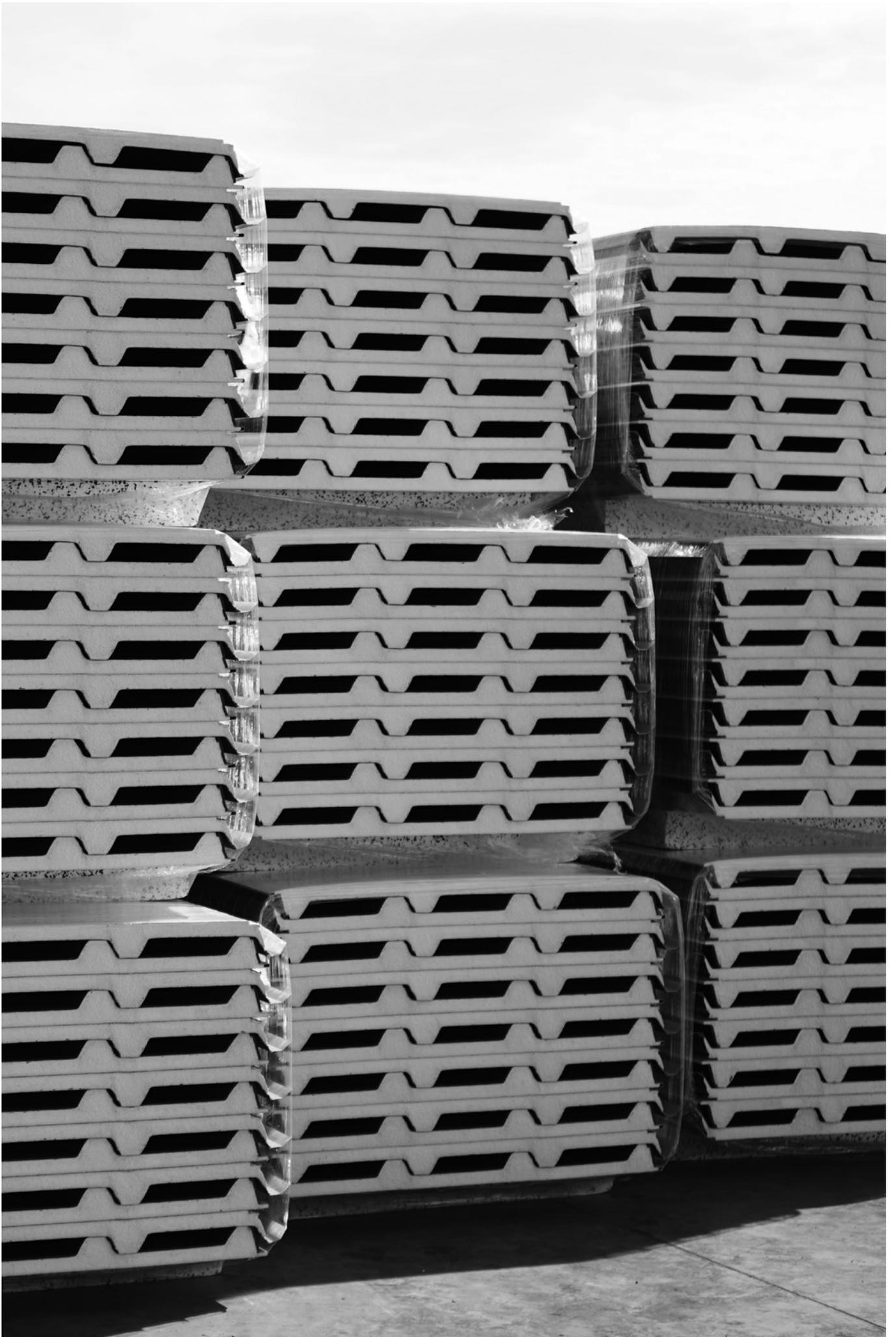


Handling Installation





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Packaging



All CORE products of ELASTRON S.A., panels and accessories are properly packaged, according to their type, at the factory premises and they are protected from the safe transportation to their intended destination place.

The packaging procedure is automated (pictures 1, 2).

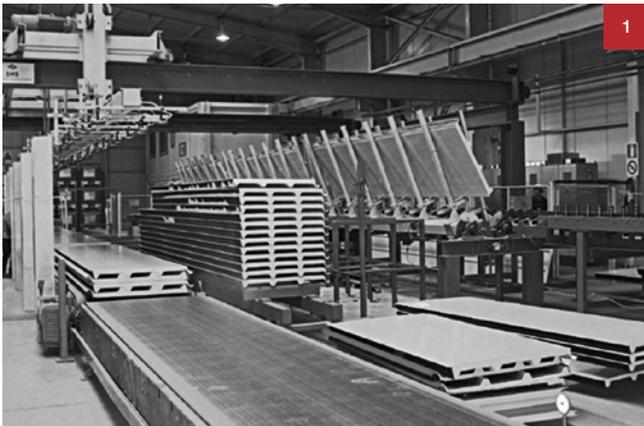
After completing their production cycle, they are taken to the stack unit where they are placed one over the other horizontally with suitable protective polystyrene gaskets and they are wrapped with special watertight stretch packaging film.

At the base of each stack are placed polystyrene foam boards of 100 mm thickness and 250 - 400 mm width in distances of 1.300 - 1.500 mm.

The number of the panels in each stack varies according to their thickness, the transportation conditions, and their placement at the intended construction places.

In the standard packaging, the maximum dimensions of the stack are: 820 mm height (polystyrene boards included), 1.100 mm width and 16.000 mm length (picture 3,4).

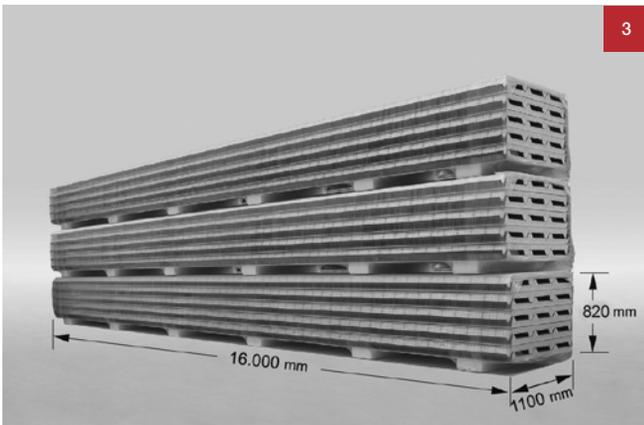
The flashings are packaged in wooden stacks for safe and easy transportation and unloading.



1



2



3



4

Loading - Transport - Unloading



The transportation of the products from the factory to their intended construction place is usually accomplished through the road network on open or closed trucks.

No more than three pallets per height can be stacked during transportation in two lines per width (picture 5).

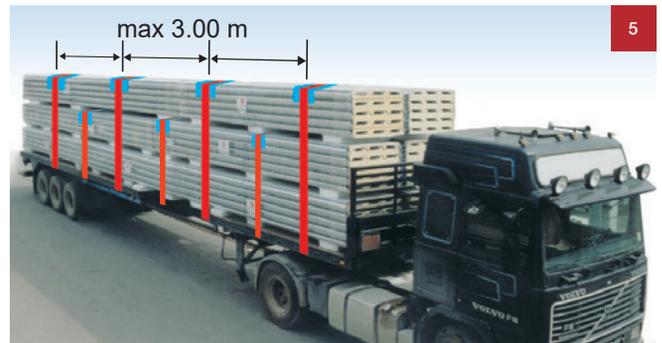
For pallet loading, forklift vehicles (clarks) with four forks suitable for pallets up to 16 m in length are used (picture 6).

Transport operators must give great care to the safe tying of the packages – pallets to the trucks. Metal strips, chains and wire ropes are not to be used.

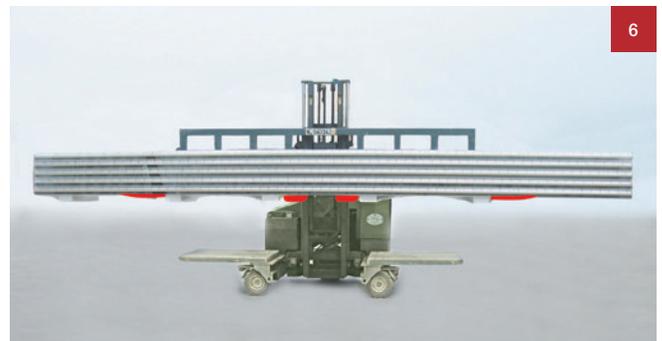
The cargo should be secured to the truck with suitable, flexible tying straps. Special attention must be given to the tightening of the straps so as not to damage and distort the panels, especially those located at the top of the packages.

Where the straps meet the edges of the packages, special hard plastic corners should be placed (picture 5).

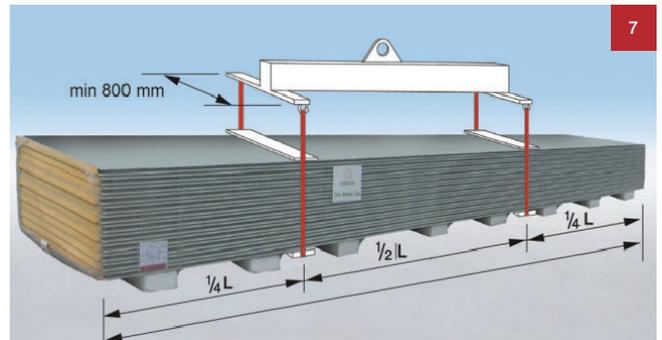
During the itinerary, the straps should be regularly checked and tightened when necessary.



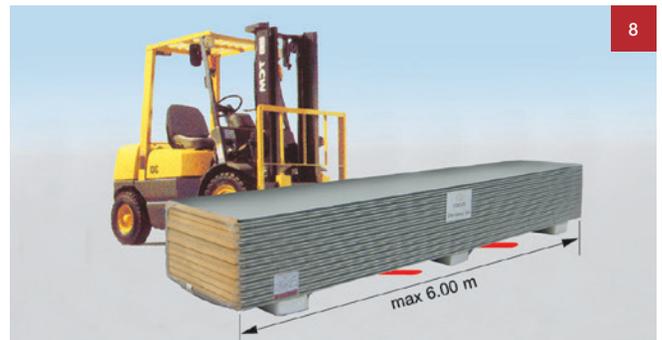
5



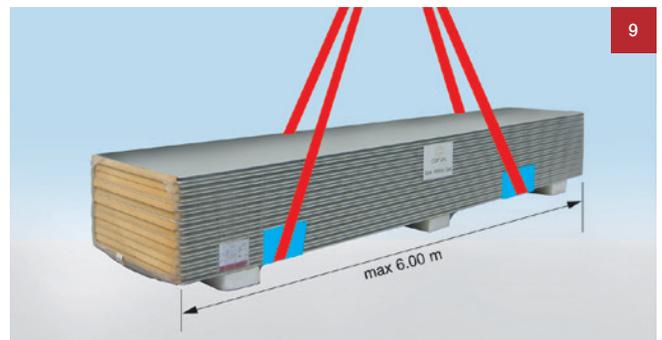
6



7



8



9

 The pallet packages are unloaded at their intended destination with full responsibility of the receiver. For proper unloading, the instructions below should be followed, so that no damages are caused to the packaged products. The pallets should be lifted and unloaded one by one at a time.

 Packages exceeding six (6) m in length should be lifted and unloaded with a crane using flexible tying straps at least 100 mm wide or a tackle (picture 7).

Loading - Transport - Unloading



Packages up to six (6) m long could be unloaded with forklift vehicles (clarks) or a crane using flexible lifting straps (picture 8, 9).



Special attention should be also given so that the vehicle's forks do not damage the panels located at the bottom of the package (forks covered with foam material).



During elevation, the sides of the package, that meet the straps must be protected by placing protective corners or wooden board spacers deflectors 60 mm longer than the maximum pallet width (pictures 7, 8, 9).

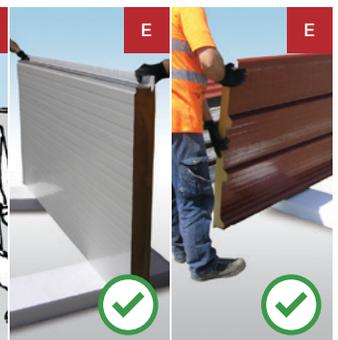
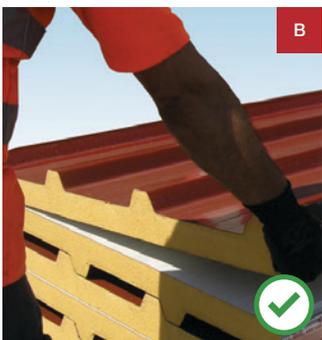
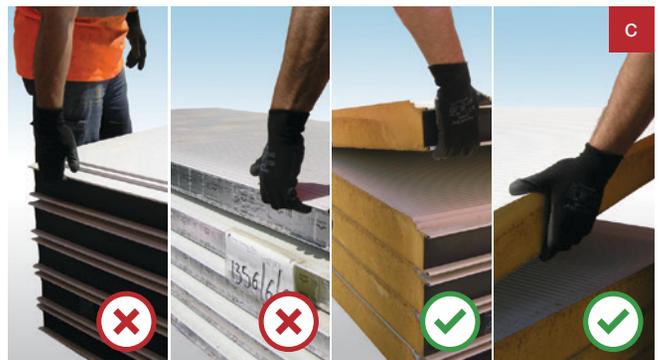


The above also apply to the transportation or lifting of pallets within the construction sites as well for local movements.



When handling panels, the following rules must be strictly be followed:

- A.** Appropriate hand protection gloves usage.
 - B.** Once the pallet is opened, each individual panel should be fully lifted from the palette and not to be dragged on top of the others.
 - C.** The single panels should be lifted from underside and not from their recesses of the joints.
 - D.** Take care not to hit the panel's edges. Never tipped the panels to their corners.
 - E.** The panels should be placed on soft material and should be transported in vertical position.
- The protective covering film on both external surfaces should be removed immediately after installation and in any case not later than 15 – 20 days from their production date.



Delivery

The company does everything within its power to ensure the excellent production, packaging, and delivery of its products. The delivered products should be always checked before unloading, for possible ordered missing items, for good product condition as well as for possible damages that might have been caused during their transportation.

CORE department of ELASTRON S.A. in the context of efforts for continuous improvement of their services, wishes to be directly informed regarding any problems that may arise during the delivery of their products.

Storage

There are many cases where packages must be stored in construction sites for a short period of time before their placement. To ensure the preservation of their features' qualities it is very important that the rules below are followed:



Store packages in their original packaging in covered, dry, well aired - out and flat areas.



If this is not possible then cover the packages with a waterproof material on a sloping surface of about 4°-5°.



Air out regularly to avoid the gathering of water vapor.



Protect from direct sunlight, rain and dust and check regularly to ensure that they are in good condition. Storage time should be kept to the minimum (picture 10).



Assembly - General instructions



To a great extent, the final aesthetic and functional results of a building project depends on the proper and careful placement of the cladding materials in addition with the special finishing parts (flashings).

Below are reported the general instructions which should be followed during the CORE panel installation.

To begin with, the application study should take into consideration all features and specifications of the materials to be placed, as well as their additional details.

Before installation, check the building's frame, particularly the panels support rails.

It is very important that the cladding materials are properly applied, so that the purlins and sleepers' longitudinal members are well levelled, with slopes within the limits of the equivalent European specifications and regulations.

For panel cutting, which is necessary to be done at the construction site, use an electric circular revolving saw or a reciprocating saw (jigsaw). Never use drills or manual hacksaws (picture 11). When cutting is completed carefully clean and remove metal scrap and shavings.

The team working on the building's roof should take into consideration all safety measures as stated by the equivalent Greek and European Standards.

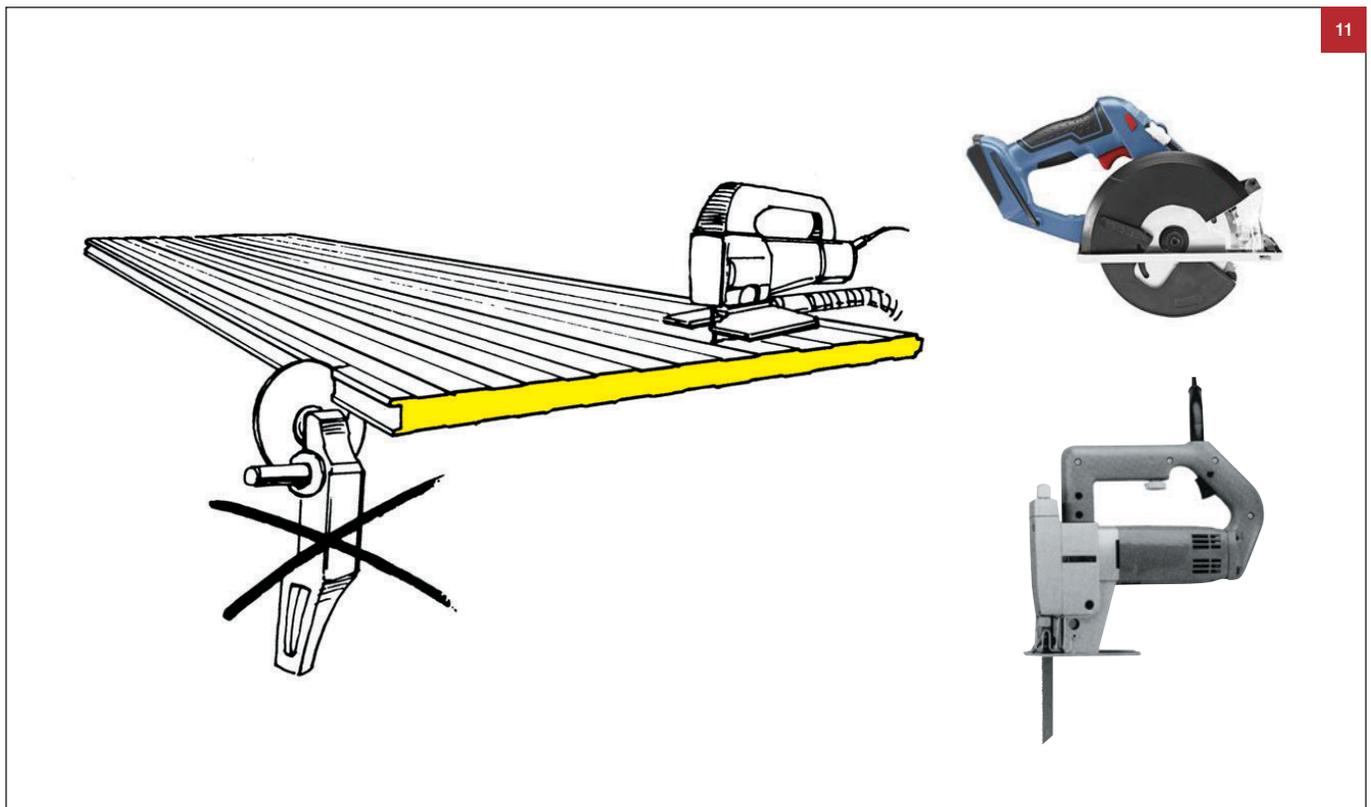
It is very important that shoes with soft and non-slippery soles are worn.

The importance of the bimetal electrolysis phenomenon is often underestimated. It is caused by the direct contact of incompatible materials with the simultaneous presence of humidity.

Bimetal electrolysis can bring about the quick oxidization of one of the materials in contact.

To deal with this problem, place a thin PVC membrane between the materials.

After each working day, it is important to thoroughly clean the surface and covering materials. Remove all unneeded materials, such as screws, washers and other metal parts that may cause corrosion, oxidization, stains etc.



Assembly

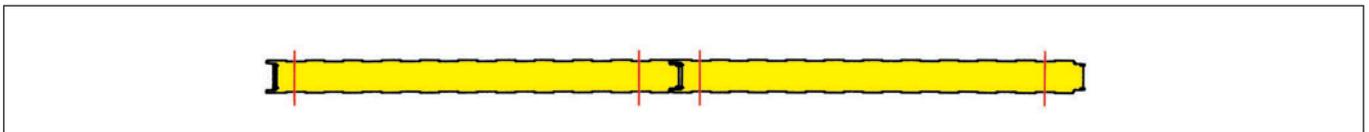


The roof and wall cladding materials should be lined during assembly and then fixed steadily on the metallic secondary frame of the building with self-drilling screws.

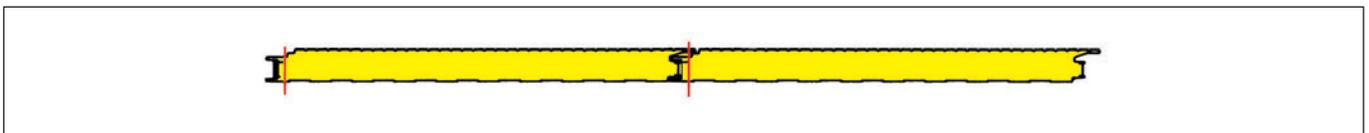
The number of the fixing materials depends on the position of the panels in the building and on the predicted loads (pictures 12a and 12b).

Calculated number of fastening for ECOPANEL® WL/FW - ECOPANEL® WLC

Intermediate area

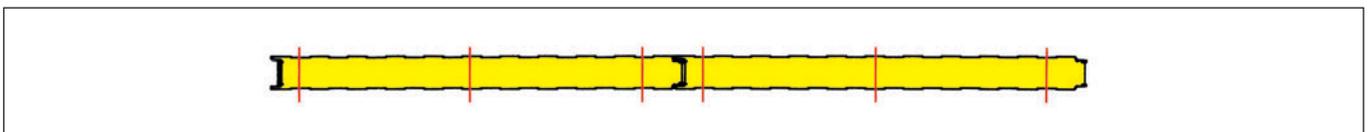


ECOPANEL® WL/FW: 2 self-drilling screws per purlin from both sides of joint.

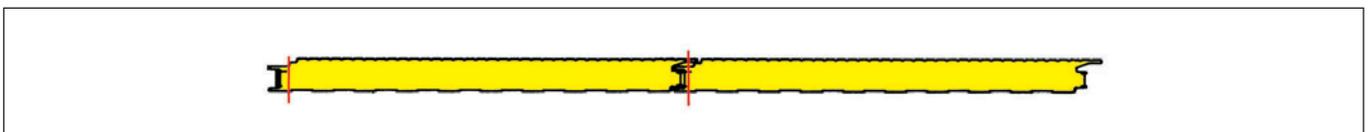


ECOPANEL® WLC: 1 self-drilling screw per purlin in the join of male - female.

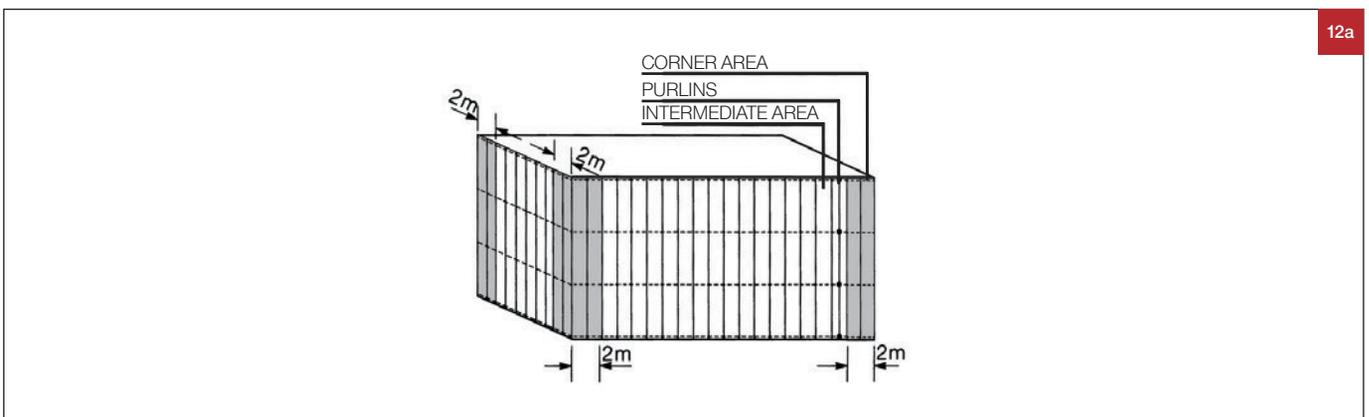
Corner area



ECOPANEL® WL/FW: 3 self-drilling screws per purlin.



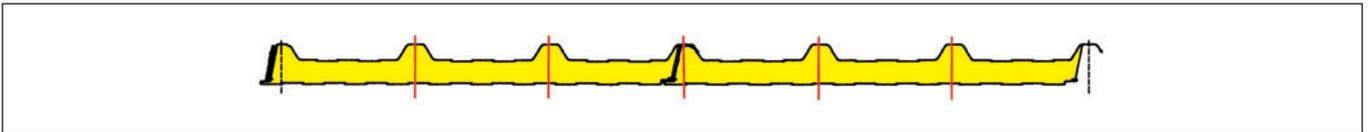
ECOPANEL® WLC: 2 self-drilling screws per purlin in the join of male – female in a distance of 35 mm the one below the other.



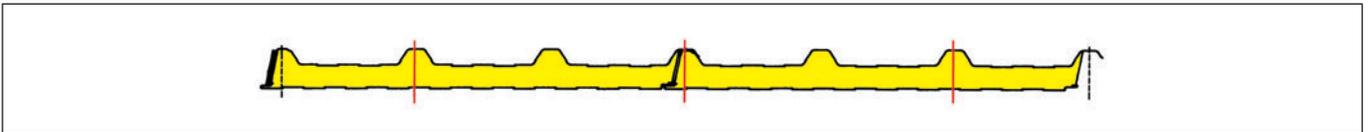
Assembly



Calculated number of fastening for ECOPANEL® RL



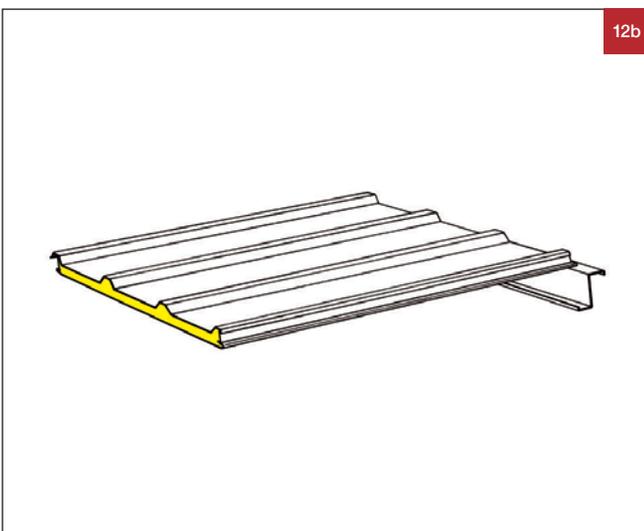
ECOPANEL® RL - End panel: 3 self-drilling screws per purlin.



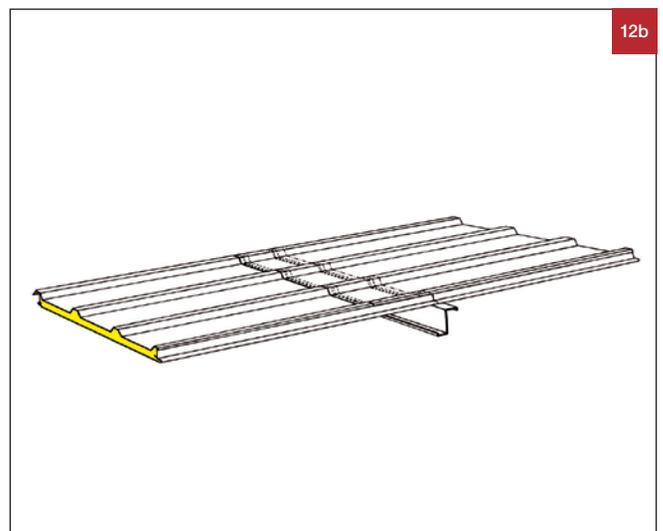
ECOPANEL® RL - Middle panel: 2 self-drilling screws per purlin.

Minimum allowed roof inclination for roof panels

The minimum allowed roof inclination for CORE roof panels according to their design is $\geq 3^\circ$ (~5%) but it is recommended to use the below inclinations.



For roofs without joints per length $\geq 5^\circ$ (~8,7%).



For roofs without joints per length $\geq 7^\circ$ (~12,2%).

Assembly



For the assembly of roof and wall cladding materials we use the suitable fastening materials.

As a main material to fasten the CORE panel to the frame of the building, we use the self-drilling screws with two different threads, one on the bottom point and the other on the upper part (picture 13).

These screws are specially designed, so that when going through the panel, to fastened them steady in the building's metal frame and at the same time

sealing them at the point of their contact with the external steel sheet, without additional tools or previous drilling of the metal frame.

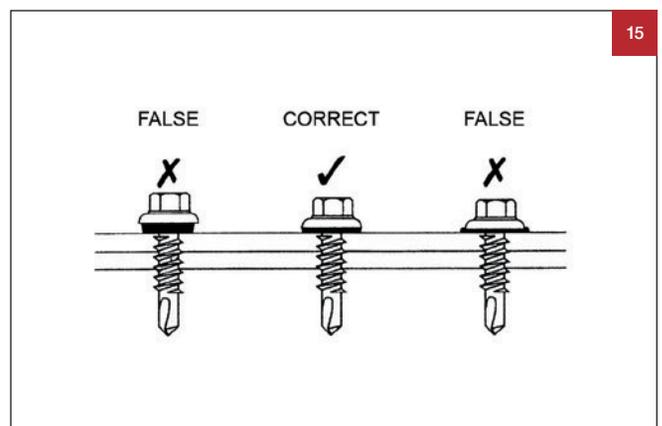
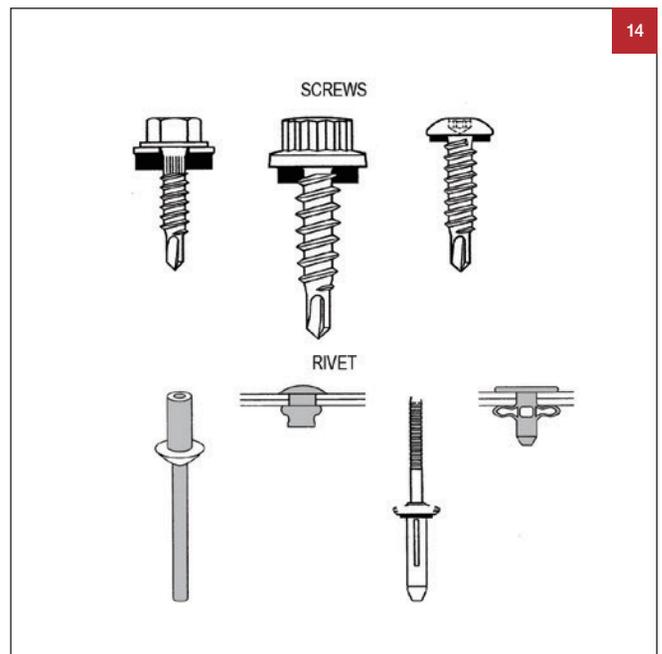
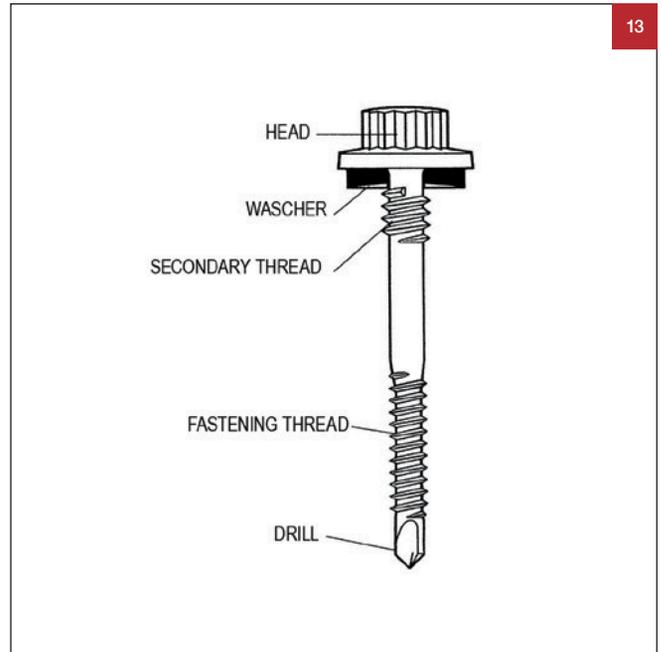
The drilling ability of each type of screw needs to be greater than the thickness of the metal which we want to drill. For metal thicknesses from 1,2 mm up to 5 mm the drilling capacity is 6. For metal thicknesses from 5 mm up to 12 mm the drilling capacity is 12.

As secondary fixing materials we recommend the use of self-stitching screws with one thread and different heads, according to the usage, as well as the rivets (picture 14).

They are used for the join per length of CORE panels, wherever necessary, as well as for the fastening of the flashings on the panels and the flashings among themselves.

The drilling and fastening process of the materials should be made with appropriate tools such as the electric adjustable progressive drill (screw gun) (picture 16).

It is important for the watertight and the sealing of the drilling point, the tools to have the correct power of constricting the self-drilling screws as well as to have the correct compression of the rubber of the wascher so that it can seal and not distort the surface of the CORE panels.



Assembly



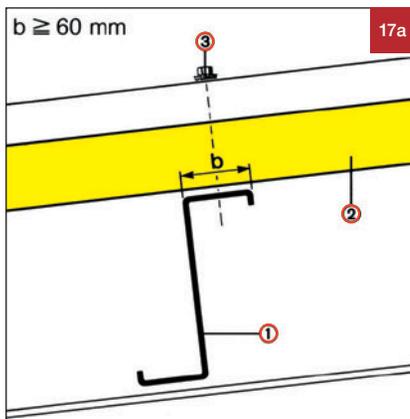
CORE roof panels can be assembled in roofs constructions made from steel, wood and reinforced concrete with built-in metallic profile.

The minimum widths of the support purlins are for the intermediate ones ≥ 60 mm while for the end ones ≥ 40 mm (pictures 17 a, b, c, d, e).

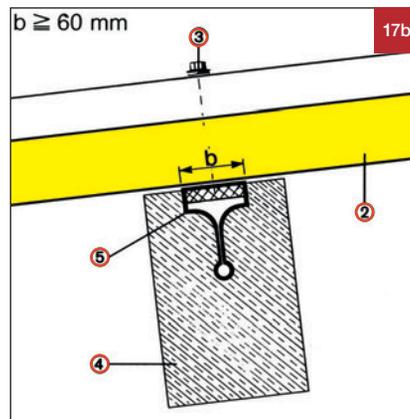
For the maximum allowed spans consult the load tables of the relevant section.

During the assembly, the direction that the wind is blowing in the area should be considered. The way to assemble the panels should be opposite to the direction of the wind (picture 18).

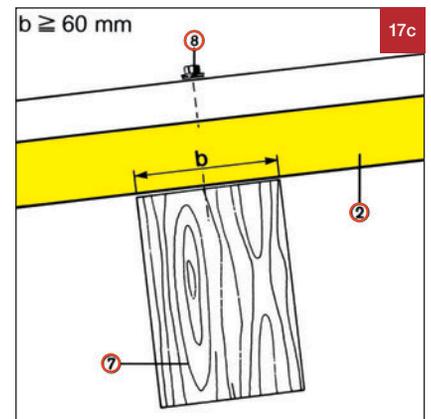
Intermediate support



- 1 "Z" purlin.
- 2 ECOPANEL® RL.
- 3 Self-drilling screw.

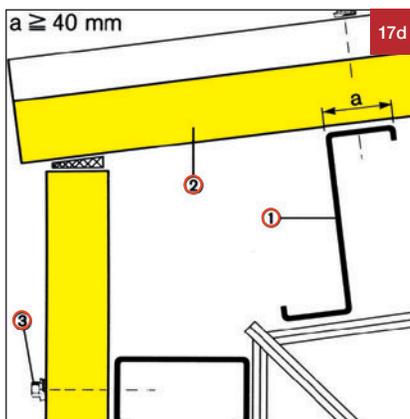


- 2 ECOPANEL® RL.
- 3 Self-drilling screw.
- 4 Concrete purlin.
- 5 Built-in metal profile.

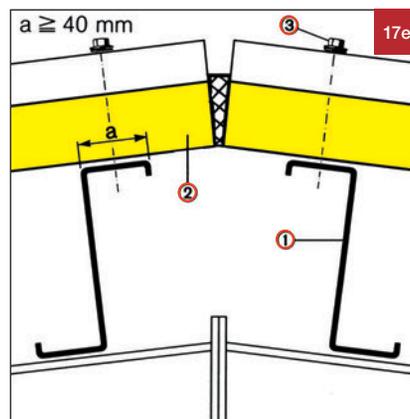


- 2 ECOPANEL® RL.
- 7 Wooden purlin.
- 8 Self-tapping screw.

End support

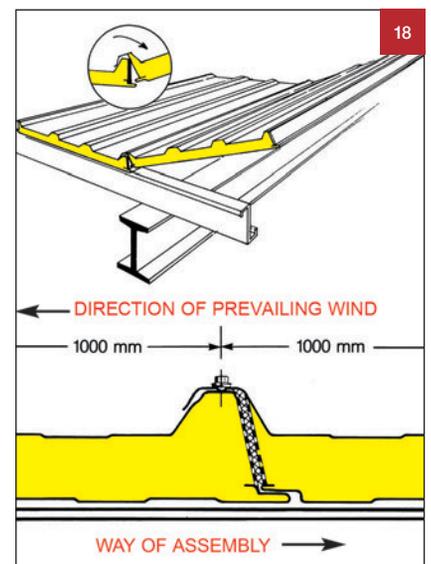


- 1 "Z" purlin.
- 2 ECOPANEL® RL.
- 3 Self-drilling screw.



- 1 "Z" purlin.
- 2 ECOPANEL® RL.
- 3 Self-drilling screw.

Joint



Assembly



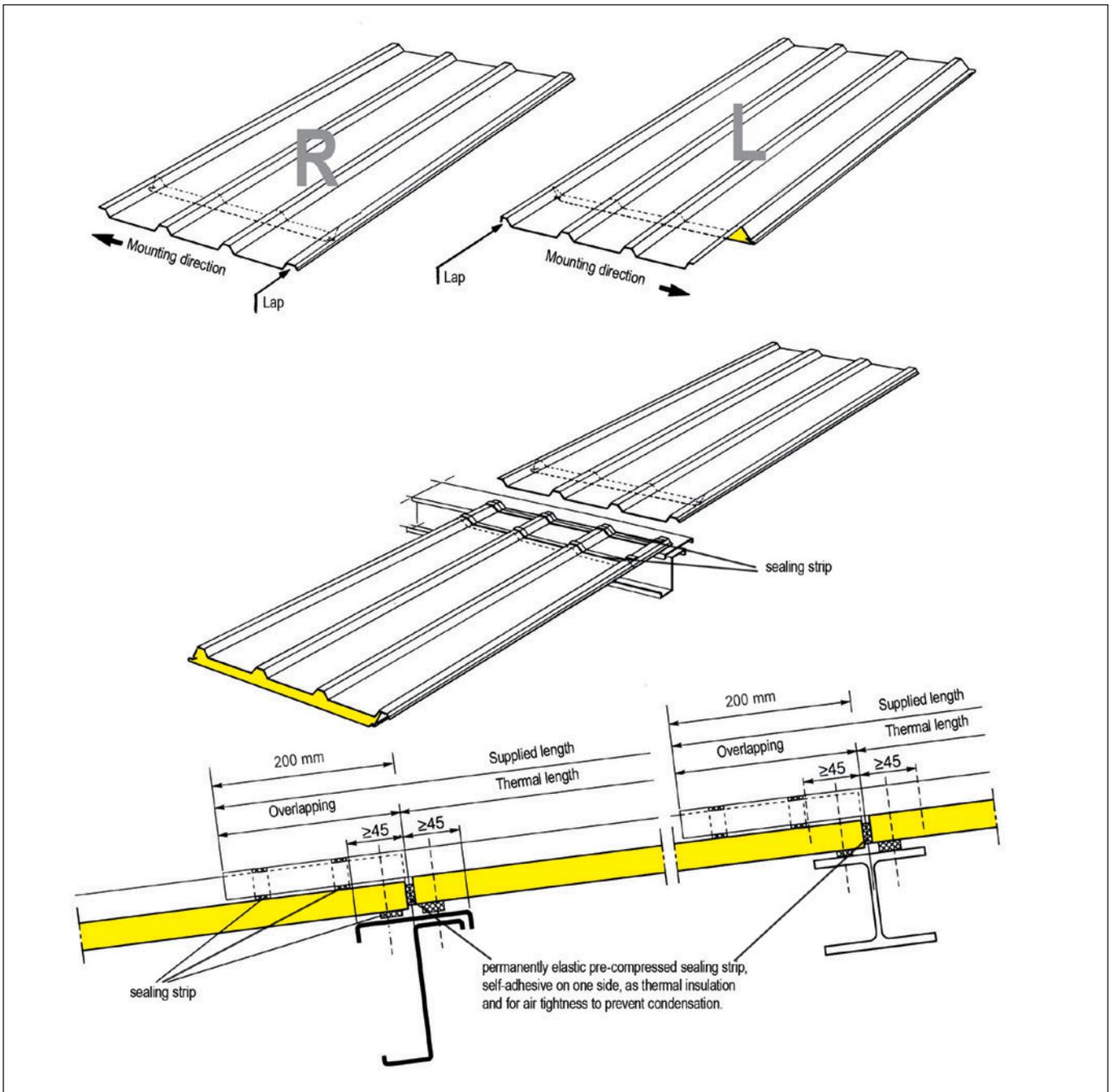
In case we want to cover wide roof surfaces and there is the need of joint per length, the CORE panels are produced with the incision in the internal metal sheet.

At the construction site the installers should remove the internal steel sheet and the polyurethane foam to create a foam free area of the external trapezoidal sheet (overlap). During the joint per length, the one trapezoidal steel sheet covers the other and seals by using self-expanded self-adhesive closed cell sealing strip.

For the continuation of the thermal insulation, air sealing

and the avoidance of condensates in the joint of the panels self-expanding foam tape is placed. The length of the overlapping varies between 150 mm to 280 mm depending on the inclination of the roof. The typical is 200 mm.

There are two types of panels with overlapping. The Right=R and the Left=L. Looking at the CORE panels from the side of overlapping when the rib of side overlapping is visible on the right then the panels are considered RIGHT whereas when the rib of side overlapping is visible on the left then the panels are considered LEFT.



Joint per length

Assembly

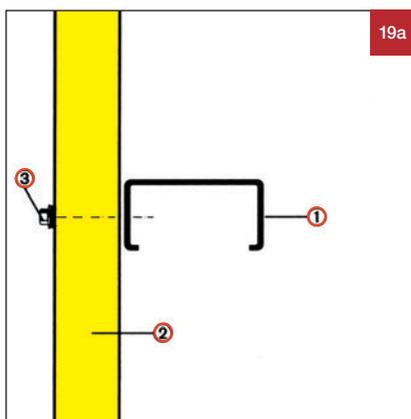


The CORE panels can be assembled on side rails made from steel, wood and reinforced concrete with built-in metal profile. The minimum widths of the support purlins are for the intermediate ones ≥ 60 mm while for the end ones ≥ 40 mm (pictures 19 a, b, c, d).

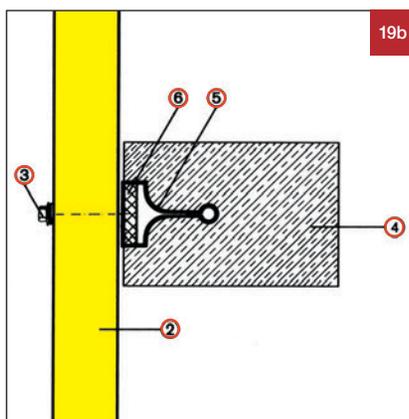
The assembly of the wall panels can be vertical and/or horizontal (picture 21, 22, 23).

For the maximum allowed spans consult the load tables of the relevant section. At the bottom side of the CORE panels during the vertical assembly, there should be a space of about 5 mm (pictures 20 a, b).

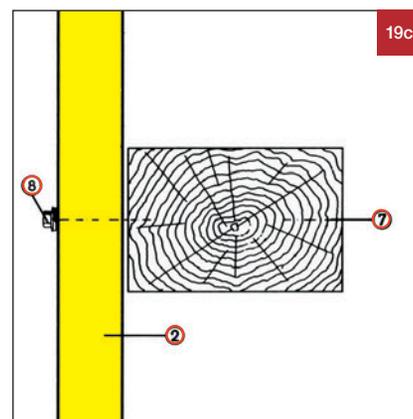
In the horizontal assembly the panels should be placed with direction from the bottom and upwards, so that their joints will not suffer of water insertion (pictures 21, 22, 23).



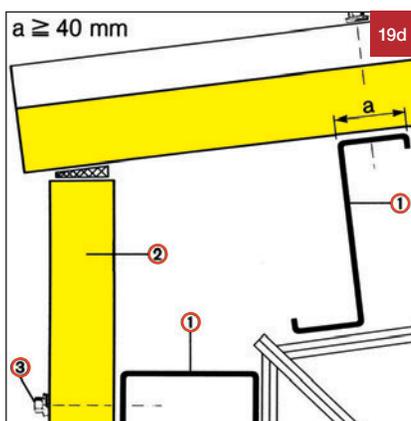
- 1 "C" purlin.
- 2 ECOPANEL® RL.
- 3 Self-drilling screw.



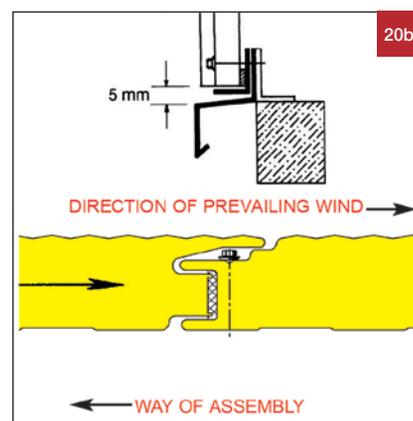
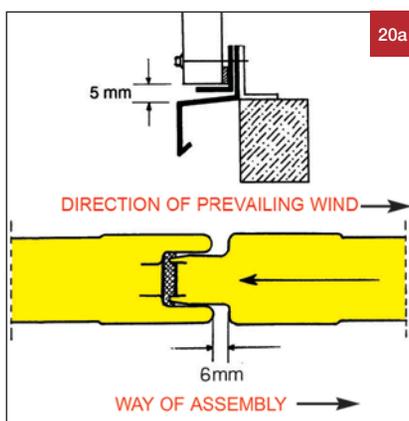
- 2 ECOPANEL® RL
- 3 Self-drilling screw
- 4 Concrete purlin.
- 5 Built-in metal profile.



- 2 ECOPANEL® RL
- 7 Wooden purlin.
- 8 Self-tapping screw.



- 1 "C" purlin - "Z" purlin.
- 2 ECOPANEL® RL.
- 3 Self-drilling screw.



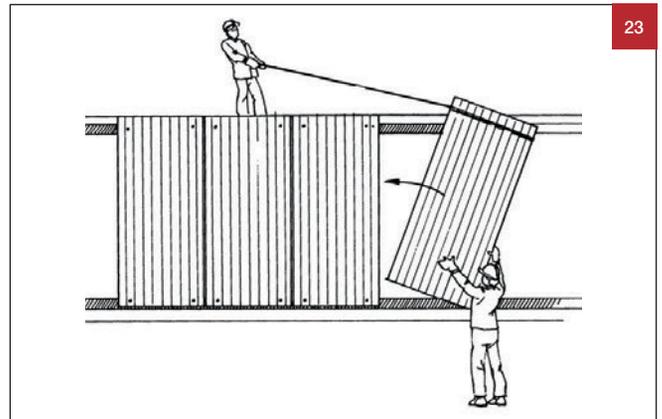
- 5 mm
- 6mm

Assembly

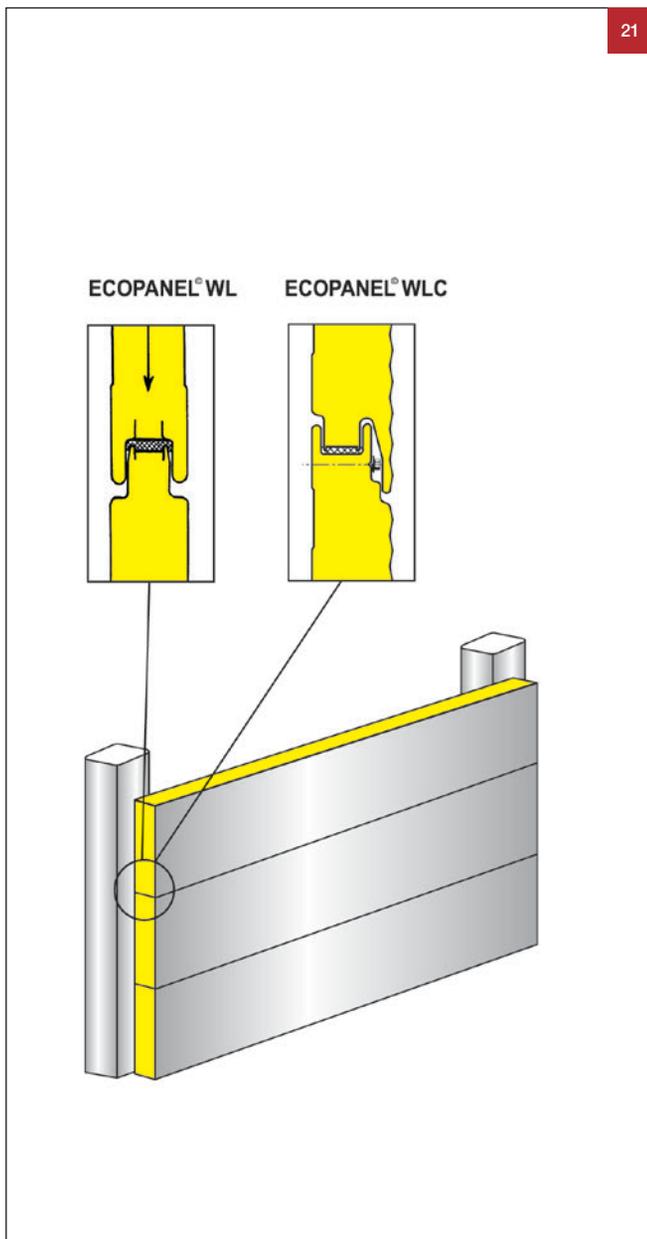


After positioning and supporting the first panel, we place the next one in the female cavity of the first and press it so that it will implement correctly, leaving a space of about 6 - 8 mm.

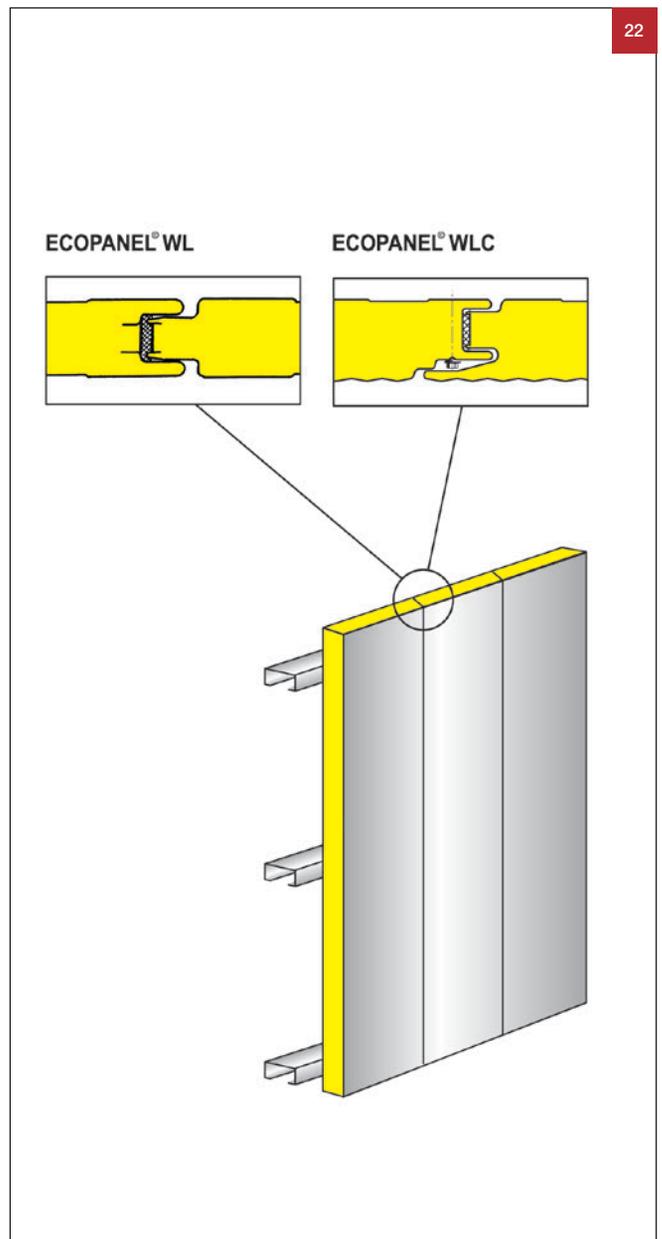
The direction of the ECOPANEL® WL/FW assembling should be the same with the direction of the prevailing wind in the area, while the direction of the ECOPANEL® WLC assembling should be opposite from the direction of the prevailing wind in the area so that their joints are not exposed (pictures 20, 21, 22, 23).



23



21



22

All of the above also apply to the inexpensive series of CORE panels, EASYPANEL, of ELASTRON S.A.

The information, descriptions, procedures, specifications, and dimensions contained in this catalogue are true and valid until the date of issue. ELASTRON S.A. STEEL SERVICE CENTERS reserves the right to make changes to the design, and the materials of its products for their improvement or removal, without prior notice. Although ELASTRON S.A. STEEL SERVICE CENTERS has made every effort to ensure that the information, technical instructions and data presented in this catalogue are accurate, nevertheless it remains for the user (reader) the obligation to verify whether the above are suitable to cover any of its needs. The company is not liable and is not responsible for any technical or typographical errors that cannot be predicted or have occurred unintentionally or due to force majeure. Especially for the elaboration of particular mechanical engineering studies, we ask you to contact the technical department of our company, in order to receive an updated copy of our catalogue, and to provide you with information and clarifications regarding the data listed in it.

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