Dekton® FOOD SERVICES

Extreme Warming and Cooling Applications

Baseline DATA.

D. DESIGN parameters.
F. FABRICATION aspects.
A. ASSEMBLY criteria.
U. Conditions of USE.

Instructional images segment D.F.A.U.

Guarantee CONDITIONS.

What is Dekton®?

Dekton represents a new product category: the ultra-compact surface. The result of mixing over 20 minerals in a process patented by the Cosentino Group, which are subject to an industrial change including a 25,000 ton press and a sophisticated particle sintering process (PST technology), which produces a new material that we call Dekton.

Dekton is NOT opaque glass OR high quality porcelain.
Dekton does NOT contain any type of resin OR reinforcement mesh (neither inside nor on the external face).

What is Dekton® Xgloss?

Dekton Xgloss is an ultra-compact surface with a unique mechanical polished finish that includes its own technology called Nanocoating Process. The result is an exceptional crystalline gloss with top quality water repellent properties.

Dekton Xgloss does NOT include any enamel OR additional surface layers (e.g. fine grains).

What basic properties should be considered when designing a food service with Dekton®?

To design with Dekton, the Technical Data Group (based on the chosen product) should be taken into consideration, as set forth in the links included here:

- Dekton data sheet.
- Dekton Xgloss data sheet.

(the last column, standard, meets the porcelain requirements under European Standard EN 14411)

What environmental guarantees do Dekton® and Dekton® Xgloss provide?

The whole industrial process to produce Dekton takes the highest global environmental quality standards into consideration. In a globally pioneering exercise in transparency for the construction materials sector for coating and facing, the following information is presented, assessed by the leading independent international bodies (Swedish, Danish and North American):

- The whole manufacturing process: video [DK] how is it made.
- Open formulation: [DK] HPD Health Product Declaration. Contributes 1 point to the Leed certification.
- Life cycle analysis: [DK] EPD Environdec. Contributes 1 point to the Leed certification.
- Health and safety direct contact with foods: [DK] NSF ANSI 51.
- Emission of volatile particles (European measurement): [DK] VOC Eurofins.
- Emission of volatile particles (North American measurement): [DK] VOC Greenguard, [DK] VOC Greenguard Gold, [DK] VOC Xgloss Greenguard, [DK] VOC Greenguard Gold

What technical knowledge is required to use Dekton® in buffets?

A buffet is an industrial item and complex to develop, requiring the involvement of many different agents, which can include different areas subject to heat or cold, and designed for intensive daily use.

Therefore, firstly we provide several documents and videos that must be read/viewed to learn what can generally be done with Dekton and how.

- Thermal conductivity: [DK] Tecnalia report.
- Heat performance: [DK] temperature heating sources document.
- Chemical resistance: [DK] chemical resistance table.
- Performance when exposed to the sun outdoors: [DK] UV light resistance trials.
- General project features: [DK] countertops design installation manual.
- Making of different surfaces: [DK] Dekton fabrication and [DK] Dekton Xgloss fabrication videos.
- Transport and assembly: [DK] countertop installation video.
- Maintenance: [DK] countertop cleaning guide.

The following pages define the specific aspects to consider depending on the specific nature of each buffet.

Who takes part, and who therefore should be familiar with this Dekton® information?

All* the people involved in the project, development, transport, assembly and maintenance of an industrial buffet must confirm that they are familiar with and have seen and/or read (as applicable) the specific technical documentation relating to the Dekton material listed above.

(*) the property where the buffet is located, the architectural or engineering studio that designs the buffet, the industrial buffer manufacturer that makes the frame, the marble-worker that makes the worktops and/or front panels, the transporter that moves the pieces made to their final location, the installer that assembles each component on the buffet frame, the person responsible for completion cleaning, the service manager in charge of the installation maintenance... and any other agent involved and not mentioned here.

Are there international references for Dekton® in food services?

Several examples of industrial buffets made with Dekton are listed below:

- Albania. THE PLAZA TIRANA.
- Belgium. RAMADA OSTEND.
- Spain. ESCUELA HOSTELERÍA SEVILLA.
- The United States. W DALLAS VICTOY PARK.
- Great Britain. PENNY HILL PARK.
- The Netherlands. DE LIBRIJE.
- The Maldives. KURAMATHI.
- Panama. ESTUDIO MILLESIME.

Food service surfaces (hereafter “countertops”)

D.01.- Dekton weight according to thickness: 15.36 lb/ft2 (75 Kg/m2) in 3.0 cm, 10.86 lb/ft2 (53 Kg/m2) in 2.0 cm, 6.55 lb/ft2 (32 Kg/m2) in 1.2 cm.
D.02.- The countertops without cut-outs or drill holes may be made with thicknesses of 1.2 cm, 2.0 cm or 3.0 cm.
D.03.- Countertops with at least one cut-out or drill hole will have thicknesses of 2.0 cm or 3.0 cm.
D.04.- The underside of the countertop will feature the characteristic Dekton rough surface (without mesh, resin or notches).

Countertops divided into several parts

D.05.- When a countertop has 1 very large rectangular cut-out (> 5 ft) (> 1.5 m), this countertop will be divided into 2 parts.
D.06.- When a countertop has several small cut-outs, this worktop will be divided into more than one part.
D.07.- The parts with cut-outs must weigh between 165.35 lb (75 Kg) and 220.46 lb (100 Kg) maximum.
D.08.- The best place for the joints is in the cut-outs, in a zig-zag form: extending opposite sides.

Sizes of the cut-out

D.09.- The corner radii of the cut-outs for cold trays and apparatus will be at least 2/5” (1 cm).
D.10.- The corner radii of the cut-outs for hot trays and apparatus will be at least 3/5” (1.5 cm).
D.11.- The minimum distance between 2 cut-outs will be 4” (10 cm) if both are for cooling or both are for heating.
D.12.- The minimum distance between 2 holes will be 6” (15 cm) if one is for cooling and the other is for heating.
D.13.- The distance of a cut-out from the edge of the countertop will be at least 2” (5 cm).

Drill hole size

D.14.- The size of a drill hole (e.g. for taps or fixing lights) will be at least 1” (2.5 cm).
D.15.- The distance from the drill hole to a cut-out or the countertop edge will be at least 2” (5 cm).
D.16.- The drill holes for fixing lights will be located in the side area of the cut-outs.

Cut-out and drill hole finishing

D.17.- All the cut-out and drill holes will have their upper and lower edges chamfered (with a 1 mm chamfer or rounding off).
D.18.- All the cut-out and drill holes will have smooth edges, without grooves or burrs.

Notches on the visible countertop surface

D.19.- Notches with curved corners can be made on the surface to indicate the heating and cooling zones via CNC.
D.20.- The maximum notch depth shall not exceed 1/4 (=25%) of the material thickness.
D.21.- The clearance hole for water outlet (cold surfaces) will be done as for drill holes.
D.22.- When making notches, the design and original texture of the table are lost.

Countertop corners

D.23.- If the straight edge is not exposed to blows, the upper edge will be chamfered with a smooth, 1/25” (0.1 cm) rounding.
D.24.- If the corners are exposed to blows, they will then be rounded (bullnose), with radius greater than or equal to 4/5” (2 cm).

Straight edges

D.25.- If the straight edge is not exposed to blows, the upper edge will be chamfered with a smooth, 1/25” (0.1 cm) rounding.
D.26.- If the corners are exposed to blows, they will be rounded (bullnose), with radius greater than or equal to 4/5” (2 cm).

Side skirts that coat the frame and edge finishing through miter joint pieces

D.27.- The front panels and miter joints shall be made with the same thickness as the countertop.
D.28.- The resulting joint between the countertop and front panel (or miter joint) will have a 1/25” (0.1 cm) rounded finish.
D.29.- When the panel include cut-outs (e.g. niches for plates), Dekton 2.0 cm will be the right solution for the cladding.
D.30.- The front panel hole corners will always have a radius greater than or equal to 1/5” (0.5 cm).
D.31.- The outer edges of the cut-outs for plate niches will be chamfered with a smooth, 1/25” (0.1 cm) rounding.

Cold and warm plates

D.32.- The thicknesses 2.0 cm and 1.2 cm can be used to transmit cold and/or produce freezing via the material.
D.33.- The thicknesses 2.0 cm and 1.2 cm can be used to keep hot dishes warm, below 212 ºF (100 ºC).

Prior information for making the countertops and front panels

F.01.- Safety comes first. The worker will prepare Dekton pursuant to Cosentino recommedations.
F.02.- It shall be verified that all the indications set forth in “design parameters” in the plans provided by the planner are met.
F.03.- The presence of structural elements such as pillars or other obstacles, which affect production, will be revised.
F.04.- Distances between drill holes will be checked with the frame manufacturer to make sure they match the planned lamps.
F.05.- It shall be confirmed with the frame manufacturer that the cut-outs have sustained lower support on the 4 sides
F.06.- All the fabrication works (such as cutting, drill holes, chamfering and rounding) shall be done with water input.
F.07.- All slabs shall be trimmed 3/5” (1.5 cm) off on their 4 sides to release its internal stress, before doing any fabrication work.

Countertop preparation

F.08.- All the pieces that make up a countertop will be cut to size by a fabricator trained by Cosentino.
F.09.- All the side skirts and miter joint pieces will be made in the same way as the countertops.

Straight cuts, changes of direction and internal corners

F.10.- The straight cuts and changes of direction will have a clean finish (without chips).
F.11.- The internal corners anc cut-outs due to pillars and ostacles, will have a minimum radius of 1/5” (0.5 cm).
F.12.- The internal corners will have a straight cut; if miter joints are performed, it must be cut into two parts and the joint placed there.

Core drill cutting

F.13.- This shall be done pursuant to the guidelines established in the training by the Cosentino Quality team.
F.14.- The hole drill shall be done with CNC, Waterjet or with standard core drills cooled with water, never with drill bits.
F.15.- The core drills shall be sharpened every 4 uses to prevent chips on the lower edge of the countertop.
F.16.- A single hole shall be made to support the lamps, with sufficient diameter for the screws and wiring.

Making holes

F.17.- The holes shall be made pursuant to the guidelines established in the training by the Cosentino Quality team.
F.18.- The holes shall be made with CNC, Waterjet or with standard bit drills cooled with water.
F.19.- The core drills shall be sharpened every 4 uses to prevent chips on the lower edge of the countertop.
F.20.- The holes shall always be in view. They may be covered but cannot be used to fasten food service elements.

Finishing of notches and visible edges

F.21.- The Color ON shall apply for the notches to highlight the color and enhance possible micro-roughness after fabrication.
F.22.- Applying the Color ON to visible edges exposed to water (e.g. sinks) is recommended.

Joints

F.23.- The products approved in the training by the Cosentino Quality team shall be used for joints.
F.24.- For reinforcing miter joints, resin-free strips made of firm materials (e.g. Dekton or granite) could be used.

Reinforcements

F.25.- Reinforcements with firm materials (e.g. Dekton or granite) will be used, but never Silestone or other flexible materials.
F.26.- Do not use silicone cords to fix defective bearings. Use metal plates or neoprene strips.

Spare Dekton parts to cover cut-outs in cold plates and hot plates

F.27.- Cold plates can be made with 0.8 cm (without notches), 1.2 cm or 2.0 cm spare parts.
F.28.- Hot plates can be made with 1.2 cm or 2.0 cm spare parts.
F.29.- The client will be informed that if the plate is not made from cut-out, perhaps the tone might be slightly different.
F.30.- A clearance of at least 1/5” (0.5 cm) shall be left between the hole and the part used as a cold/hot plate.

Note.- All the videos relating to proper fabrication with Dekton® can be found on the Cosentino ProTV channel.

Transporting the parts

A.01.- The parts will be transported in vertical position.
A.02.- The loose arms and irregular shapes with vast length or reduced width will be reinforced for transportation.
A.03.- The edges and corners will be protected with corner protectors during transportation.

Leveling the frame

A.04.- All the upper profiles of the metal frame will be at the same level to provide sustained support for the countertop.
A.05.- The welds for meetings between profiles will be perfectly sanded (without chips or spikes).
A.06.- The frame shall consist of “boxes” that guarantee the stability of the ensemble, with openings not exceeding 1 m.
A.07.- The frame will have mechanisms to adjust, on the job, ground irregularities and to maintain sustained support.

Assembling the countertop

A.08.- Cupping systems will be used to horizontally move the parts including holes.
A.09.- The countertop will be directly supported on the frame, a continuous panel/plywood, an elastomer or neoprene.
A.10.- The joints between parts can be made on-site using leveling tools that adequately tighten.
A.11.- Mastidek will be used for joints made on-site.
A.12.- There will be sustained support under the part joints, either from the frame itself, or this will be dealt with on-site.
A.13.- The cut-outs of sizes exceeding 5” x 5” (25x25 cm) will have sustained support below the 4 sides.

Fixing lamps

A.14.- Each lamp stand will be directly fixed to the countertop by clamping a metal strip below.
A.15.- The strip will be stainless steel with 2/25” (0.2 cm) thickness, with sides 1/2” (2.5 cm) larger than drill diameter.
A.16.- The strip will include a hole larger than the screw of the lamp (for clamping with washer) and another for cables.
A.17.- All lamp stands will have the same fixation system to the countertop.

Assembly of cold and hot trays in the cut-outs

A.18.- The cut-outs for mobile metal trays will have a size at least 2 cm larger, to facilitate thermal expansion.
A.19.- If the tray flaps do not have elastomer for shock absorption, the edge of the cut-out will be rounded.

Assembly of warming and cooling apparatus in the cut-outs

A.20.- The cooling/warming apparatus positioned in the cut-outs must be separated at least 1 cm from the edge.
A.21.- The heating apparatus will include flaps, notches in the edges and sloping recesses are not accepted.
A.22.- The flaps must include a mechanism for ensuring that the apparatus is centrally positioned in the hole.
A.23.- The minimum distance 2/5” (1 cm) must be verified in the corner, where the ratio reduces the distance, the critical zone.

Assembly of cold plates under the countertop

A.24.- The coil for transmitting cold will be made of industrially crushed copper to increase the contact surface.
A.25.- The coil shall be attached to the reverse side of the worktop with “metallic” adhesive to improve transmission.
A.26.- The adhesive will be particularly careful in the perimeter to ensure the air-tightness with regard to condensations.
A.27.- The coil will have a metal casing bottom including at least 3 cm of rigid insulating material (e.g. XPS).
A.28.- In the casing flaps, an insulating elastomer strip (e.g. Armaflex) will be placed to seal without stressing the cut-out.
A.29.- The industrial cooling manufacturer will dimension the equipment in accordance with the cooling surface sizes.

Assembly of hot plates under the countertop

A.30.- The industrial plates (e.g. Hatco) will have a gradual heat emission curve and will not exceed 248 ºF (120 ºC).
A.31.- The metal conduction emitters (e.g. Hatco) will be in direct contact with the worktop without adhesives or resins.
A.32.- The silicone sheets will include a rising heat emission controller, limited to 248 ºF (120 ºC).
A.33.- The silicone sheets will be positioned attached to the countertop with its self-adhesive solution, without air bubbles.
A.34.- The trays with resistors will transmit heat by convection, preventing heat from direct contact.

Food service use

U.01.- Blows from trolleys/carts against the front panels and edges that project shall be avoided.
U.02.- Sudden blows from food trays and kitchen utensils against the countertop and its edges shall be avoided.

Use of extreme heat mobile devices

U.03.- An insulating surface shall be imposed between paella pans and the countertop (the metal body exceeds 572 ºF (300 ºC).
U.04.- Only torches limited to a maximum of 572 ºF (300 ºC) shall be used, and shall be applied against the foods, being moved every 5 seconds at least.

Use of cooling/heating apparatus in the cut-outs

U.05.- If the apparatus emits more than 572 ºF (300 ºC), they will have insulation to guarantee not touching the edges of the cut-out.

Use of hot plates

U.06.- The hot plates with heat emitters underneath must have the objective of keeping pre-cooked dishes warm.
U.07.- If you intend to cook, heating equipment shall be mounted on the cut-outs (e.g. inductors or Tepanyakki).
U.08.- Metal heat resistors cannot be put in direct contact under the countertop.

Use of cold plates

U.09.- R404 gas will be used for frozen cooling plates. R134 is correct to keep it near 32 ºF (0 ºC).
U.10.- Correct equipment design allows freezing to be produced in less than half an hour even with Dekton 2.0 cm.

Use of induction appliances under the countertop

U.11.- The use of induction units requires prior approval from Cosentino.
U.12.- Only those limiting their maximum temperature to 194 ºF (90 ºC) even with empty ferromagnetic tools.

On-site changes.

U.13.- Junction boxes can only be made on-site on the front panels using water and standardized tools.
U.14.- All installations under the worktop (e.g. LED lighting) shall be attached or affixed to the frame.

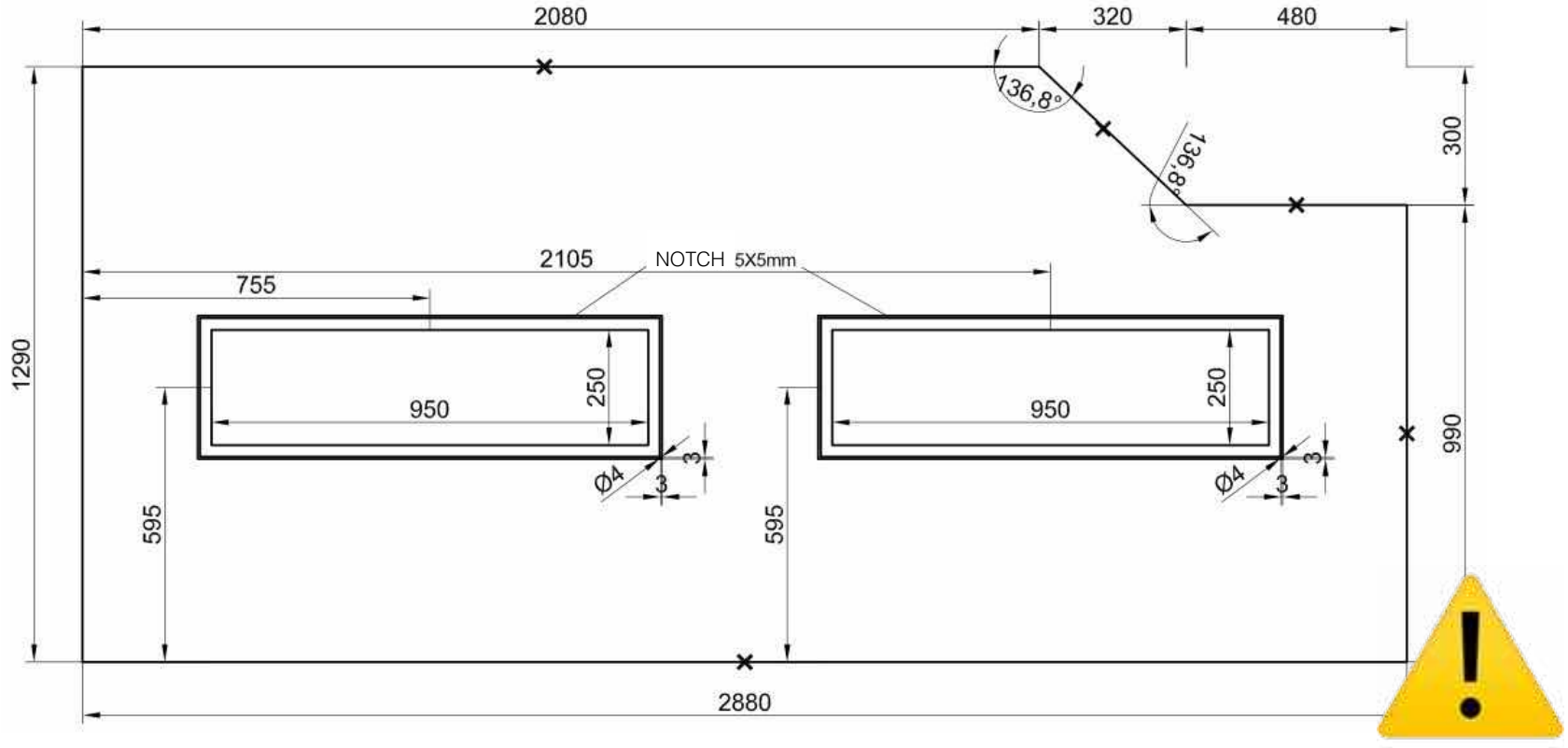
Cleaning.

U.15.- When food service assembly is complete, the countertop and front panels will be cleaned to remove all the work and assembly debris.
U.16.- For daily cleaning, the Cleaning and Maintenance guide recommendations will be taken into consideration.

Polished finish scratch resistance (Dekton Xgloss)

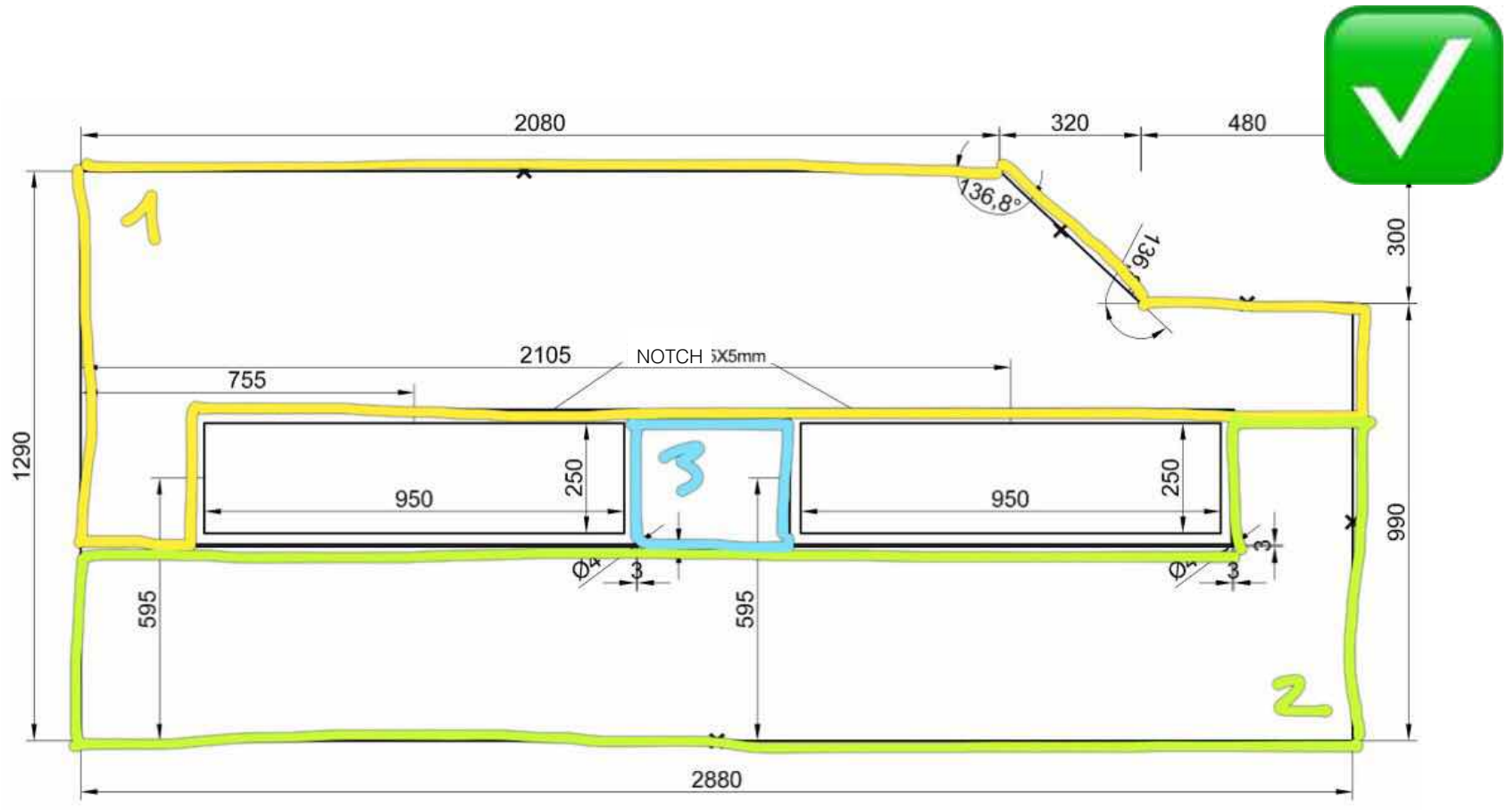
U.17.- Dekton Xgloss is more sensitive to scratching, therefore it will only be used when the food service owner agrees and accepts it.

D.01.- Dekton weight according to thickness: 15.36 lb/ft2 (75 Kg/m2) in 3.0 cm, 10.86 lb/ft2 (53 Kg/m2) in 2.0 cm, 6.55 lb/ft2 (32 Kg/m2) in 1.2 cm.



D.01.1

NOTICE: This countertop in thickness 2 cm weighs more than 331 lb (150 Kg).
It is impossible to handle it correctly if it is not divided into at least 2 pieces.



D.01.2

RIGHT: The countertop is more manageable with this split in 2 pieces:
Weight piece 1: 16.35 ft2 x 10.86 lb/ft2 = 177.56 lb (1.519 m2 x 53 kg/m2 = 81 kg).
Weight piece 2: 15.37 ft2 x 10.86 lb/ft2 = 166.92 lb (1.428 m2 x 53 kg/m2 = 76 kg).

D.02.- The countertops without cut-outs or drill holes may be made with thicknesses of 1.2 cm, 2.0 cm or 3.0 cm.

D.02.1

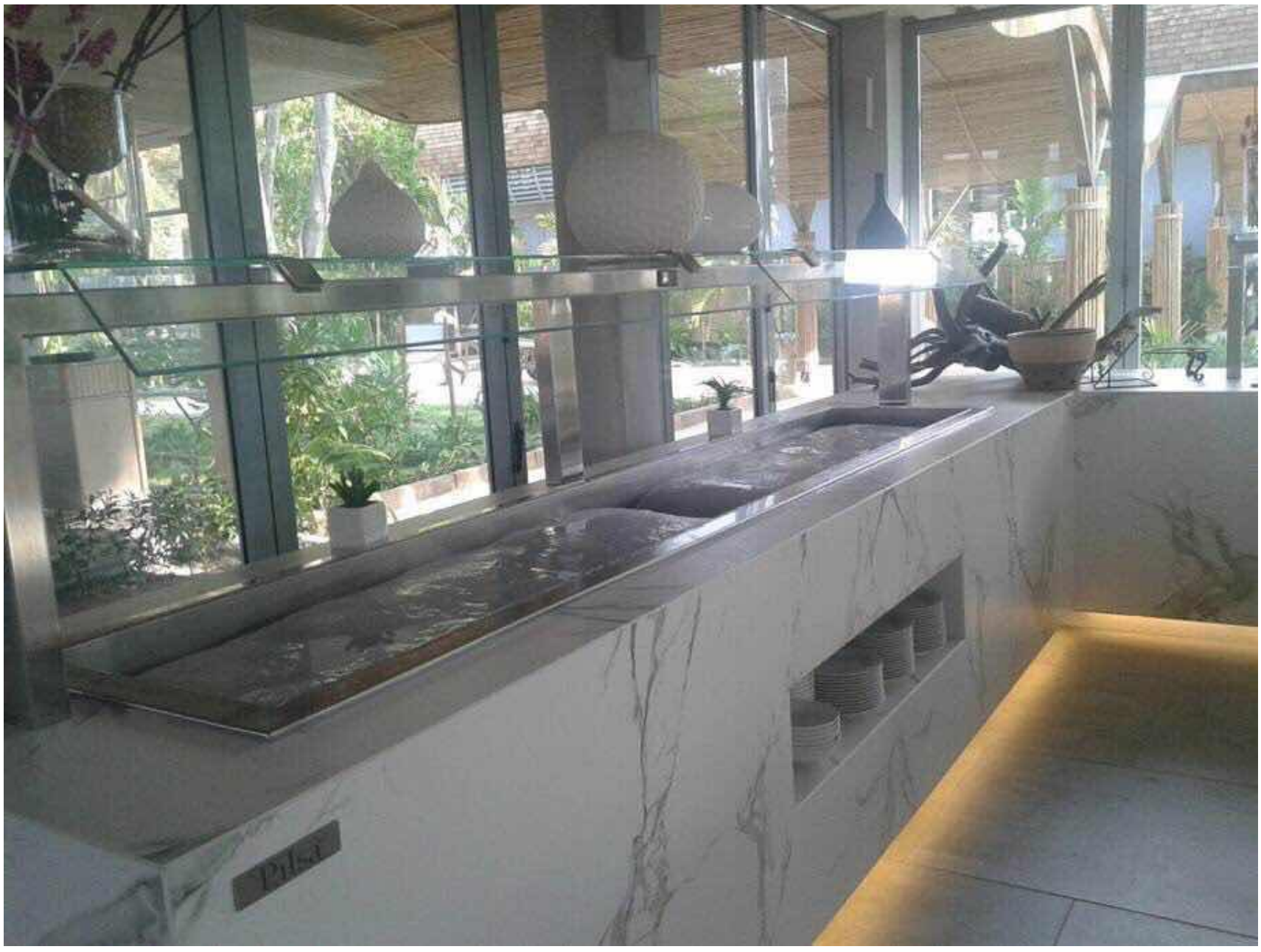
D.03.- Countertops with at least one cut-out or drill hole will have thicknesses of 2.0 cm or 3.0 cm.

D.03.1

D.04.- Distances between drill holes will be checked with the frame manufacturer to make sure they match the planned lamps.

D.04.1

D.05.- When a countertop has 1 very large rectangular cut-out (> 5 ft) (> 1.5 m), this countertop will be divided into 2 parts.

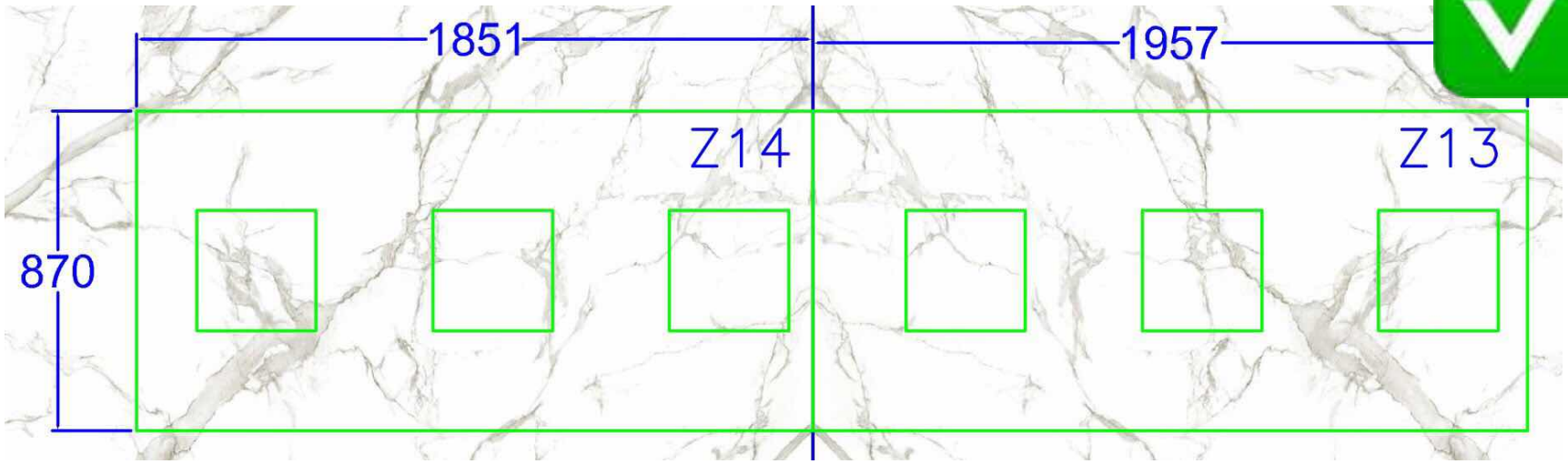


D.05.1

D.06.- When a countertop has several small cut-outs, this worktop will be divided into more than one part.

D.06.1

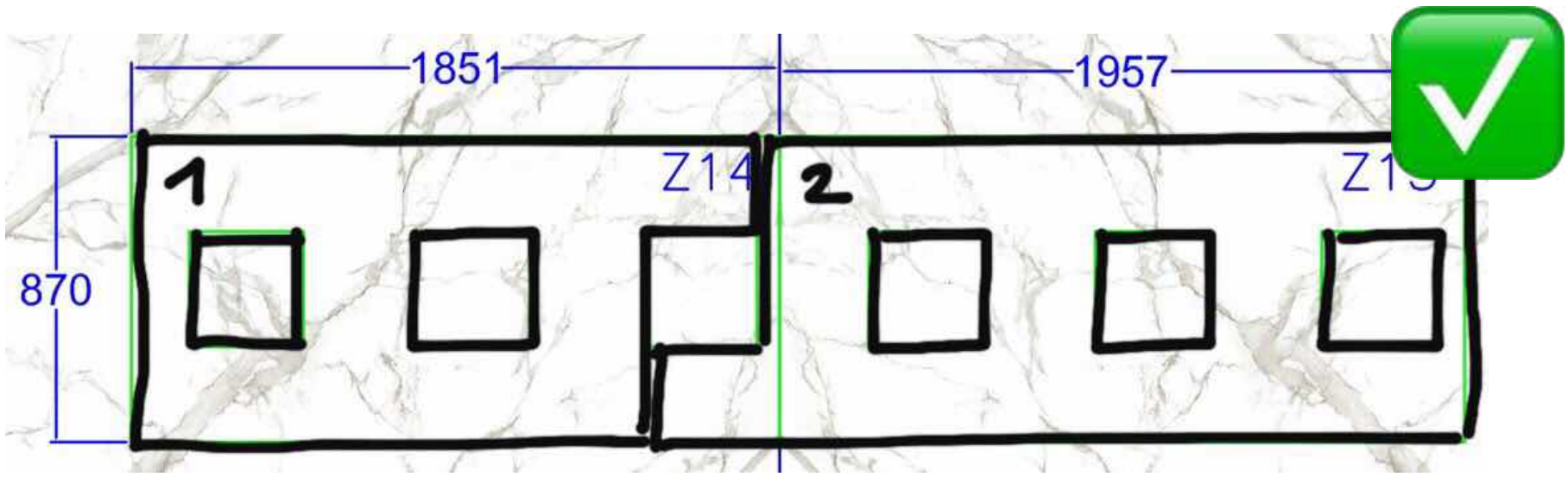
D.07.- The parts with cut-outs must weigh between 165.35 lb (75 Kg) and 220.46 lb (100 Kg) maximum.



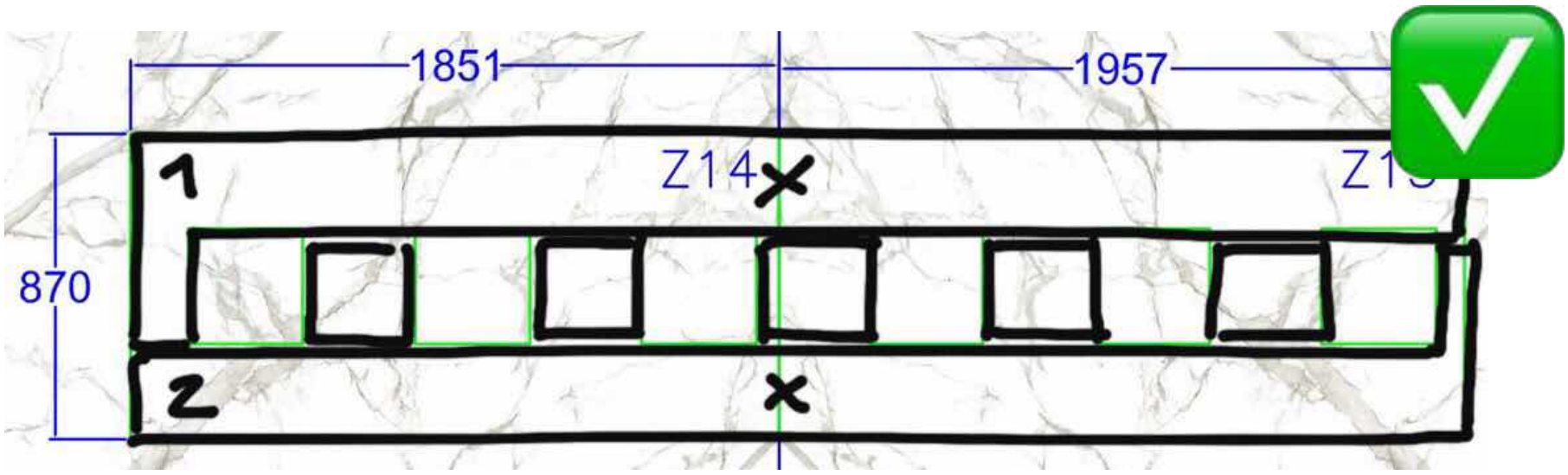
D.07.1

RIGHT: The division of this countertop into two pieces makes the weight of each one manageable: 156.53 lb (71 Kg) for Z13 and 145.51 lb (66 Kg) for Z14 respectively (it is explained in point D.08 how to improve the position of the joints).

D.08.- The best place for the joints is in the cut-outs, in a zig-zag form: extending opposite sides.

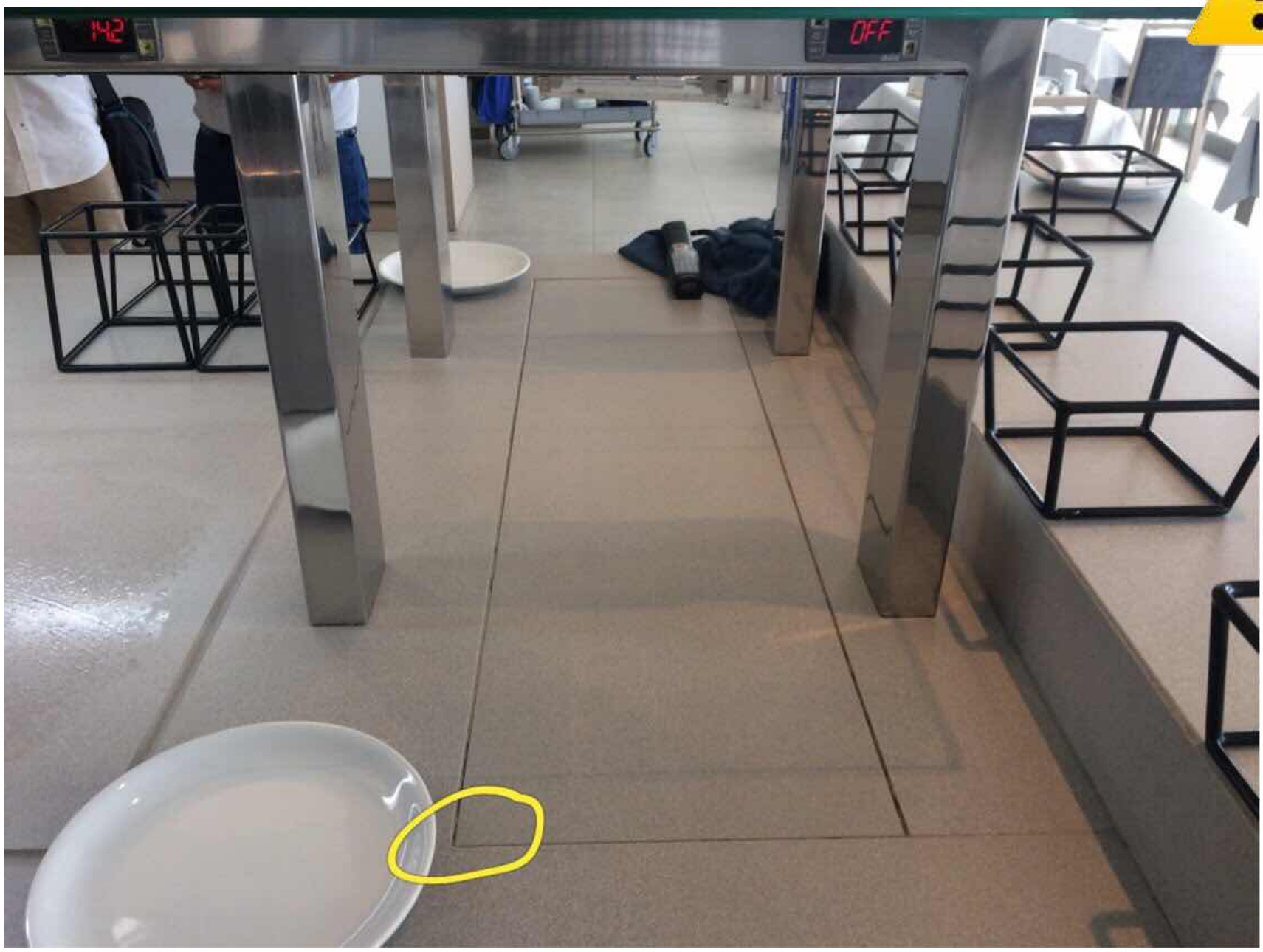


D.08.1



D.08.2

D.09- The corner radii of the cut-outs for cold trays and apparatus will be at least 2/5” (1 cm).



D.09.1

NOTICE: The radii of the corners of the cut-outs corresponding to the cold plates will be 2/5” (1 cm) so that the daily temperature changes do not stress those corners.

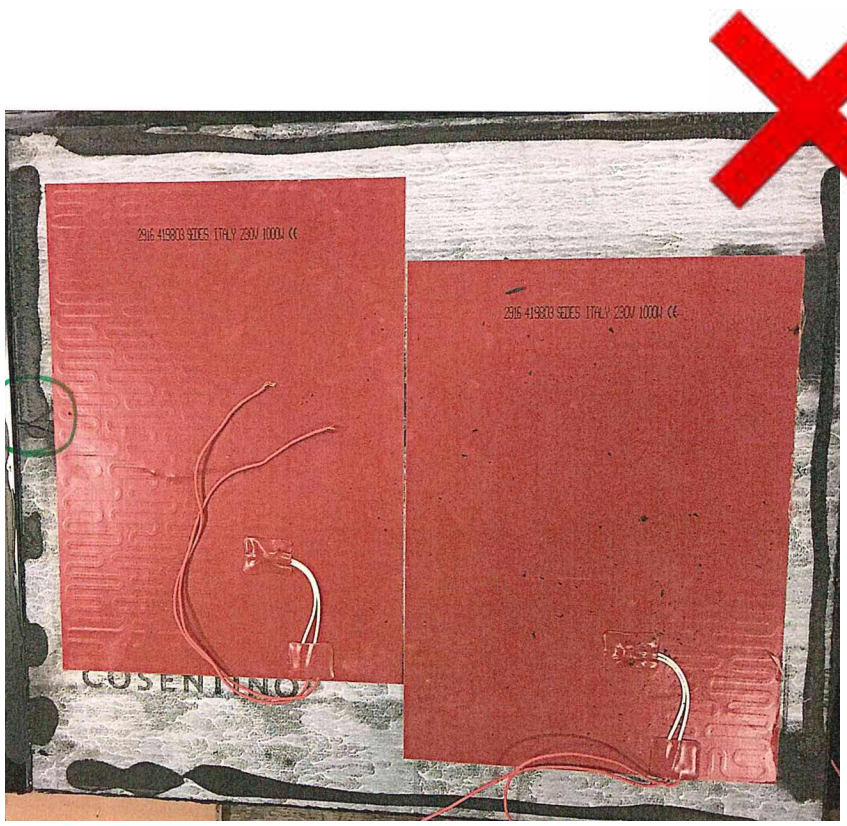
D.10.- The corner radii of the cut-outs for hot trays and apparatus will be at least 3/5” (1.5 cm).

D.10.1

NOTICE: A warm cut-out is exposed to thermal increments 5 or 6 times higher than other cold, so it is necessary to take care of the minimum radii, so that the tensions generated by the dilations do not adversely affect the corners.

D.11.- The minimum distance between 2 cut-outs will be 4” (10 cm) if both are for cooling or both are for heating.

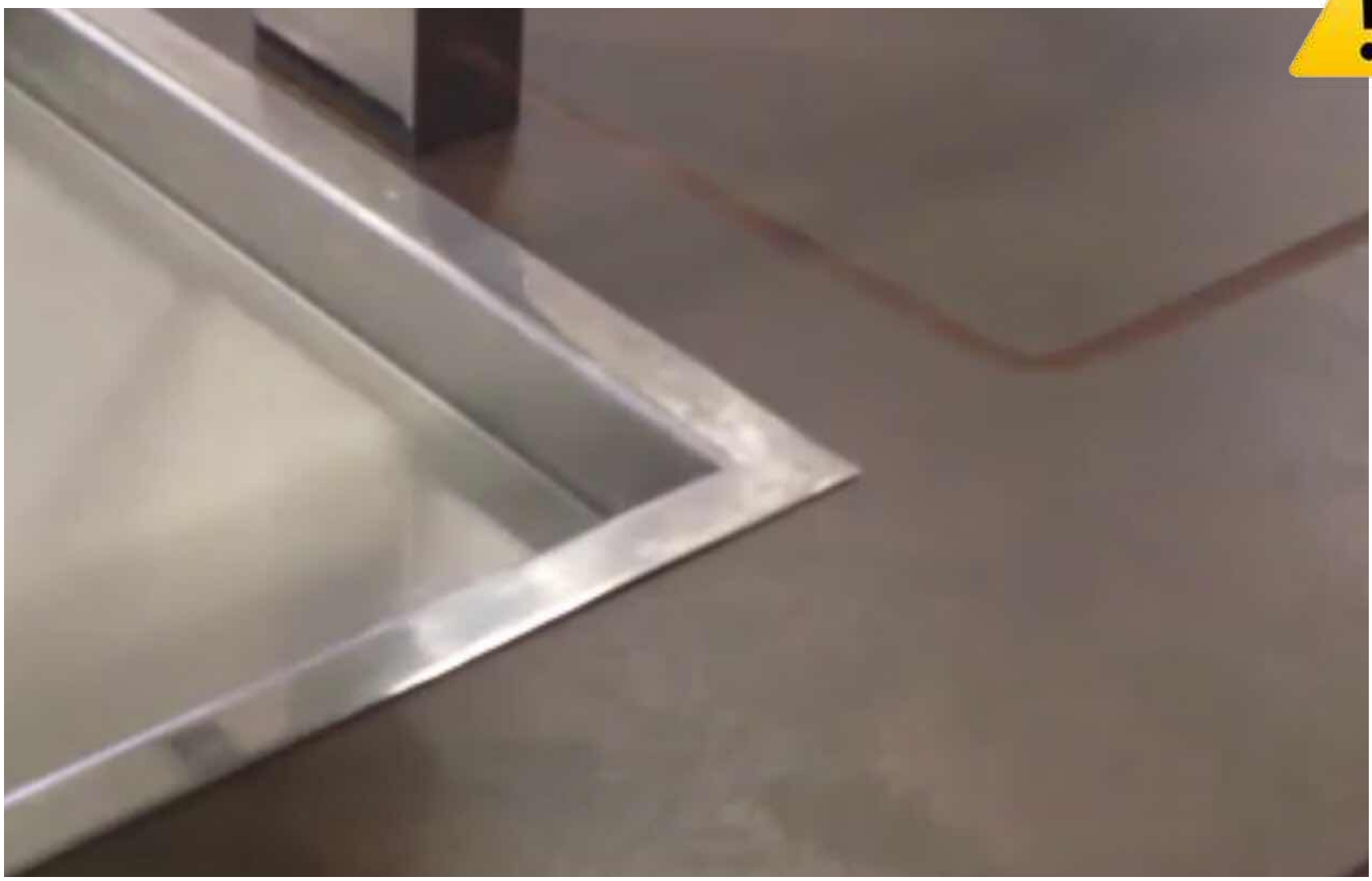
D.11.1



D.11.2

WRONG: If two heat sources are placed underneath (as in the photo) these minimum distances of 4” (10 cm) must be respected in between.

D.12.- The minimum distance between 2 holes will be 6” (15 cm) if one is for cooling and the other is for heating.



D.12.1

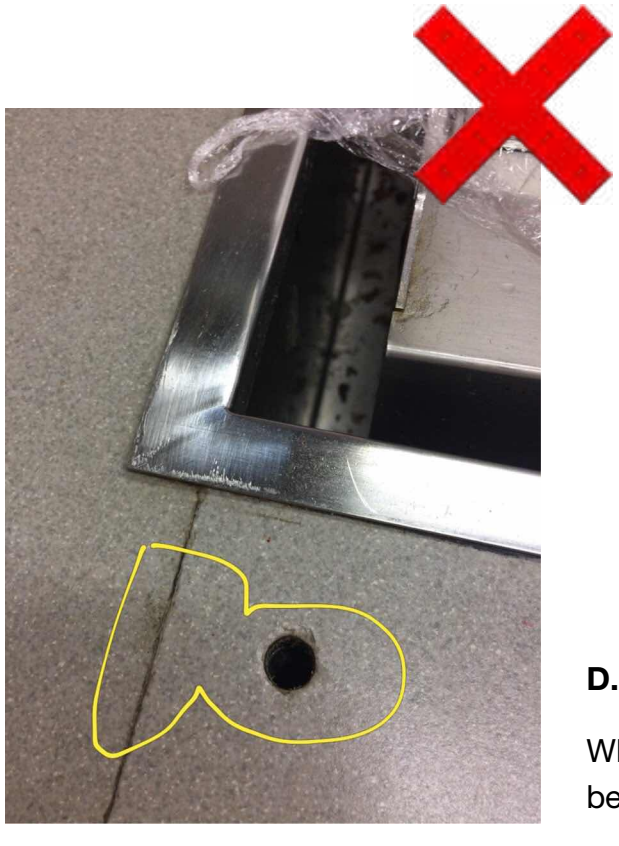
NOTICE: The criterion is equally valid if the heat is applied underneath and there is no real cut-out.

D.13.- The distance of a cut-out from the edge of the countertop will be at least 2” (5 cm).

D.13.1

D.14.- The size of a drill hole (e.g. for taps or fixing lights) will be at least 1” (2.5 cm).

D.14.1

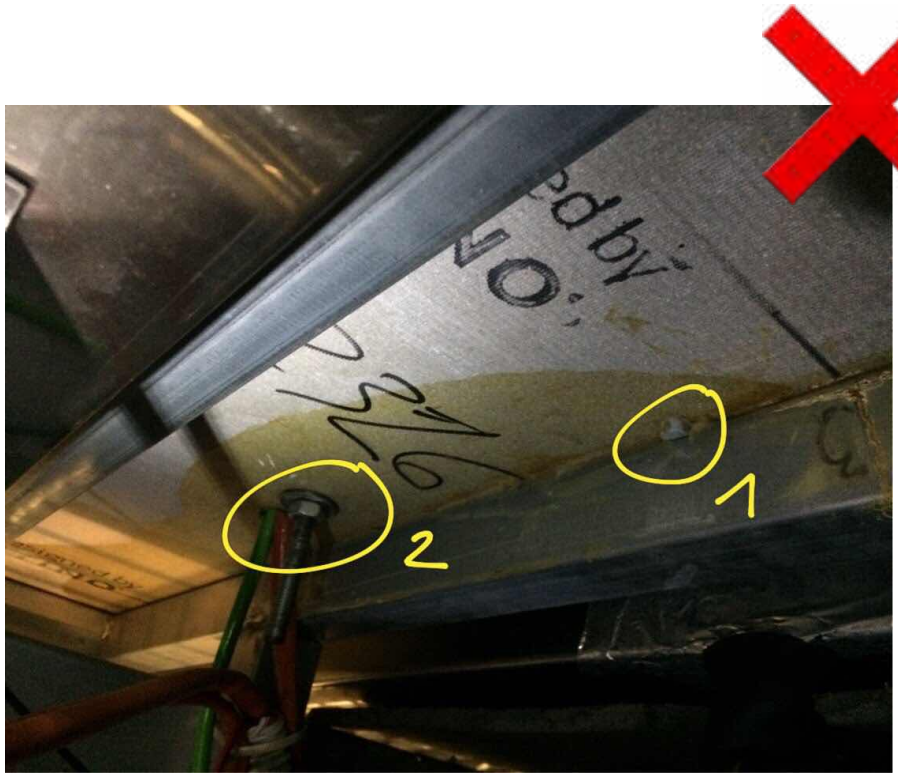


D.14.2

WRONG: The diameter is insufficient, the fabrication is poor and the gap between the joint and the drill hole is not enough.

D.15.- The distance from the drill hole to a cut-out or the countertop edge will be at least 2” (5 cm).

D.15.1

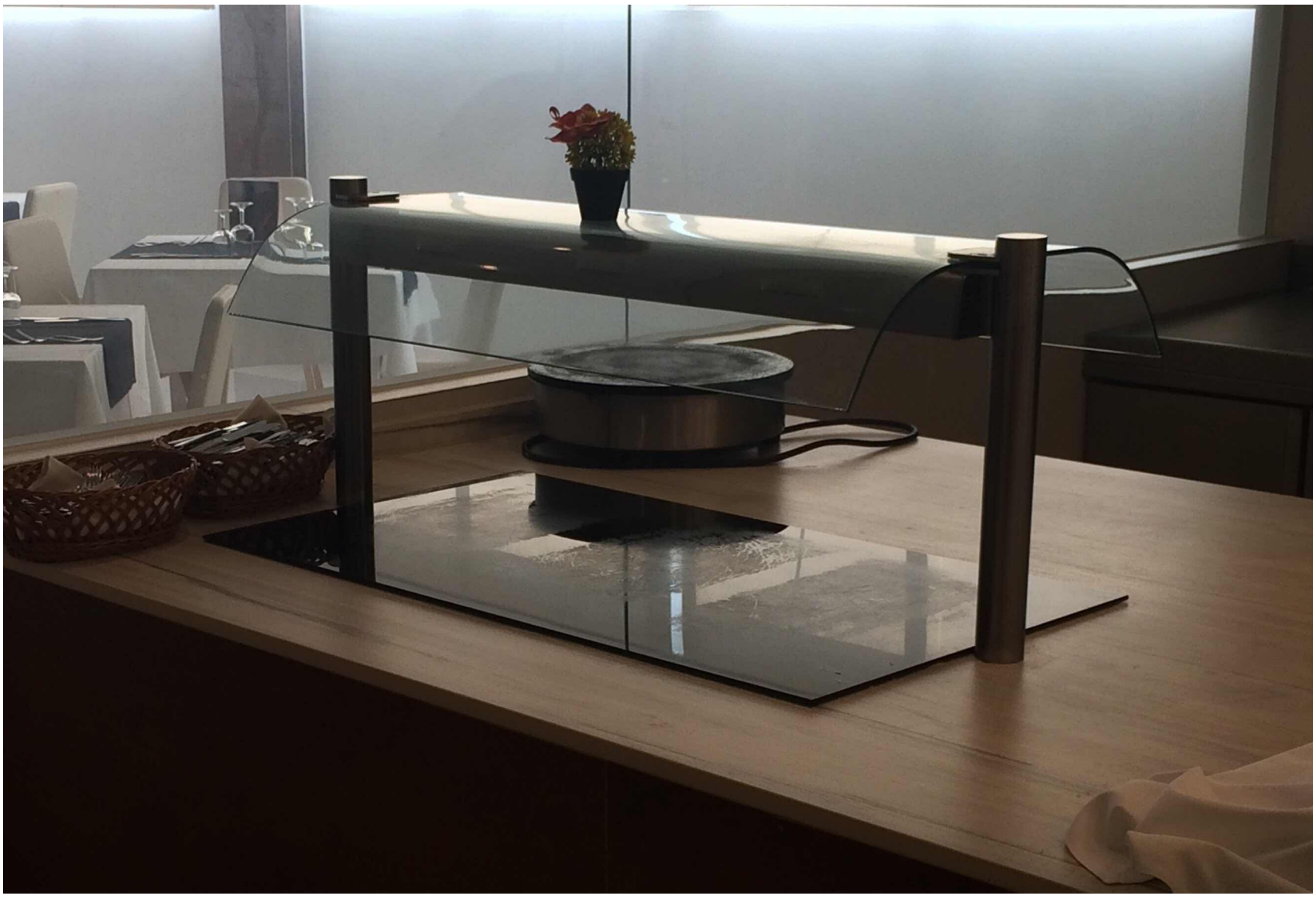


D.15.2

WRONG (point 2): Concentration of 2 drill holes without maintaining minimum distances between them.

NOTICE: It is a mistake to use chocks to compensate for deficiencies of support (point 1).

D.16.- The drill holes for fixing lights will be located in the side area of the cut-outs.



D.16.1

D.16.2

WRONG: The drills of the lamps at the corners of the cut-outs produce unexpected stresses that combine poorly with the dilations caused by heating and cooling. In this case the design of the notch with practically straight angle and not respecting the minimum distances between hole and hole makes the situation worse.

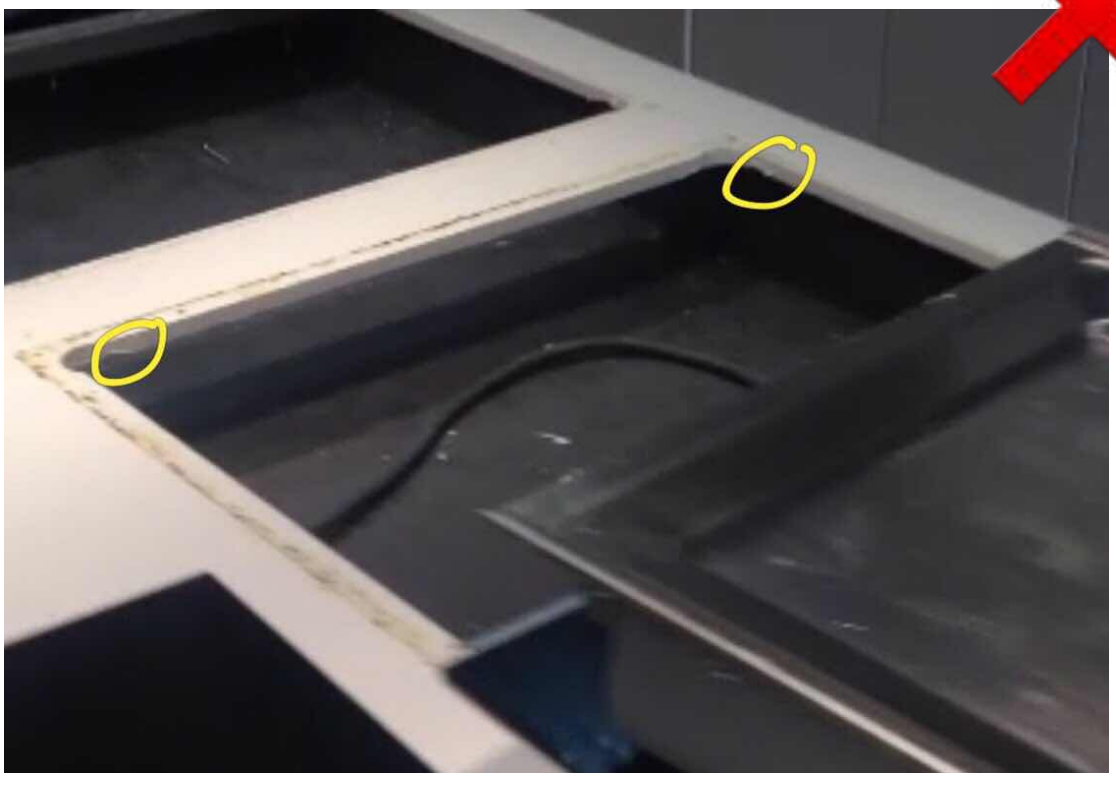
D.17.- All the cut-out and drill holes will have their upper and lower edges chamfered (with a 1 mm chamfer or rounding off).

D.17.1

WRONG: Combination of insufficient diameter and poor execution of the drill. The chips are evident above, probably same or worse happens below.

D.18.- All the cut-out and drill holes will have smooth edges, without grooves or burrs.

D.18.1



D.18.2

WRONG: You can increase the radius of the corners and move its center so that the straight corners of the appliances do not collide when dilating, but not at the cost of leaving burrs and chips - even if the cut-outs are hidden!

D.19.- Notches with curved corners can be made on the surface to indicate the heating and cooling zones via CNC.

D.19.1

D.20.- The maximum notch depth shall not exceed 1/4 (=25%) of the material thickness.

D.20.1

D.21.- The clearance hole for water outlet (cold surfaces) will be done as for drill holes.

D.21.1

NOTICE: The drill must be made in the fabricator, with a drill bit approved by Cosentino, correctly sharpened and with water. Experience says that through these holes are thrown many organic remains of the cold plate and soon become full of dirt and lacking in hygiene. As the thermal conductivity of Dekton is low, it does not happen the melting of the ice as in a granite, reason why a designer could consider not introducing them in the notch.

D.22.- When making notches, the design and original texture of the table are lost.

D.22.1

D.23.- If the straight edge is not exposed to blows, the upper edge will be chamfered with a smooth, 1/25” (0.1 cm) rounding.

D.23.1

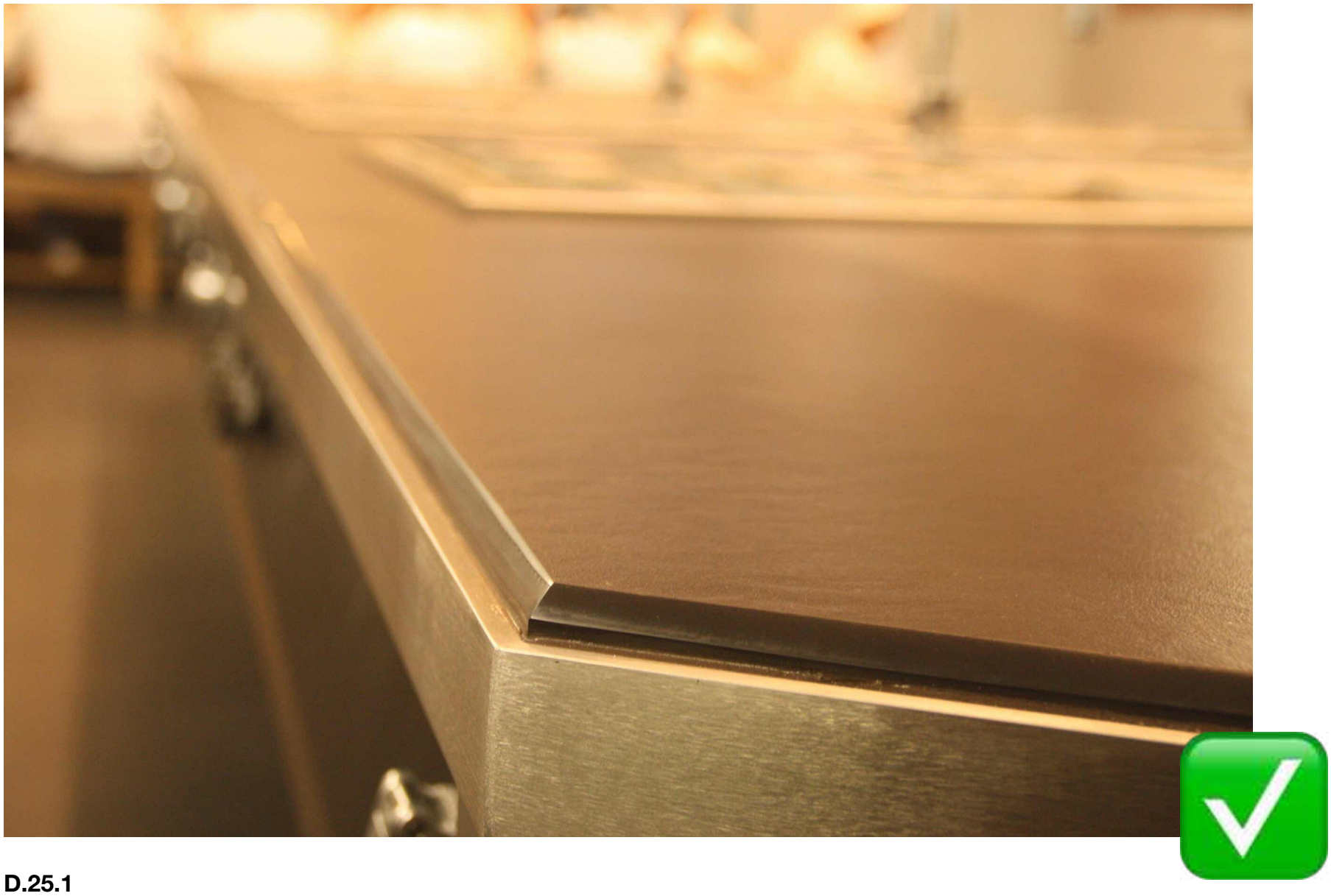
D.24.- If the corners are exposed to blows, they will then be rounded (bullnose), with a radius greater than or equal to 4/5” (2 cm).

D.24.1

D.24.2

WRONG: In this food service, the carriages carry dishes every day several times through that corridor that connects the kitchen with the different countertops. It is unavoidable that knocking occurs from top to bottom as well as down to top, so important rounding is the only preventive way to minimize damage.

D.25.- If the straight edge is not exposed to blows, the upper edge will be chamfered with a smooth, 1/25” (0.1 cm) rounding.

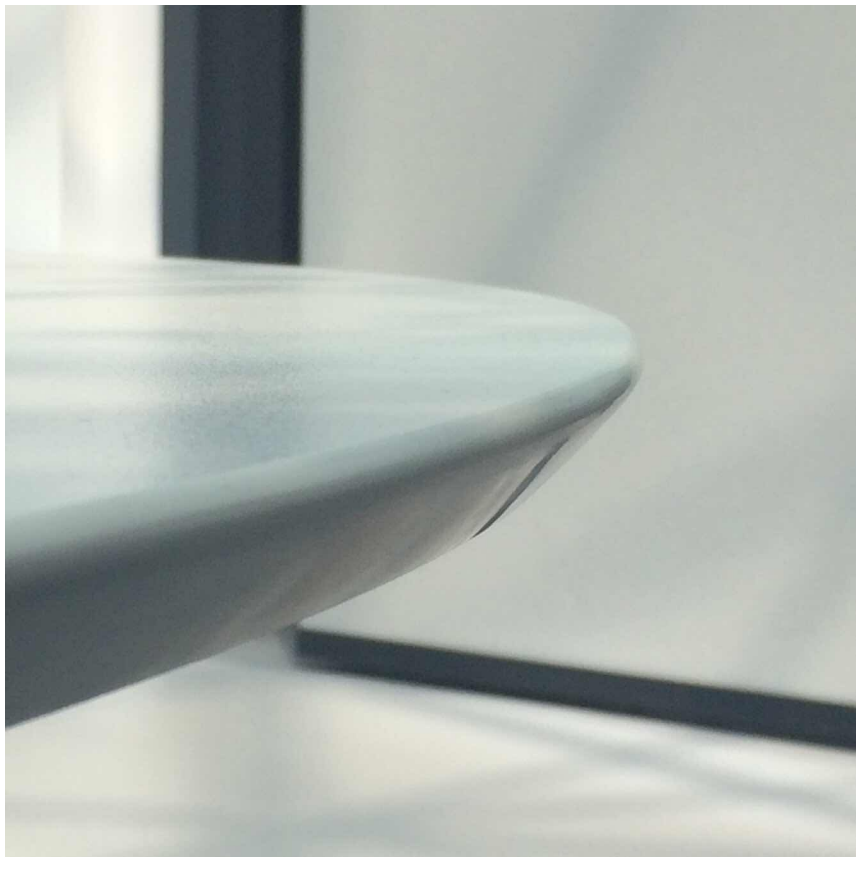


D.25.1

RIGHT: The designer has provided a perimeter frame of steel to absorb any impact and in this way has enhanced the beauty of the countertop, emphasizing the rounding of the edge with the characteristic natural brightness that is obtained in the cut.

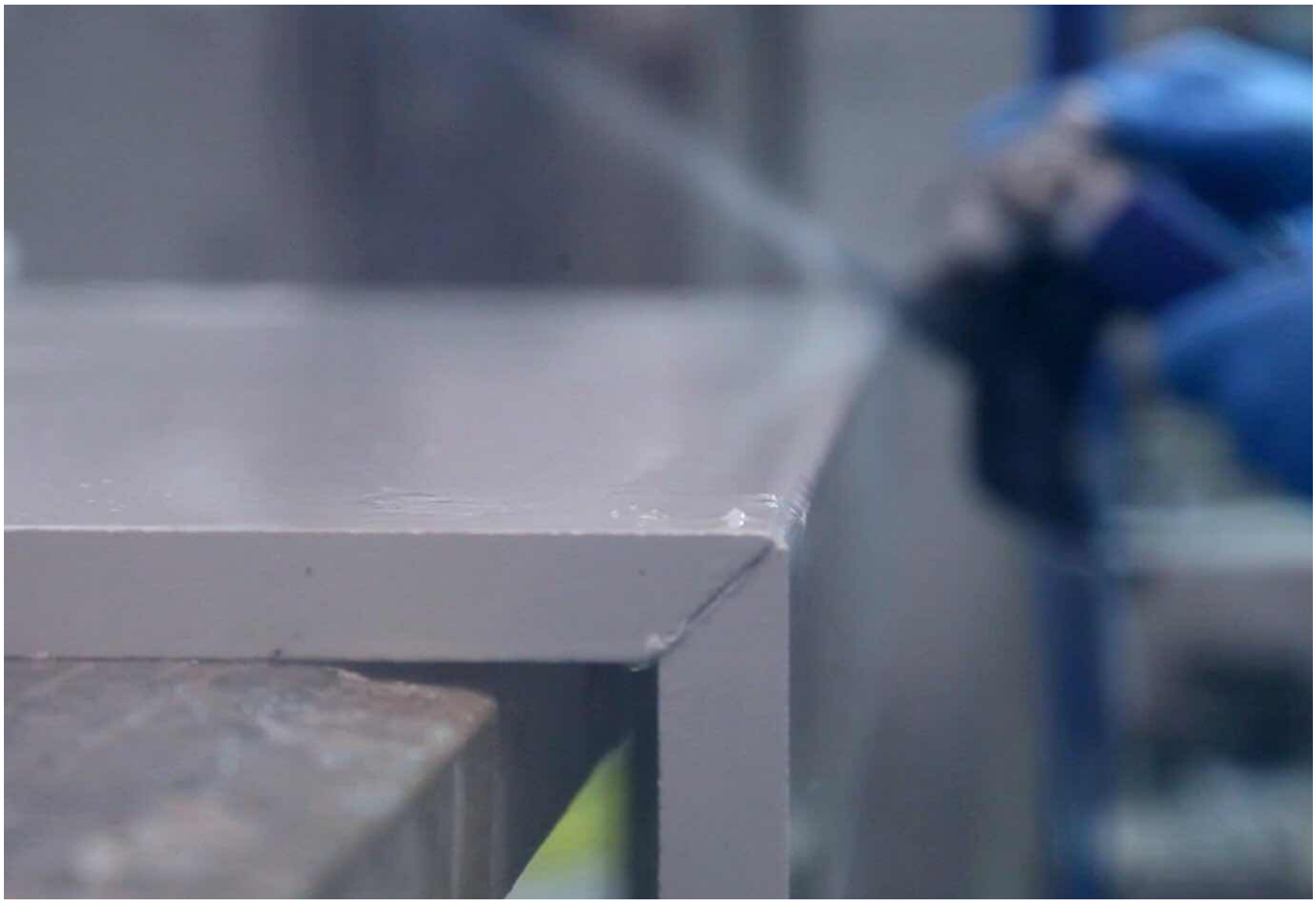
D.26.- If the corners are exposed to blows, they will be rounded (bullnose), with radius greater than or equal to 475” (2 cm).

D.26.1



D.26.2

D.27.- The front panels and miter joints shall be made with the same thickness as the countertop.



D.27.1

D.27.1

WRONG: Changes on the cut cannot happen on the edge. The countertop has to be split in two parts when there is a square corner with miter edge (see point E.12).

D.28.- The resulting joint between the countertop and front panel (or miter joint) will have a 1/25” (0.1 cm) rounded finish.

✅

D.28.1

RIGHT: Perfect example of a miter edge with a rounded finish - example of Sensa (Black Beauty Caresse).

D.29.- When the panel include cut-outs (e.g. niches for plates), Dekton 2.0 cm will be the right solution for the cladding.

D.29.1

NOTICE: The niche has been correctly solved with the same material and thickness of the countertop, but the cladding of the front is just 0.8 cm, thickness not recommended in this demanding application except that the coating is 100% bonded to a robust continuous support.

D.30.- The front panel hole corners will always have a radius greater than or equal to 1/5” (0.5 cm).

D.30.1

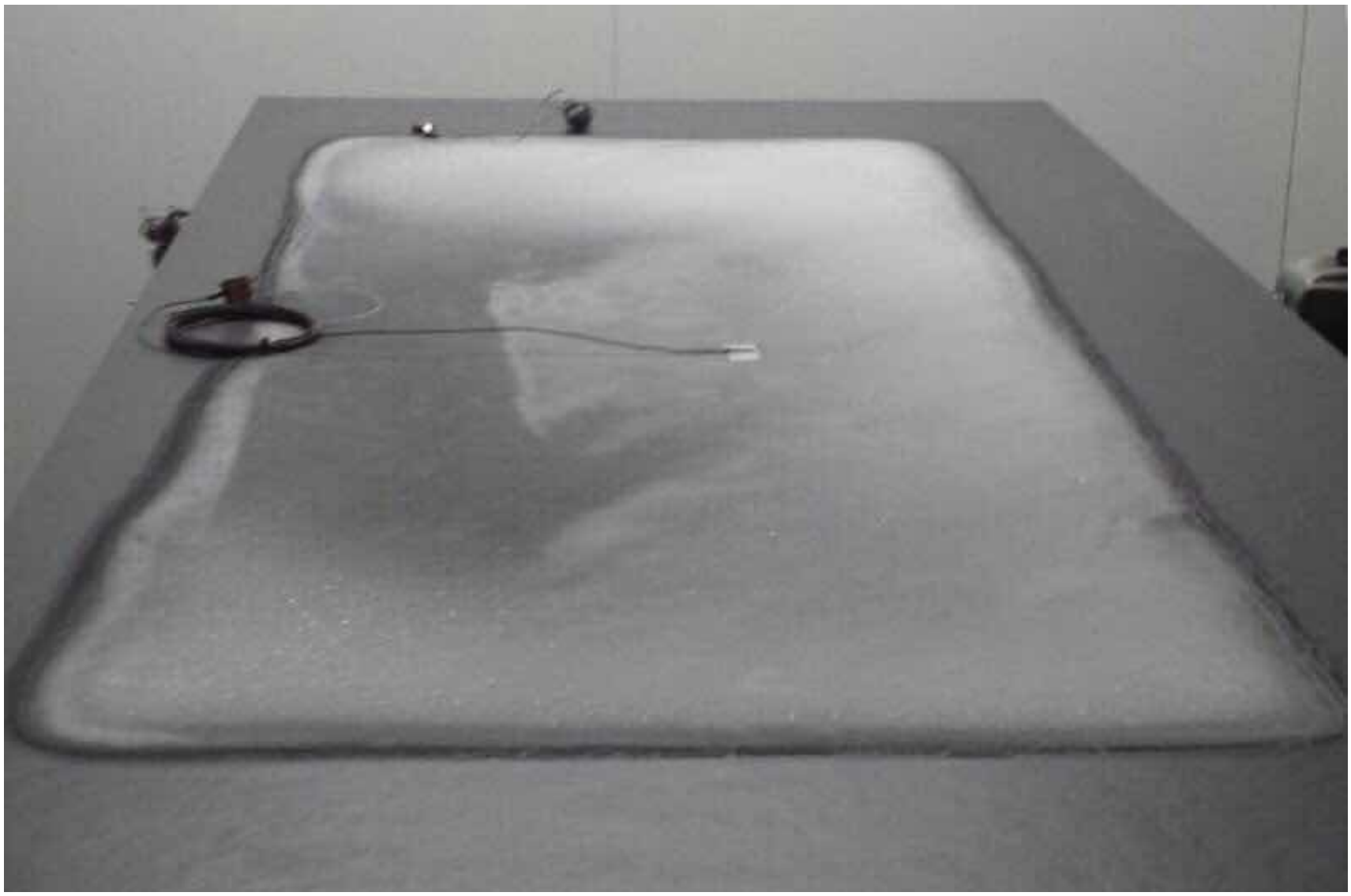
NOTICE: Inner mitering and the minimum radius at the corners of the niches are hardly compatible.

D.31.- The outer edges of the cut-outs for plate niches will be chamfered with a smooth, 1/25” (0.1 cm) rounding.

D.31.1

RIGHT: Instead of making a rounded border you can use a frame to hide it.

D.32.- The thicknesses 2.0 cm and 1.2 cm can be used to transmit cold and/or produce freezing via the material.



D.32.1

D.33.- The thicknesses 2.0 cm and 1.2 cm can be used to keep hot dishes warm, below 212 ºF (100 ºC).

D.33.1

See points U.11 and U.12 for additional explanations.

F.01.- Safety comes first. The worker will prepare Dekton pursuant to Cosentino recommedations.

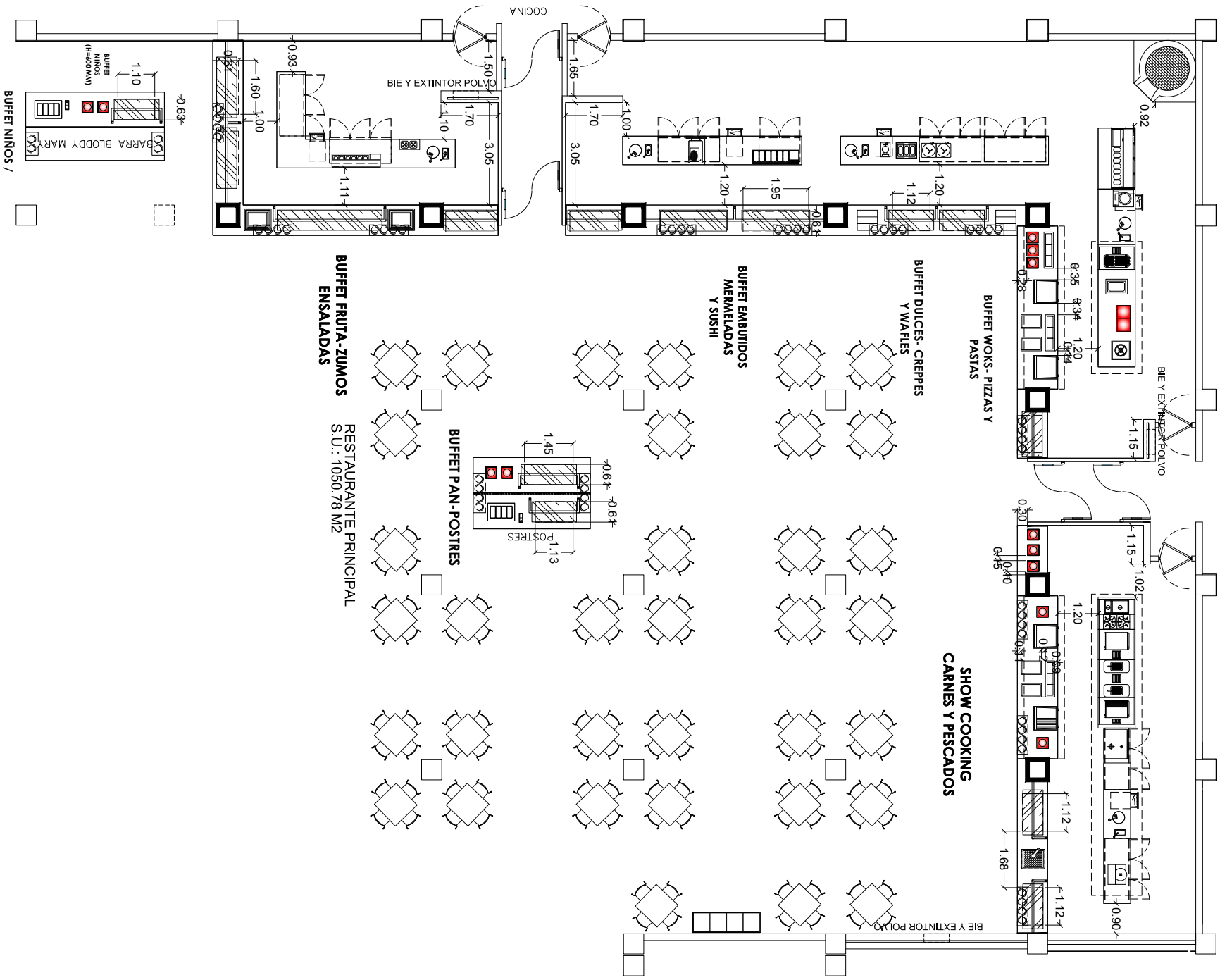
Good Practice GUIDE

For the safe fabrication of Silestone®,
Dekton®, ECO, Sensa, Scalea,
Integrity & Prexury by Cosentino®

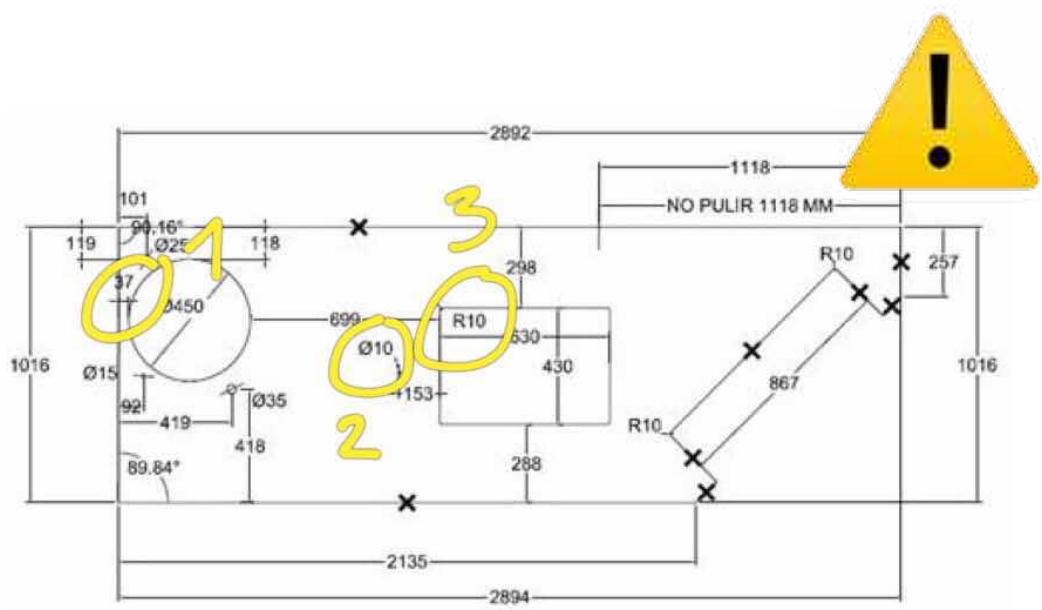
Updated with A.St.A. Europe
(Agglomerated Stone Association
of Europe)

COSENTINO®
imagine & anticipate

F.02.- It shall be verified that all the indications set forth in “design parameters” in the plans provided by the planner are met.



F.02.1



F.02.2

NOTICE: 1) this sink cut-out does not meet the minimum distance to the edge. 2) this drill hole has a diameter less than the recommended minimum. 3) The corners of this cut-out for a hot appliance have a radius less than the recommended minimum.

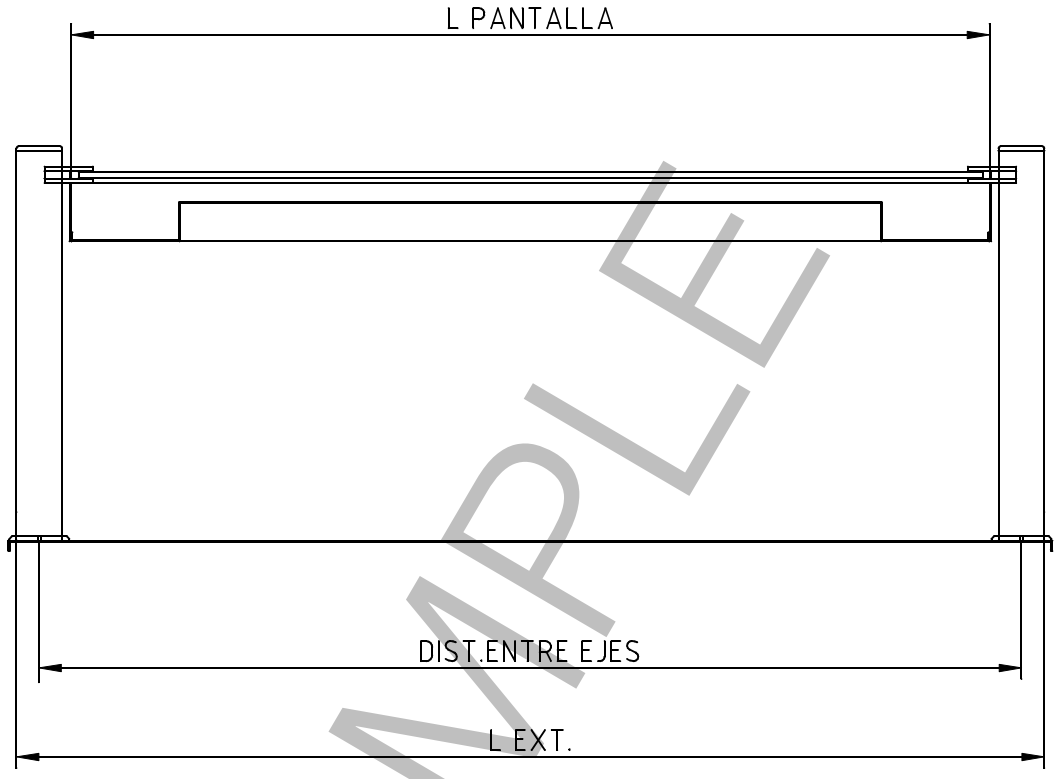
F.03.- The presence of structural elements such as pillars or other obstacles, which affect production, will be revised.

F.03.1

F.03.2

NOTICE: The cut between the two pieces of the buffet should be done taking advantage of the side of the pillar. Therefore check the actual dimension under the steel cladding, respect the minimum radius at the other corners and think how that metal element rests above and below.

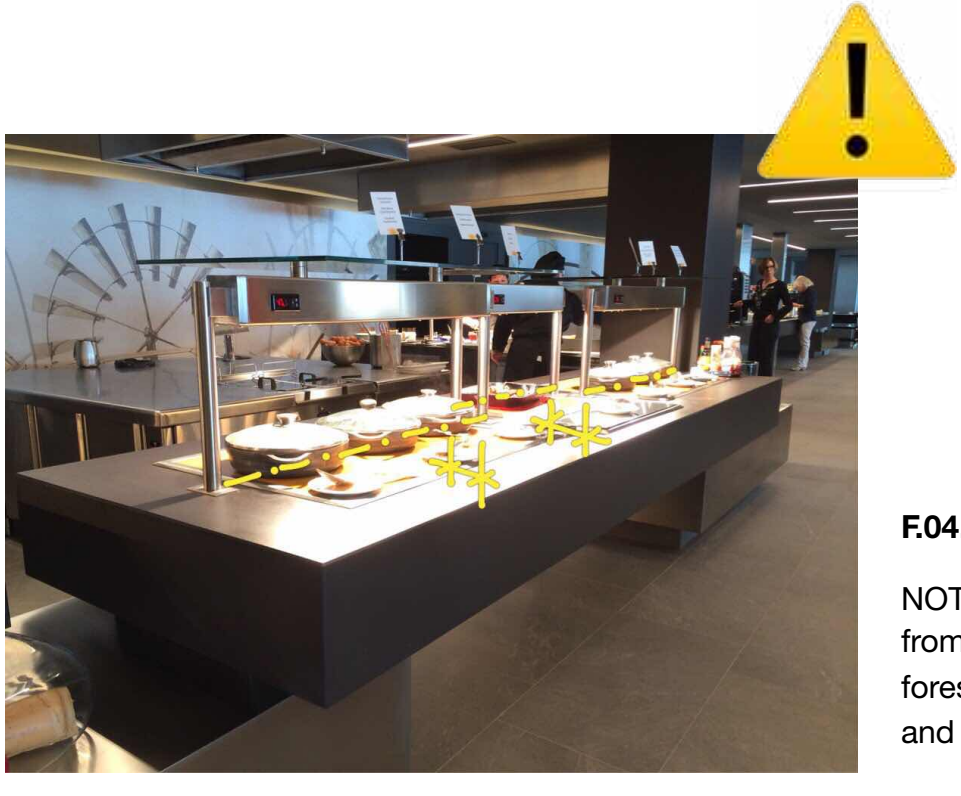
F.04.- Distances between drill holes will be checked with the frame manufacturer to make sure they match the planned lamps.



DIMENSIONES PANTALLAS SELF-SERVICE			
MODELO	L PANTALLA(mm)	L EXT.(mm)	DIST.ENTRE EJES(MM)
SPLS-3GN	1025	1147	1097
SPLS-4GN	1425	1547	1497
SPLS-5GN	1825	1947	1897
SPLS-6GN	1975	2099	2147

DIMENSIONES PANTALLAS DROP-IN			
MODELO	L PANTALLA(mm)	L EXT.(mm)	DIST.ENTRE EJES(MM)
PL-2GN	649	771	721
PL-3GN	979	1101	1051
PL-4GN	1304	1426	1376
PL-5GN	1629	1751	1701
PL-6GN	1989	2113	2063

F.04.1



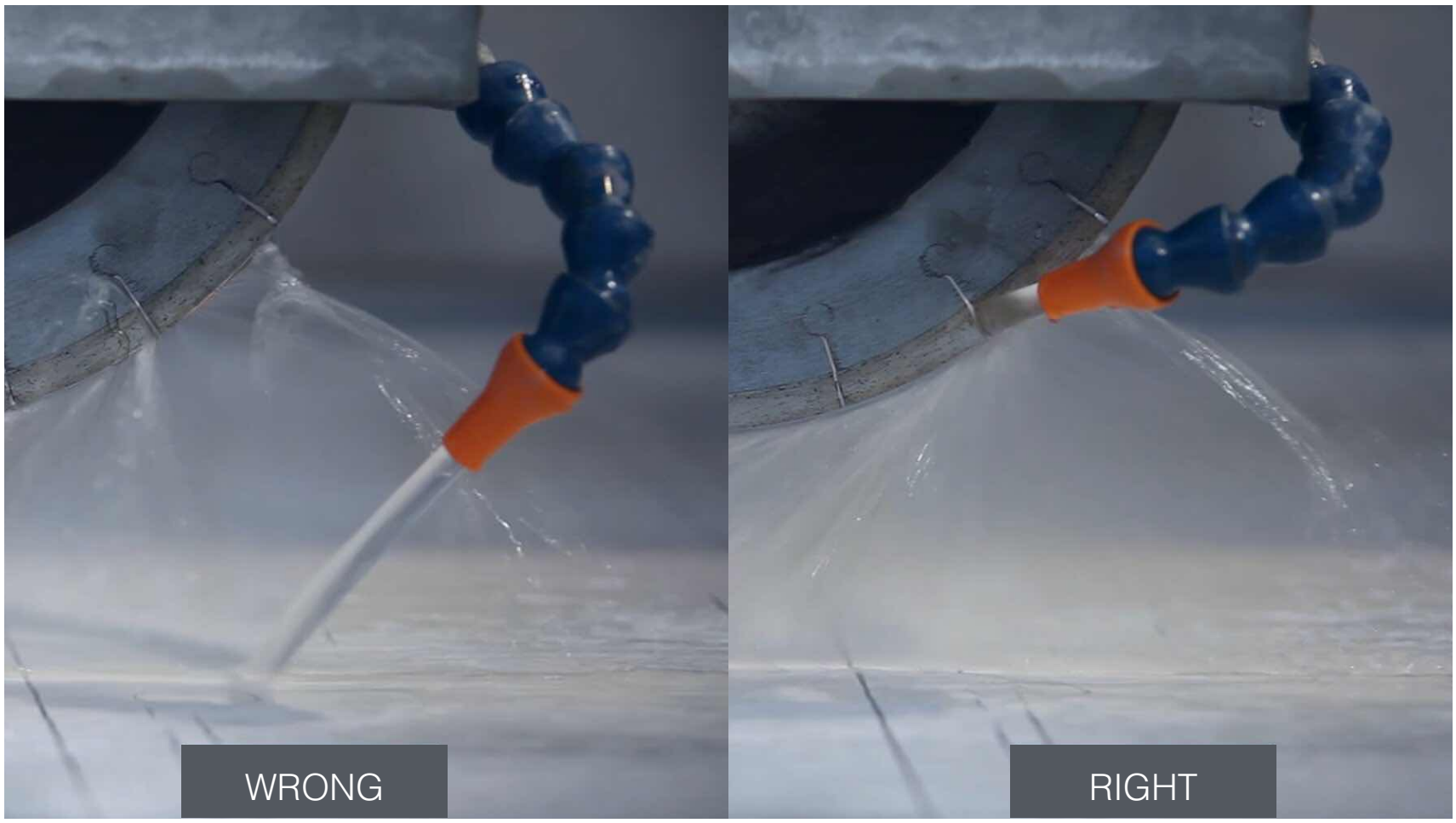
F.04.2

NOTICE: The design of the food service must include from the outset the models of lamps and dimensions foreseen, to be able to realize the drills in the fabricator and to guarantee a correct execution of them.

F.05.- It shall be confirmed with the frame manufacturer that the cut-outs have sustained lower support on the 4 sides

F.05.1

F.06.- All the fabrication works (such as cutting, drill holes, chamfering and rounding) shall be done with water input.



F.06.1

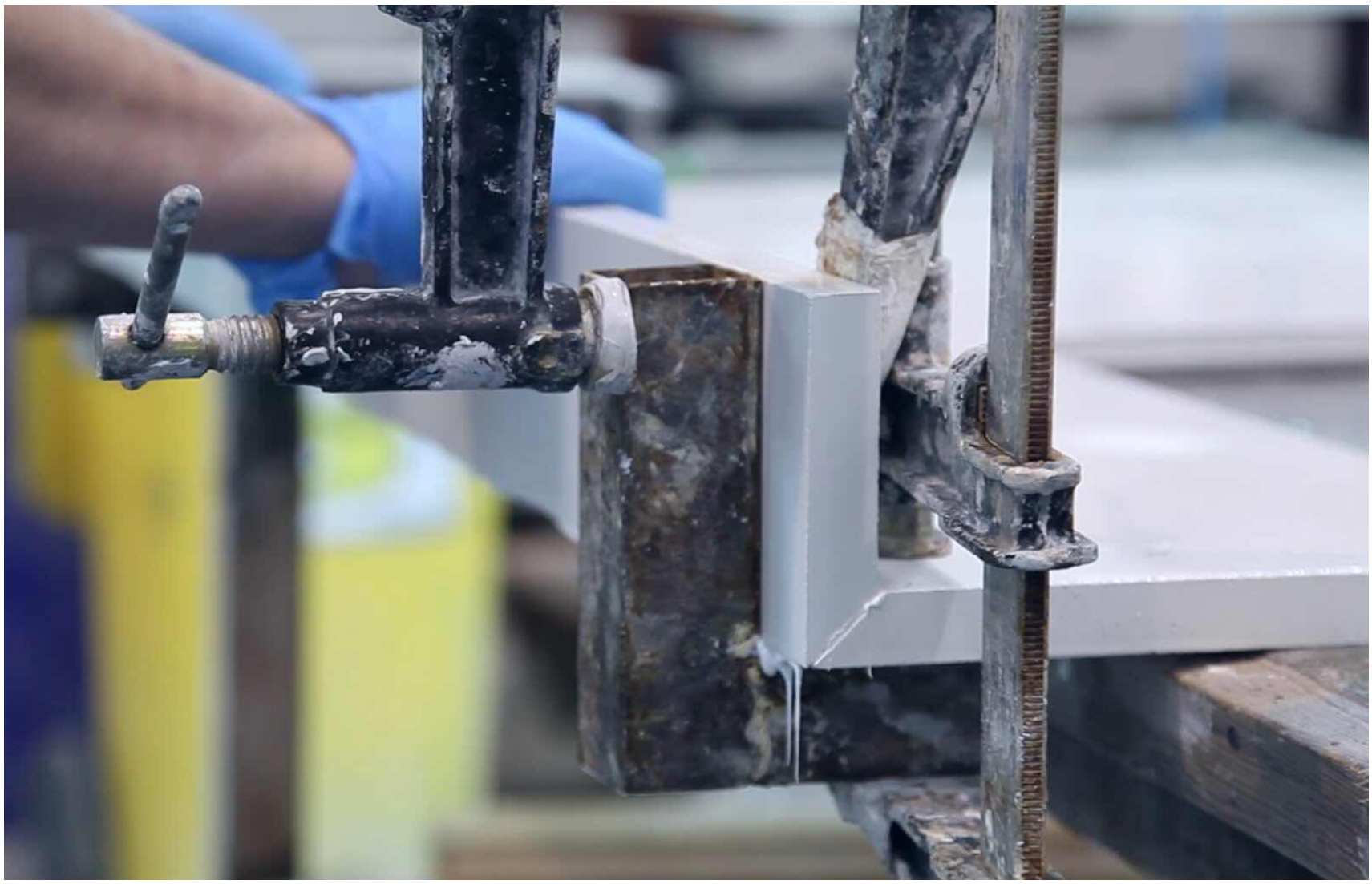
F.07.- All slabs shall be trimmed 3/5” (1.5 cm) off on their 4 sides to release its internal stress, before doing any fabrication work.

F.07.1

F.08.- All the pieces that make up a countertop will be cut to size by a fabricator trained by Cosentino.

F.08.1

F.09.- All the side skirts and miter joint pieces will be made in the same way as the countertops.

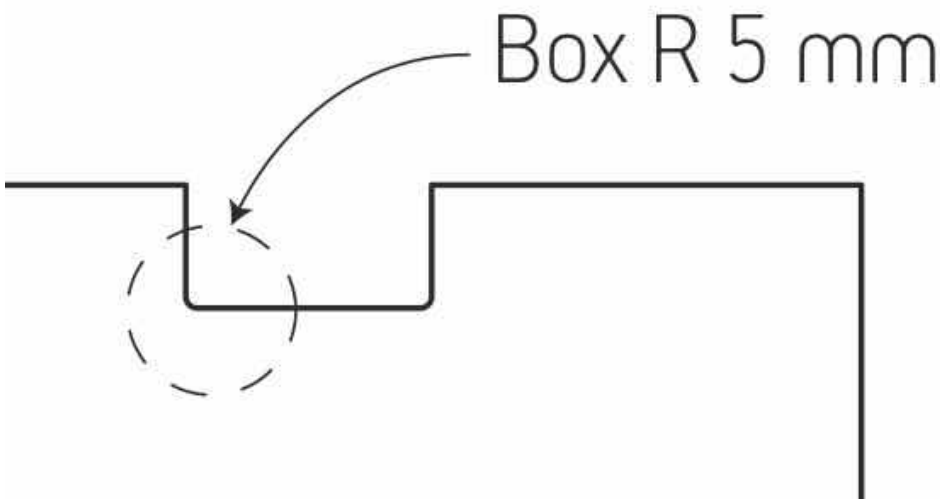


F.09.1

F.10.- The straight cuts and changes of direction will have a clean finish (without chips).

F.10.1

F.11.- The internal corners anc cut-outs due to pillars and ostacles, will have a minimum radius of 1/5” (0.5 cm).



F.11.1

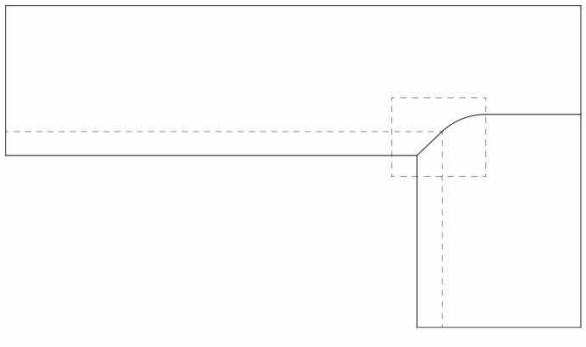
F.11.2

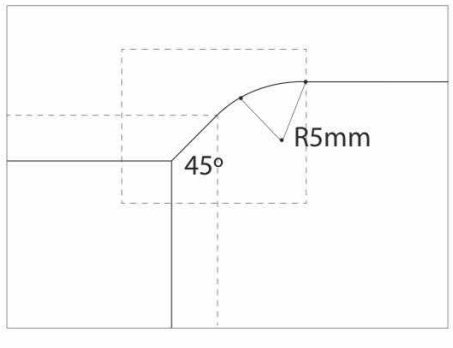
WRONG: The interior corner does not include radius and the countertop is embedded under the pillar, limiting the natural free movement of expansion and contraction needed by the frame and therefore the countertop.

F.12.- The internal corners will have a straight cut; if miter joints are performed, it must be cut into two parts and the joint placed there.

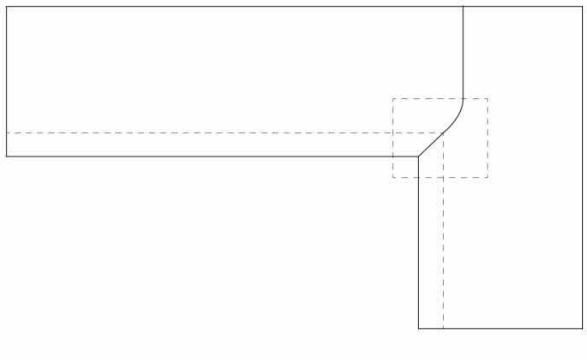
F.12.1

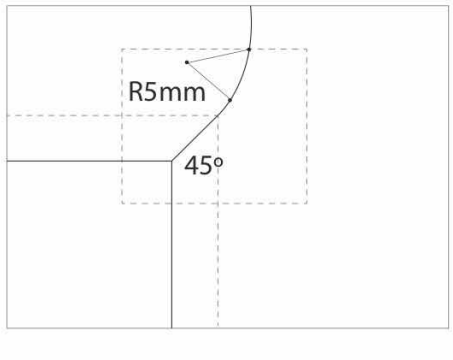
OPTION A





OPTION B





F.13.- This shall be done pursuant to the guidelines established in the training by the Cosentino Quality team.

F.13.1

F.14.- The hole drill shall be done with CNC, Waterjet or with standard core drills cooled with water, never with drill bits.

F.14.1

F.15.- The core drills shall be sharpened every 4 uses to prevent chips on the lower edge of the countertop.

F.15.1

F.16.- A single hole shall be made to support the lamps, with sufficient diameter for the screws and wiring.

F.16.1

F.16.2

WRONG: Although the cut is impeccably solved and allows the passage of two screws of a lamp in a single drill hole, the width of the drill is equal to the metric of the through rod, an undesirable condition for the proper functioning of the countertop. The correct way to do this is shown in M.14 and following points.

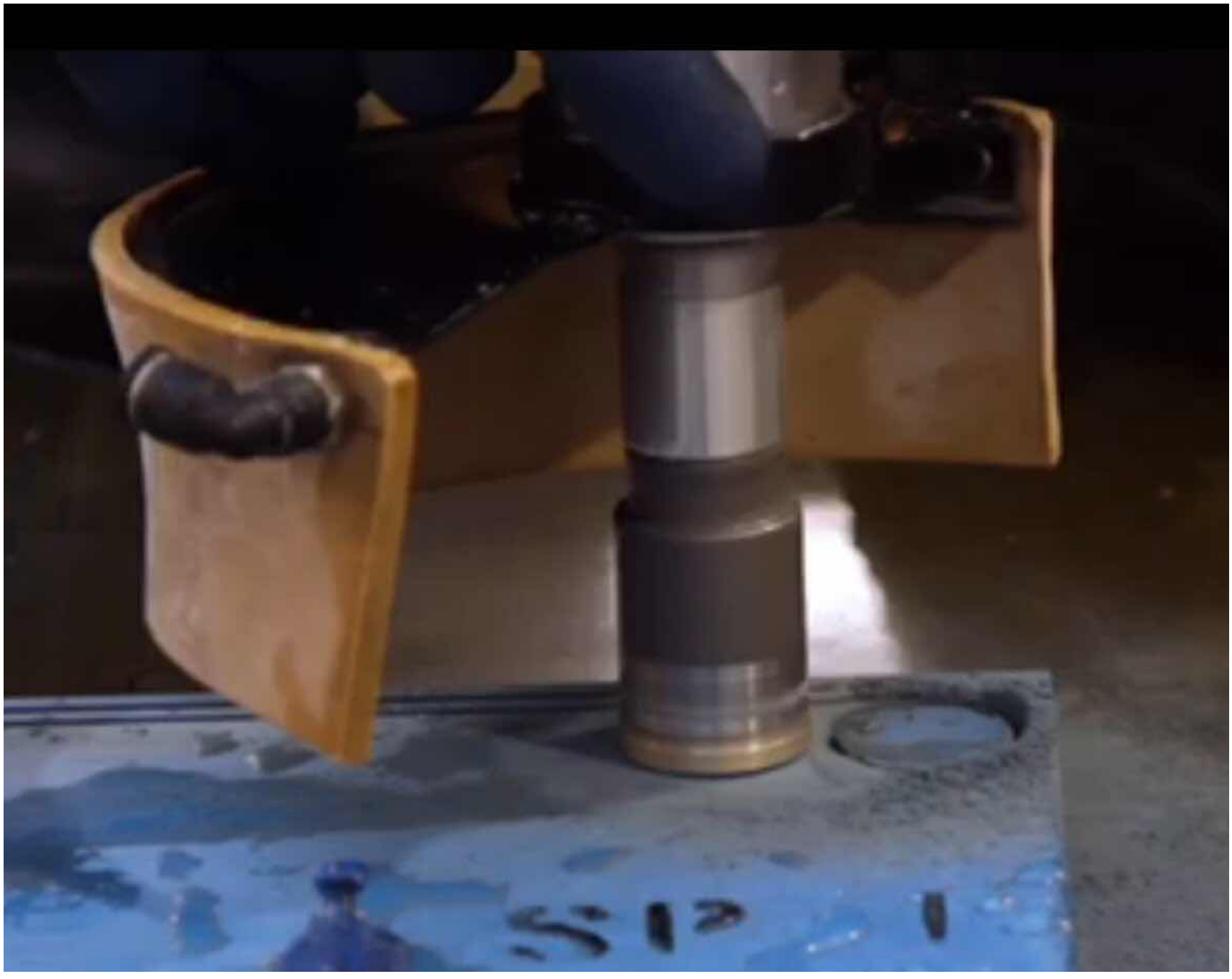
F.17.- The holes shall be made pursuant to the guidelines established in the training by the Cosentino Quality team.

F.17.1

F.18.- The holes shall be made with CNC, Waterjet or with standard bit drills cooled with water.

F.18.1

F.19.- The core drills shall be sharpened every 4 uses to prevent chips on the lower edge of the countertop.



F.19.1

✅

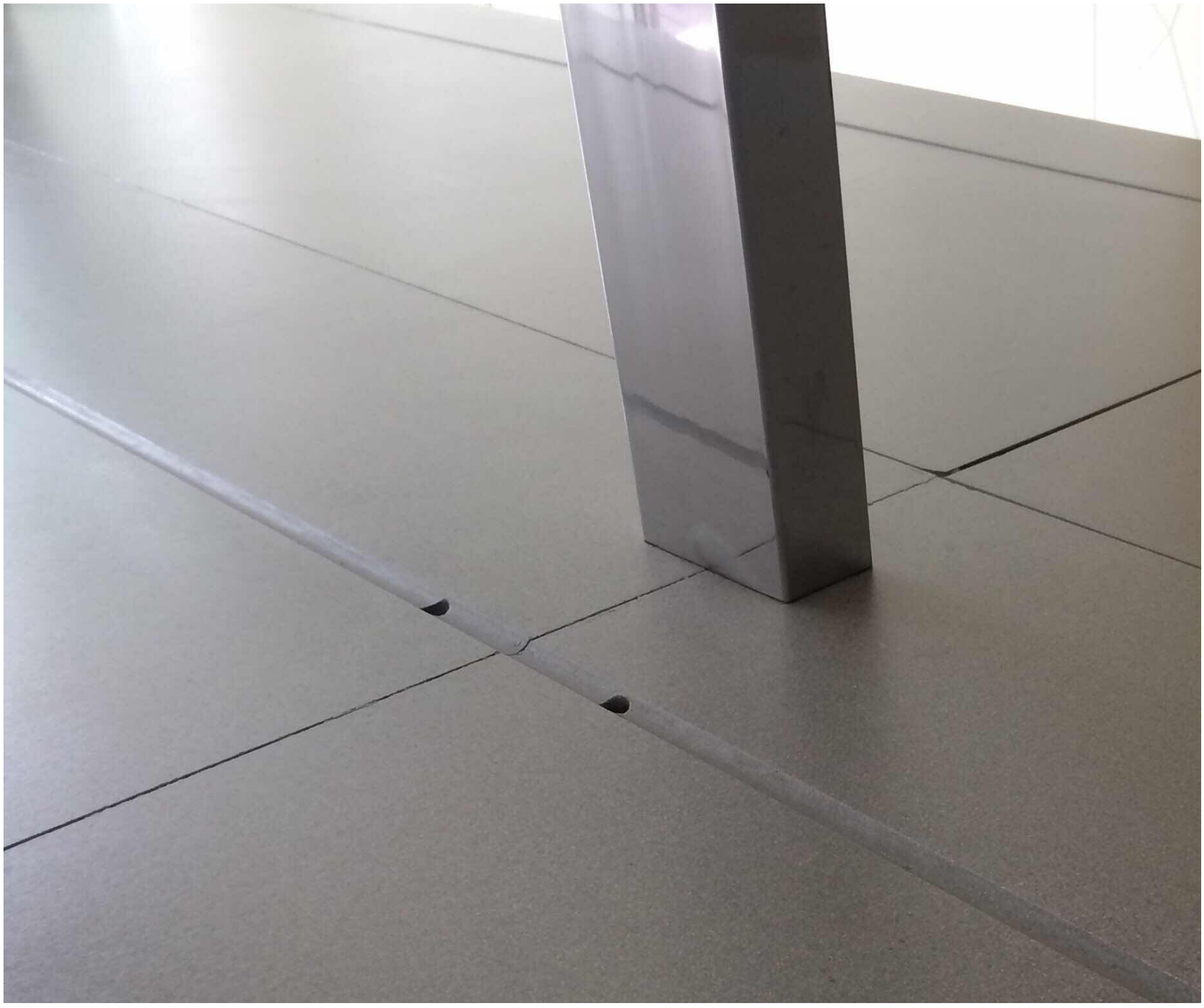
Sharpening Stone for diamond tools

Tyrolit sharpening stone.

- Abrasive tool with organic aglomerate for sharpening different materials.
- Size: 55 x 25 x 320mm.

SAP CODE 323274

F.20.- The holes shall always be in view. They may be covered but cannot be used to fasten food service elements.



F.20.1

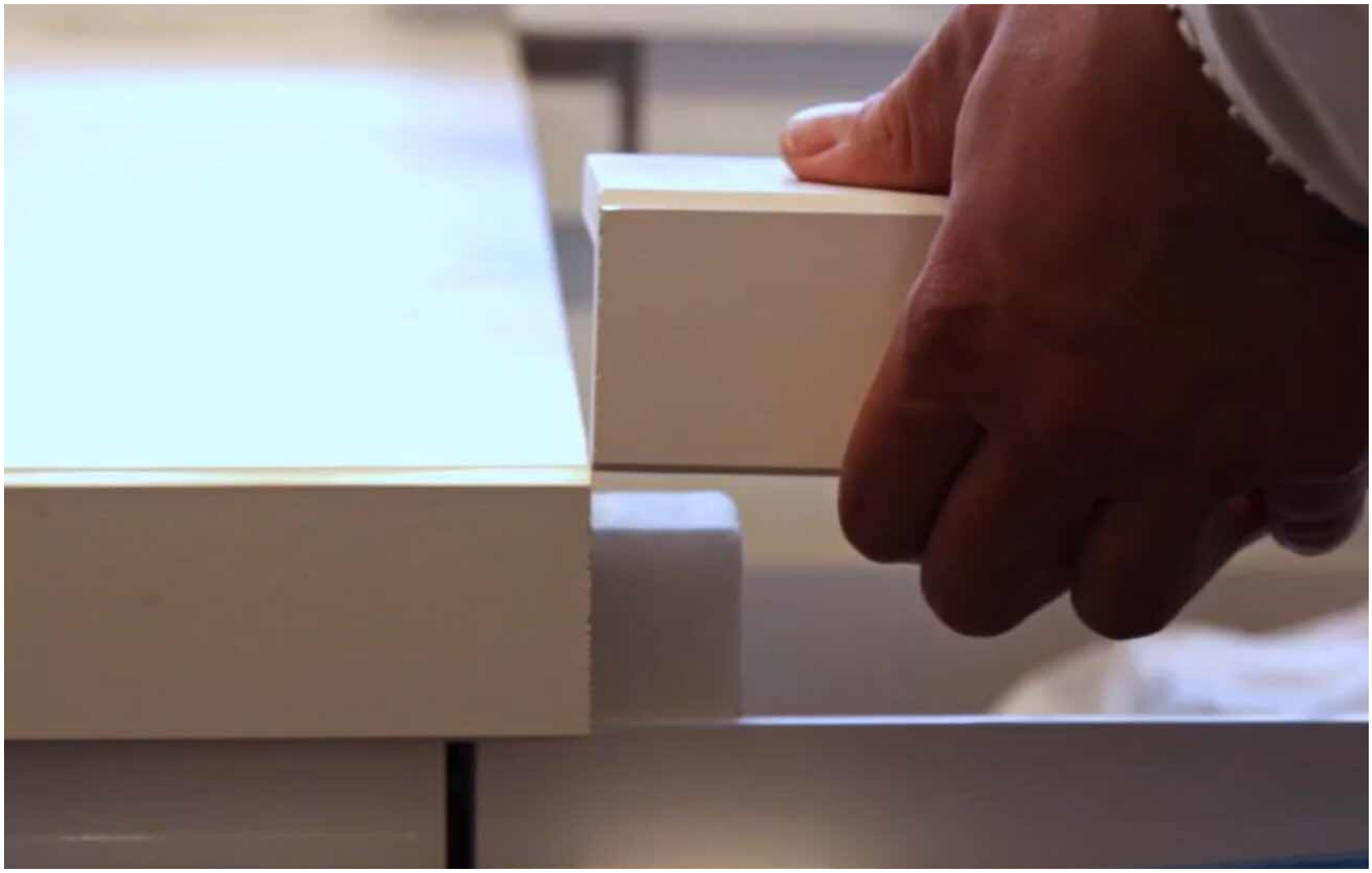
F.21.- The Color ON shall apply for the notches to highlight the color and enhance possible micro-roughness after fabrication.

F.21.1

F.22.- Applying the Color ON to visible edges exposed to water (e.g. sinks) is recommended.

F.22.1

F.23.- The products approved in the training by the Cosentino Quality team shall be used for joints.



F.23.1

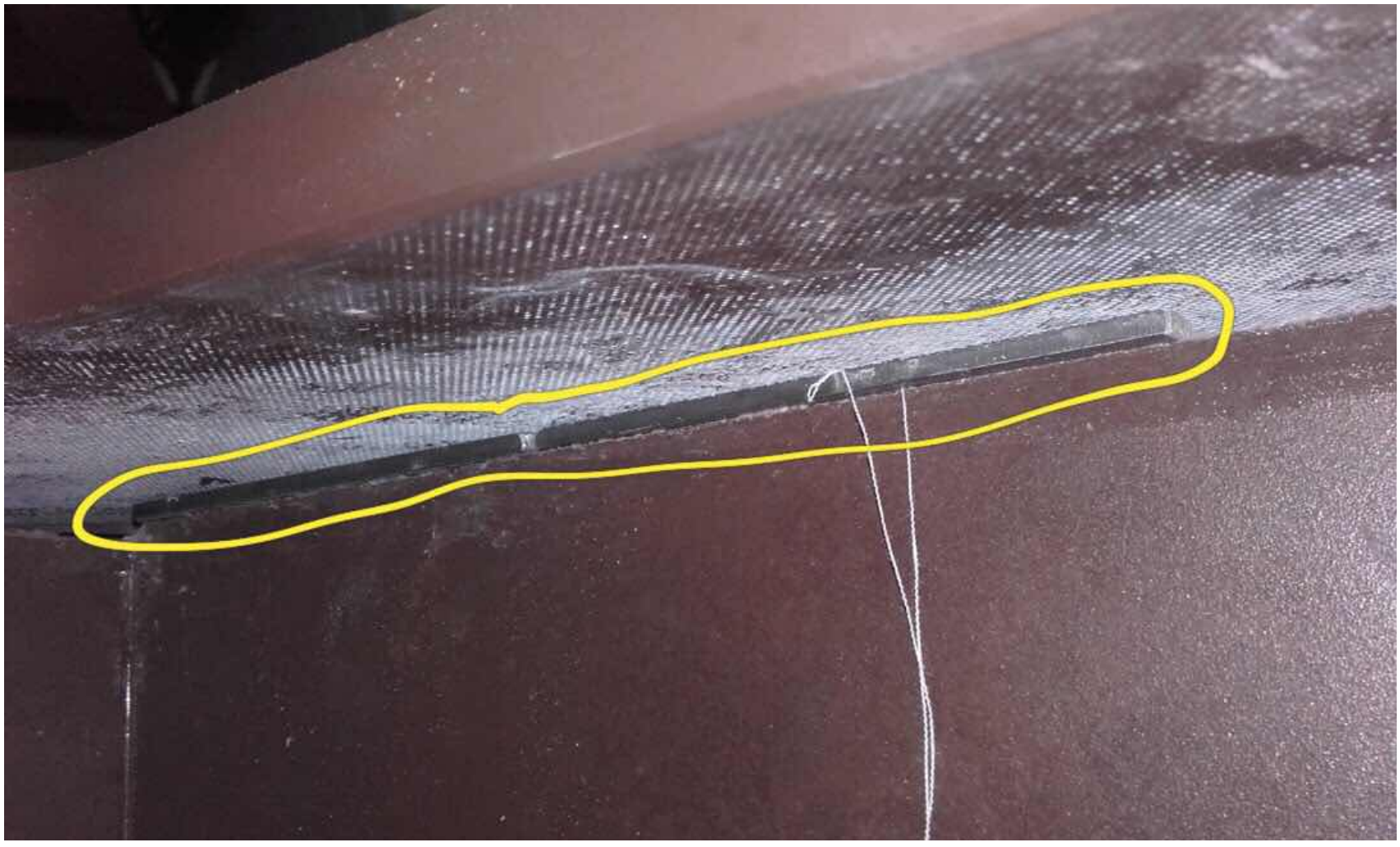
F.24.- For reinforcing miter joints, resin-free strips made of firm materials (e.g. Dekton or granite) could be used.

F.24.1

F.25.- Reinforcements with firm materials (e.g. Dekton or granite) will be used, but never Silestone or other flexible materials.

F.25.1

F.26.- Do not use silicone cords to fix defective bearings. Use metal plates or neoprene strips.



F.26.1

IMPROVEMENT OF THE SUPPORT: in repairs of food services where modifying the frame is not viable, it is advisable to fragment the countertop by means of joints and to introduce solid metallic profiles of length greater than 6" (15 cm), that provide enough rigidity and continuous support.

F.26.2

WRONG: The fixing of the lamp is not the recommended one and the support below is not working because the cord of silicone does not help. This product is flexible and will not help when there is any effort therefore the countertop will have to resist as if it were an overhang.

F.27.- Cold plates can be made with 0.8 cm (without notches), 1.2 cm or 2.0 cm spare parts.

F.27.1

F.27.2

RIGHT: Countertop and surround have continuous support and the hot appliance has its own stand on all four sides.

F.28.- Hot plates can be made with 1.2 cm or 2.0 cm spare parts.

F.28.1

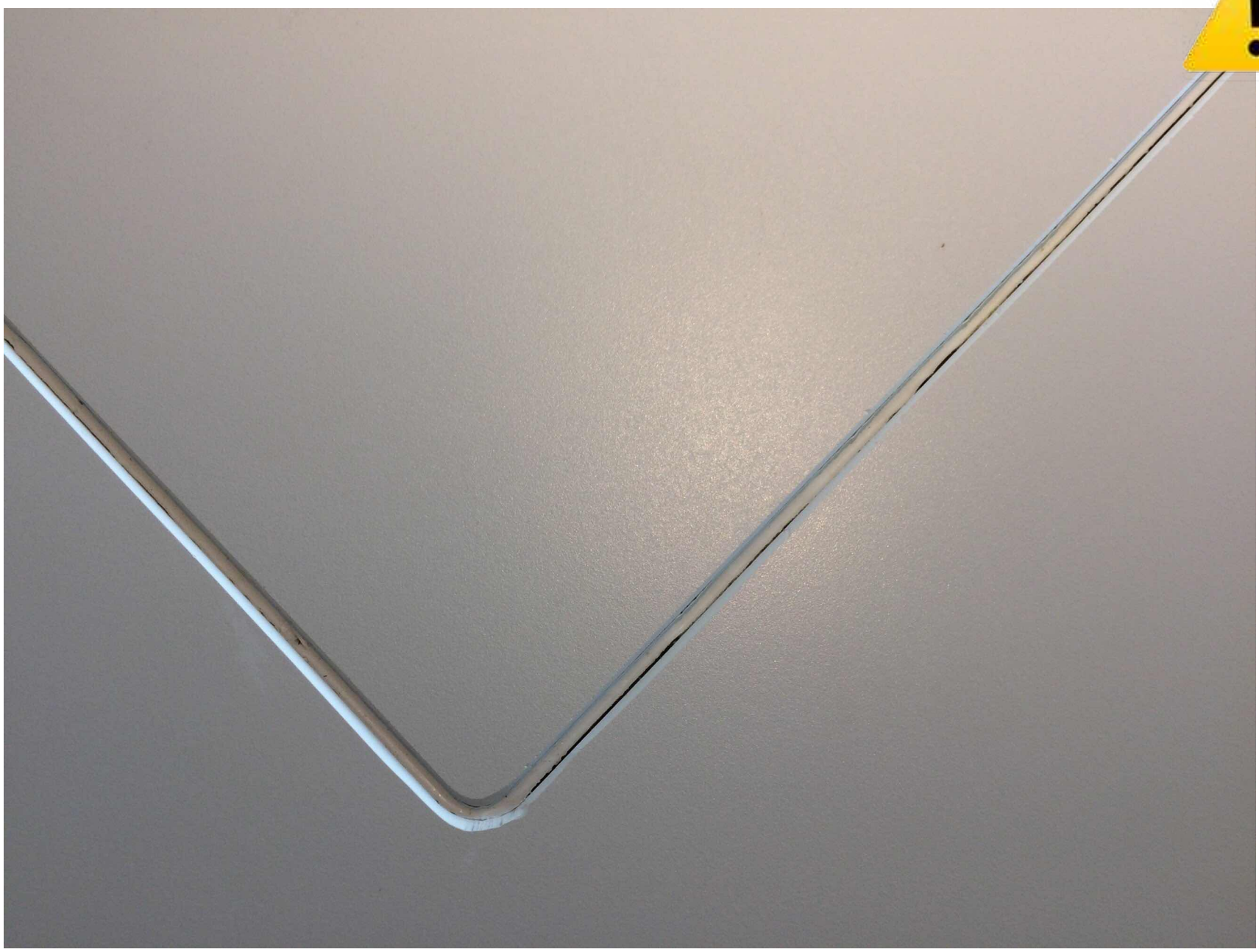
F.28.2

BIEN: As the heat transfer underneath is made with silicone sheets of minimal weight, earmuffs of the Dekton material itself are made as a support for the hot plate.

F.29.- The client will be informed that if the plate is not made from cut-out, perhaps the tone might be slightly different.

F.29.1

F.30.- A clearance of at least 1/5” (0.5 cm) shall be left between the hole and the part used as a cold/hot plate.

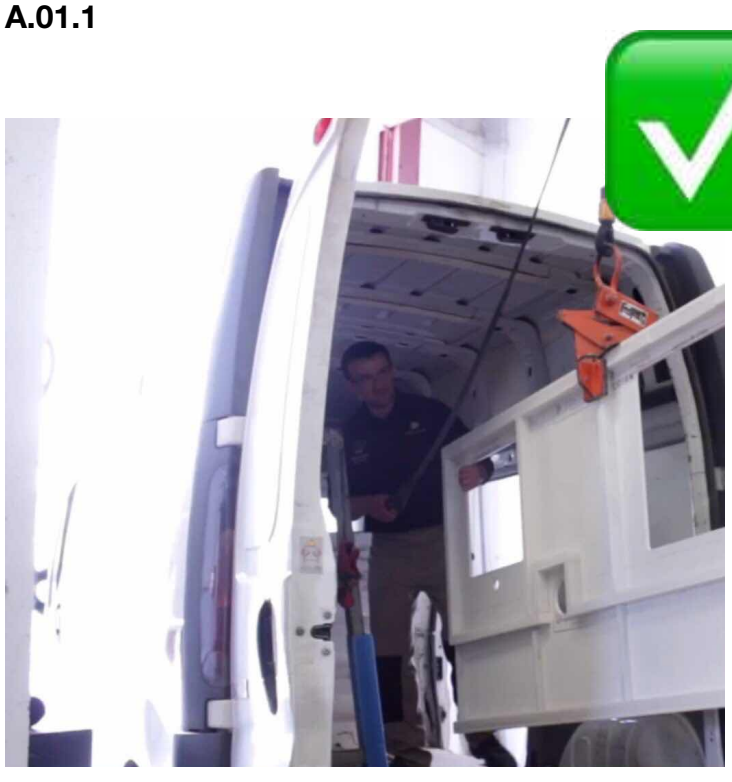


F.30.1

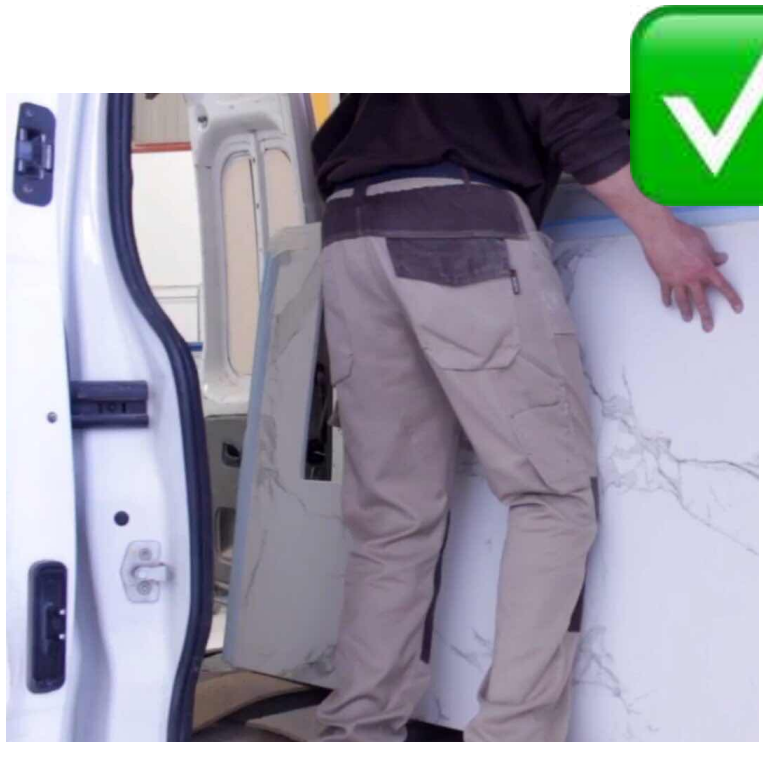
NOTICE: The material to seal the joint must be elastic to absorb the minimum dimensional variations due to expansion / contraction of the cold / hot plate and possible minimum vertical seats proper to the use, as well as to withstand cold temperatures that can reach the -22/-40 ºF (-30/-40 °C) and / or 158/176 ºF (70/80 °C). In this way, the bad impression produced by the gaps between plate and countertop are avoided, as well as the possible hygienic problems caused by the accumulation of grease and organic waste.

A.01.- The parts will be transported in vertical position.

A.01.1



A.01.2



A.01.3

A.02.- The loose arms and irregular shapes with vast length or reduced width will be reinforced for transportation.

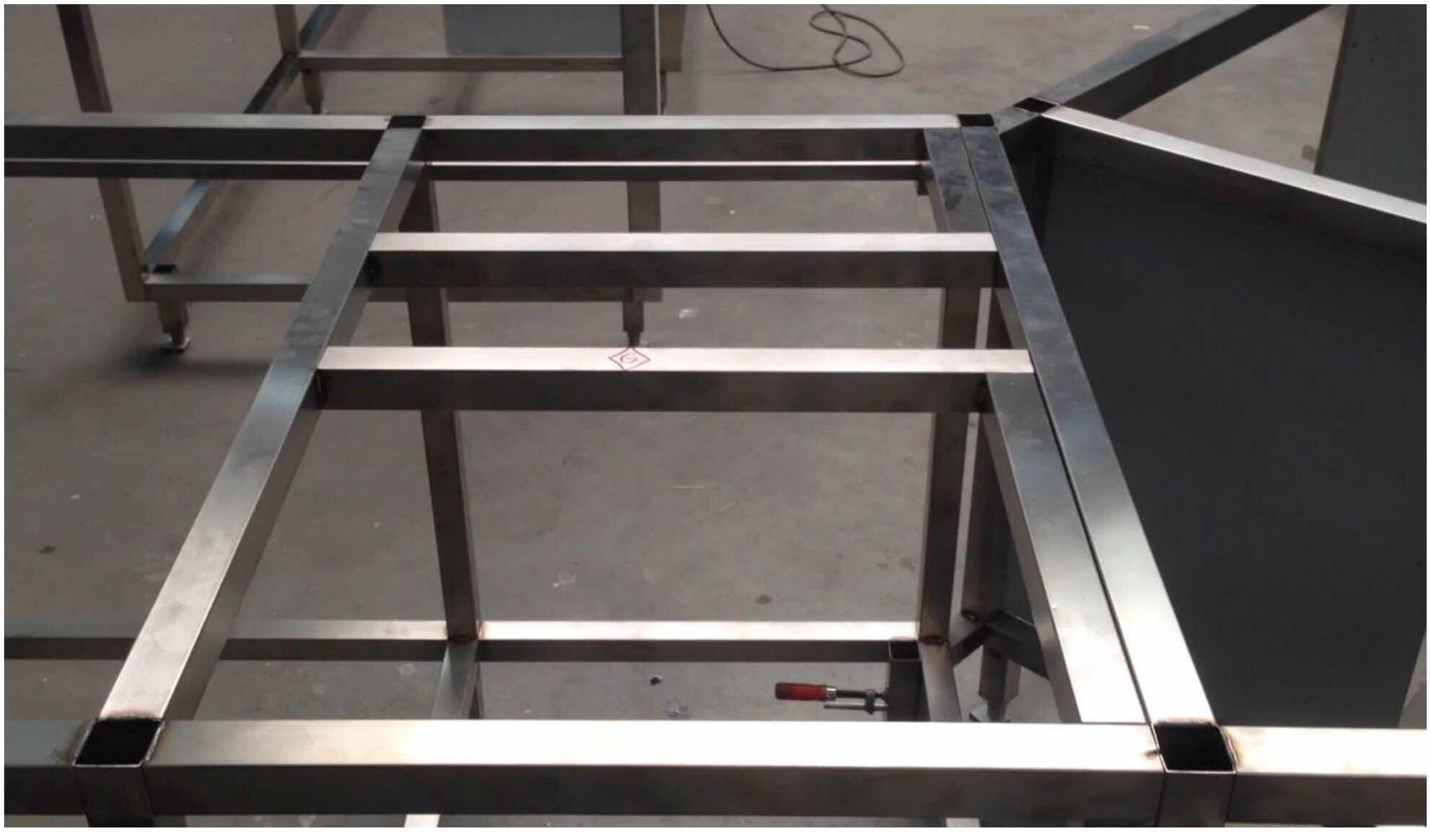
A.02.1

A.03.- The edges and corners will be protected with corner protectors during transportation.

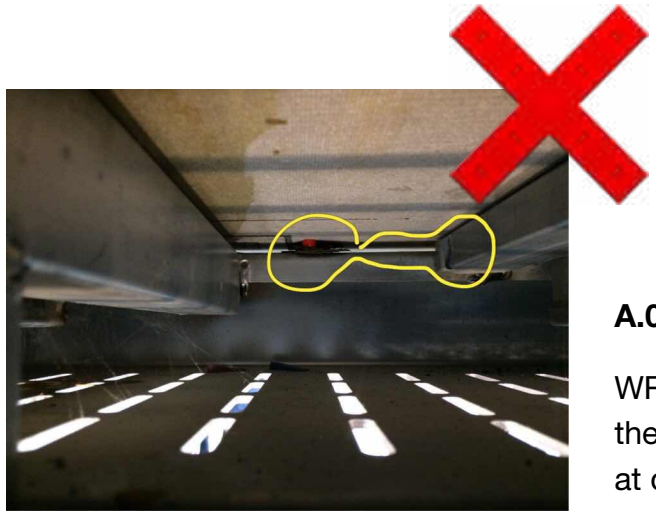
A.03.1

A.03.2

A.04.- All the upper profiles of the metal frame will be at the same level to provide sustained support for the countertop.



A.04.1

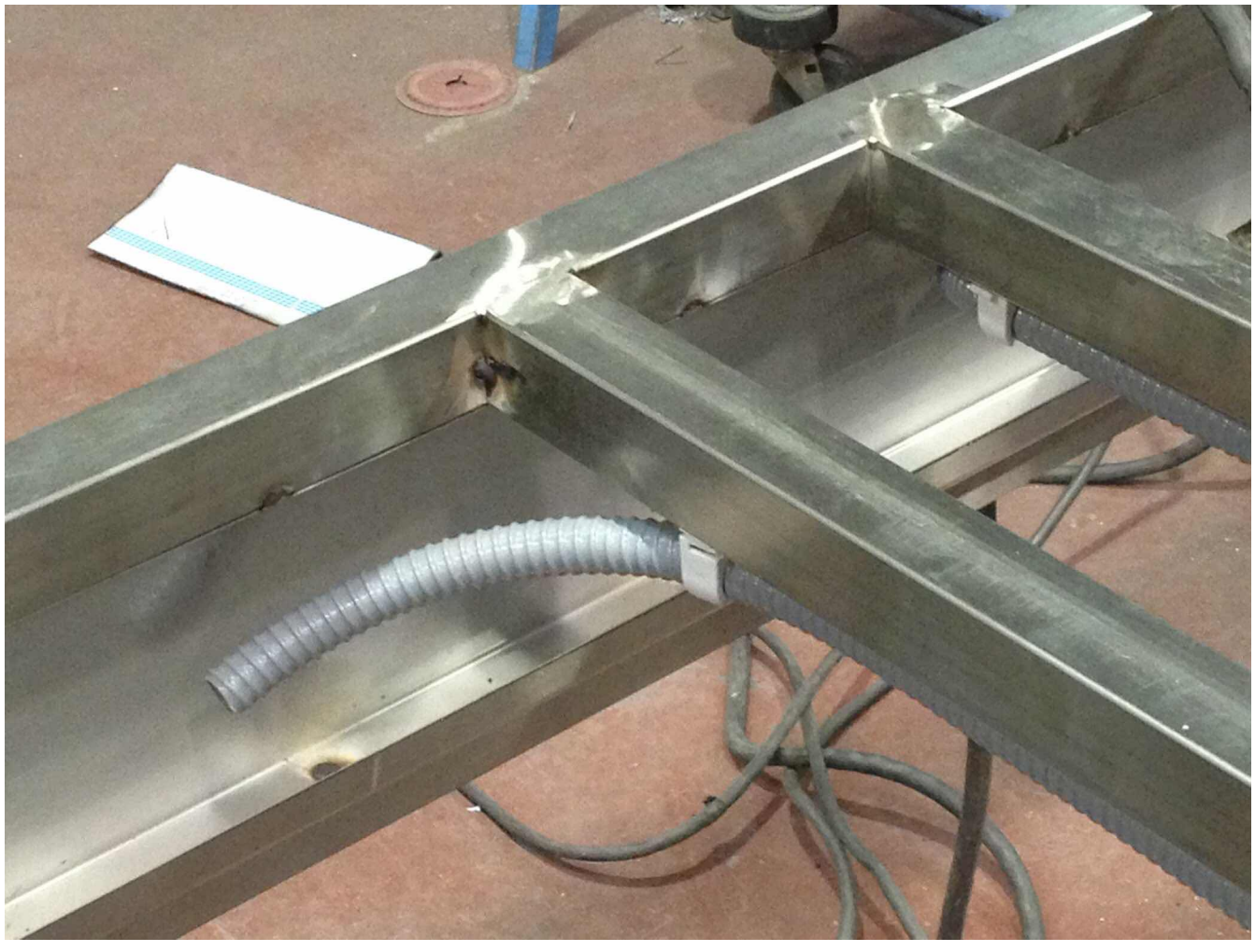


A.04.2

WRONG: Do not use of a small piece (e.g. cylindrical block) to compensate the camera created under the countertop by having the profiles of the frame at different heights.

A.05.- The welds for meetings between profiles will be perfectly sanded (without chips or spikes).

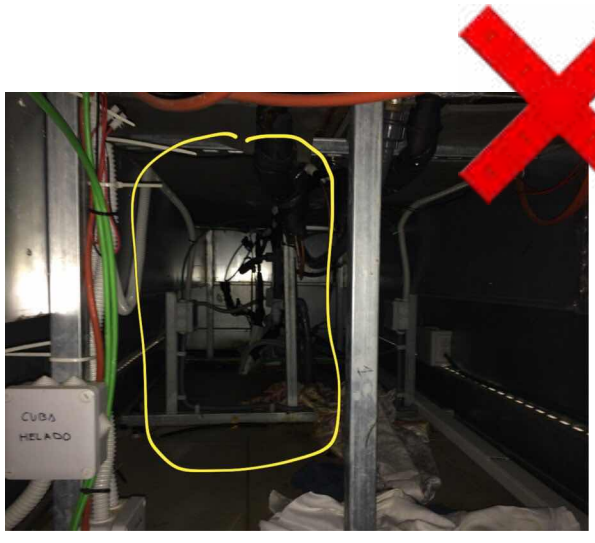
A.05.1



A.05.2

A.06.- The frame shall consist of “boxes” that guarantee the stability of the ensemble, with openings not exceeding 1 m.

A.06.1



A.06.2

WRONG: The transverse frames are only present in the central body. The lower profiles rest directly on the floor, without longitudinal frames that hold them, absorbing and transmitting to the countertop the possible deformations of the chassis and / or floor.

A.07.- The frame will have mechanisms to adjust, on the job, ground irregularities and to maintain sustained support.

A.07.1

A.08.- Cupping systems will be used to horizontally move the parts including holes.

A.08.1

A.09.- The countertop will be directly supported on the frame, a continuous panel/plywood, an elastomer or neoprene.

A.09.1

A.10.- The joints between parts can be made on-site using leveling tools that adequately tighten.

A.10.1

✅

Perfect Seams

Semi-automatic machine for joining and levelling two pieces.

- Saves on installation time.
- Avoids unlevel or open joins.
- Can be electrically, battery or manually operated.
- Can also be used for laying floors and affixing wall panelst.

SAP CODE 901563

A.11.- Mastidek will be used for joints made on-site.

A.11.1

MastiDek Gun

Bi-components putties' gun.

- Gun that is valid to all Bi-components sizes.

MastiDek

Bi-component putty specially designed for gluing Dekton material.

- For indoor and outdoor use.
- Superior mechanical properties.
- Coloured version valid for Dekton colours.
- For mixing in the container.
- Applied directly from the containe.

A.12.- There will be sustained support under the part joints, either from the frame itself, or this will be dealt with on-site.

A.12.1

WRONG: When the frame has discontinuous support, the installer has to improvise solutions (eg punctures) that means false remedies and obligues the countertop to support all the weight alone without the frame.

A.13.- The cut-outs of sizes exceeding 5” x 5” (25x25 cm) will have sustained support below the 4 sides.

A.13.1

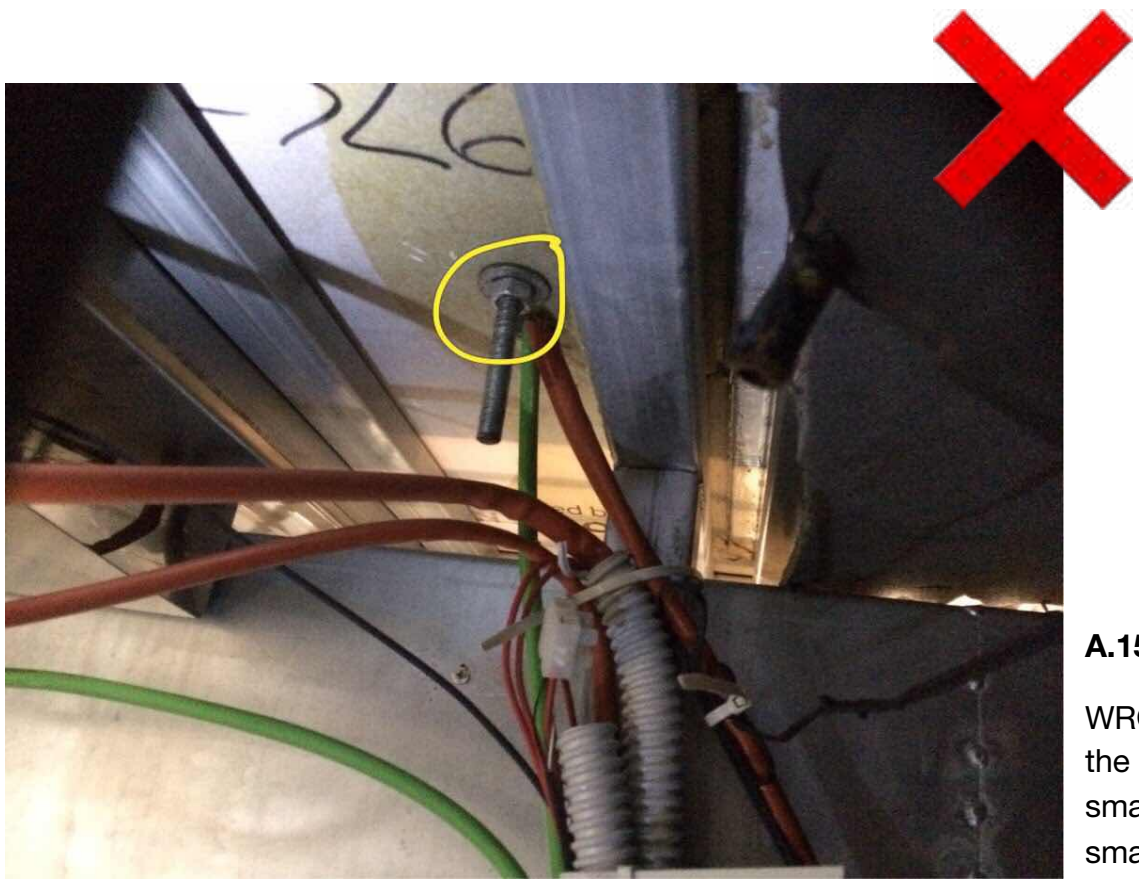
A.13.2

A.14.- Each lamp stand will be directly fixed to the countertop by clamping a metal strip below.

A.14.1

A.15.- The strip will be stainless steel with 2/25” (0.2 cm) thickness, with sides 1/2” (2.5 cm) larger than drill diameter.

A.15.1



A.15.2

WRONG: Direct attachment of the stand of the lamp to the countertop by means of a small drill hole and tightening washer of small dimensions.

A.16.- The strip will include a hole larger than the screw of the lamp (for clamping with washer) and another for cables.

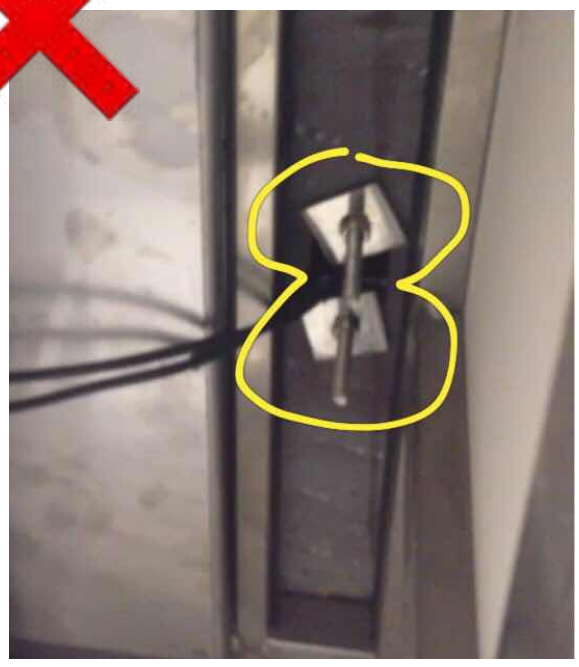
A.16.1

A.16.2

WRONG: The drill holes have a diameter similar to the spindle of the lamp stand, so unwanted stresses will occur. Minimum distance between drill holes is not respected.

A.17.- All lamp stands will have the same fixation system to the countertop.

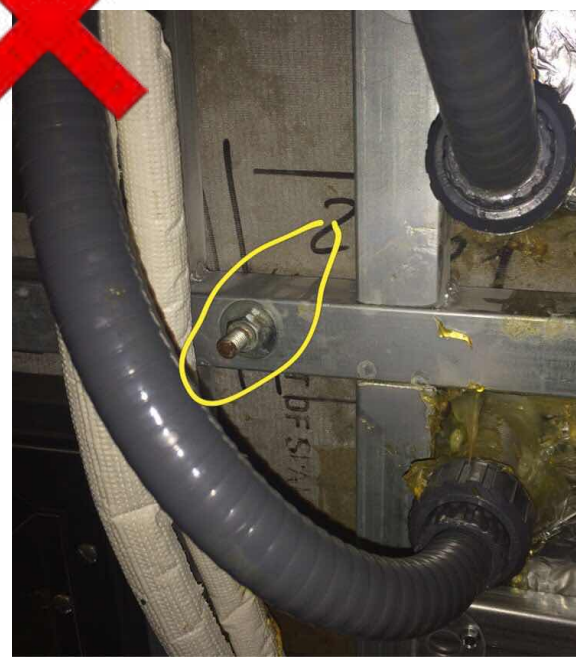
A.17.1



A.17.2

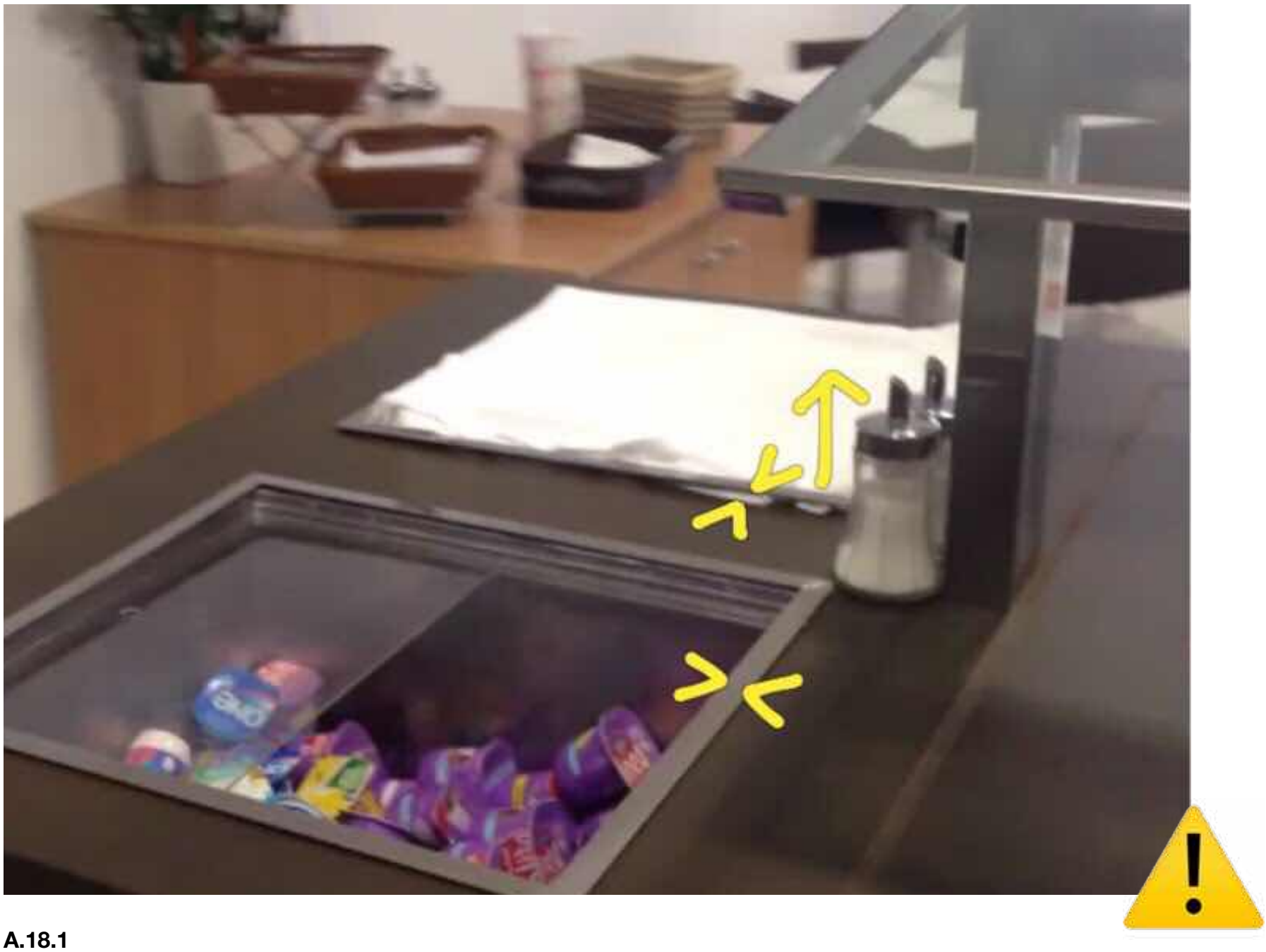
WRONG: The support of the lamp stand must be made with a unique drill hole.

WRONG: The direct fixing to the frame is wrong because the structure has a different flexibility to the countertop.



A.17.3

A.18.- The cut-outs for mobile metal trays will have a size at least 2 cm larger, to facilitate thermal expansion.



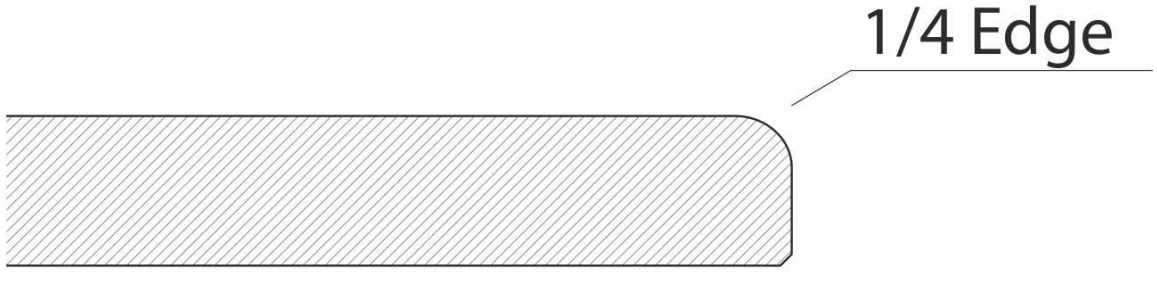
A.18.1

NOTICE: Do not confuse the flight of the earmuff with the gap between cut-out and tray.

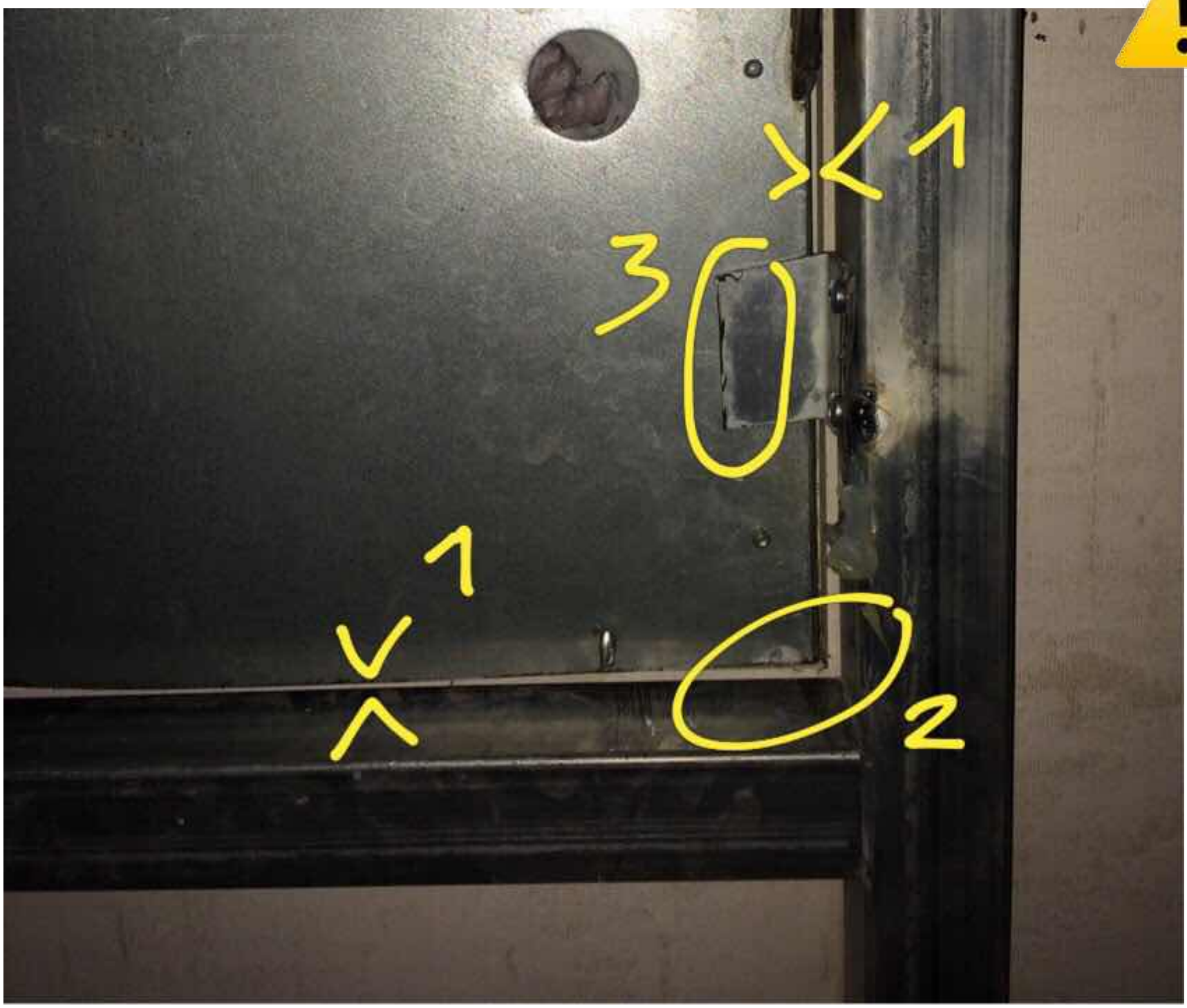
A.19.- If the tray flaps do not have elastomer for shock absorption, the edge of the cut-out will be rounded.

A.19.1

POLISHED
EDGE



A.20.- The cooling/warming apparatus positioned in the cut-outs must be separated at least 1 cm from the edge.



A.20.1

NOTICE: 1) The minimum spacing is 1cm ... in the most critical place: the corner, because that is where the expansion is most noticeable. 2) The holes can not have straight corners. 3) One possibility to fix the devices is to leave guiding elements that place them perfectly against the frame when they are assembled.

A.21.- The heating apparatus will include flaps, notches in the edges and sloping recesses are not accepted.

A.21.1

NOTICE: 1) correctly assembled appliances, with their earmuffs above the cut-out of the countertop. 2) incorrectly assembled appliances, by recessing in the cut-out and fastening stuck therein.

A.22.2

WRONG: Hot appliances bonded to recesses can lead to several known pathologies: 1) gluing prevents the natural dilation of the device itself, producing undesirable stress. 2) The fabrication of such recess requires great precision and radii of 3/5" (1.5 cm) in the corners, often incompatible with the design of square corners of the appliances. 3) It is impossible to avoid misuse e.g. the dragging of metallic pans with irregularities or extreme heat transfer between appliance and countertop.

A.22.- The flaps must include a mechanism for ensuring that the apparatus is centrally positioned in the hole.

A.22.1

RIGHT: The manufacturer incorporates in its appliance solutions for the correct fixing and safety distances with the edge of the countertop, knowing the maximum temperatures that reaches in its sides.

A.22.2

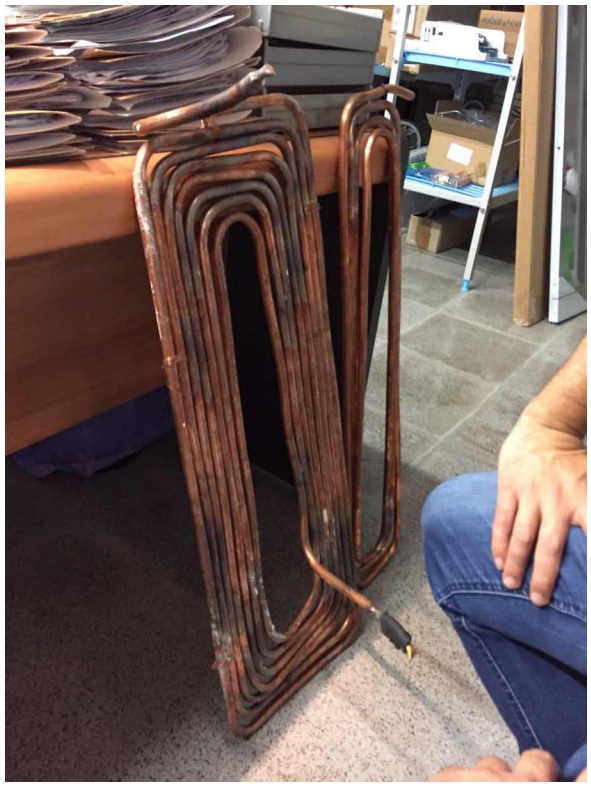
NOTICE: Small pieces can be integrated, either fixed to the appliance or the edge of the cut-out, but they must flexible enough to allow thermal expansion movements.

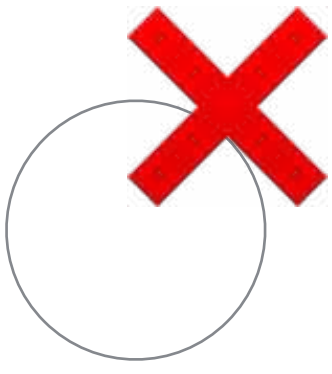
A.23.- The minimum distance 2/5” (1 cm) must be verified in the corner, where the ratio reduces the distance, the critical zone.

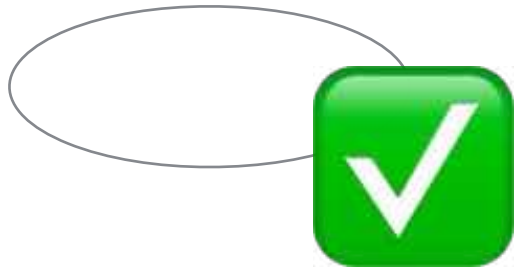
A.23.1

A.24.- The coil for transmitting cold will be made of industrially crushed copper to increase the contact surface.

A.24.1



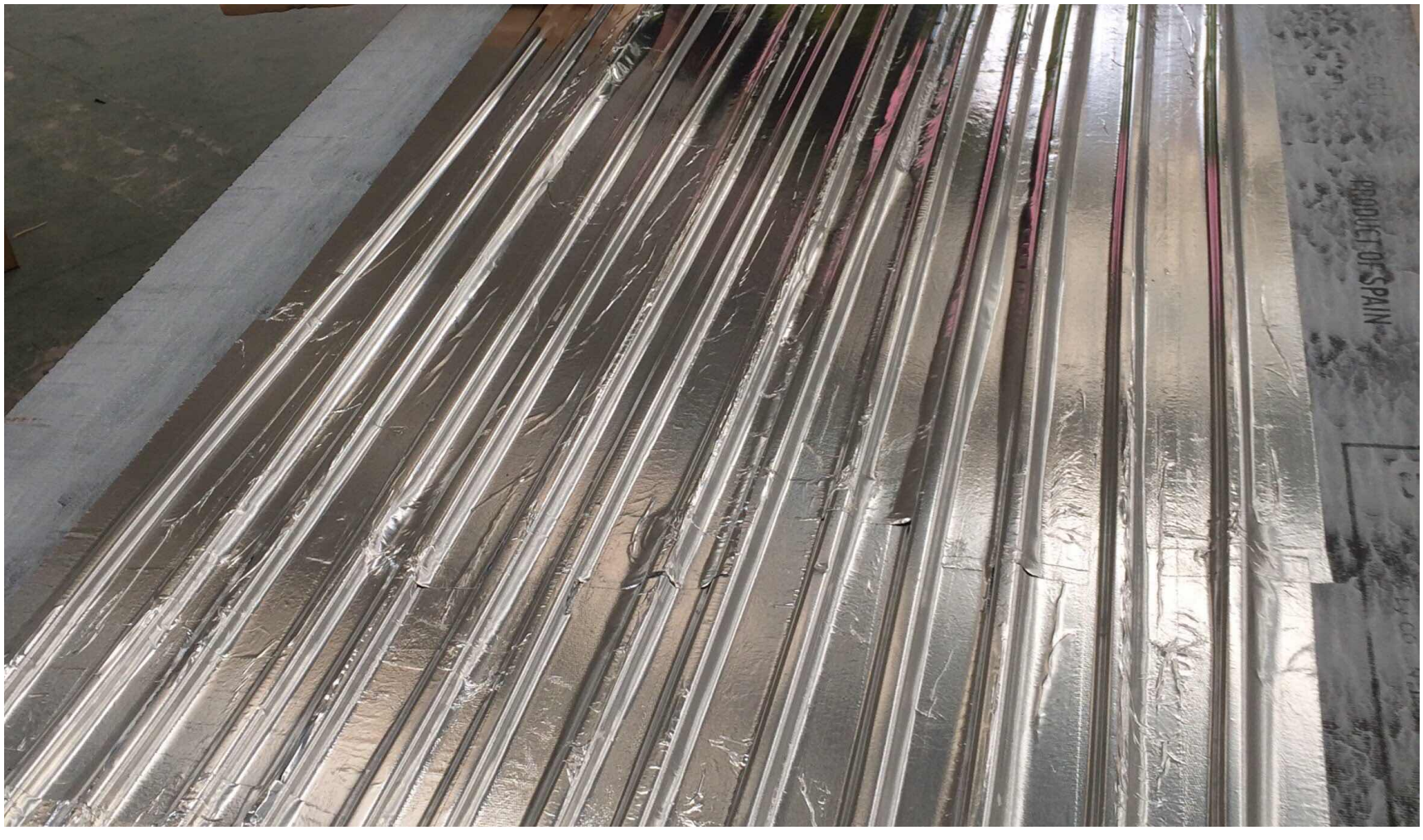




A.24.2

WRONG: The round tube only provides a contact line, it is worse solution than the crushed tube. A tube of excessive diameter makes it less moldable and forces a larger dimensioning of the cold equipment. Excessive tube concentration prevents them from sticking to the Dekton surface, limiting the transferability of the cold.

A.25.- The coil shall be attached to the reverse side of the worktop with “metallic” adhesive to improve transmission.



A.25.1

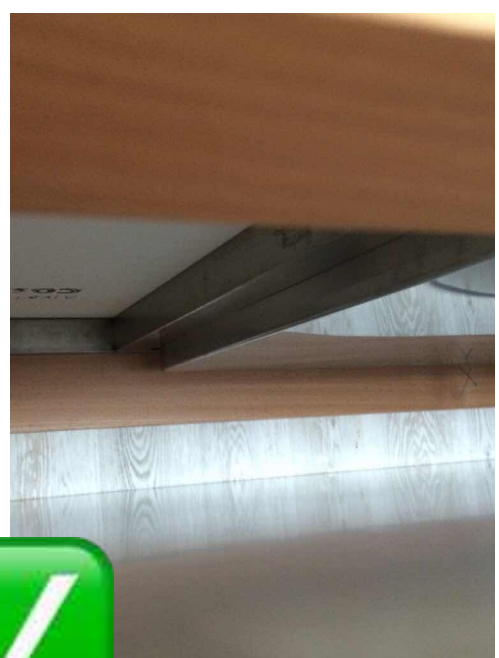
A.26.- The adhesive will be particularly careful in the perimeter to ensure the air-tightness with regard to condensations.

A.26.1

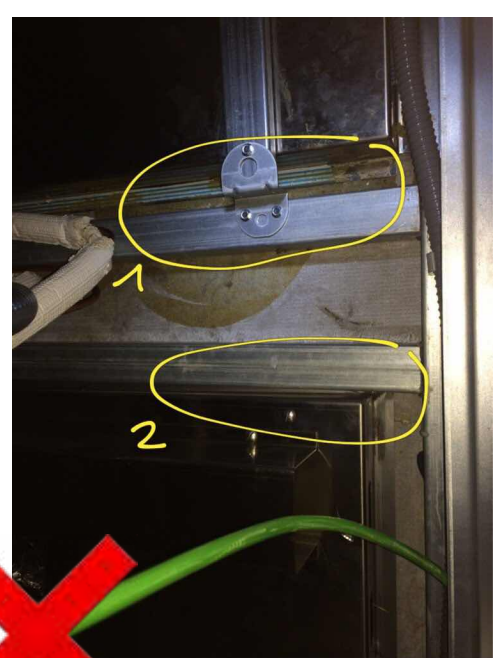
SUGGESTED COIL ASSEMBLING: The copper coil is exposed to condensation due to the cold temperature range it works on. Therefore, make sure that moisture does not penetrate the chamber where it is located.

A.27.- The coil will have a metal casing bottom including at least 3 cm of rigid insulating material (e.g. XPS).

A.27.1



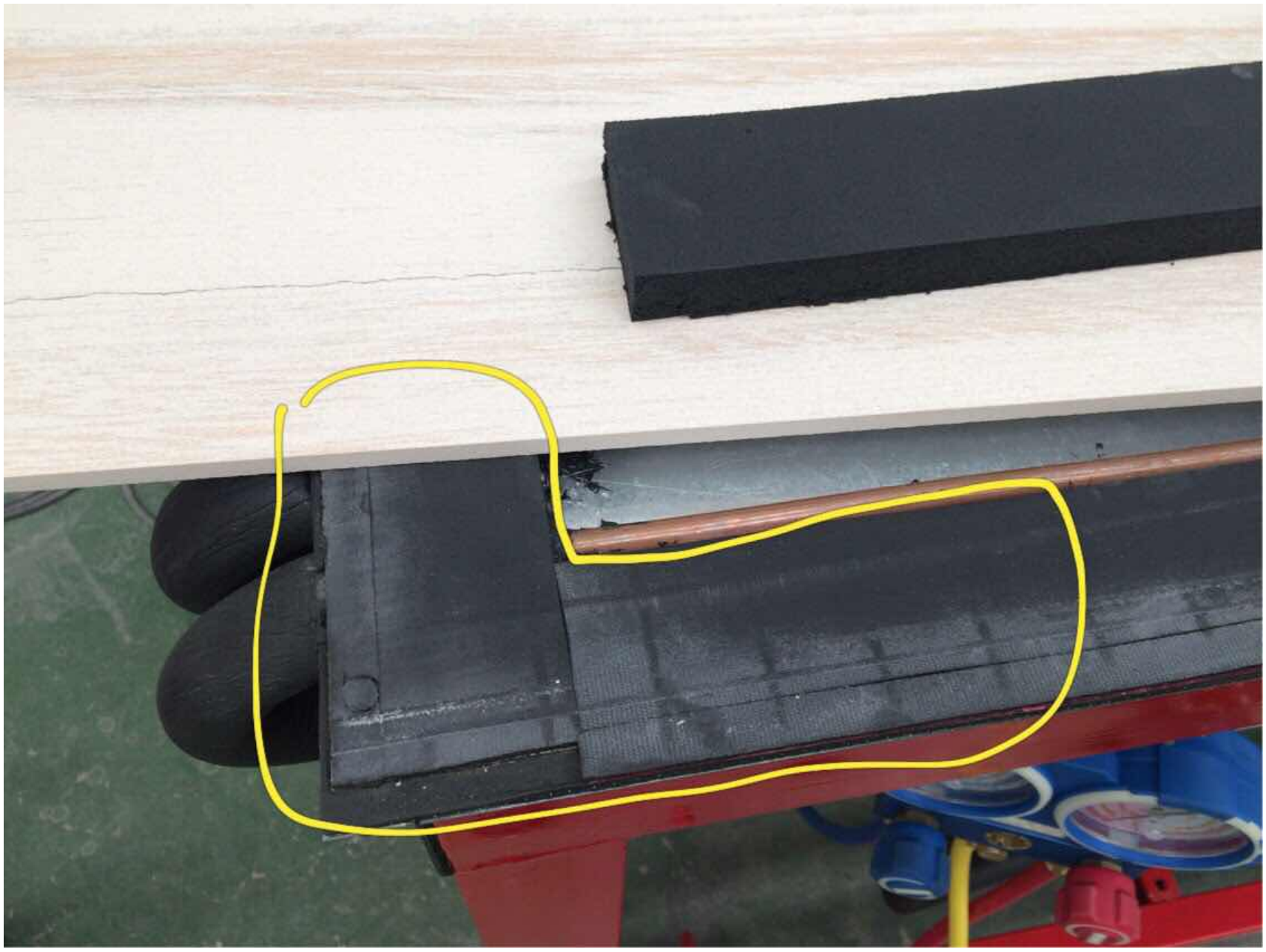
A.27.2



A.27.3

WRONG: Fastening of these two cold plate housing are different which results into different non-desirable efforts to the countertop.

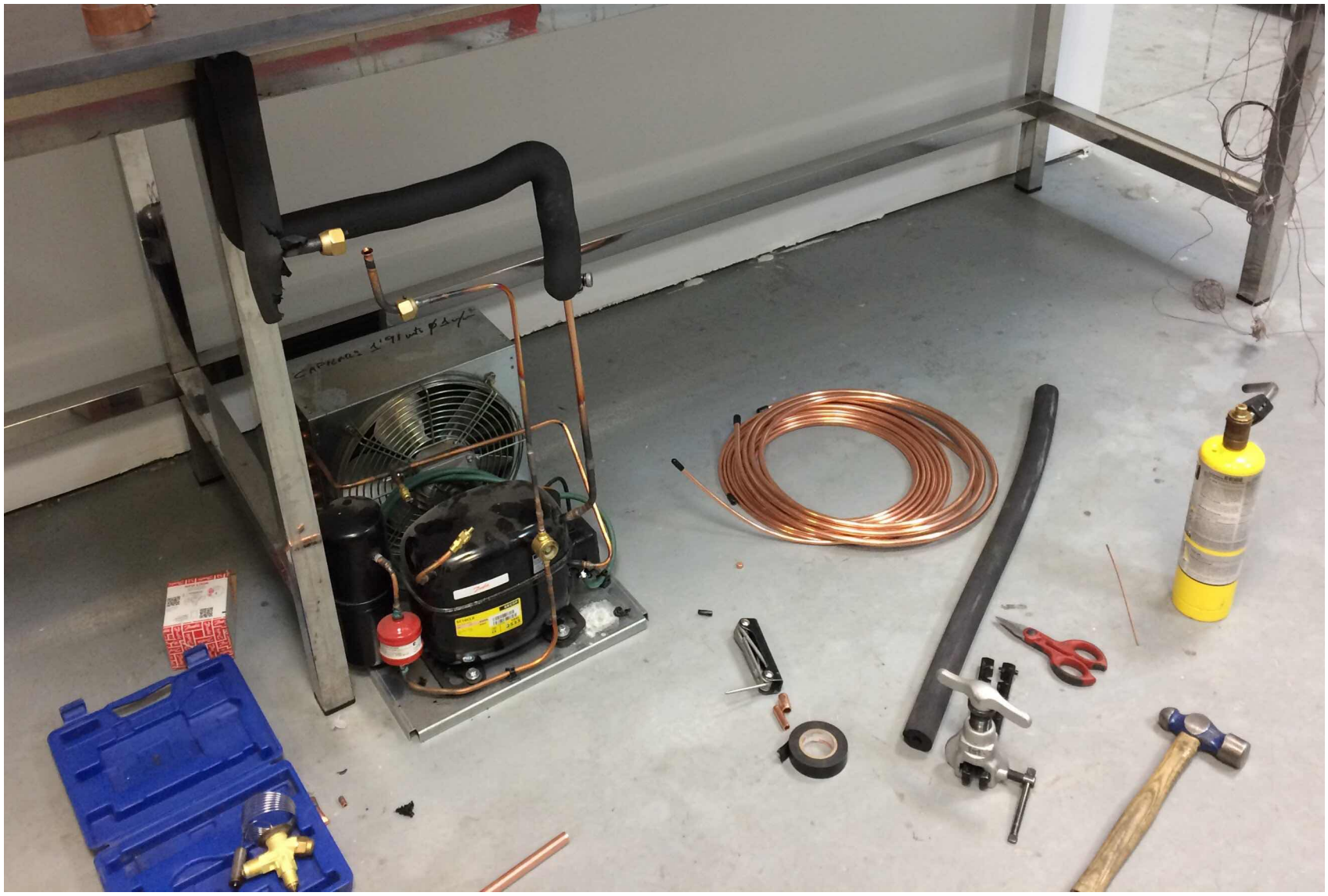
A.28.- In the casing flaps, an insulating elastomer strip (e.g. Armaflex) will be placed to seal without stressing the cut-out.



A.28.1

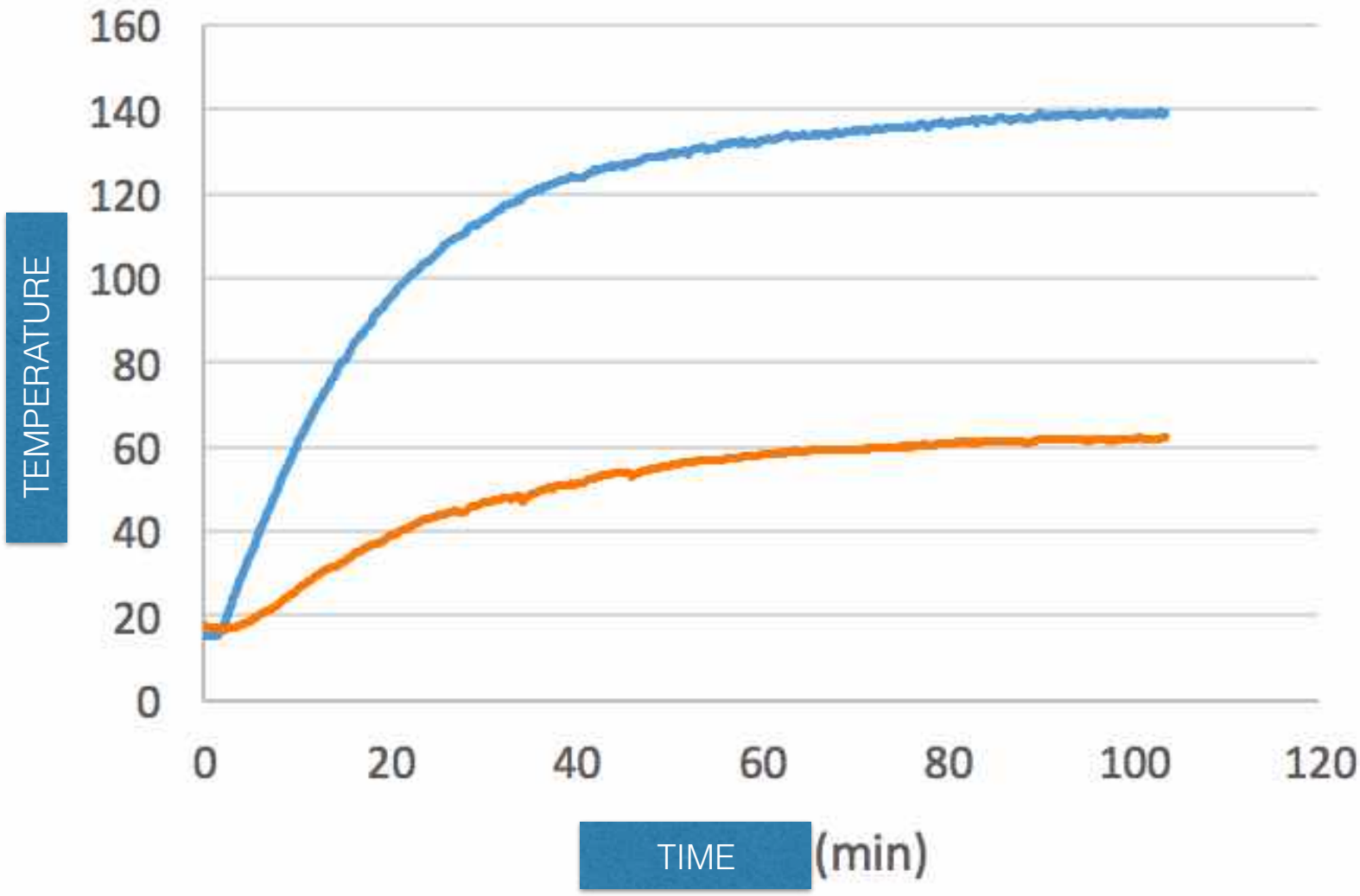
THE GOOD WAY: Proper insulation is essential to avoid thermal bridges, both below the coil and on the sides. This perimeter insulation fulfills a second function: it must also ensure a perfect fit between the coil housing / insulation so that the support with the worktop is continuous and airtight.

A.29.- The industrial cooling manufacturer will dimension the equipment in accordance with the cooling surface sizes.



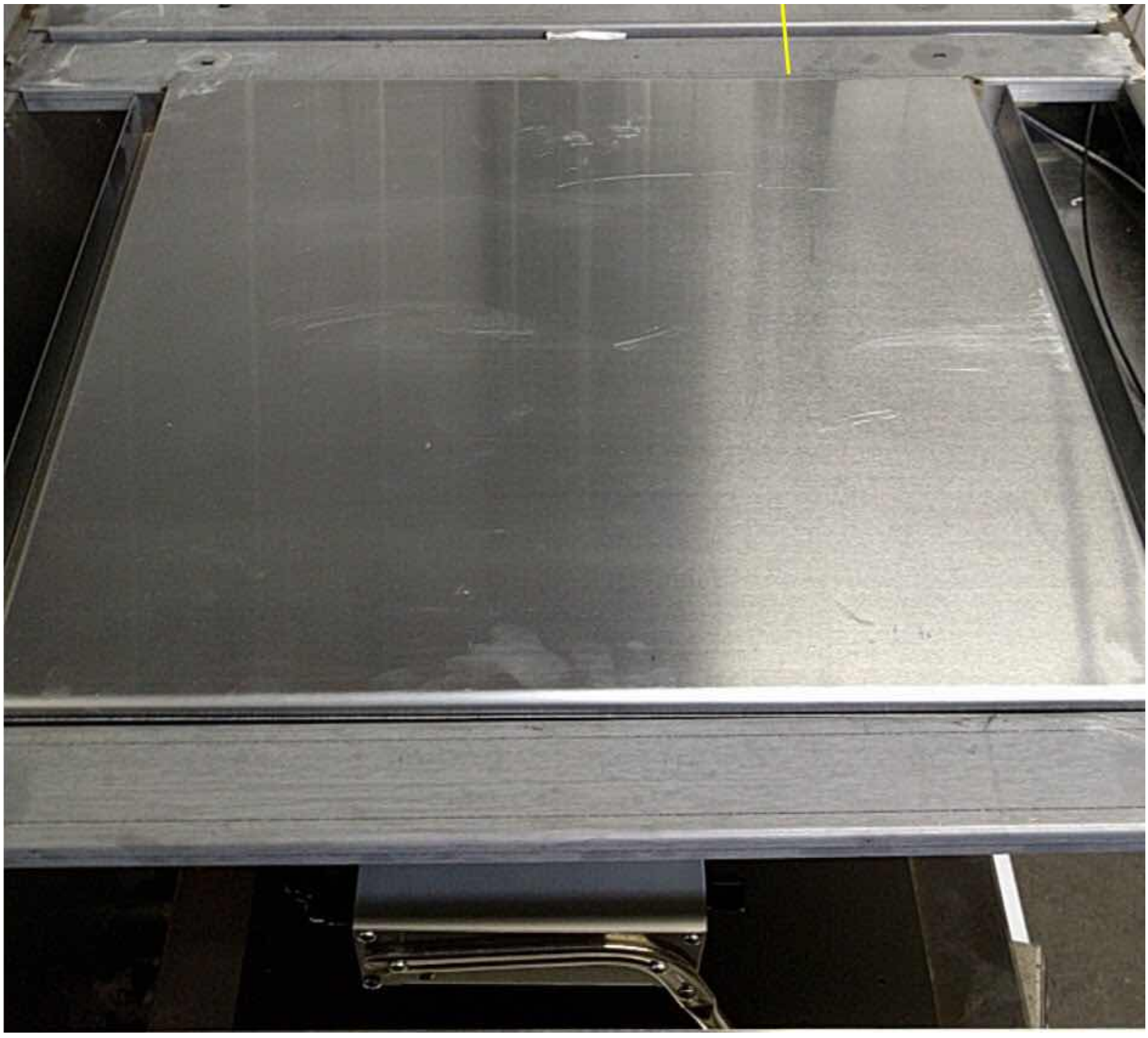
A.29.1

A.30.- The industrial plates (e.g. Hatco) will have a gradual heat emission curve and will not exceed 248 ºF (120 ºC).



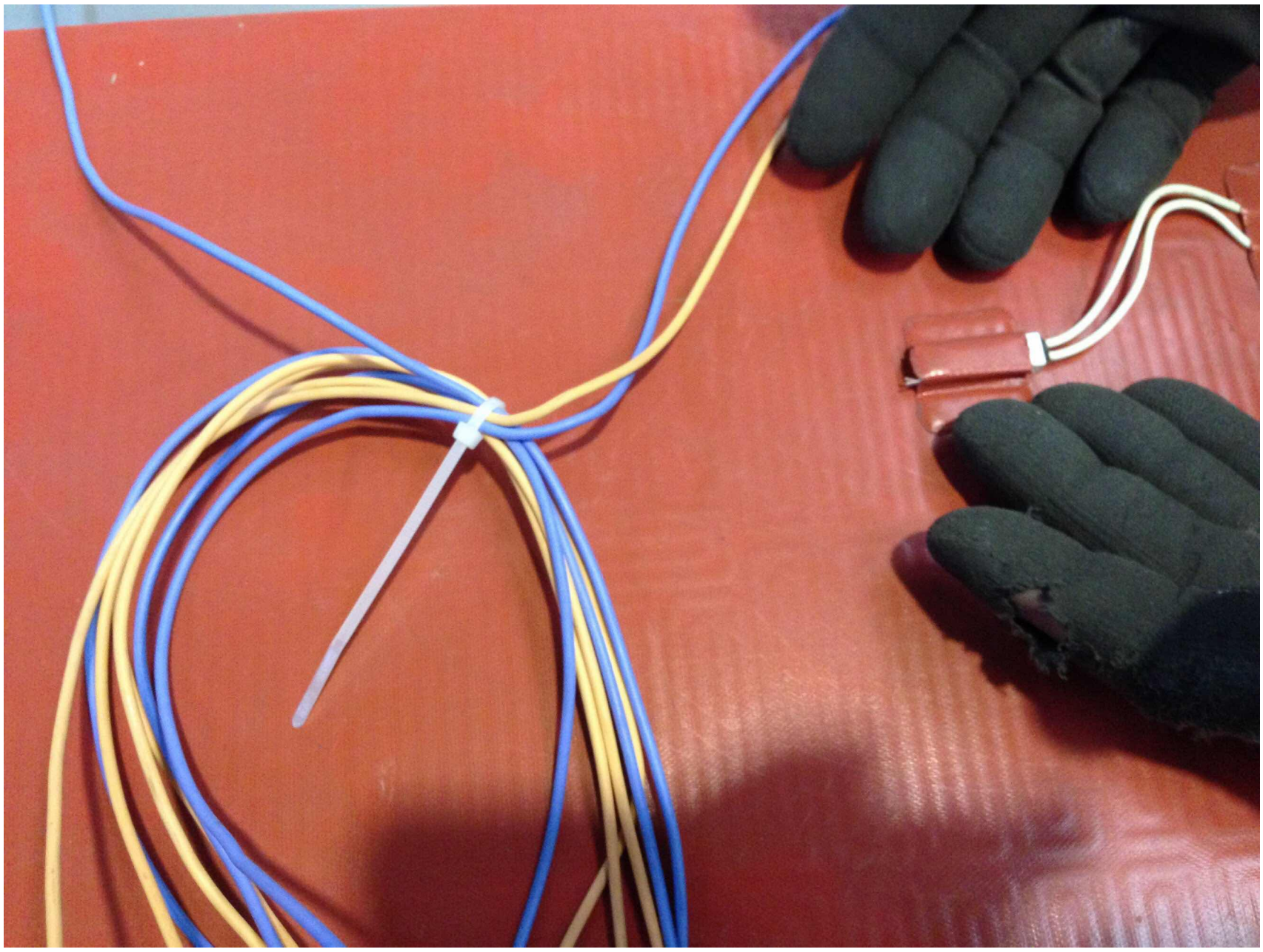
A.30.1

A.31.- The metal conduction emitters (e.g. Hatco) will be in direct contact with the worktop without adhesives or resins.

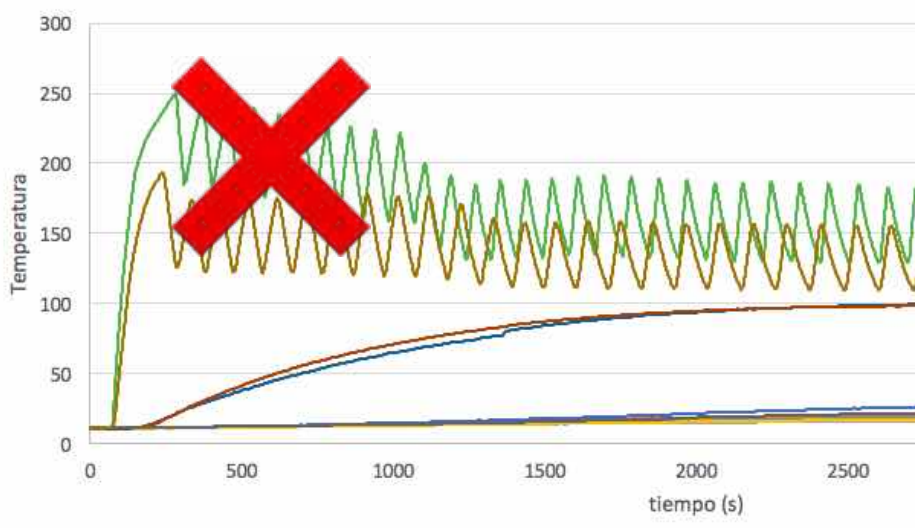


A.31.1

A.32.- The silicone sheets will include a rising heat emission controller, limited to 248 ºF (120 ºC).



A.32.1



A.32.2

WRONG: There was no thermostat that would control the heat transfer during the first 5/10 minutes from the underneath of the countertop and that is why there were significant peaks of heat in the beginning that could damage the countertop.

A.33.- The silicone sheets will be positioned attached to the countertop with its self-adhesive solution, without air bubbles.

A.33.1

NOTICE: In case of mounting several silicone sheets, keep the minimum distance of 4” (10 cm) among them.

A.34.- The trays with resistors will transmit heat by convection, preventing heat from direct contact.

A.34.1

U.01.- Blows from trolleys/carts against the front panels and edges that project shall be avoided.

U.01.1

WRONG: The design chosen is unfortunate in both the protruding edges and the vertical edges.

U.02.- Sudden blows from food trays and kitchen utensils against the countertop and its edges shall be avoided.

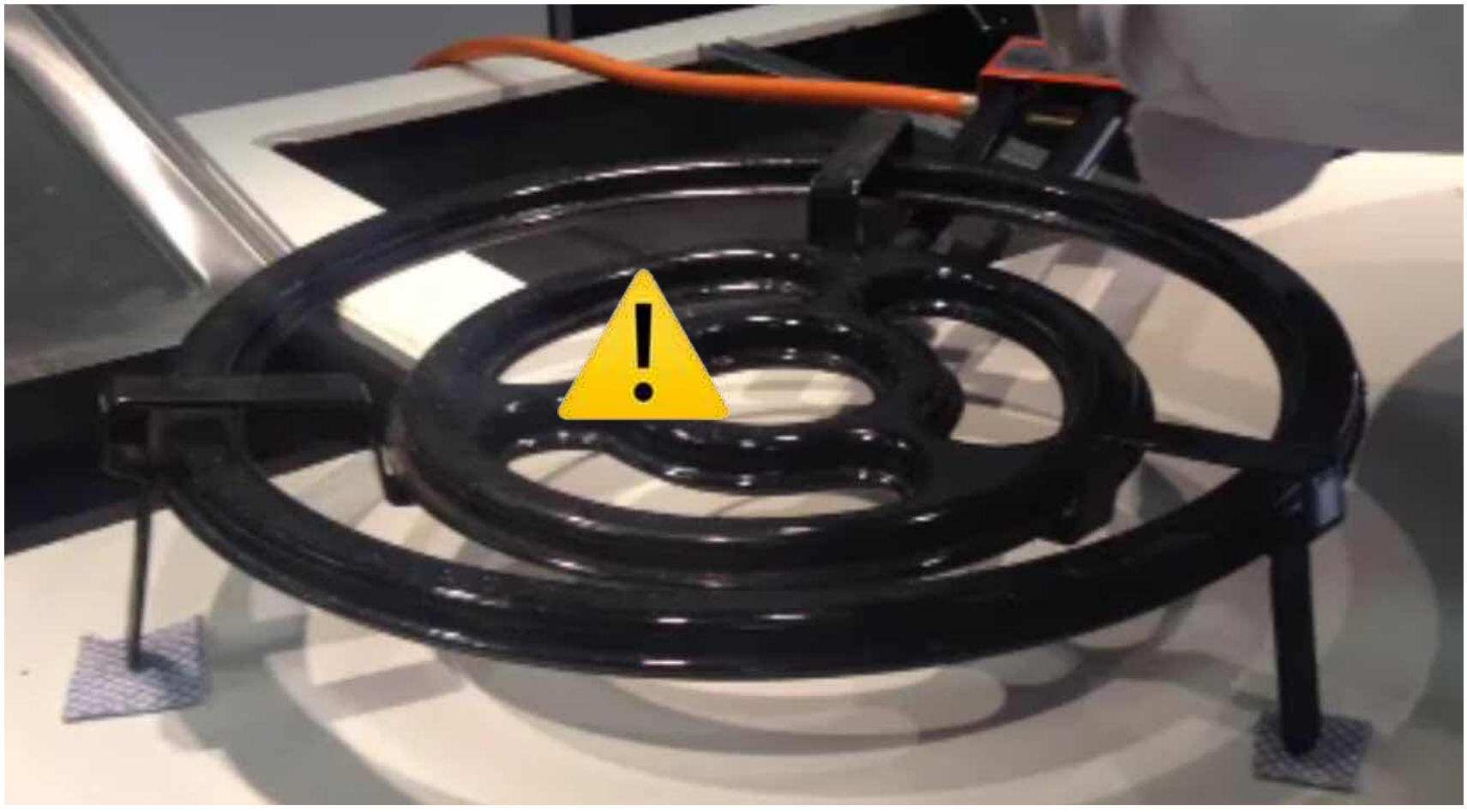
U.02.1

NOTICE: A front with niche for dishes is the perfect target to receive blows from the trolleys, so two preventive measures must be taken: 1) reinforce those fronts, applying a board stuck to 100% to absorb the energy of each small impact. 2) protect the corners of those trolleys with soft elements to reduce the effect of the blows.

U.03.- An insulating surface shall be imposed between paella pans and the countertop (the metal body exceeds 572 ºF (300 ºC).

U.03.1

WRONG: In this case it is not enough to put some separators between the appliance that emits extreme heat, thinking that the heat comes only from the metallic legs...



U.03.2

NOTICE: The metal structure through which the gas passes and the stoves reach temperatures above 932 ºF (500 ºC) (!!) so you have to rethink the situation so as not to compromise the countertop.

U.04.- Only torches limited to a maximum of 572 ºF (300 ºC) shall be used, and shall be applied against the foods, being moved every 5 seconds at least.

U.04.1

NOTICE: The torch operator must know how to use it: always moving, never aiming at a fixed point permanently.

U.04.2

NOTICE: There are torches of all kinds. Only those that the manufacturer guarantees for maximum temperatures below 572 ºF (300 ºC) will be used.

U.05.- If the apparatus emits more than 572 °F (300 °C), they will have insulation to guarantee not touching the edges of the cut-out.

U.05.1

U.06.- The hot plates with heat emitters underneath must have the objective of keeping pre-cooked dishes warm.

U.06.1

U.07.- If you intend to cook, heating equipment shall be mounted on the cut-outs (e.g. inductors or Tepanyakki).

U.07.1

U.08.- Metal heat resistors cannot be put in direct contact under the countertop.

U.08.1

WRONG: It is forbidden to place metal heaters such as tubes or filaments in direct contact with the underneath of the countertop.

U.09.- R404 gas will be used for frozen cooling plates. R134 is correct to keep it near 32 ºF (0 ºC).

U.09.1

U.10.- Correct equipment design allows freezing to be produced in less than half an hour even with Dekton 2.0 cm.

U.10.1

Under tropical conditions (= temperatures above 77 ºF (25 ºC) and relative humidity of more than 75%), the only real possibility to achieve that "snowy / frosty" appearance is to use R 404A gas. With the R 134 gas the result on those tropical conditions is just "cold water".

U.11.- The use of induction units requires prior approval from Cosentino.

U.11.1

WRONG: Example. This model has 4 positions to keep precooked dishes warm, in temperatures below 194 ºF (90 ºC). The first three positions work well, but the fourth does not really limit the maximum temperature: if you leave an empty ferromagnetic pot on top of this indution device, the temperature does not stop rising and puts at risk the food, countertop and user involved. Therefore this product has not been validated by Cosentino.

U.12.- Only those limiting their maximum temperature to 194 ºF (90 ºC) even with empty ferromagnetic tools.

U.12.1

RIGHT. Example. In this buffet the models Incogneeto Cooktek B651-U2 and B652-U2 have been used with satisfactory results since 2015 in daily use.

U.13.- Junction boxes can only be made on-site on the front panels using water and standardized tools.

U.13.1

WRONG: When the needs are not planned in advance ... here are the deficiencies of working on-site and without the right conditions to do it correctly.

U.14.- All installations under the worktop (e.g. LED lighting) shall be attached or affixed to the frame.

U.14.1

RIGHT: Excellent integration of the registration door of the frame inside, e.g. for the maintenance of the illumination of the skirting board of the food service and the niche of the dishes.

NOTICE: No recesses shall be made on the back of the countertop or the front for this purpose (see point D.04).

U.15.- When food service assembly is complete, the countertop and front panels will be cleaned to remove all the work and assembly debris.

U.15.1

[DK] chemical resistance

SOLVENTS	
Acetone, 98%	0
Amyl acetate	0
Butyl alcohol (Butanol)	0
Carbon tetrachloride (Carbon tet, Halon-104, Refrigerant-10)	0
Chloroform, 99%	0
Dimethylformamide	0
Ethanol, 96%	0
Ethyl acetate	0/1*
Ethyl alcohol (Ethanol, Spirits, Drinking alcohol)	0
Ethyl ether (ether, sulphuric ether)	0
Methyl alcohol (Methanol)	0
Methyl ethyl ketone (Butanone)	0
Methylene chloride (Dichloromethane)	0
Monochlorobenzene	0
Toluene, 98%	0
Trichlorethylene, 99%	0
Xylene	0

U.16.- For daily cleaning, the Cleaning and Maintenance guide recommendations will be taken into consideration.

Normal Maintenance

Due to its practically zero porosity, the ultra-compact Dekton® surface is highly resistant to staining in day-to-day use and from chemical products, making it ideal for use as a kitchen worktop and as a surface for other kinds of work, both inside and out.

For general cleaning, Cosentino recommends the use of Q-Action with a sponge or a sponge with soft fibres. If this product is not available, the best option is to use a neutral soap and water.

Cleaning Stubborn Stains

In the case of aggressive stains, either from products that are resistant to normal cleaning agents or because they have remained on the work surface without being removed, we recommend using more specific products such as: solvents (acetone or universal solvent type).

The accompanying table shows the various types of stains with their corresponding cleaning products.

STAIN	CLEANING PRODUCT
Grease and oil	Alkaline detergent / solvent
Ink	Solvent
Rust	Acid
Limescale	Acid
Wine	Alkaline detergent / acid
Tyre rubber	Solvent
Ice cream	Alkaline detergent
Resin / nail varnish	Solvent
Coffee	Alkaline detergent / acid
Candle wax	Solvent
Residual cement	Acid
Gesso	Acid
Epoxy adhesive and grouting	Solvent
Cola	Oxidant
Fruit juices	Oxidant
Tar	Solvent
Nicotine	Solvent / oxidant

Acid cleaning products can include any of product that contains acid or descaling agent etc. Alkaline products include basic cleaning agents, ammonia etc.

Solvents can include products such as universal solvent, turpentine (white spirit), acetone, alcohol etc. Oxidants include products such as hydrogen peroxide and diluted bleach.

U.16.1

U.17.- Dekton Xgloss is more sensitive to scratching, therefore it will only be used when the food service owner agrees and accepts it.

U.17.1

Which data are necessary to have a guarantee for a food service installation?

1) Food service identification:

Indicar State the building name and the location address.
State the participants involved, at least the company and following contact people: property, food service manufacturer, fabricator and installer.
Material used: name and thickness (the fabricator must provide labels for the material used to provide traceability thereof, in case of incidents).

2) Provide graphic documentation:
To receive the documentation accrediting the guarantee, the participants must provide the following graphic documentation for the food service:

Designs.

Countertop plans duly delimited.
Identification of each cut-out with its radii and if it supports cooling or warming trays. Identification of the position and sizes of each cold or hot plate under the countertop.
Frame, identifying on which parts the reverse side of the countertop will be supported.
Section details of each edge with delimitation of radii, bevels, miter joints, as applicable. Situation of the through-holes corresponding to devices, taps, etc.

Photographs.

One per countertop making up the food service.
One detailing the device fixing system chosen.
One of the type of structure before positioning the countertop.

3) Confirmation of having read/seen and compliance of all the points set forth in this manua.

Reminder of the essential aspects relating to Dekton used for food service.

Dekton is an ultra-compact material, and different to glass, granite, steel, ceramics, quartz surfaces, solid surfaces and any other material so far used for food services. Therefore, its properties must be taken into consideration, following the design, fabrication and installation instructions indicated above

The physical, mechanical and functional properties make it the perfect material for food services with cut-outs and hot plates. However, it must be used responsibly, complying with the conditions and specificities laid down in the HEAT SOURCES TEMPERATURE document.

On warm surfaces, direct contact of metal coils with the lower material surface shall be avoided, due to the risks explained in the document mentioned above.

Concerning the cooling, appliances must consider the material’s thermal conductivity, which requires a little more initial power but, on the other hand, avoids undesired effects such as the loss of cooling (or freezing) in the perimeter zone due to a lack of thermal insulation of the material itself, with the risks in terms of staining, hygiene, and even health risks from the growth of bacteria in damp areas.

On cold plates, the adequate insulation of the tray housing the coil will prevent leaks and thermal bridges. Such insulation will also be critical in the pipes, valves and circuits between the emitting equipment and the plate. In places with high levels of dampness, inclusion of a vapor barrier shall be taken into consideration to prevent condensation through the plate, which would result in malfunction of the cooling plate, and in such cases, the desired freezing would not be attained.