Recommendations for Handling Impreza Compact Panels

Transportation, Handling, and Storage

As Impreza panels are thick and highly dense, always plan ahead before attempting to move, handle, manufacture, and install them.

Transportation

Impreza Panels should be laid flat and transported on pallets. Given their weight, these pallets must be loaded onto vehicles using forklifts. When using forklifts or similar mechanized vehicles for loading and unloading materials, ensure that the pallets are clean and structurally sound.

Handling

Merino recommends a minimum of two people to carry the panel while holding it vertically along the width. They should not be carried in a flat position. The decorative surfaces can be damaged by sliding over other surfaces, including other panels. Therefore, sliding the panels is NOT recommended; instead, the sheets should be lifted. Never allow the panels to touch the ground or walls while being transported.

Storage

Impreza panels are thick and heavy laminates; if stored improperly, they can warp or telegraph due to their own weight. The panels expand 1mm per meter due to thermal expansion, so proper control of storage environmental conditions is crucial. When storing Impreza panels, ensure the area is dry and properly ventilated. During final installation, Impreza panels can be placed vertically for short periods; make sure they are on the long edge. All panels should be stored face up and supported along their length. Do not place uneven weights on a stack of panels, as it may cause deformations or warping.

IMPORTANT: Always ensure the protective film is present on both sides before installation, as uneven exposure to the atmosphere can lead to warping. In extreme cases where improper storage has occurred, whether not supporting the material on complete flat surfaces or partial supports on walls where the material's weight influences bending, this can be corrected by following a simple process of equalizing environmental conditions on both surfaces: apply moisture (water) with a spray bottle to both faces of the warped material, leaving the moisture on the surfaces for an hour. After this time, the sheet should be placed between two flat surfaces for 24-48 hours. After this period, the material should exhibit flat behavior.

Preconditioning and Environment

Preconditioning is one of the most important considerations for achieving a quality product installation. Follow the preconditioning guidelines closely. Store the Compact Panels for at least 48 hours (ideally 72 hours) under the following environmental conditions:

Temperature of 24 Celsius.

55%-65% relative humidity.

The minimum time for preconditioning is 48 hours. These numbers can be adjusted depending on the environmental conditions in the geographic area. The higher the relative humidity, the longer the conditioning time recommended, up to 72 hours in places of extreme humidity. The stored stock must be rotated so that the oldest material is used first. The storage location must be well ventilated and protected from moisture. The panels should never be in direct contact with the ground or exterior walls.

All preconditioning must be performed at the manufacturing site.

Manufacturing

Merino Impreza panels have a slightly different composition compared to standard-grade laminates and require special attention during manufacturing and machining. For Impreza panels with an EP+ surface, special care must be taken to reduce tool wear. We recommend using high-quality, well-maintained tools with the proper attachments to ensure the best results. By following the recommended manufacturing guidelines, manufacturers can design an attractive and safe surface for use.

Material Cutting

Impreza is designed to be cut with basic tools common to any woodworking shop (table saws, squaring saws, horizontal saws, milling machines or routers), but due to its high density and compaction (1.40 gr/cm3), the following recommendations can improve the performance and longevity of the tools used. A competitive feature and advantage of Impreza is that the material plates can be offered in different formats. Cutting these plates should be carried out following a simple process of initial cutting (Dimensioning) and final cutting (Detailing).

Dimensioning: The initial or dimensioning cuts can be made with large format tools, such as horizontal saws or squaring saws where the original plate can be handled without incurring damage to it. The goal is to obtain oversized pieces. An oversizing of 3 or 4 millimeters is a good parameter to follow.

It's important to consider that the saw tooth should "attack" the surface determined by the user as the main one. This ensures that the cut on the main surface will not present chipping. The lower edge may present chipping when using saws with fewer teeth (less than 72 teeth).

Manual saws can be used for the initial cut. Type of Saw: A hand saw with fine teeth is recommended for cleaner, more precise cuts. Saws for metals or those with a high number of teeth per inch (TPI) can be a good option. Generally, the ideal manual saw would be 7 ¼". The same type of tooth is recommended, and the highest number of teeth possible (64).

Cutting Technique: The cut should be slow and controlled to avoid chipping or breaking the material. It is important to follow a marked cutting line to maintain precision.

Material Support: Ensure that the Impreza compact or compact laminate is well supported and fixed to prevent vibrations or movements during cutting.

Adhesive Tape: Placing adhesive tape on the cutting line can help reduce chips on the material's surface.

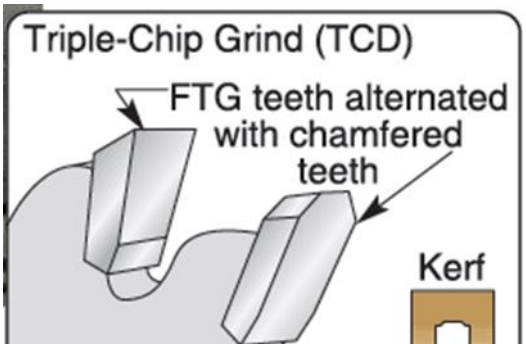
IMPORTANT: The cutting rotation of manual saws is always in the opposite direction to table saws, so you should choose the primary side of the cut so that the tooth "attacks" the surface you have defined as the main one.

Recommendations for Table Saw, Horizontal Saw, or Squaring Saw:

When cutting Impreza material or high-pressure compact laminate (HPL), using the right circular saw blade is crucial to achieve clean, precise cuts without chipping or damaging. Here are the recommended features for a circular saw blade for these materials:

Number of Teeth: A higher number of teeth is recommended. Blades with 72 to 100 teeth are ideal, as they provide smoother cuts and produce fewer chips.

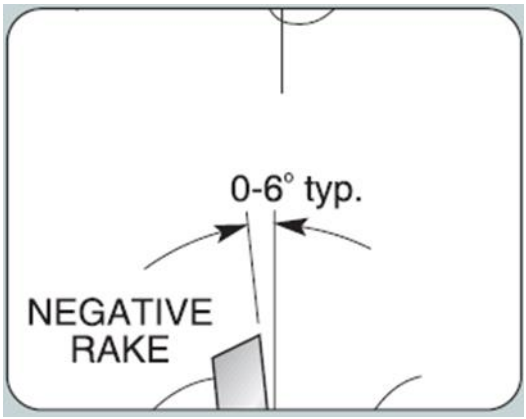
Design of Teeth: Look for blades with triple-chip grind (TCG) teeth (See diagram below). This design alternates between a rake tooth and a chamfered tooth, which helps to reduce chipping and provides a smooth cut in hard and abrasive materials like Impreza.



Blade Material: Blades with tungsten carbide tips are preferred. Carbide maintains a sharper edge for longer than steel, which is essential for cutting dense and hard materials like Impreza and Merino compact HPL.

Cut Width (Kerf): A thin cutting kerf is generally better, as it requires less saw power and reduces material waste. However, ensure that the blade is stable enough to handle the density and hardness of the material.

Hook Angle: A low or negative hook angle is recommended. This means that the teeth are inclined towards the back of the blade, which helps to prevent aggressive cutting and chipping. This is especially important for high-density materials like Impreza and Merino Compacts.



Blade Diameter: Choose the blade diameter according to your saw's specifications and the required cutting depth. Standard sizes are usually 7-1/4, 10, and 12 inches.

Speed Ratings: Ensure that the blade's maximum speed rating matches or exceeds your circular saw's speed.

Anti-Vibration Design: Some blades come with anti-vibration slots or other design features to reduce blade oscillation and ensure smoother cuts.

Cooling Slots: These can help to reduce heat buildup during cutting, which is beneficial for prolonging the blade's life and maintaining cut quality.

B. Detailing

Oversized pieces with 3 or 4 mm should be detailed using a 3 ¼ hp milling machine. Again, the recommended bits are made from Tungsten Carbide and must meet the specifications of the shaft or tenon congruent with the milling machine to be used. The bits for work are recommended to have more than two cutting blades, capable of withstanding 21000 RPM that the milling machine offers.

Due to the compaction of the material, it is suggested to make incremental cuts of 4 mm in each cut.

Routing Bits (dense carbide): This refers to the type of routing bits described. They are made of dense carbide, a very hard material that keeps a sharper edge longer than steel, making it ideal for cutting resistant materials.

a. Roughing or Plunge Bit: Solid Carbide: This indicates that the entire cutting part of the bit is made of solid carbide or tungsten carbide, emphasizing again durability and longevity.

b. Shank and cutting diameter of 1/4": The shank is the part of the bit that is held by the router. A shank diameter of 1/4" is a common size, compatible with many routers. The "cutting diameter" likely refers to the diameter of the cut, also 1/4", which is the size of the hole or slot it will cut.

c. Upward Spiral, Single Flute: This describes the shape and design of the cutting edge. An "upward spiral" means that the spiral blade of the bit is designed to pull chips upwards, which is good for ejecting material and keeping the cut clean. A "single flute" means there is only one spiral cutting edge, which may offer better cutting quality in certain materials.

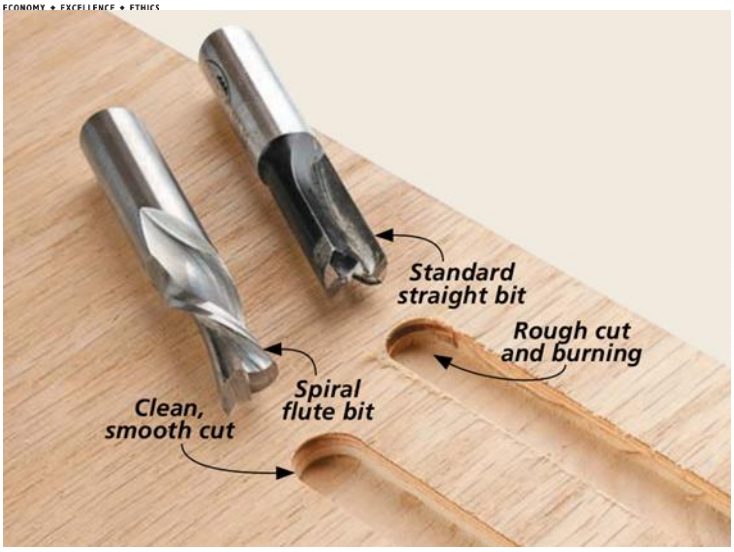
d. Flush Trim: minimum 3/4" diameter, double flute: This type of bit is used to trim the edge of one material flush with the edge of another, like trimming a veneered surface flush with a substrate.

e. Minimum 3/4" diameter: This specifies the minimum diameter of the cutting part of the bit, which in this case is 3/4 inches. A larger diameter can provide a smoother cut and more stability.

f. Double Flute: This means the bit has two cutting edges, or flutes. Double flute bits are typically used for smoother cuts and can remove material more quickly than single flute bits.

Overall, this text details two types of routing bits, both made of solid carbide, but differing in their intended use, size, and design features.

However, a plunge cut with an upward spiral flute bit is much smoother and easier. The bit essentially drills a hole in the plate, almost pulling itself towards the plate while lifting the chips outwards. For this reason, an upward spiral flute bit is my first choice for milling mortises (illustration below).



Spiral Flute Up Cut

IMPORTANT:

In the initial or sizing material cut, panels must be cut with the long edge parallel to the length of the sheet.

Repairing Deformations from Warping/Bending in Impreza Compact Plates - Laminated Compacts

Repairing a deformed and installed 12 mm IMPREZA or high-pressure laminate compact (HPL) panel can be challenging, as Compact/Impreza is a very dense and rigid material. However, there are some strategies you might consider to address deformation:

Storage

a. Gradual Weight Distribution: Place the deformed IMPREZA/HPL panel on a flat and stable surface. Apply a uniform and gradual weight across the panel surface. This might involve the use of heavy and flat objects, like books or weights.

b. Controlled Heating: Applying gentle heat can sometimes help correct the deformation. Use a heat gun or hairdryer on a low setting, but be very careful not to overheat, which can damage the laminate.

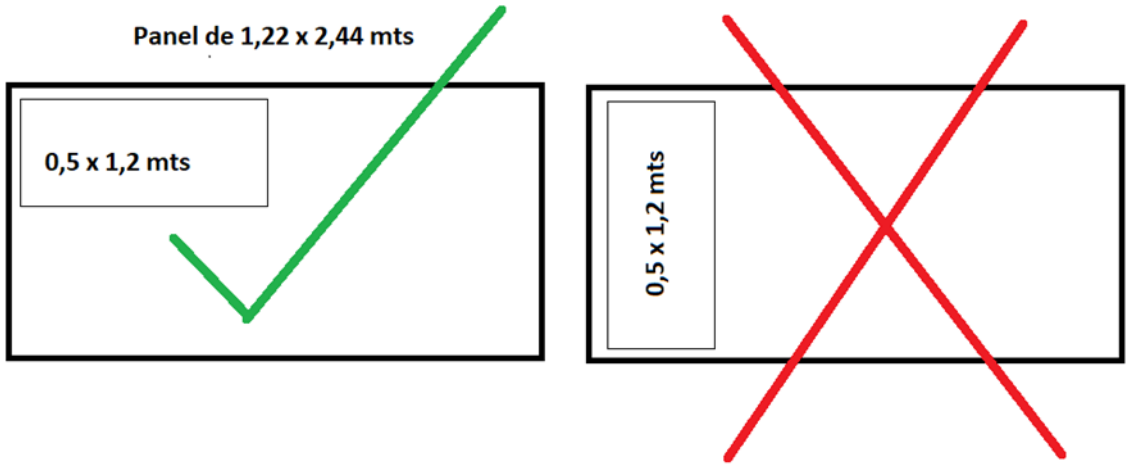
c. Humidity Control: If the deformation is due to a moisture imbalance, try to control the moisture around the panel. This can be a slow process and may not always be effective, depending on the extent of the deformation.

d. Mechanical Straightening: In some cases, mechanical straightening using presses and a flat surface can be attempted. However, this method requires caution to avoid cracking or breaking the laminate.

e. Preventive Measures for the Future: Ensure that the HPL is stored flat and with uniform support to prevent future deformations. Avoid exposure to extreme changes in temperature and humidity.

Cutting

Cutting the panels or pieces with long dimensions across the width of the sheet will considerably increase the tendency for deformation or warping/bending.

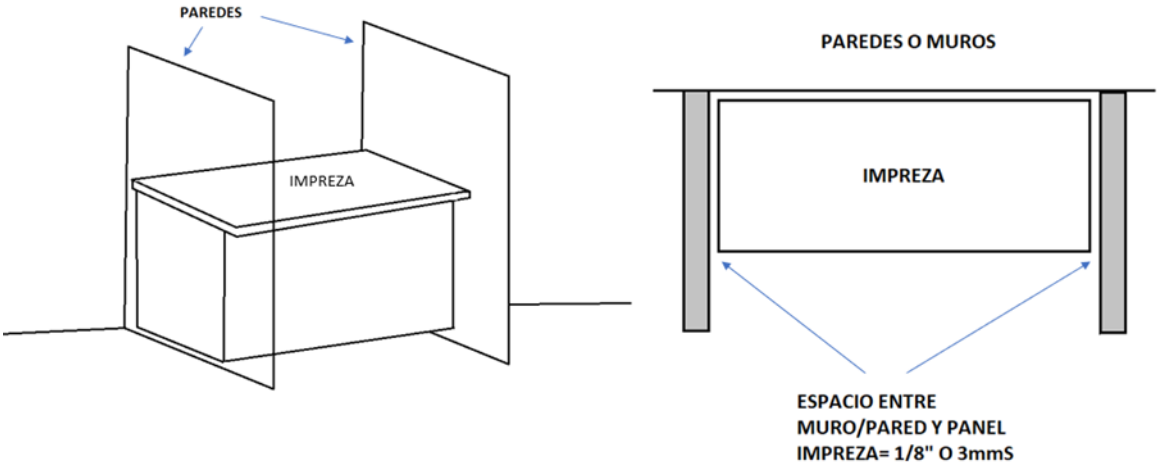


In the example above, the desired size of a piece of 0.5 x 1.2 meters should be cut so that the longer side of the piece is parallel to the longer side of the panel. The optimization of cutting in dimensions must consider the above rule.

Installation

In conditions where the panels are mounted on a wall or enclosed in a bathroom cabinet or an integrated plumbing system, adequate ventilation must be provided to ensure that the temperature and humidity conditions behind the panels are essentially the same.

In installation processes, the most common cause for the presence of warping/bending occurs when the impreza panel is subjected to pressures due to material expansion. All materials expand and contract according to climatic conditions of humidity and temperature. In case of installing Impreza between walls, you must leave 1/8” (3mm) of space between the wall and the Impreza material, this way Impreza can breathe without exerting pressure on the sides and thus not generate deformities on the surface or bending.



In the extreme case that warping/bending occurs on the Impreza surface after the work is completed, a mechanical anchoring system to the supporting substrate can be used. Just keep in mind that the support system must be stainless steel screws. It is recommended to make a pilot hole with a 3mm diameter drill bit. The fastening screw should be 3.5 mm in diameter. The depth that the screw must penetrate the 12mm thick Impreza surface will be a maximum of 6mm.

Note: Because the Impreza material is too compact and dense, you may need to make a pilot hole using a guide drill bit. It is recommended that the pilot hole be 0.5mm smaller than the diameter of the screw to be used.

The use of 12mm thick panels to cover vertical walls is not recommended as there is a probability that with contact with moisture, this surface will present positive warping or bending (towards the main face). The 4 mm and 6 mm thick panels are ideal for this type of application in hygienic backsplashes. It is enough to glue using two-part epoxy adhesives or, in the case of using 4mm panels, just use cold silicone adhesive with anti-fungal resistance. Other adhesives can be used, such as PU-based adhesives (polyurethane-Sikaflex-Bostik, 3M), but they are more expensive and the cost-benefit ratio per square meter will increase.

To counteract the warping or bending that may occur after installing the 12mm Impreza panel on vertical walls, it can be corrected using the following system:

NOTE: In case of using several screws to secure the panel to the wall, they should be positioned at a distance from each other of 450-600 MM either vertically or horizontally.

NOTE 1: It is recommended in all cases to perform waterproofing of the walls adjacent to the places where the hygienic backsplashes will be placed.

For the diagrams mentioned, here's a visual description approach since images cannot be directly provided:

Spiral Flute Up Cut Diagram: Imagine a cylindrical bit with a helical (spiral) cutting edge that wraps around the bit, starting from the bottom and moving upwards. This design is intended to lift and eject chips away from the material being cut, promoting a clean cut and preventing material re-adhesion. The visual would show the spiral groove clearly defined, highlighting its upward direction.

Given the text's technical nature, the diagrams would likely be detailed technical drawings or schematic representations focusing on the bit's design features, such as the spiral flute, cutting edges, and the overall shape suitable for plunge cutting or flush trimming.

Repairing Deformations from Warping/Bending in Impreza Compact Plates - Laminated Compacts

Repairing a deformed and installed 12 mm IMPREZA or high-pressure laminate compact (HPL) panel can be challenging since Compact/Impreza is a very dense and rigid material. However, there are some strategies you might consider to address the deformation:

Storage

a. Gradual Weight Distribution: Place the deformed IMPREZA/HPL panel on a flat and stable surface. Apply a uniform and gradual weight across the entire panel surface. This could involve the use of heavy and flat objects, like books or weights. Leave the weights on the panel for an extended period, possibly several days or even weeks, to slowly flatten it.

b. Controlled Heating: Applying gentle heat can sometimes help correct the deformation. Use a heat gun or a hair dryer on a low setting, but be very careful not to overheat, which can damage the laminate. Heat the panel evenly and gradually. After heating it, place it under a heavy and flat object to cool and flatten.

c. Humidity Control: If the deformation is due to a moisture imbalance, try to control the humidity around the panel. This can be a slow process and may not always be effective, depending on the extent of the deformation. Place the panel in a controlled environment where you can maintain consistent humidity levels.

d. Mechanical Straightening: In some cases, mechanical straightening using presses and a flat surface can be attempted. However, this method requires caution to avoid cracking or breaking the laminate.

e. Preventive Measures for the Future: Ensure that the HPL is stored flat and with uniform support to prevent future deformations. Avoid exposure to extreme changes in temperature and humidity. Remember, each situation can be different, and what works in one case may not work in another.

Cutting

Cutting panels or pieces with the long dimensions across the width of the sheet will significantly increase the tendency for deformation or warping/bending.

In the above example, the desired size of a piece of 0.5 x 1.2 meters should be cut so that the longer side of the piece is parallel to the longer side of the panel. Cutting optimization in dimensioners should take into account the previous rule.

Installation

In conditions where the panels are mounted on a wall or enclosed in a bathroom cabinet or an integrated plumbing system, adequate ventilation must be provided to ensure that the temperature and humidity conditions behind the panels are essentially the same.

In installation processes, the most common cause for the presence of warping/bending occurs when the Impreza panel is subjected to pressures due to material expansion. All materials expand and contract according to the climatic conditions of humidity and temperature. In the case of installing Impreza between walls, you must leave 1/8" (3mm) of space between the wall and the Impreza material, so Impreza can breathe without exerting pressure on the sides and thus not generate deformities on the surface or bending.

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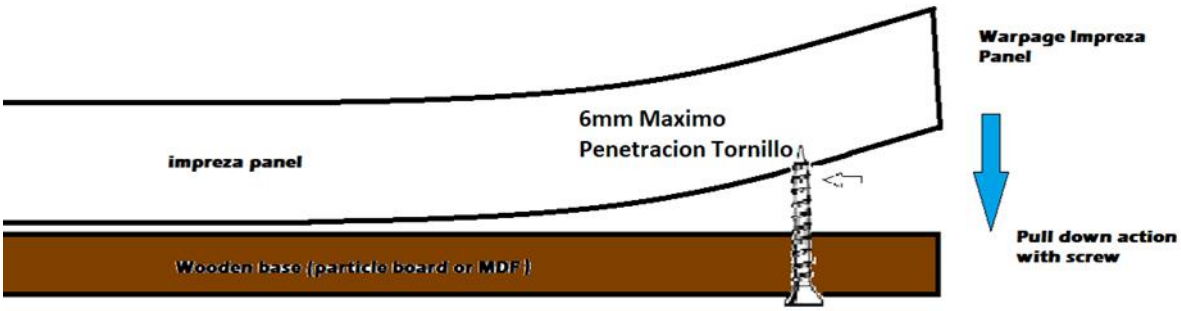

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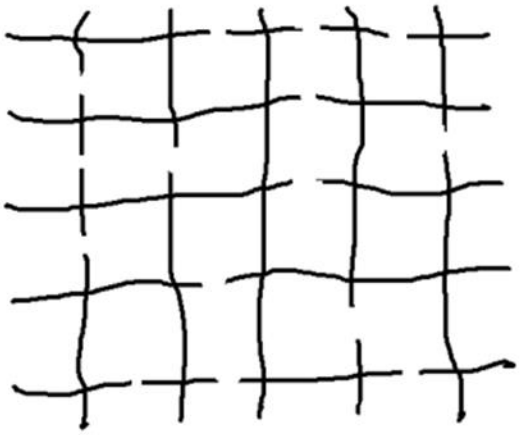
Other adhesives can be used, such as PU-based adhesives (polyurethane-Sikaflex-Bostik, 3M), but they are more expensive, and the cost-benefit ratio per square meter will increase.

Example of adhesive application making a grid pattern. Approximately 10 x 10 cm each grid. With the application gun, you should create grid-like beads. Note that the format must always leave an opening in each grid to ensure that air does not get trapped when positioning the Impreza plate.



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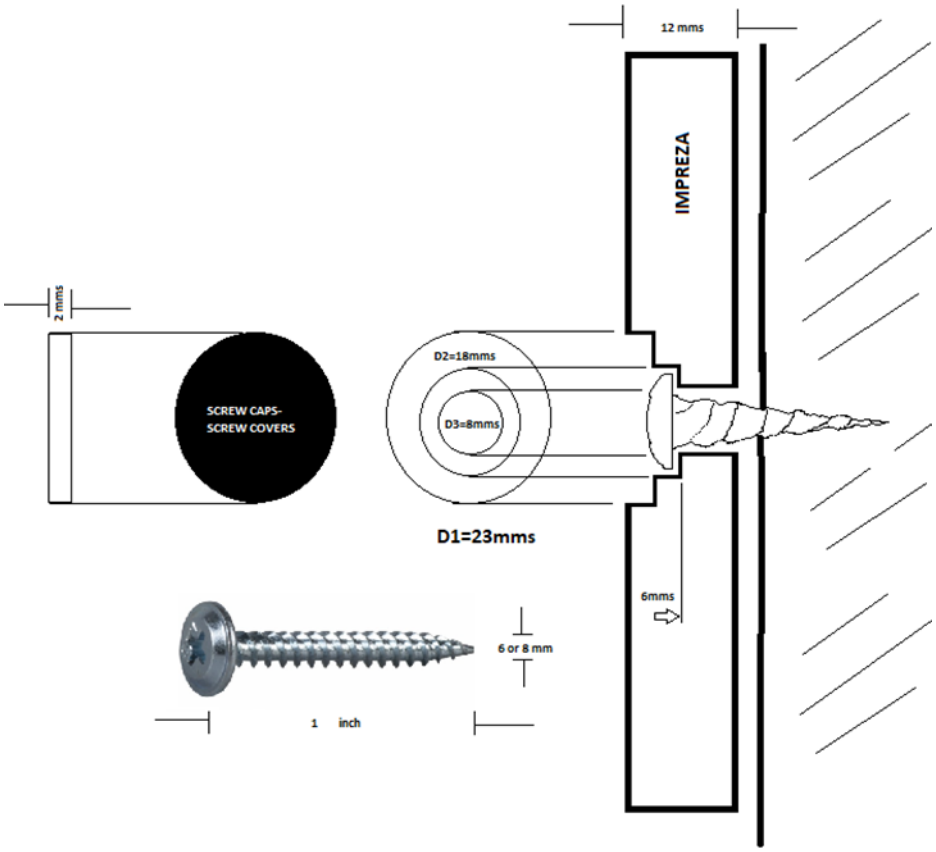

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NOTE 1: It is recommended in all cases to perform waterproofing of the walls adjacent to the places where the hygienic backsplashes will be placed.

NOTE 2: For Backsplash use we recommend 4mm thick panels and not 12mm.

RECOMMENDATIONS FOR INSTALLING STOVE, COOKTOP

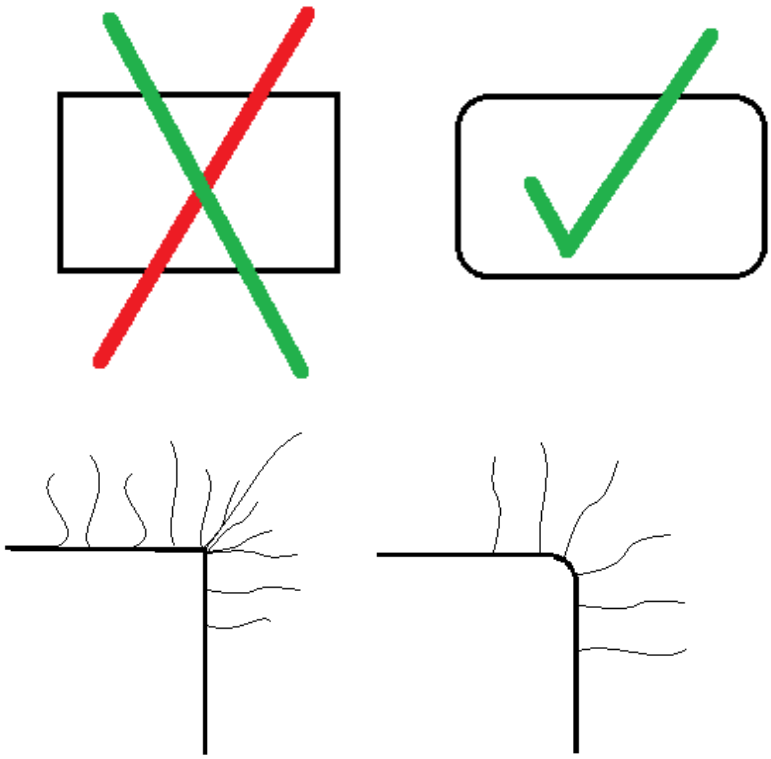
Always ensure that heat-generating appliances, such as cooktops and stoves, are placed at a safe distance from blinds and cabinets. Maintain a ventilation space of 150 mm between the end of the cover (backsplash - vertical wall covering) and any heating appliance.

For standalone appliances, you can leave a maximum unsupported length of 600 mm of panel.

Never place hot items directly on the countertop; Merino countertops may discolor if hot utensils are placed directly from the stove or oven. Always use heat-resistant mats or stainless-steel grills (insulating rods).

Darker colors may bleach, and lighter colors tend to be yellow.

To make cuts in areas where grills, stoves, or cooktops will be installed, it is recommended not to make straight vertex cuts. This is because straight cuts at 90 degrees will allow for the presence of micro-fractures at the inflection point. The accumulation of these micro-fractures can lead to a larger fracture from the vertex point. To avoid this potential situation, cuts should be made with a radius at the inflection point of the vertices, thereby presenting micro-fractures along the radius of the circumference.



Visual Representation of Micro-fractures
At a vertex point (accumulation)
May lead to a larger fracture

Visual Representation of Micro-fractures
Along the cutting radius.
No accumulation point for micro-fractures.