

HUURRE PANAMÁ

# ***FACADE***

## ***INSTALLATION AND HANDLING MANUAL***

*Innovative solutions, tailored to your needs*



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**RECOMMENDATIONS**



## STEP 1: LOADING OF MATERIAL

The panels will be loaded on a platform of at least 40' in length. Once the package has been placed the carrier will proceed to hold the panels with slings. Between the panels and slings the carrier must place some steel / wood protection angles to protect the panels from the compression forces applied by the slings otherwise, the panels could be affected by deformations.



**Loading in truck:** Loading process, we place protected packages to avoid damage to the transfer by limiting them to minor details (small scratches in the tongue and groove area not visible once installed)



## STEP 2: UNLOADING MATERIAL

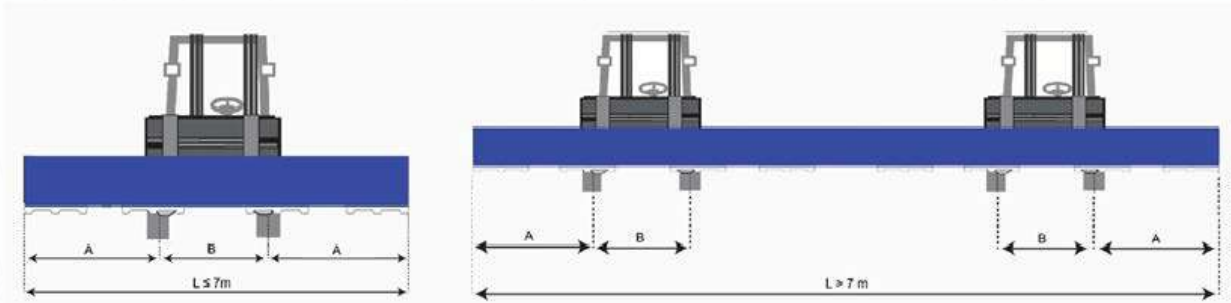
The unloading and handling of the panels is the responsibility of the customer and will be carried out with the appropriate tools to limit the bending of the panels. Before handling the packages, it must be checked that the stretchable plastic that holds the panels is in good condition and maintains its consistency. The lower polystyrene protections make it possible to avoid damage to the panels during their unloading.

It is the responsibility of the customer to check each package to verify the quantity, dimensions, state of the panels, state of the packaging (to proceed to the handling of the packages without risks), etc. In case of any anomaly or damage to the material, it is necessary to notify it in the certificate of conformity document along with the carrier's signature.

### Lateral handling and unloading by forklift:

The package must be lifted and/or transported using the polystyrene pallets as a base through the forks. They must have a minimum support surface of 10cm wide and 120 cm of length.

The separation between supports must be at least 1.5m for packages of less than 7m in length. For lengths longer than 7m must be used a support every 3.5 m, including the last blade and the end of the panel.



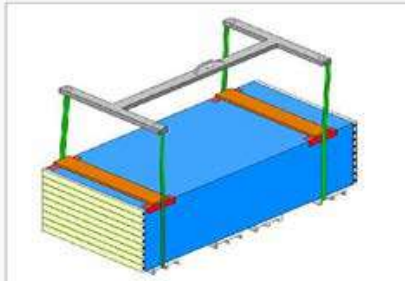
### Unloading and handling by crane:

For lifting by bridge crane and slings, the packages must be protected by separators to prevent the crushing forces of the slings when lifting the package from damaging the panel.

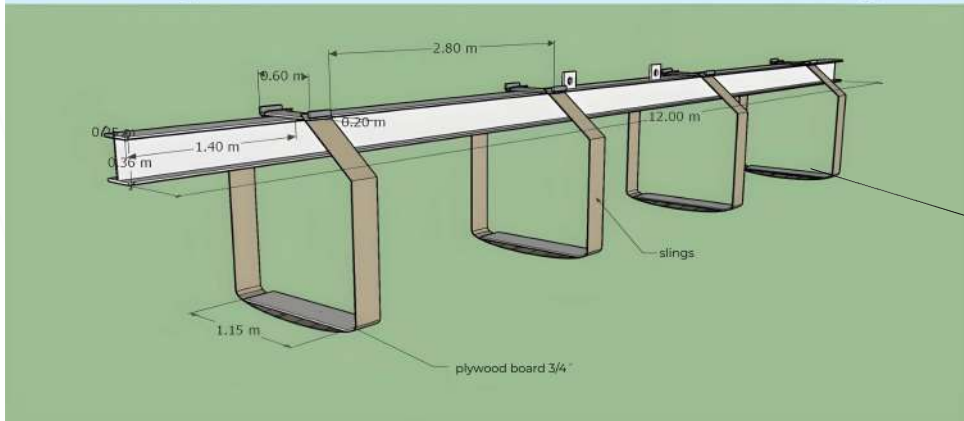
These separators has to be placed on the base and top of the panel, we recommend the use of corners to avoid scratches on the panel.

For panels of more than 6 meters, a spreader beam must be used to avoid damage to the panel. The bands or points of recommended support, the length of the panel is:

- Up to 6 meters: 2 bands
- From 6 to 9 meters: 3 bands
- From 9 to 12 meters: 4 bands
- From 12 to 15 meters: 5 bands



## Spreader beams for unloading



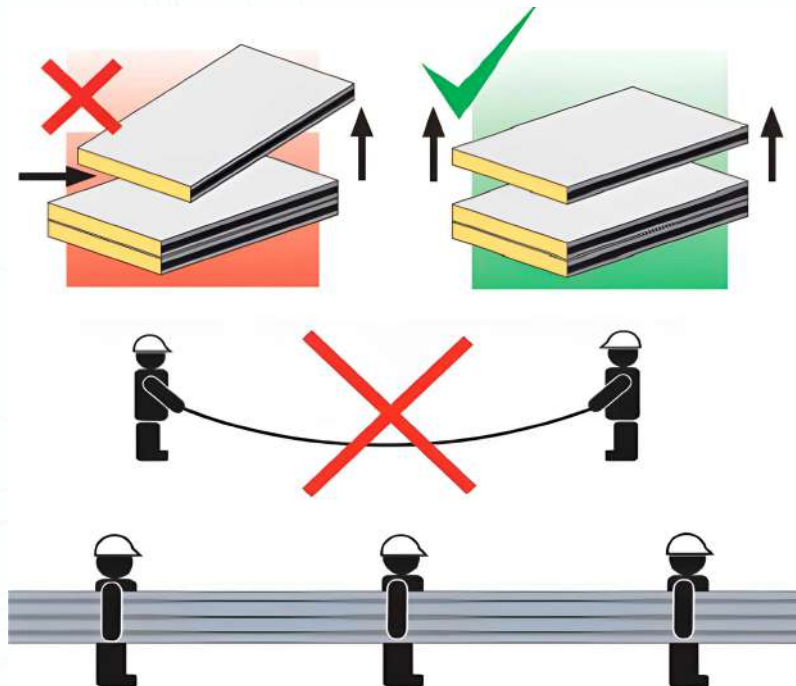
Usar tabla de plywood de 1.07m X 0.60m x  $\frac{3}{4}$ " de esp.

Para la descarga y evitar flexión en borde de panel

### Manual handling:

For the manual handling of the panels on site it must be taken into consideration:

- Do not slide the panels on top of each other to avoid damaging the paint
- Hold the panel by placing a person every 3 meters transporting it in position perpendicular to the ground.



The bending of the panel can cause the core sheet to take off causing air bubbles and abnormalities in its flatness.

### STEP 3: STORAGE

Limit the storage time on site to 1 month. Deposit the packages in a covered place. If not, it is possible to protect them with non-transparent waterproof fabrics. In case the panels carry film of protection, it should not be exposed to the sun's rays to prevent it from heating up the metal sheet.

Store the packages on the floor, away from metallic pollutants, on a ventilated and slightly inclined surface (between 1° and 5°) where the flow of an eventual condensation is favored and thus avoid the stagnation of water. No exceed the number of stored packages to avoid deformations in the panels.

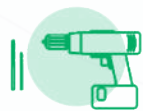
### STEP4: WORK TOOLS AND CUTTING PROCEDURE

**HUURRE PANAMA** does not assemble the panels, which is entrusted to experienced companies. Before starting the assembly work of the panels, it is advisable to check the general dimensions of the structure, as well as its apt and correct leveling. The placement of the first panel is essential for the correct assembly of the assembly. The use of panels with structural purposes or to support constructive elements is absolutely discouraged. For this reason, in the case of heavy supplements that need structural support, it is essential that this support is to the structure of the building and not to the panels.

#### 4.1 Work tools:

The instructions present different tools to be used during the installation of the facades Likewise, individual protections appropriate to the tools, and collectives appropriate for the type of work, must be sought.

#### Tools for assembly



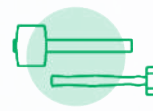
Portable Drill & Drill Bits



Powered Screwdriver



straight cut aviation snip



Rubber Mallet



Jigsaw



Rivet gun (rivets of 2-6mm)



Plumb line and level



Stainless steel spatula



Locking Pliers



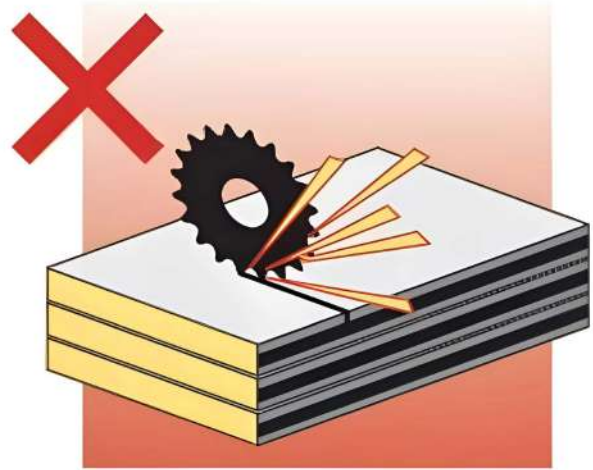
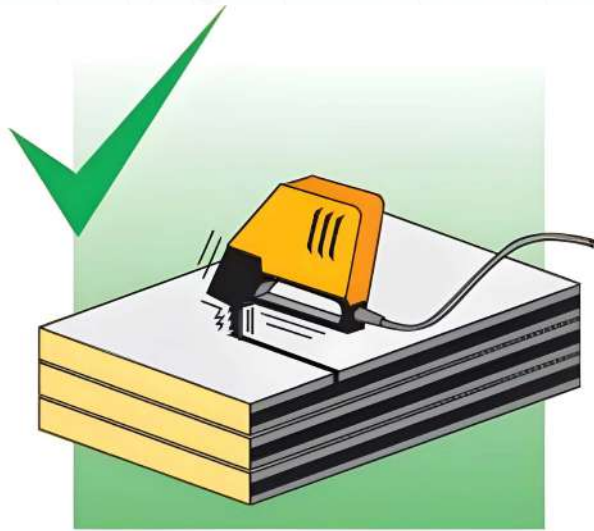
Linesman pliers



Circular Saws

## STEP 5: CUTS

Establish the cutting site away from the panel storage. This surface must be completely flat where the person can make the cuts comfortably before raising the panels to the ceiling. A cold-cutting tooth saw will be used, ensuring that the cutting plane of this is perpendicular to the skin of the panel. Protect the adjacent area to the cutting section so as not to deteriorate the coating of the skins. Just non-sparking tools must be used.



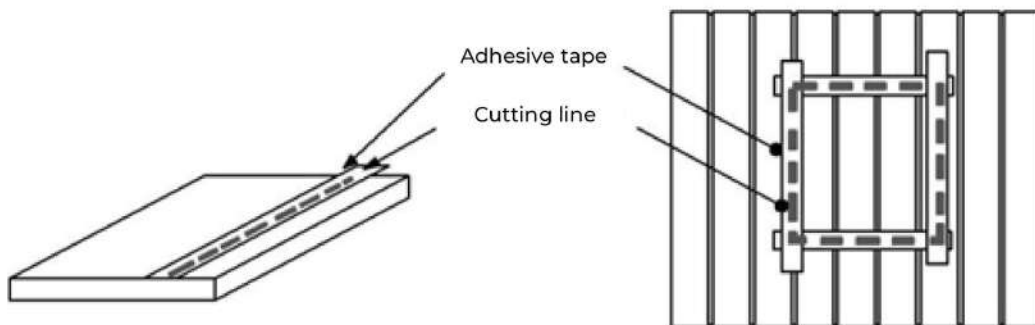
### 5.1 Paneling's cutting process.

Most of the panels arrive with the lengths requested for your project, but it is possible that some elements must be conditioned in the field before assembly: longitudinal and/or transverse cuts, overlaps and spans for special installations, among others.

Below, we will describe the general procedures for making the cuts of the panel:

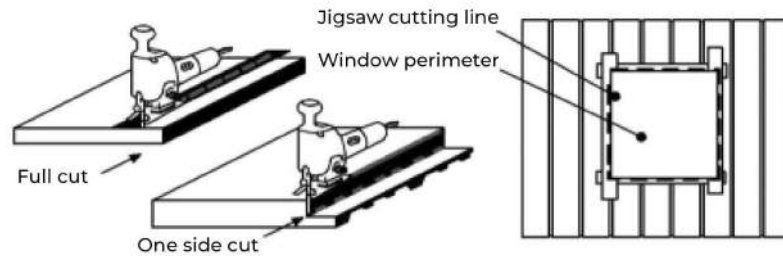
#### Line

- Determine and protect the surface where the cut is to be made and place an adhesive or masking tape to best protect the finished surface of the panel.
- Draw on the tape with marker the guideline where the cut is to be performed.



Check if the line is correct and proceed to cut the panel with a jigsaw. If you are going to make a full thickness cut, make sure that the length of the cut of the saw blade is greater than the thickness of the panel. When it is cut on a single side (required in overlaps or in special installation) make sure that the saw blade penetrates the polyurethane to the desired depth.

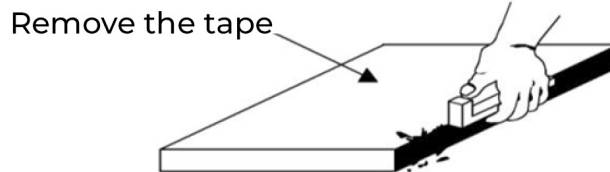
Install the specific saws for cutting metal sheets on your tools. Remember not to use a disc saw to make the cuts on the panels because the friction burns and damages the paint.



### Cut finishes

- Immediately after cutting, carefully clean the particles and metal residues that may remain on the edge and/or surface of the panel, because over time they can generate oxidation points damaging the paint.
- Use the vacuum cleaner both in the workshop and in the assembly areas, always ensuring that the surfaces of the panel are clean and free of residues of cut and metal particles.
- If necessary, file the ones on the panel until you get a perfect finish.

Remove the tapes from the surface and clean the panel until it is ready for installation. Locate it at a point near the assembly site.



## STEP 6: PREPARATION OF THE WORK AREA AND FIXED OR MOBILE SCAFFOLDING

6.1 Before assembly, the protective polyethylene film must be removed over the entire length of the panel with a round or similar broomstick that can be removed with greater agility, but only in the part where the panel will be outdoors since it is advisable to leave this film for the casting of the concrete and thus prevent the sheet from being damaged by direct contact with it.



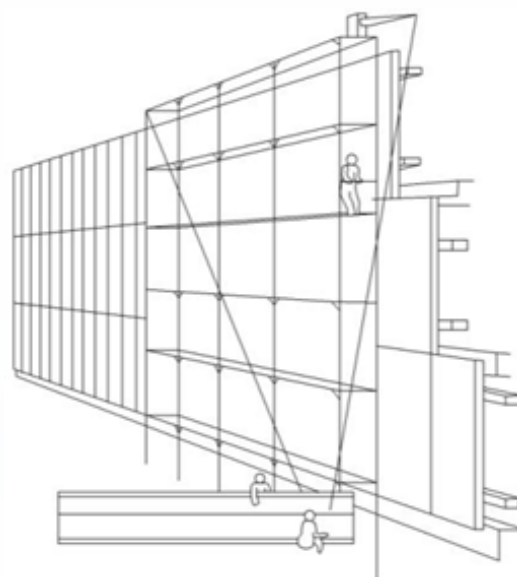
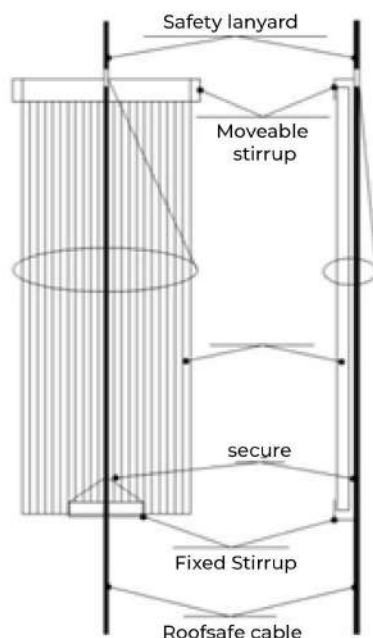
6.2 Carefully check that there are no traces of adhesives from the protective film on the surface. If the presence is noticed, dispose of it using a detergent in aqueous solution.

6.3 In the event that the surface of the panel presents obvious dents, scratches, marks on the sheet, corner it to use it in smaller measures.

6.4 In cases where the panels must be lifted to a height where it is not possible to operate from the ground, it is advisable to pull up through a pulley or with a crane with the help of a cable provided with two supports that are used, one, at the bottom of the panel, and the other, with a stop provided with a sliding handle, which is placed at the top of the panel.

For each installation of each facade panel, it is important to hold at the lateral ends between the male and female with lace samples, where the girdles will be pressed, and damage can be avoided such as bubbles and others.

A safety ring with carabiner and a guide rope complete complete the lifting device



## STEP 7: INSTALLATION PANELS

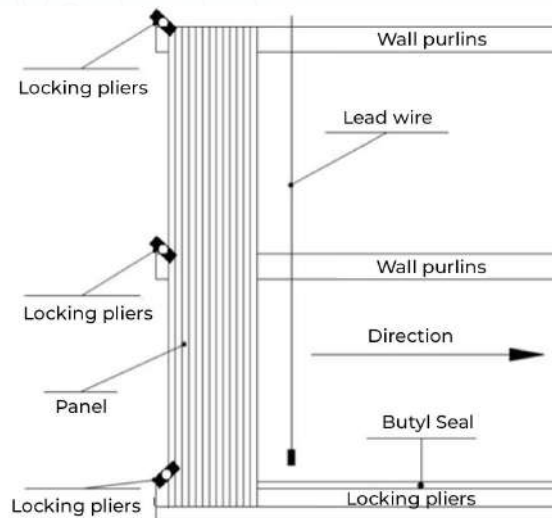
7.1 On the constructive designs, the starting point of the first panel must be indicated vertically, being careful with the alignment between them. Such an operation can be carried out with lead thread.

7.2 Determine the installation sequence, make the strokes and install the bottom profile perfectly leveled. In the case in which the assembly is made on a support structure, the installation is carried out with self-tacking screws.

7.3 The distance between the gaps in the desplante should not exceed 500 mm. In the cases in which the flashings must be joined, set them to the fullest, one followed by the other, taking special care so that the gasket is hermetic and well presented. You can seal the joint with butyl or polyurethane sealants.

7.4 Once the support structure and the lower guide beads have been revised, determine the starting point. In the self-supporting wall system, the gaskets of the panels must be sealed and will go to the lower profile using self-tap screws No. 8 x 1/2" and butyl seals.

7.5 Position the first panel with the plumb, control verticality, after it has been provisionally held to the structure by locking pliers.



7.6 Proceed to the fixation by applying the screws according to the illustrated scheme

### Hidden joint

Joint that hides the fixing of the panel to the supporting structure that protects the screw head and increases its durability



### Easy assembly



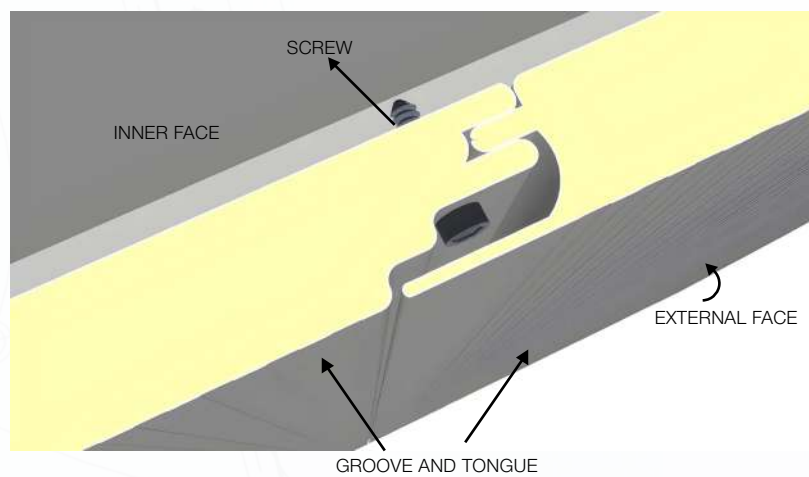
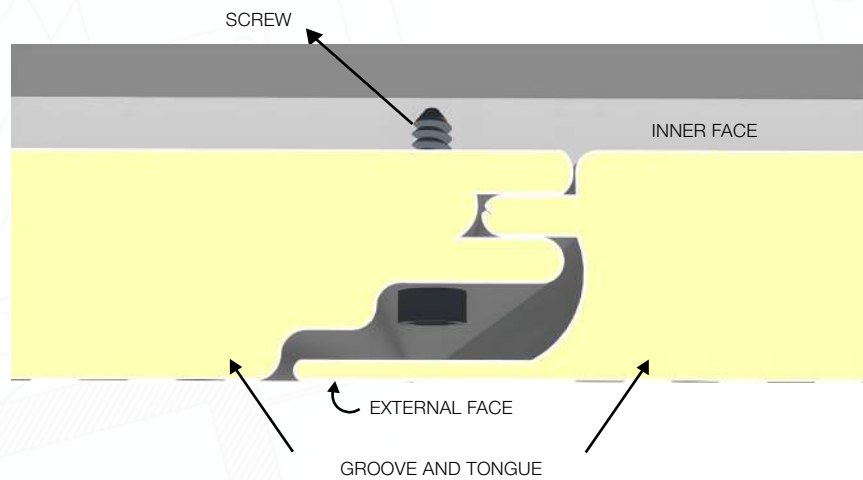
7.7 Remove the locking pliers then with a plumb, check the verticality of the panel.

Before assembling the second panel, check that the joints are clean and free of possible excess foam. For a correct and easy assembly, the second panel must be next to the panel already fixed and must be inserted into the splice with a small inclination of the outer side.

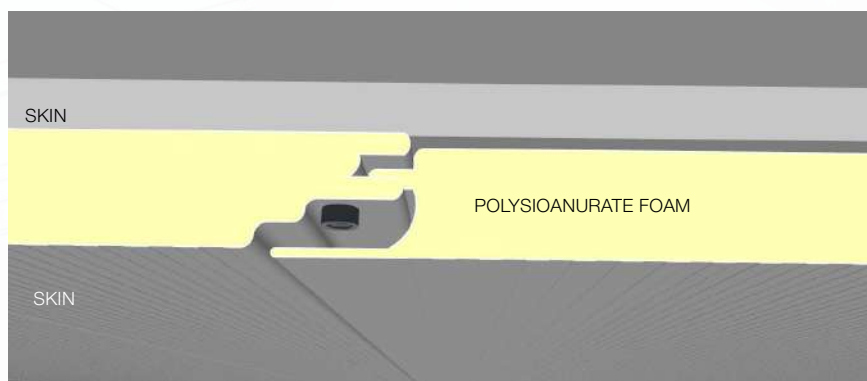
Verify the perfect realization of the joint by checking that the external surfaces of the two adjacent panels are in contact with each other. Similarly, the successive panels are continued to the end of the wall, controlling the verticality every 3 or 4 panels.

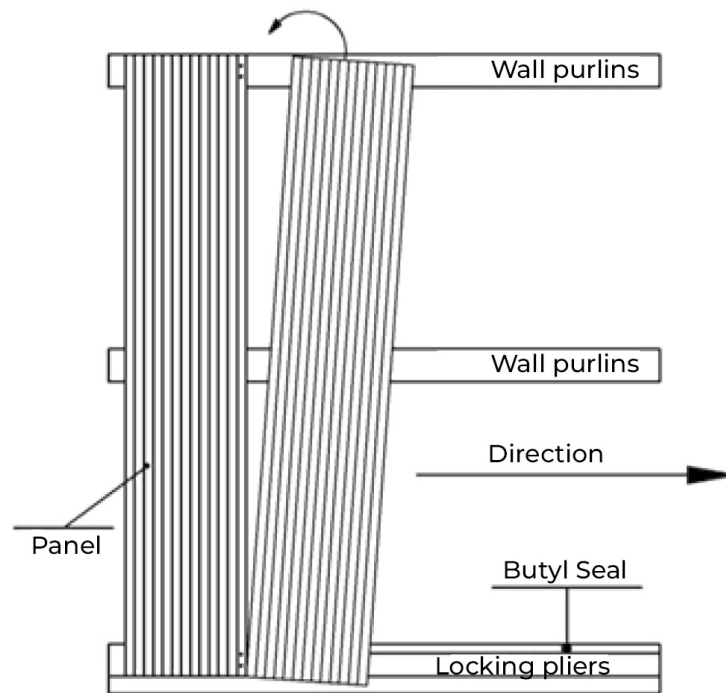
## CORRECT WAY TO INSTALL THE FACADE PANEL

For the facade panel installation system, it is important to know the correct way to fix the screws to the load-bearing structure; as shown below.



Correct alignment is crucial to avoid future problems





7.8 Proceed to make the necessary cuts on site, such as preparation of installation gates, gates and equipment, or for the preparation of the crowning of the walls with slopes to receive the roof panels. Refer to chapter 5 of panel cutting of this manual to see the recommendations for the cutting operational

## STEP 8: ASSEMBLY OF THE ACCESSORIES

Check the quantities and status of finishing accessories, fasteners and sealants that you will require for the project. Have the complete packages ready, as far as possible, in the place closest to the point of installation. Locate all the materials to be used, as well as the panels that must be conditioned before assembly (cross-laps, longitudinal or transverse cuts) in the planned workshop area.

There are two alternatives for the installation of the complementary elements to the panel system such as gates, equipment, gates and installations:

### 8.1 Supported elements

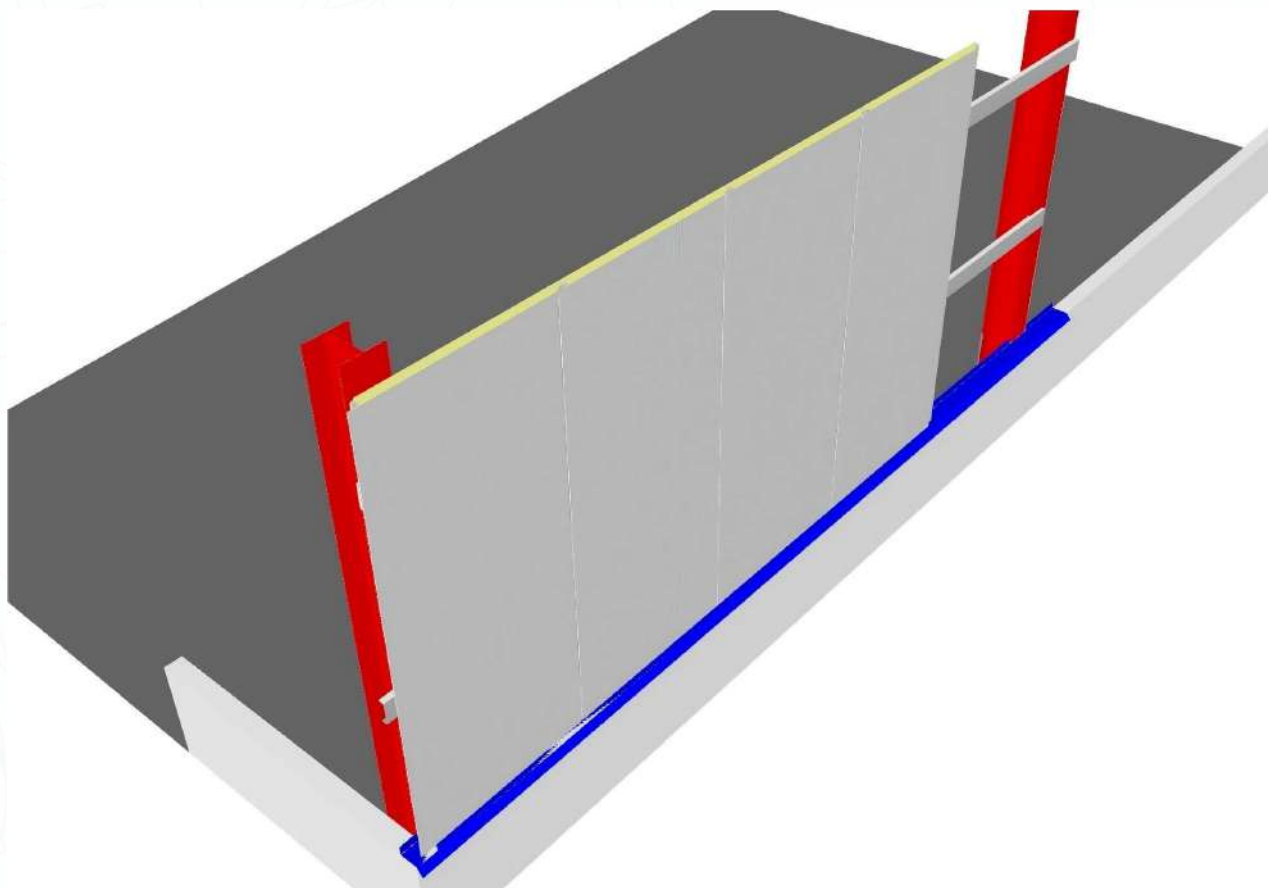
large doors or equipment with great weight and size, must be supported directly by an auxiliary suspension structure independent of the panels. The fixation is made directly to the support structure and are joined to the panels by means of beads of the frames by previously applying the butyl or polyurethane sealants fastened with self-tapping screws.

During installation, avoid dirtying the surface of the panel. Remove any metal chips in contact with the surface of the panel as soon as it occurs and before it rusts because it could stain the finish. We recommend removing these particles with air to avoid scratches on the surface of the organic coating

### Fixations:

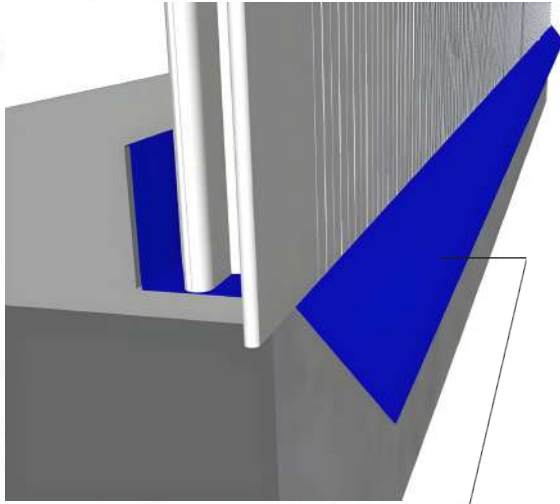
The screws must be. The tightening torque of the screwdriver must be necessary to guarantee a good fixation, avoiding excessive torques that can cause surface deformations on the outer sheet of the panel.

The screws on the side edges must be embedded with Sika Flex 1A, the rivets of all the trims must be sealed in the head area with Sika Flex 1 A

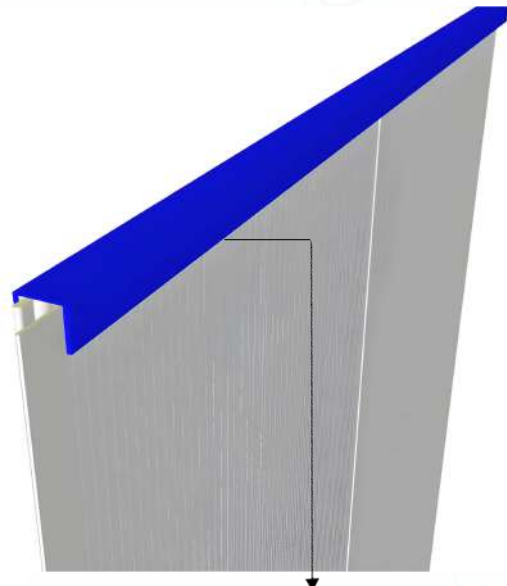


(01) Installation of facades in structure

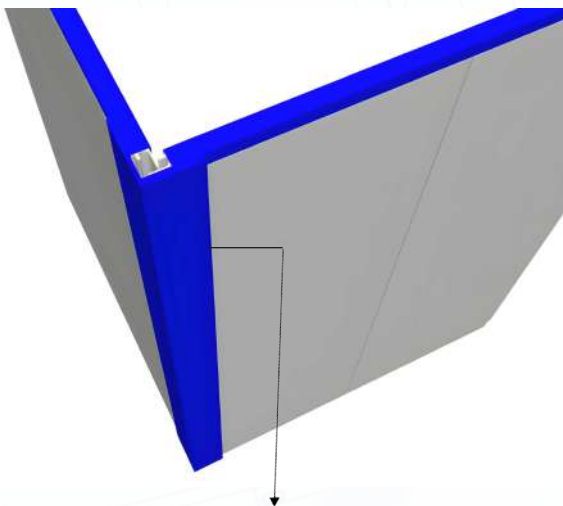
## REMATERÍAS



(02) Water droppers for walls



(03) U profile



(04) Exterior angle



(05) Internal angle

## **RECOMMENDATIONS FOR INSTALLATION REVIEW - CHECK LIST**

- The facade panels must be installed simultaneously in the correct way for each wall.
- The pearls must be installed on the edges of each wall.
- Check that all areas of the facade panel do not have exposed screws.
- Review that the plastic has been removed on the surface of the facades.
- All the accessories must be riveted.
- All exposed rivets or screws must be sealed with Sika Flex 1A points.
- Each auction must be installed correctly in the position indicated in the manual.
- In case the rust has penetrated the paint of the panel carelessly, it is necessary to clean with diluted anti-corrosion solution and paint the affected area.
- The areas of the facades must be completely clean without contamination.
- Follow the procedures of the installation manual, handling and maintenance manual



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