs.
- You should ensure that the maintenance of the machine to be used has been made.
- The workbench the machine will be placed on should be flat, balanced, clean, robust, and durable.
- The workbench should be cleaned of the material wastes from previous processes.
- Machine apparatus should be suitable for porcelain processing. Because of this, please get information from your machine supplier.
- The operating parameters in this guide are generated by prominent technicians and operators, and they are indicative only. The technical values of the machines and apparatus that you use should be reviewed, and trial tests should be performed on the sample.
- A negative result from the trial test you don't desire or breaking during cutting may have occurred due to inaccurate parameter values, unsuitable water pressure, workbench surface that doesn't meet the necessary specifications, inappropriate machine apparatus like a saw blade, and unstable performance of machine apparatus.

## B — Cutting With Bridge Saw Blade

There should be no object on the machine table on which we will put T-ONE porcelain slabs to cut.

Since cooling the saw blade is essential while cutting, the coolant should properly contact it.

If a section is desired to be cut out for a sink or a stove with a bridge saw blade from the piece cut in a specific size, first of all, it is necessary to open holes at the corners of that section with the help of a diamond hole punch, as shown in the figure below. The diameter of the diamond hole punch should be maximum of Ø24mm.



Following this step, the area between the holes opened is cut with the blade, and that portion is removed.

## C — Parameters

CUTTING WITH BLADE	CUTTING TYPE	DIAMETER OF BLADE (MM)	RPM	FEED SPEEDmm/ MIN	ENTRY/EXIT FEED
T-ONE 12mm	FLAT	350 400 500	1800/1900 1600/1800 1300/1400	1000/1400 1000/1400 1000/1400	REDUCE BY 50%
	INCLINED	350 400 500	1800/1900 1600/1800 1300/1400	500/800 500/800 500/800	REDUCE BY 50%

### Crucial Information

- Attention should be paid to ensure that the blades are diamond, designed for cutting large-size porcelain slabs. Ask your blade supplier definitely for technical information.
- In cases where the parts will be cut for the sink and stove with the help of a blade, do not lower the blade on the slab until the holes are opened at the corners of the area to be cut out. When lowering the disc, it is required to be very slow and controlled.
- Before using an unused blade, the blade diamonds should be opened by cutting the residual material several times.
- The rotation direction of the blade should be adjusted by the cutting direction.
- If 45-degree angle cutting is carried out with the bridge saw machine after sizing, the piece to be cut in a specific size should be widened by 1cm for each edge to be cut by a 45-degree angle. If the product is manufactured this way, the bridge saw blade can cut 1cm inside during the 45-degree angle cutting process, and the edges cut by a 45-degree angle can be produced with better quality and without cracking.
- In the 45-degree angle cutting process, the feed speed of the bridge saw blade should be slower than that in vertical cutting.

## D — Waterjet

There should be no object on the machine table on which we will put the T-ONE porcelain slab to cut.

### Sequence of Procedures

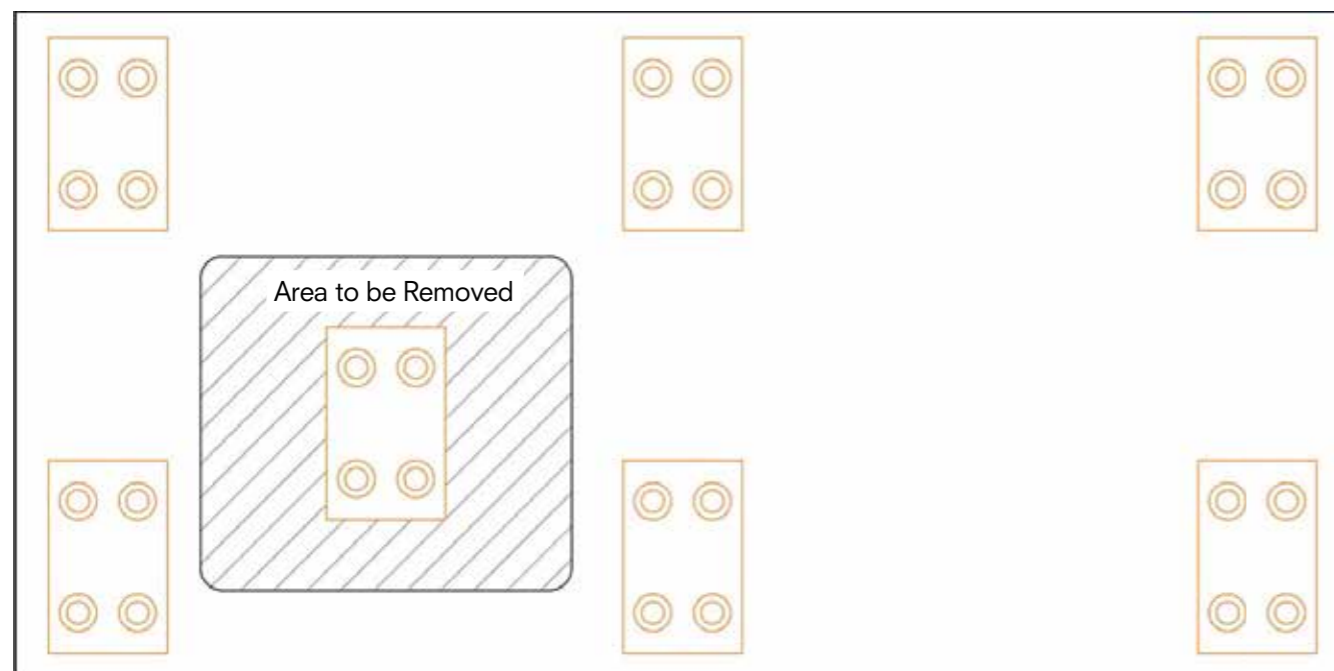
- The slab is cut according to the desired external sizes. In the cutting process, the waterjet cutter should enter the slab from outside and drill it completely.
- When opening the inner holes for the sink and stove, the procedure should start a minimum of 5 cm inside the area to be cut out and end a fewcm inside.
- Corner turns of the areas that have been cut out should match the sizes specified in the technical manuals of the appliances, such as the sink and stove. When size isn't specified, the turns should be at least in r5mm diameter, and corner turns should not be adjusted, having a 90-degree.



### E — E-CNC/ Digitally Controlled Drill

Before starting, it should be ensured that the linear vacuum nozzles of the countertop are cleaned of any residue. It should be ensured that there is sufficient support for the slab.

It should be ensured that there is a vacuum nozzle under all slabs, especially the section to be cut.



It should be ensured that sufficient water is used to cool the instrument internally and externally during production.

#### Sequence of Procedures

- Opening hole with a krone drill bit
- Preparing the parts to be cut at least a 3mm drill bit is needed for all internal corners.

If the kitchen design permits, it is advised to choose a diameter wider than 3mm to make the countertop flatter.

Firstly, a hole should be opened in the part to be cut using a krone drill bit. Then, we should get closer to the cutting line using a milling cutter.

As we get closer to the cutting line, the cutting should be carried out, which will be curved. We should not get closer to the cutting line vertically as it may create notches.

When completing the cutting procedure, the speed should be reduced to 50%.

#### Tips for digitally controlled drills,

- **Krone Drill Bit**

Particularly at the end of the drilling process, the slab should be drilled as slowly as possible. Lower the pressure on the krone by lifting it a little before completing the drilling.

- **Milling Cutter**

Firstly, it should be started from the hole drilled with the krone drill bit. The milling cutter should not be directly approached to the surface. It should be cut 0.5 mm only for the first two times, then 2 mm should be cut for each pass. A portion larger than 5 mm should not be cut from a 12 mm slab.

- **Cutter Bit**

As it will cause fragmentation during cutting, don't use the vibration feature.

#### Parameters for Digitally Controlled Drills

Thickness of T-ONE Kale (mm)	Cutter Bit	RPM	Feed Speed (mm/min)
12mm	Krone	4500-5500	150
	Milling	8000-10000	250



## T-ONE

### F — Manufacturing Suggestions

It is recommended to use 12mm thick products for T-ONE countertops and panel coverings between the countertop and the cabinets and products of 3mm thickness for cabinet door coverings.

#### Edge Details

The following details for edges are recommended for T-ONE countertops.



2mm chamfer



R 2mm chamfer

#### Being A 45-Degree Connected Edge,



2mm chamfer



R 2mm chamfer

#### Crucial Information

- The corners of the countertops should not be left sharp.
- The less the edges are left sharp, the less they are affected by external impacts.
- No sharp corners should be left where (Hilton-type sink, etc.) there is a high risk of impact. However, it should be noted that in cases where the rasping process is carried out more than necessary, the inner color of the material will be seen.
- We recommend using porcelain pads for edge chamfering and polishing.
- Dry or water polishing can be done. We recommend you use pads numbered 100, 200, 400, 800, 1500, and 3000 for dry polishing and the pads numbered 100, 400, 800, and 3000 for water polishing, respectively.
- During the 45-degree countertop joining application, the 45-degree cut surfaces of both parts should be deteriorated with a porcelain cutting blade before attaching the countertop to its front side. (the deteriorated parts should be cleaned of dust before attaching). Thus, the adhesive material will be more voluminous between the two parts during the procedure and lead to better attaching.



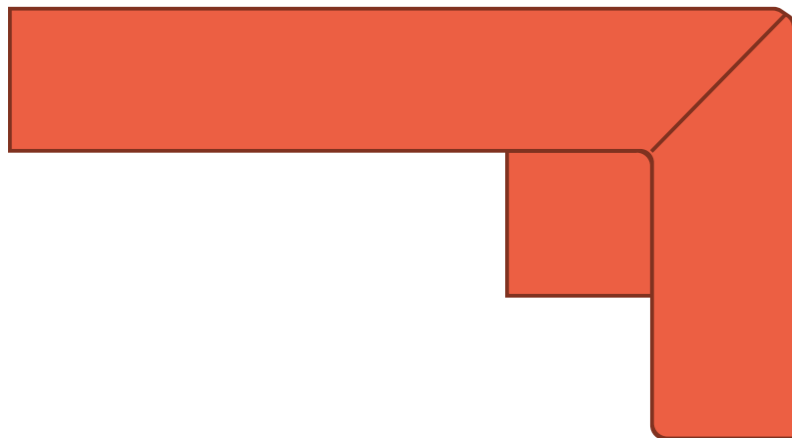
## G — Carcass Application for Countertop

### 45 - Degree Countertops

While manufacturing the countertop at 45 degrees, a carcass that fits its front thickness should be placed under it. Before the carcass is attached, the surface on which the carcass will adhere should be deteriorated with a porcelain cutting blade.

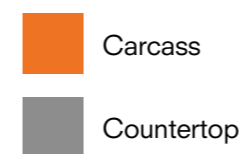
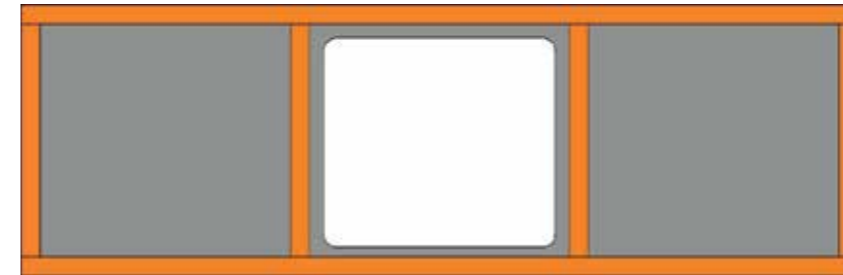
Materials used in making the carcass can be obtained from T-ONE, granite, or marble. But the marble or granite should be durable. If marble, in particular, will be used in making the carcass, it should neither be cracked nor prone to cracking. We recommend not making a carcass of 2cm thick marble. Full-length granite can be used if the carcass should be 2cm.

Don't use wood-based products while making carcasses. Using wood-based products may cause deformation, cracking, or separation at 45-degree joints as the expansion ratios of these products are different than that of T-ONE.



The procedure should be carried out along the perimeter of the countertop until the carcass in the figure comes up to the edges of the kitchen cabinet. Carcasses should be positioned transversely in the middle parts of the countertops, especially the longer ones, coming up to the center panels of the cabinet.

In addition, applying carcasses to the edges of the sections cut out for the appliances, such as sinks and stoves, will increase the endurance of the countertop.



If there is a tap hole on the countertop, we recommend you support that with a carcass.

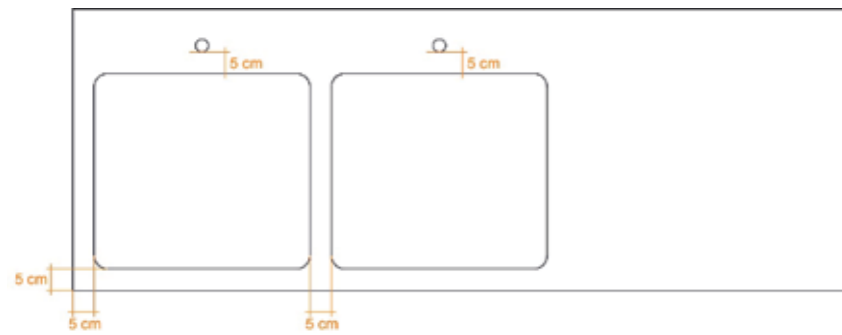
### Countertops in Slab Thicknesses

Before installation, countertops manufactured in the original thickness without thickening should be transformed into a level floor in the same balance as the kitchen cabinet. Thus, there will be no possibility of deformation for the countertop's lower surface because it will be supported at every angle.

## Joins and Internal Clearance Distances

### Internal Clearance Distances

There should be at least 5cm space between the edge of the countertop and the hole to be opened on the countertop for sinks, stoves, or other devices.



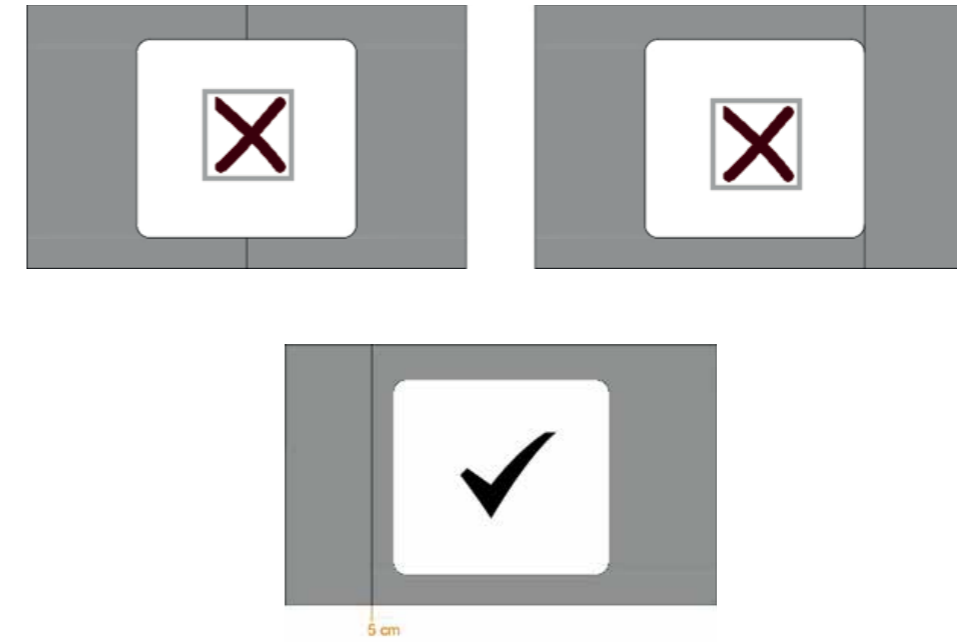
If the kitchen cabinets are appropriate, it would be better for endurance to leave a space longer than 5cm.

### Joins

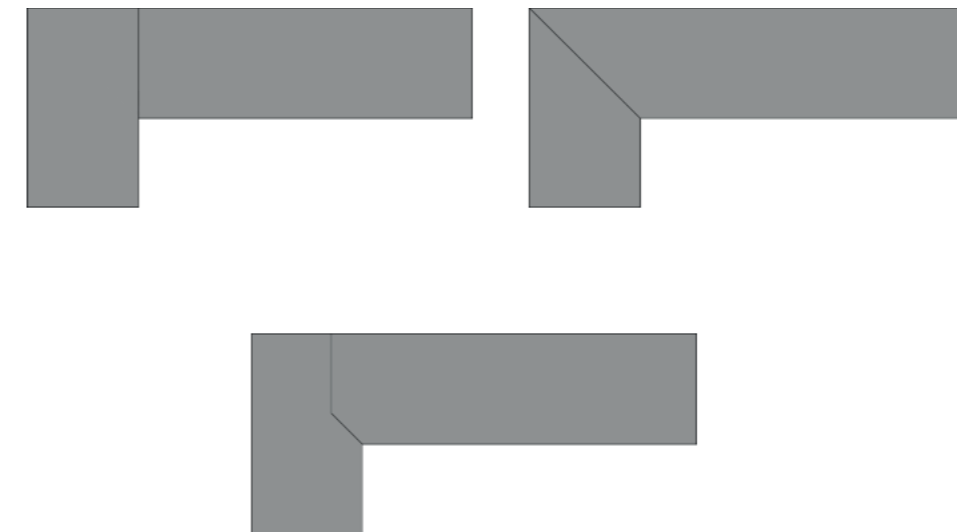
As shown in the figure, it is more appropriate to carry out production by adding a joint instead of manufacturing the parts that will remain thin on the countertop as a whole piece.



If the slab size is insufficient to produce the countertop as a single piece and joints are needed, sinks, stoves, or devices should not be installed on these joints or their edges without leaving space.



As seen in the following figures, you can add joints to the countertops manufactured in an L-shape.



## T-ONE

### Sockets and Switches

If it is desired to bore holes for sockets without waterjet technology, a circular drill could be utilized as seen in the figure below.



### Attaching

Epoxy-based adhesives, used in adhering porcelain, can be applied so that T-ONE porcelain slabs form a 45-degree angle. Please contact for detailed information.

The adhesive used should be compatible with the color of the T-ONE product to be utilized.

In order for the adhesive to show its effect, the surface to be attached should be cleaned of dust. If the surfaces to which the adhering procedure will be applied are smooth, they should be deteriorated with a granite cutting blade.

Both surfaces of the T-ONE porcelain slab are porcelain and usable. Therefore, the surfaces to which the adhering procedure will be applied should be deteriorated before positioning a carcass under the countertop.



## H — Kitchen Sink Application Types

### Undermount Kitchen Sinks



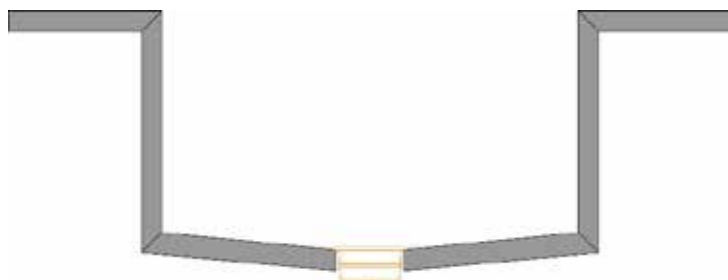
The edges should be rasped until having a round shape with at least a 2mm diameter to minimize the risk of fragmentation and cracking.

### Overhead Kitchen Sinks



It is the most robust type of sink application without the risk of fragmentation or cracking.

### T-ONE Sink



### Overhangs

In countertops manufactured with T-ONE porcelain slabs, the overhangs may vary according to the features of the countertop. For example, the size X in the overhang desired to be formed for a fourcm-thick countertop may reach up to 30cm. You can go up to 15cm for the countertops in slab thickness.

To create more overhangs, they should be supported from below with various strengthening objects.



### Installation

The height of the cabinet modules to be installed should have been adjusted, and the modules should have been mounted to each other and fixed to the wall.

Due to the wall curvatures and potential structural movements of the building, it is advised to leave a 3mm gap where the countertop meets the wall. This gap should be filled with anti-bacterial silicone.

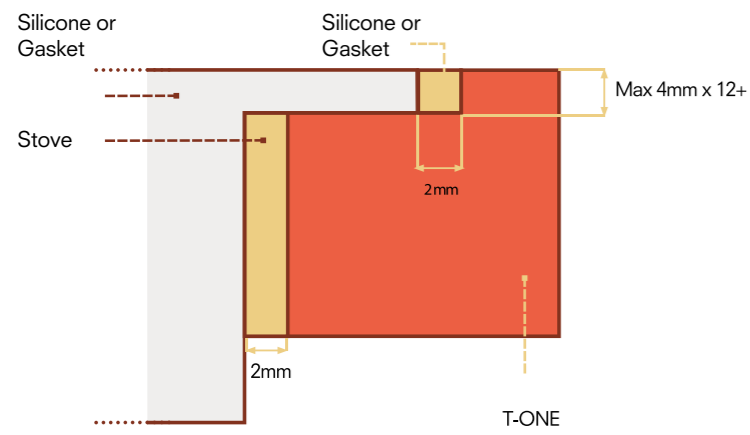
You must use silicone to fix the countertop to cabinet modules and the back panels to the wall. This will allow for thermal expansion. Epoxy adhesives and the like are not recommended.

**NOTE:** It is advised to work by current occupational safety and health laws.

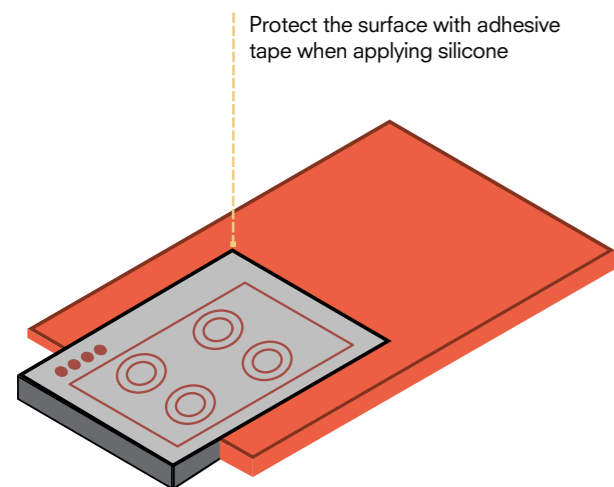
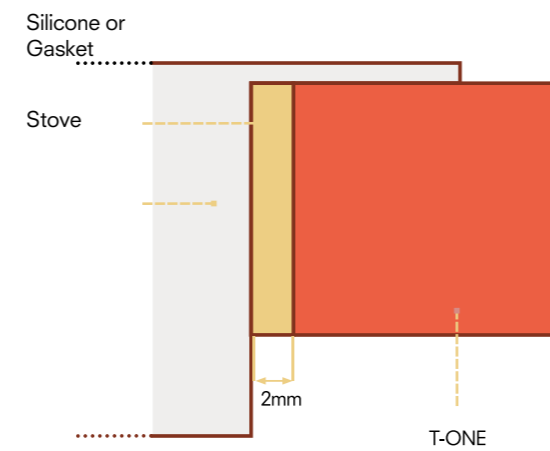
### Hole Design For Sinks And Stoves

Due to the thermal expansion differences, a distance of at least 2mm should be left between the stove and the Kalesinterflex surface if the manufacturer has not provided particular information about the hole on the 12mm porcelain slab for the sink and stove.

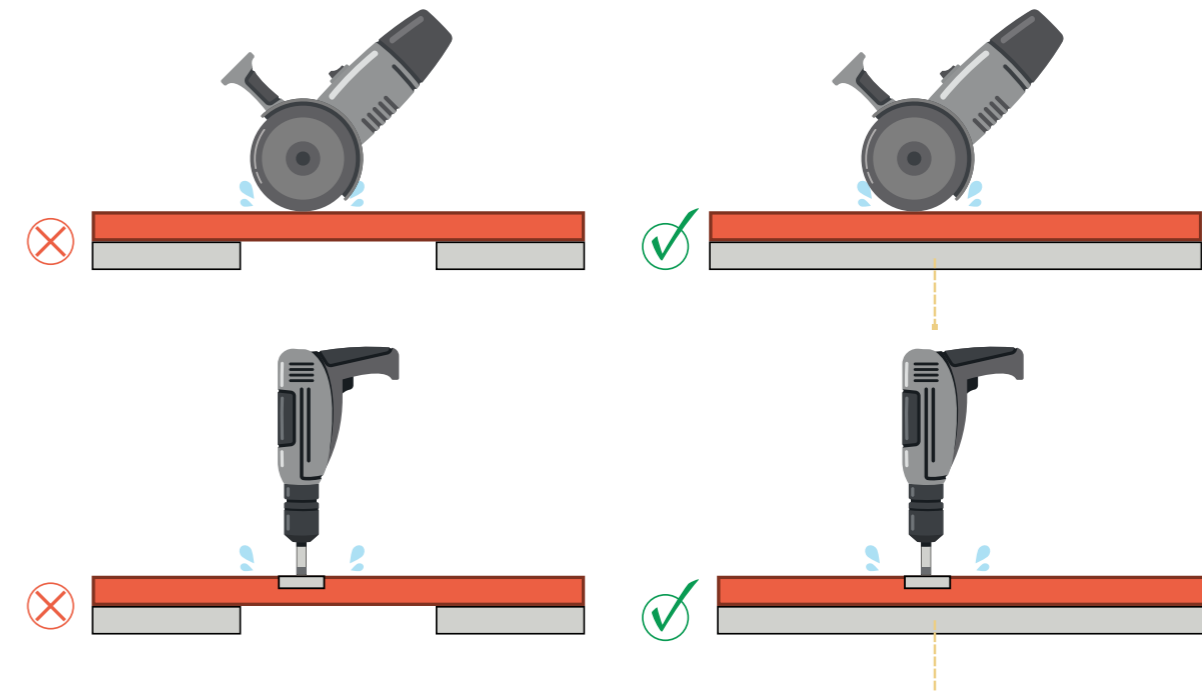
#### STOVETOP



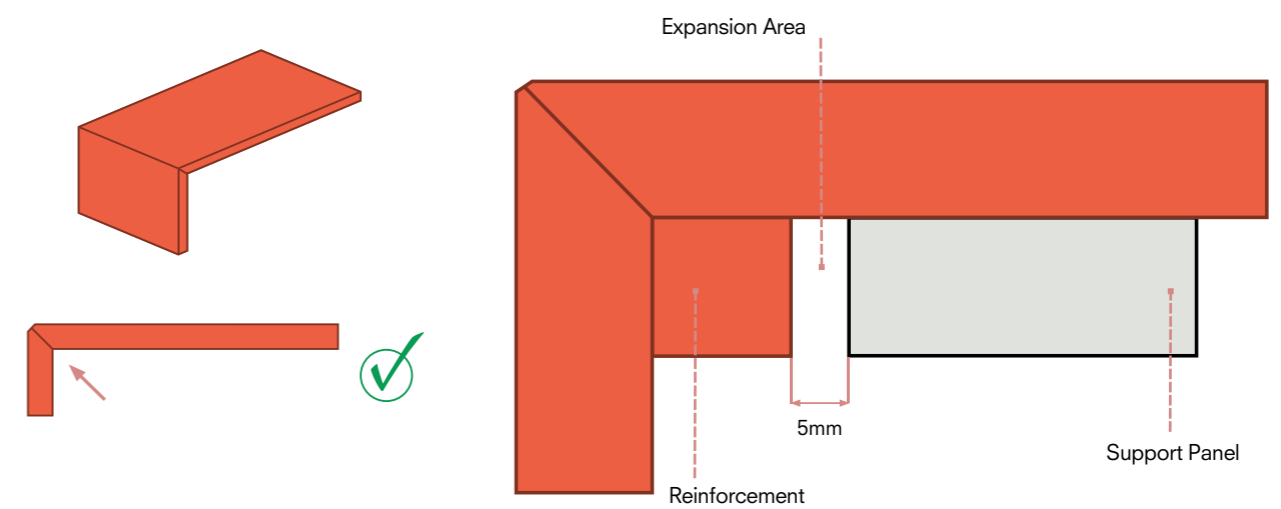
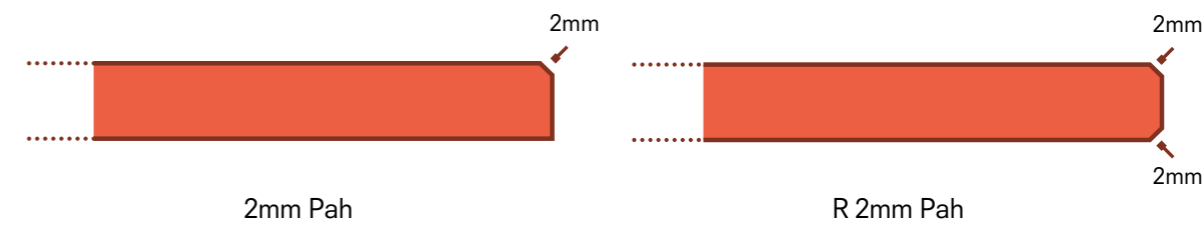
#### STOVE IN THE SAME LINE WITH THE COUNTERTOP



### Manual Processing



### Straight Edge and Grading





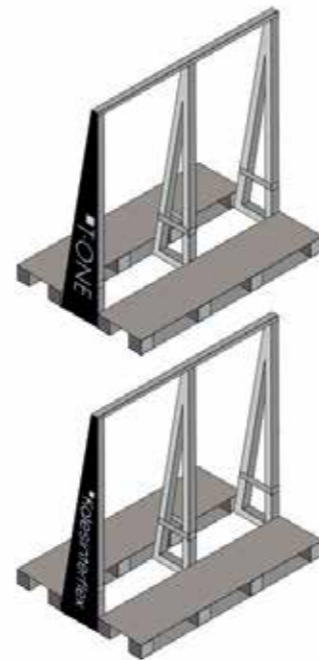
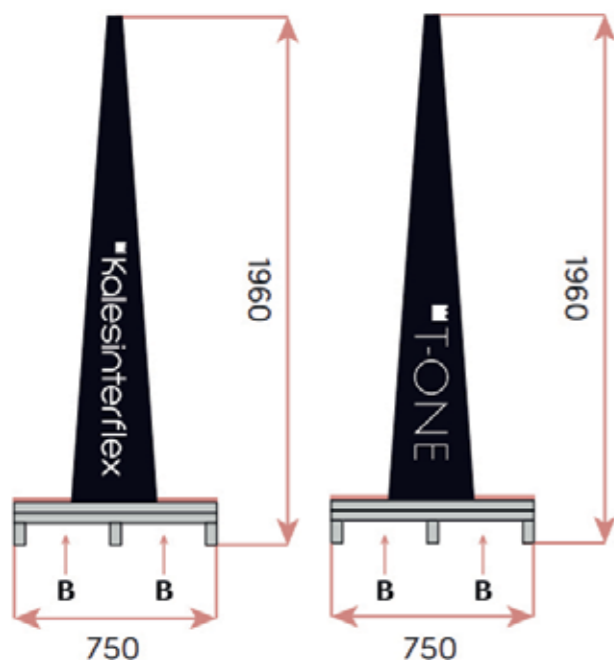
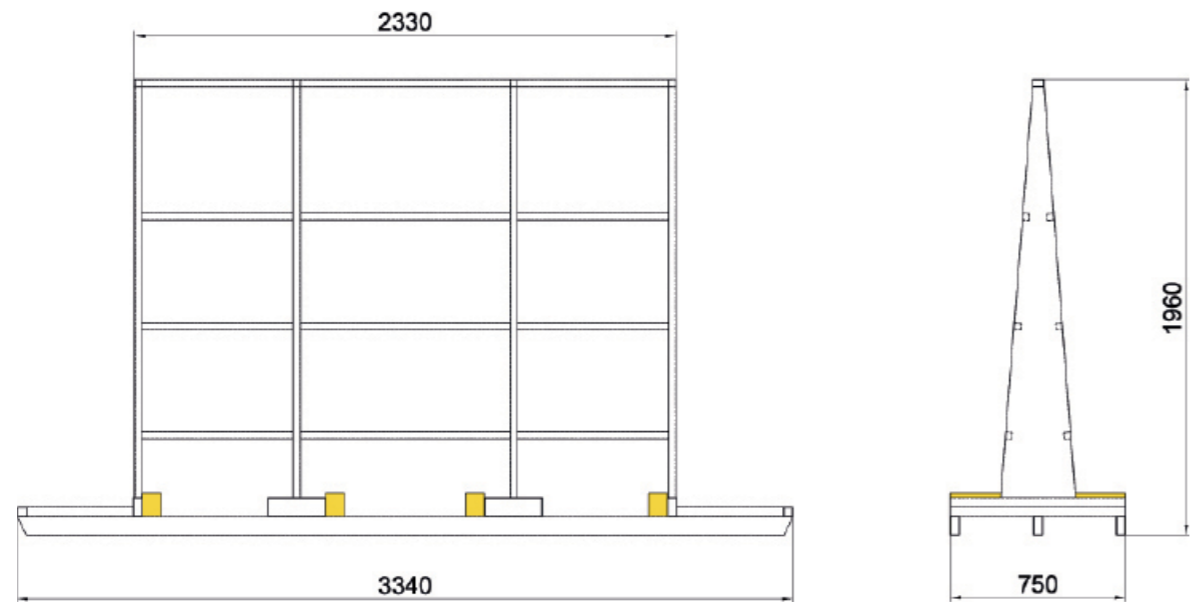
05

**Packaging Details**

## Packaging And Packages

Kalesinterflex 6mm, 12mm, and 20mm thick full-length 1620x3230 mm slabs are vertically packed on metal "A-Frame".

A-Frame



## Quantity, Kilogram and Size Information of A-Frame;

Format/mm (vertical stacking)	Thickness (mm)	Pcs for A-Frame (Pcs/A-Frame)	M2 for A-Frame	Kg for A-Frame (A-Frame is included)	Full Size of A-Frame (cm)
Kalesinterflex 6mm Full Length* 1620x3230 mm 63.7"x127.7"	6	44	230.2344	3335	328x76x197h
Kalesinterflex 12mm Full Length* 1620x3230 mm 63.7"x127.7"	12	24	125.5824	3763	328x76x197h
Kalesinterflex 20mm Full Length* 1620x3230 mm 63.7"x127.7"	20	12	62.7912	3101	328x76x197h

\*\*"Furnace Slab" having untrimmed format. 5,2326 m2/piece-Empty A-Frame 121kg (metal)

## Information Regarding the A-Frame Carrying Capacities of Containers and Trucks

Container Loading with A-frame (1620x3230 mm (63.7"x127.7"))									
Container Type	20" Container			40" Container			Truck (13.60m)		
The Thickness of the Slab (mm)	6	12	20	6	12	20	6	12	20
A-Frame That Can Be Loaded (Pieces)	3	3	3	7	7	7	7	7	7
Slabs That Can Be Loaded (Pcs)	132	72	36	308	168	84	308	168	84
Loadable Area (m2)	690.7	376.75	188.37	1611.64	879.08	439.54	1611.64	879.08	439.54
Maximum Total Weight (kg)	10.000	11.289	9.304	23.343	26.341	21.709	23.343	26.341	21.709

\* Empty weight of A-Frame 121kg (metal)



## Packaging Details

### Carrying And Storing

Kalesinterflex 1620x3230mm slabs should be carried in safe conditions to protect their original appearance and prevent accidental damage. It is recommended to be careful and make sure that the carrying area is closed to pedestrians while the product is carried.

### Carrying A-Frame With a Forklift

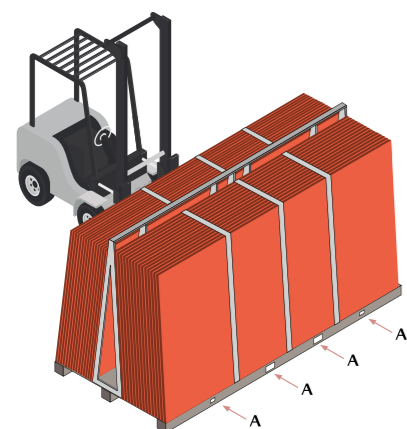
A-Frame should be symmetrically loaded before carrying to prevent balance problems. Before carrying, the operator should always check that the slabs are fixed to A-Frame with special tapes. It is recommended to be careful while carrying the slabs loaded on the A-Frame since they are not protected at the points corresponding to the outer edges.

A-Frames are equipped with two gripping points to be carried with a forklift:

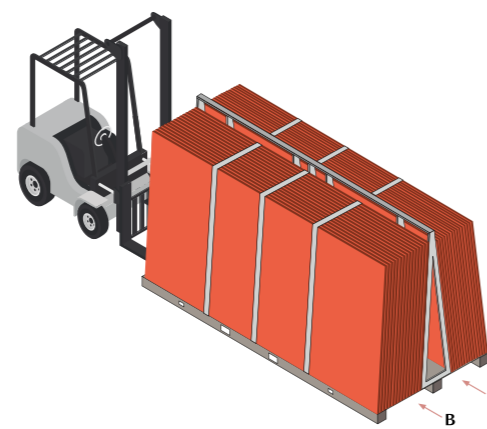
The distance between the forklift's forks for "A" front gripping point is 740mm. The distance between the forks for the "B" lateral gripping point is 500mm.

If both A and B lateral loading points are to be used, a forklift that has 8000 kg. maximum load capacity is recommended. The Kalesinterflex slabs loaded on the A-Frame in the warehouse or near the transformer should be preferably carried by using the "A" front gripping point. In other words, the process should be carried out by using a 3230mm A-Frame, to which the products are to be fixed, and a forklift that has 1200mm long forks at least, and a 5000-8000 kg load capacity. If the 'B' gripping point is to be used, a forklift that has an 8000 kg load capacity and at least 2800mm forks should be used.

It should be ensured that the load does not move on the forks. While loading and unloading trucks and containers, fix A-Frame with the help of the two "A" and "B" gripping points in the way specified in the following paragraphs, respectively. While loading/unloading the trucks and containers and carrying even a single slab, fix the slabs to A-Frame with cloth or plastic tapes/straps. Metal chains should not be used at this stage. Before the slabs are taken out from the A-Frame, it is necessary to place it on a flat surface having no defects that may cause the slab (s) to fall.



Forklift with  
8000kg Capacity  
for Carrying from  
B-Side



Forklift with  
5000kg Capacity  
for Carrying from  
A-Side

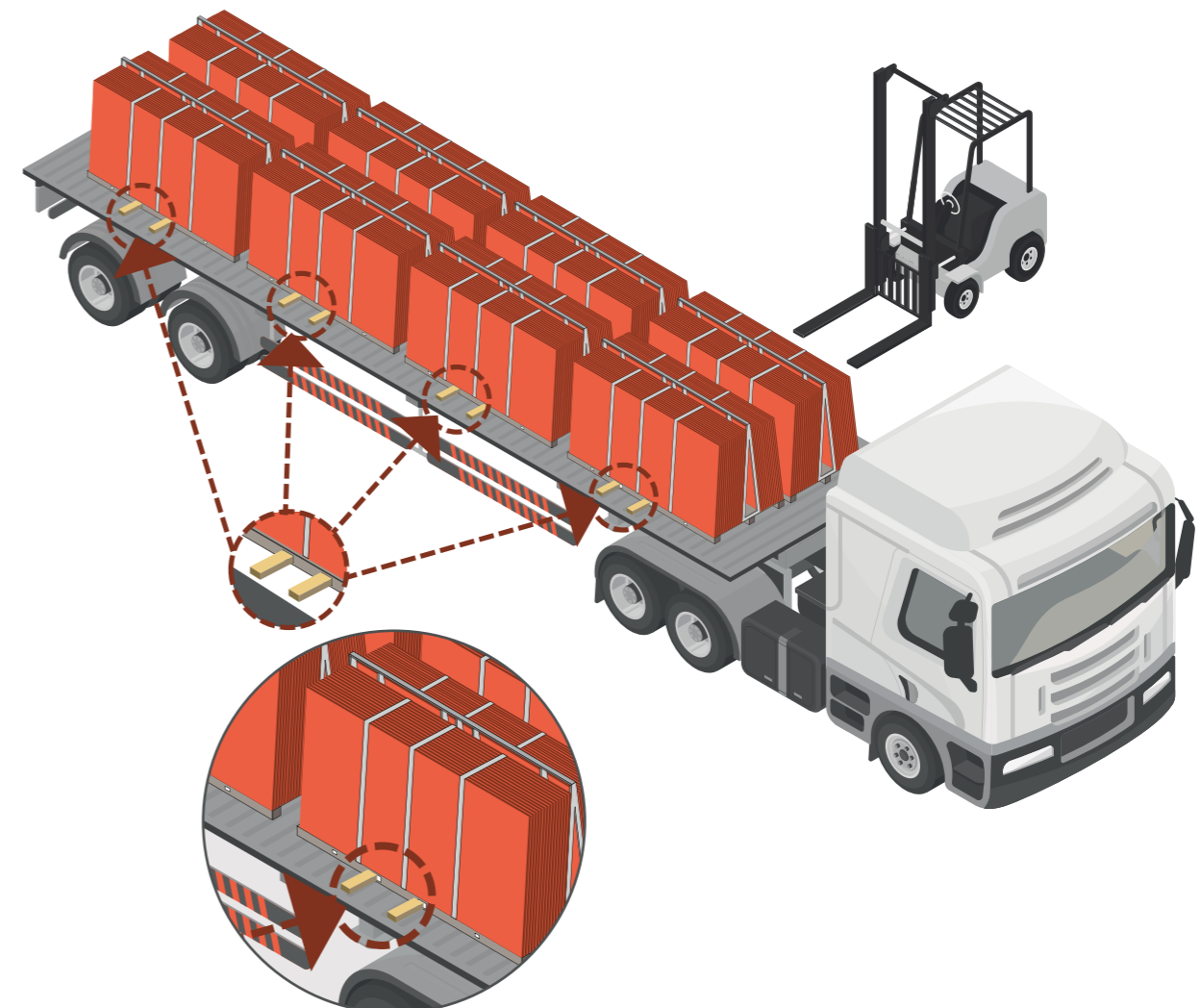
### Loading/Unloading the Truck with A-Frame

To load and unload the trucks which have dropside bodies, fix the A-Frame by placing the forklift forks at two "A" gripping points and leaving at least a distance of 740mm between them. Forklift forks with a minimum length of 1200mm should be used to place the A-Frame in the middle of the truck.

To safely carry the products on the vehicles, fix the A-Frames to the truck bed from the base and top. Use polyester or similar straps for this work. If you load several rows of A-Frames, you should leave a distance of at least 50mm between them.

During loading and unloading, the operator should be careful about the people around. A-Frame should always be kept low while being carried and only be lifted when it is very close to the truck. You will find below an example of loading an A-Frame on a truck with a standard length of 13.60 m.

Wooden boards having at least 7x9cm sizes, which are placed in the forklift lifting slots, are used to bolster the A-frames.



## Domestic and International Highway Transportation With Truck Highway Transportation

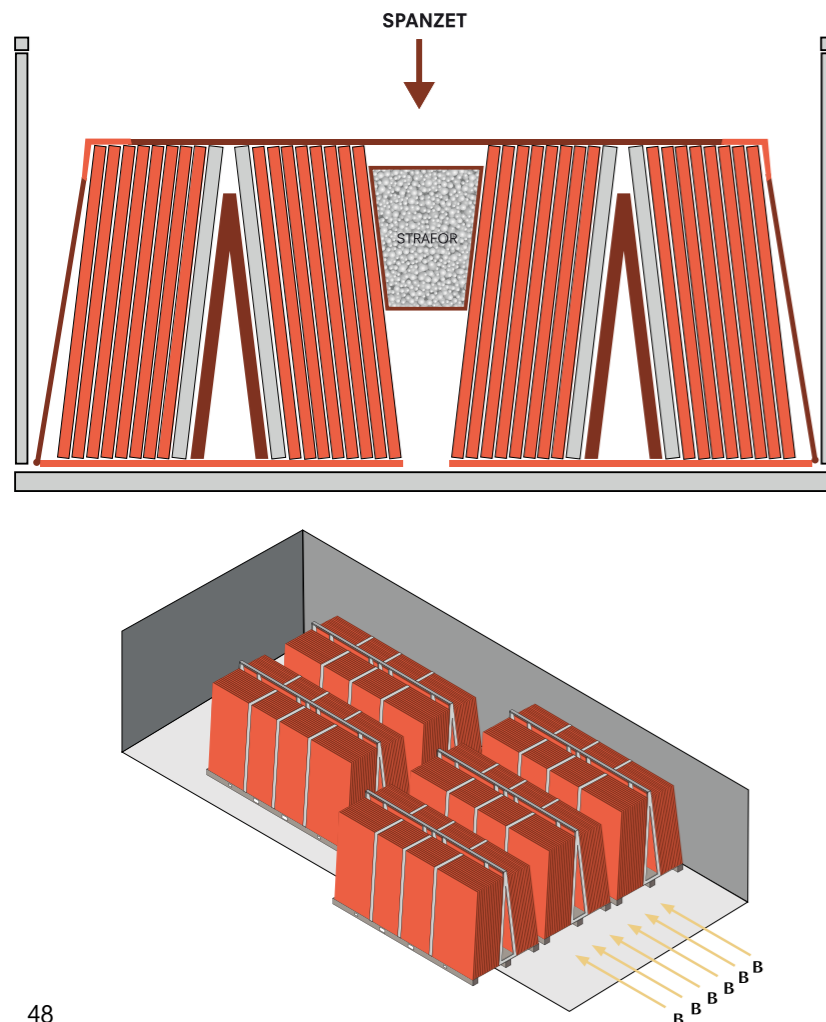
In international transportation with trucks, two A-Frames are fixed to the vehicle chassis with at least two safety ropes. Airbag or styrofoam is used as a bolster between the two A-Frames.

## Loading/Unloading Container With A-Frame

Use a pallet jack or forklift with a 5000 kg load capacity and forks of at least 2800mm while the products are loaded on the container, and the container is unloaded. The operator moves the loaded A-Frame after taking and lifting the load with the help of the two "B" gripping points.

During loading, check the balance of the product by fixing the A-Frames to each other and the towing platform. To carry the frames safely on the container, fill the gaps between the scaffolds and between the scaffold rows and airbags.

Before the unloading, always check the methods used while locking the A-Frames, to remove the locks. Outside the container, carry the product by attaching the A-Frames to the "A" gripping point every time.



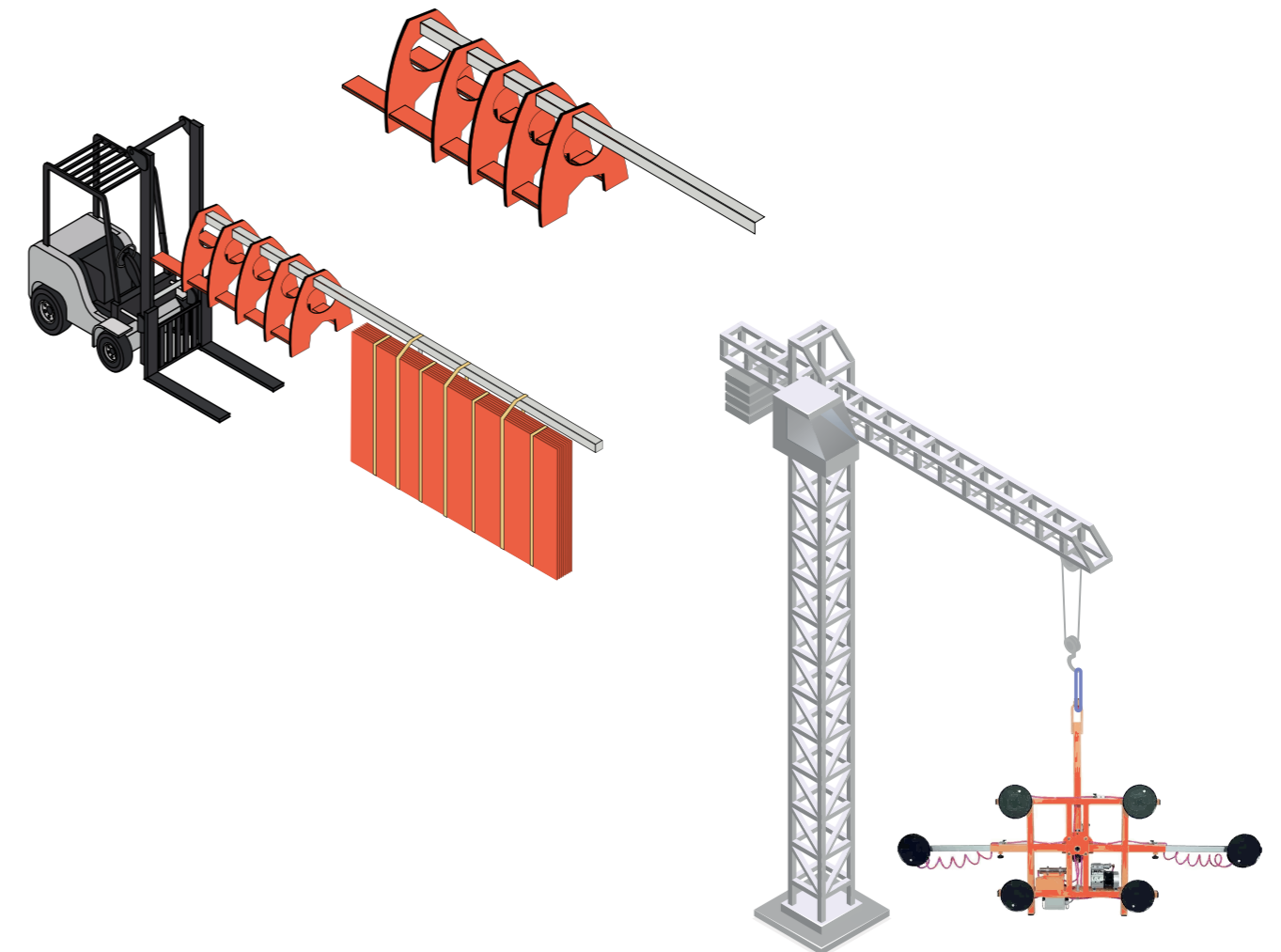
## Loading/Unloading Container With A-Frame

For loading/unloading the slabs, as seen in the picture below, a special lifting tool with belts, which is installed on a forklift having a load capacity of 5000-8000 kg. should be used. On the other hand, a crane equipped with a lifting arm, which is usually used to carry slabs, can be utilized.

We recommend you use a similar tool and follow the same method to prevent imbalance and accidental damage during the unloading period.

Regardless of the method used for storing, other materials should not be put on Kalesinterflex slabs, especially on glossy surfaces.

If it is necessary to put them on top of each other, there should be no contact between the slabs. If the products are to be transferred from A-Frame to A-Frame one by one, precautions should be taken against surface damage that may occur.



06

Usage Information

## Information Regarding The Application

The product should be installed by the **Practitioner Firm**. In case of any problems regarding the product installation, the Practitioner Firm should be contacted. Practitioner firms are the autonomous firms in the market that purchase Kalesinterflex porcelain slabs from Kaleseramik and process and transform them into T-ONE Porcelain Countertops. All responsibilities related to the application belong to the company with which the customer has a commercial agreement.

**Note:** The descriptions of some frequently used phrases in the user manual are as follows

**Kaleseramik;** is the company producing and selling Kalesinterflex porcelain slabs.

**Practitioner Firms:** They are the firms purchasing the Kalesinterflex porcelain slabs, processing and transforming them into and installing them.

**Kitchen Companies:** They are kitchen companies selling produced from Kalesinterflex porcelain slabs by practitioner firms as a final product.

**T-ONE Porcelain Countertop:** It is our countertop brand consisting of Kalesinterflex porcelain slabs in 160x320, 162x323 and 12mm thicknesses.



# Essential Features of The Product

Kaleseramik is the manufacturer of T-ONE Porcelain Countertops. The T-ONE Porcelain Countertop is produced from the Kalesinterflex porcelain slab, and the thickness of the slab is 12mm.

The original sizes of products are **160x320**, **162x323**. Manufactured with advanced production technology, the T-ONE Porcelain Countertop has a very high material quality. For this reason, food residues on the product cannot penetrate the material content if the conditions of use specified in the user manual are complied with.

Cleaning agents used in houses, and objects such as hot pots, trays, and pans don't damage the surface of the T-ONE Porcelain Countertops.

For the applications in commercial areas and outdoors, which are not approved by Kaleseramik (The company should be contacted via t-one@kale.com.tr e-mail address), products are not covered by the warranty, and such an attempt is not recommended



Low Water Absorption (Near Zero)



Long-lasting



High Scratch Resistance



Fire resistant (Flame Resistant)



High Heat and Frost Resistance



Hygienic



Easy to Clean



High Breaking Strength



High Stain Resistance



High UV Rays Resistance



High Abrasion Resistance



Resistant to Household Cleaning Materials



High Scratch Resistance



High Breaking Strength



High Stain Resistance



High Abrasion Resistance

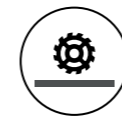


High Heat and Frost Resistance



Fire resistant (Flame Resistant)

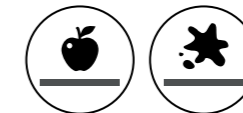
Not valid for glossy product.



## STRENGTH ABOVE ALL!

T-ONE Porcelain Countertop always protects itself against different usage and environmental conditions, and thus will accompany you for years with its durability in the kitchens where we spend a lot of time in our home.

You can chop any food you want on it without scratching, thanks to its unique surface. You can put any cooking equipment you've just taken out of the oven or off of the stove on your countertop, and easily clean it with the household cleaning products you want.



## A "CLEAN" SHEET IN THE KITCHENS!

The hygiene of our kitchens is of vital importance with regard to nutritional health. T-ONE Porcelain Countertop offers high levels of standards and hygiene in your kitchen with its advanced technology. Offers a comfortable and hygienic kitchen experience with its ability to be easily and effortlessly cleaned.

## The Innovative Face of Living Kitchens



### HYGIENIC

Due to their non-porous structure, T-ONE countertops resist harmful bacteria, so you never have to worry about safely cooking your food.

### AESTHETIC

A wide variety of colors and patterns mean your T-ONE countertop fits right in with the rest of your kitchen.



### RESISTANCE TO SCRATCHES

T-ONE's super hard porcelain lets you cut any food without worrying about scratching or abrasion.



### FIREPROOF

T-ONE is fireproof so you can safely move your pots and pans from the oven or range to your counter.



### EASY TO CLEAN

It's quick and easy to clean your T-ONE countertop with household cleaning products.

### HIGH STAIN RESISTANCE

Permanent stains like tea, coffee and lemon are a thing of the past thanks to T-ONE's non-porous structure.

### RESISTANT TO UV RAYS

T-ONE is UV resistant and nonfading when exposed to sunlight.

### DURABLE

No countertop lasts longer thanks to T-ONE's high performance, high durability structure.



**Attention:** Resistance to scratches and fire is not effective for polished products. Contact these products with scratchers, cutters, and hot objects, and cutting on them should be avoided.

## Information Regarding The Cleaning

Thanks to its material structure, daily and general cleaning of the T-ONE Porcelain Countertop is effortless.

Microfiber-glass cleaning cloth is recommended to clean the surface of your T-ONE porcelain slab used in your countertop. The kitchen countertop should be cleaned as soon as possible after each use due to stains and substances that may form dirt. Daily cleaning detergent would be sufficient for the dirt that can be easily cleaned.

The general cleaning of your T-ONE Porcelain Countertop may be done by adding some cleaning agents to warm water. (Ph<9)

If a liquid that may leave color on the countertop (tea, coffee, juice, wine, pencil, etc.) is spilled, it is recommended to clean and dry the countertop as soon as possible.

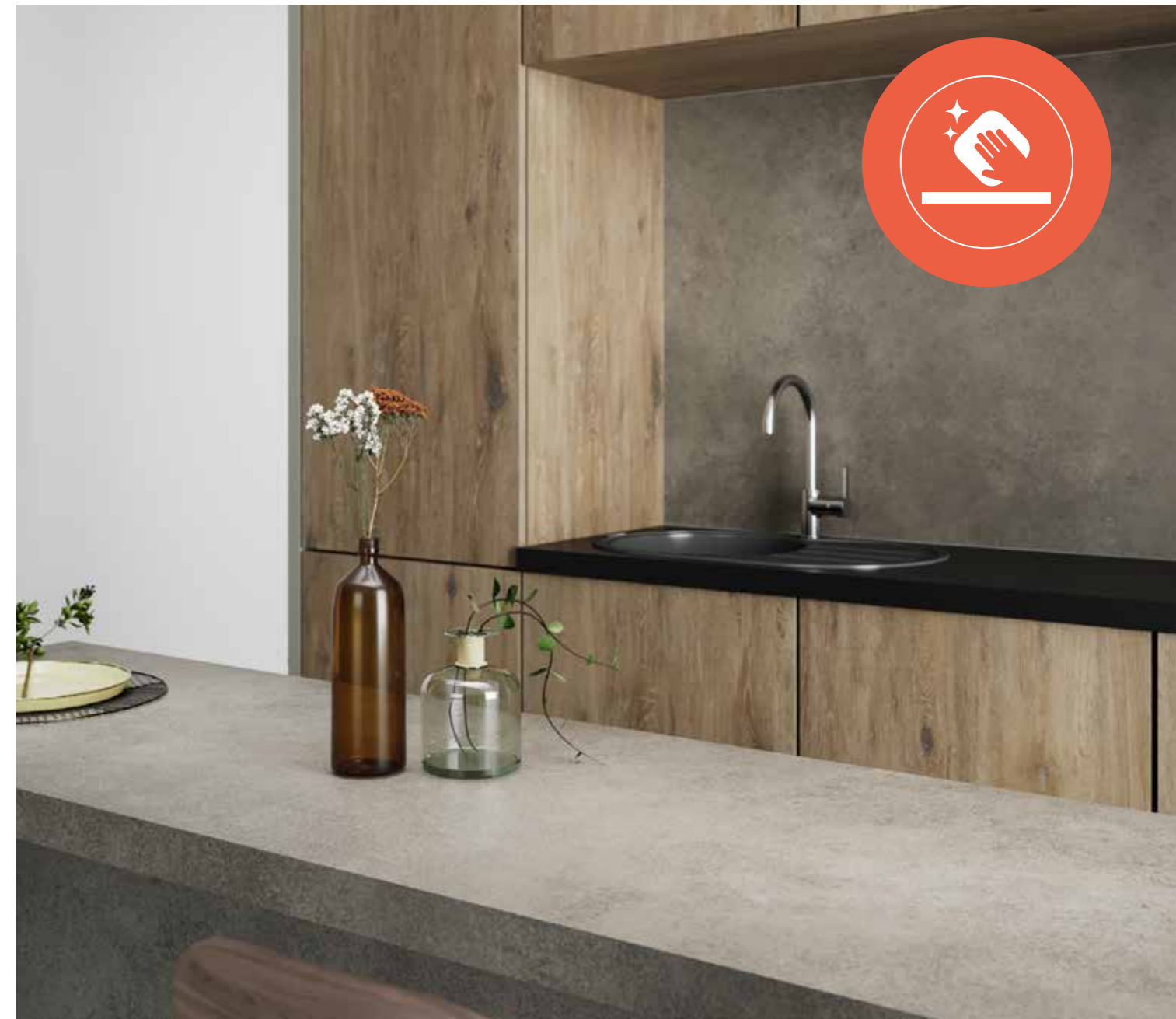
When using your T-ONE Porcelain Countertop, you should avoid practices towards the surface, such as polishing.

Abrasive materials such as dishwashing wire, hard cleaning sponge, and wire brush should not be used to clean your T-ONE Porcelain Countertop. The countertop should be wiped with a damp and soft cloth and dried as soon as possible.

While cleaning the T-ONE Porcelain Countertop, acidic liquids such as hydrochloric acid and bleach, descaling agents containing sulfuric acid, nitric acid, hydrochloric acid, other acids and chlorine-based whiteners should not be used.

If you have not received any result despite the above recommendations regarding the stains and contaminations that cannot be removed from the countertop surface, authorized people should be contacted. For the issue, you can send an email to [t-one@kale.com.tr](mailto:t-one@kale.com.tr) or call our Customer Contact Center for free via **0850 800 5253**.

Types of Dirt	Types of Detergent
Oil	Alkaline (basic) cleaning products
Ink, Permanent Pen	Solvent
Rust	Acid, Acidic cleaning products
Lime	Acid, Acidic cleaning products
Cement-Gypsum	Acid, Acidic cleaning products
Wine	Alkaline-acid
Coffee-tea	Alkaline (basic) cleaning products
Rubber-plastic	Solvent
Epoxy adhesives	Solvent
Candle	Solvent
Iodine	Oxidant
Blood	Oxidant
Ice Cream	Alkaline (basic) cleaning products
Resin	Solvent
Fruit Juice	Oxidant
Aluminum scratches	Acid, Acidic cleaning products



Acid, Acidic cleaning products: PH < 7.0 Cleaning products.

Ex: descalers, cement removers

Alkaline (basic) cleaning products: PH > 7.0 Cleaning products, e.g.

Ammonia degreasers

Solvent: Universal solvent, thinner, turpentine, acetone, alcohol

Oxidant: Diluted hydrogen peroxide or whitener

**Important Notice: It is always necessary to comply with the dose and time recommended by the manufacturer.**

## Points to be Considered During Use

**Thanks to the superior technology of Kalesinterflex, T-ONE offers unlimited color options and different surface alternatives for kitchen countertops. Before using the kitchen countertop, it is necessary to pay close attention to the following usage details:**

Polished products have low scratch resistance and require sensitivity. Care should be taken while using kitchen utensils (fork, knife, spoon, teapot, pot, other products in direct contact, etc.), and their direct contact with the surface should be prevented. It is recommended to clean it with cleaning cloths having soft surfaces.

The kitchen countertop should be cleaned as soon as possible after each use due to stains and substances that may form dirt.

Firstly, the contact between the surfaces of T-ONE products and adhesive and joint filler materials used during the application should be minimal. The adhesive and joint filler material that comes into contact with the product surface should be wiped quickly before being cured.

Matte products have a high resistance to chemicals. Because of that, highly concentrated detergents may be used if needed.

In the routine cleaning process, clean the Matte and Polished products delicately by sweeping or using a dry brush. Clean Polished products with warm water, stain remover, or neutral detergents, which include low sulfate. After cleaning, rinse it several times with clean water. General cleaning for the countertop with a polished surface may be done with warm water by adding some detergent.

While cleaning the T-ONE Porcelain Countertop, acidic liquids such as hydrochloric acid and bleach, descaling agents containing sulfuric acid, nitric acid, hydrochloric acid, other acids and chlorine-based whiteners should not be used. If such chemical materials are used, the environment where the product is placed should be well-ventilated, and care should be taken not to be exposed to the vapor of these chemicals.

Use your countertop only for its intended purpose. Do not put heavy objects on the countertop, which may disturb its balance. Do not step up on the countertop for any purpose.

A cutting board or chopping board is recommended. Food cutting on the countertop surface is not recommended.

During the renovations in the kitchen, the countertop should be protected from possible external impacts.

The countertop should be protected against impacts during use, especially considering the joints.

During the installation or de-installation of the countertop, it is necessary to contact the Practitioner Firm and comply with the rules specified in the warranty conditions.

The repairs and modifications regarding the countertop should be carried out by the Practitioner Firm only.

If a problem occurs while using the countertop, it is necessary to initially contact the store where the countertop was purchased and the practitioner firm.





## Points to be Considered in The Use of Polished Products



Thanks to the superior technology of Kalesinterflex, T-ONE Porcelain Countertops offer unlimited color options and different surface alternatives. You can conveniently use our products with polished surfaces that match your kitchen cabinets on your countertops. The following usage details should be carefully read before use:

Scratch resistance of polished products is low. Care should be taken while using kitchen utensils (fork, knife, spoon, teapot, pot, etc.), and their direct contact with the surface should be prevented.

While cutting foods such as meat, vegetables, and fruits on polished products, direct contact of knives or similar kitchen utensils with the product should be avoided, and a cutting board should be used for these processes.

Due to their sensitivity, the surfaces of polished products are not resistant to impacts caused by rough objects and equipment, such as glass, plates, pots, and pans falling from above or their contacts from the sides. Care should be taken about falling kitchen utensils to them.

Direct contact of hot utensils, such as pots and pans, and flames with the surfaces of polished products should be prevented.

While cleaning polished products, detergents containing hydrofluoric acid, fluoride salts, their derivatives, and similar cleaning agents should be avoided. These derivative chemicals cause irreversible damage to ceramic surfaces.

Stains and dirt formed on the surface of polished countertops should be cleaned with standard alkaline cleaning agents without delay.

Polished products should not be cleaned and rubbed with abrasive dust cleaning detergents.

Abrasive materials such as hard cleaning sponges, cleaning wires, and metal brushes should not be used for polished products. A soft and damp sponge may be used for cleaning.

It is recommended to dry it as soon as possible after cleaning.

Home repair tools should not be used on polished products, and direct contact and friction of these tools with them should be avoided.

## T-ONE Porcelain Technical Specifications

ISO	Technical Specifications	T-ONE MATTE 1620x3230x12mm	T-ONE POLISHED 1620x3230x12mm
	Weight kg/m <sup>2</sup>	30	30
ISO 10545-2	Surface Quality (%)	> 95	> 95
ISO 10545-3 ASTM C373	Water Absorbion (%)	≤ 0,1	≤ 0,1
ISO 10545-4	Breaking Strenght (N)	≥ 4000	≥ 4000
ISO 10545-4	Bending strength (N/mm <sup>2</sup> )	≥ 50	≥ 50
ISO 10545-6	Deep wear resistance (mm <sup>3</sup> )	≤ 175	≤ 175
ISO 10545-8	Linear Thermal Expansion Coefficient	< 7 x 10 <sup>-6</sup>	< 7 x 10 <sup>-6</sup>
ISO 10545-9	Resistance to Thermal Shock	Resistant	Resistant
ISO 10545-13	Resistance to Chemical	Class A to B	Class A to C
ISO 10545-14	Resistance to Staining	Class 3 to 5	Class 2 to 5

## Technical Tables

Physical and chemical properties	Reference test method	Kaleseramik 12 mm Matte Slab	Kaleseramik 12 mm Polished Slab
"1620X3240 Nominal dimension (mm) (non rectified)"	KALE	Minimum size $\geq$ 1620x3230mm (kiln exit full size; untrimmed)	Minimum size $\geq$ 1620x3230mm (kiln exit full size; untrimmed)
Weight (kg/m <sup>2</sup> )	KALE	29,7	29,7
Surface quality	ISO 10545-2	> 95%	> 95%
Water absorption	"ISO 10545-3 ASTM C373"	Average $\leq$ 0,1%	Average $\leq$ 0,1%
Breaking strength in N	ISO 10545-4	$\geq$ 4000	$\geq$ 4000
Modulus of rupture N/mm <sup>2</sup>	ISO 10545-4	$\geq$ 50	$\geq$ 50
Resistance to deep abrasion (mm <sup>3</sup> )	ISO 10545-6	$\leq$ 175	$\leq$ 175
Coefficient of linear thermal expansion	ISO 10545-8	$<$ 7x10 <sup>-6</sup>	$<$ 7x10 <sup>-6</sup>
Thermal shock resistance	ISO 10545-9	RESISTANT	RESISTANT
Chemical resistance	ISO 10545-13	From class A to B	From class A to C
Stain resistance	ISO 10545-14	From class 3 to 5	From class 2 to 5
Resistance to freeze and thaw	ISO 10545-12	RESISTANT	RESISTANT
Fire reaction	EN 13501-1	A1* / A2 - s1 d0**	A1* / A2 - s1 d0**

\* Porcelain slab without backmesh

\*\*Product supporting with fiber glass backmesh

Physical and chemical properties	Reference test method	Kaleseramik 12 mm Matte Slab	Kaleseramik 12 mm Polished Slab
Density (gr/mm <sup>3</sup> )	EN 14617-1 / ASTM C97	2500	2500
Water absorption	EN 14617-1	Average $\leq$ 0,1%	Average $\leq$ 0,1%
Bending strength (N/mm <sup>2</sup> )	EN 14617-2	$\geq$ 50	$\geq$ 50
Freeze and thaw resistance	EN 14617-5	RESISTANT	RESISTANT
Dry heat resistance	EN 12722 / EN 438-2 PAR:16	5 (no visible effect till 200°C)	5 (no visible effect till 200°C)
Chemical resistance	ISO 10545-13	From class A to B	From class A to C
Chemical resistance	ASTM-C650	RESISTANT	RESISTANT
Cold liquid resistance	EN 12720	5 ; A+ (reached class CEN/TS 16209:2022*)	From class 5 to 2
Cleaner product resistance	PTB 53 CATAS	5 no visible effect	From class 5 to 3
Abrasion resistance (mm)	EN 14617-4	$<$ 26	$<$ 28
Hygiene properties	METODO CATAS	Excellent (high degree of removal of bacterial cells >99% after cleaning with a biocide-free detergent)	Excellent (high degree of removal of bacterial cells >99% after cleaning with a biocide-free detergent)
Lead and cadmium given off mg/dm <sup>3</sup>	ISO 10545-15	0	0
Overall migration	UNI EN 1186	0 mg/dm <sup>2</sup> no significant migration	0 mg/dm <sup>2</sup> no significant migration
VOC emission	UNI EN 16000-9	A+	A+
Shock resistance	ISO 4211-4 / EN 14617-9	Class 5 (no damage to ball drop 200mm)	Class 5 (no damage to ball drop 200mm)
Light resistance	UNI EN 15187	5 no visible effect	5 no visible effect
Thermal shock resistance	EN 14617-6	RESISTANT	RESISTANT
Resistance to staining	ASTM C1378	RESISTANT	RESISTANT

## Technical Info

	Reference test method	Requirements for nominal size N		KALE 1620X3230 (mm) Non-rectified		KALE 1600X3200R (mm) Rectified	
		N $\geq$ 15 cm		Matte	Polished	Matte	Polished
		%(for rectified)	mm(for rectified)				
Length and width	ISO 10545-2	$\pm 0,3$	$\pm 1$	N.A.	N.A.	Suitable	Suitable
Thickness		$\pm 0,5$	$\pm 0,5$	N.A.	N.A.	Suitable	Suitable
Straightness of sides		$\pm 0,3$	$\pm 0,8$	N.A.	N.A.	Suitable	Suitable
Rectangularity (Measurement only on short edges when L/l $\geq$ 3)		$\pm 0,3$	$\pm 1,5$	N.A.	N.A.	Suitable	Suitable
Surface flatness		c.c. $\pm 0,4$	c.c. $\pm 1,8$	N.A.	N.A.	Suitable	Suitable
		e.c. $\pm 0,4$	e.c. $\pm 1,8$	N.A.	N.A.		
	w. $\pm 0,4$	w. $\pm 1,8$	N.A.	N.A.			
Water absorption	ISO 10545-3	Ev $\leq$ 0,5% Individual max 0,6%		$\leq 0,1$ %	$\leq 0,1$ %	$\leq 0,1$ %	$\leq 0,1$ %
Breaking strength	ISO 10545-4	for thickness < 7,5mm ; S $\geq$ 700 N for thickness $\geq$ 7,5mm ; S $\geq$ 1300 N		12 mm S $\geq$ 4000N	12 mm S $\geq$ 4000N	12 mm S $\geq$ 4000N	12 mm S $\geq$ 4000N
Modulus of rupture		R $\geq$ 35 ; N/mm <sup>2</sup>		12 mm ; R $\geq$ 50 N/mm <sup>2</sup>	12 mm ; R $\geq$ 50 N/mm <sup>2</sup>	12 mm ; R $\geq$ 50 N/mm <sup>2</sup>	12 mm ; R $\geq$ 50 N/mm <sup>2</sup>
Impact resistance, as coefficient of restitution	ISO 10545-5	Test method available		$\geq 0,55$	$\geq 0,55$	$\geq 0,55$	$\geq 0,55$
Resistance to deep abrasion of unglazed tiles (removed volume)	ISO 10545-6	$\leq 175$ mm <sup>3</sup>		Suitable	Suitable	Suitable	Suitable
Coefficient of thermal linear expansion	ISO 10545-8	Test method available		$\leq 7 \times 10^{-6}$	$\leq 7 \times 10^{-6}$	$\leq 7 \times 10^{-6}$	$\leq 7 \times 10^{-6}$
Thermal shock resistance	ISO 10545-9	Pass according to EN ISO 10545-1		Resistant	Resistant	Resistant	Resistant
Moisture expansion	ISO 10545-10	Test method available		$\leq 0,01\%$	$\leq 0,01\%$	$\leq 0,01\%$	$\leq 0,01\%$
Frost resistance	ISO 10545-12	Required		Resistant	Resistant	Resistant	Resistant
Bond strength (adhesion for cementitious adhesives Type C1)	ISO 13007-2	Declared value		$\geq 0,5$ N/mm <sup>2</sup>	$\geq 0,5$ N/mm <sup>2</sup>	$\geq 0,5$ N/mm <sup>2</sup>	$\geq 0,5$ N/mm <sup>2</sup>
Reaction to fire	EN 13501-1	A1/ AFL		A1 / A1FL without back mesh	A1 / A1FL without back mesh	A1 / A1FL without back mesh	A1 / A1FL without back mesh
Resistance to household chemicals and swimming pool salts	ISO 10545-13	Minimum Class B		A	A	A	A
Resistance to low concentrations of acids and alkalis		Declared value		LA	LA	LA	LA
Resistance to high concentrations of acids and alkalis		Declared value		HA	-	HA	-
Resistance to staining	ISO 10545-14	Test method available		5	5	5	5
Release of dangerous substances: Cadmium (in mg/dm <sup>2</sup> ) and Lead (in mg/dm <sup>2</sup> )	ISO 10545-15	Declared value		$\leq 0,01$ mg/dm <sup>2</sup> Cd $\leq 0,1$ mg/dm <sup>2</sup> Pb	$\leq 0,01$ mg/dm <sup>2</sup> Cd $\leq 0,1$ mg/dm <sup>2</sup> Pb	$\leq 0,01$ mg/dm <sup>2</sup> Cd $\leq 0,1$ mg/dm <sup>2</sup> Pb	$\leq 0,01$ mg/dm <sup>2</sup> Cd $\leq 0,1$ mg/dm <sup>2</sup> Pb

## Regardful Of The Nature and Game-Changer

Designed with sustainable production technologies, the T-ONE efficiently uses raw materials and energy resources and is located in environmentally friendly spaces.

While creating a most hygienic environment with fewer cleaning supplies thanks to its antibacterial surface, it designs healthy and environmentally friendly living spaces.



## Certificates



 **Kale**

**Kaleseramik Çanakkale Kalebodur Seramik San. A.Ş.**

Büyükdere Cad. Kaleseramik Binası 34330 Levent - İstanbul / Turkey

[kale.com.tr](http://kale.com.tr)

