HANDLING INSTRUCTIONS

GRUPO PANEL SANDWICH

GENERAL CONSIDERATIONS

- **Product safety:**

  The information contained in these handling instructions must betaken into consideration.

Preparation:

The standard packaging of panel packs comprises:

- Rectangular-shaped supports made of expanded polystyrene.
- Wrap in shrink film.

PANEL UNLOADING

The client is responsible for unloading and handling the panels and will use appropriate means to limit any deflection of the panels. Before handling the packs, **verify that the shrink film that secures** them is mostly in good condition and preserves its consistency.

The rectangular-shaped supports of expanded polystyrene **help to prevent the panels from being damaged** when unloaded. The client is responsible for verifying that the material specified in the carrier's documents (delivery notes and/or CMR if included) coincides with the material transported in the vehicle, checking the quantity, dimensions, condition of the panels, etc., so as to proceed to handle the packs without any risk.

If there is any anomaly or damage affecting the material, this must be reflected in the aforesaid carrier's documents.

INSTRUCTIONS LABEL

Handling and storage of the packs is a very delicate phase during which the panels can become damaged. For this reason, each pack has an adhesive label with a series of instructions, as follows:

CAREFUL!

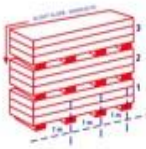
STRICTLY OBSERVE THE FOLLOWING INSTRUCTIONS FOR HANDLINGAND STORAGE OF THE PACKS.

MANIPULATION:

Lifting the package using an outrigger and nylon slings with a width of 200mm.

Place 200 mm wide wooden planks between the package and the slings. The planks shall be 20 mm longer than the length of the bundle being handled.

STORAGE:

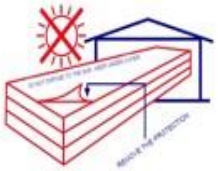


Place the package on a flat and rigid surface, placing every metre at most a 70 mm thick and 250 mm wide block of pórex or wood.

The package must be on a slight slope in order to evacuate water caused by possible condensation.

It is not possible to place more than three heights (packages) and always interposing between them and in several points, wooden or pórex plugs.

Store packages under cover, if not possible, protect with a waterproof cloth and ventilate adequately.



The film covering the face of the panel must be removed within 30 days from the date of manufacture of the panel.

ASSEMBLY:

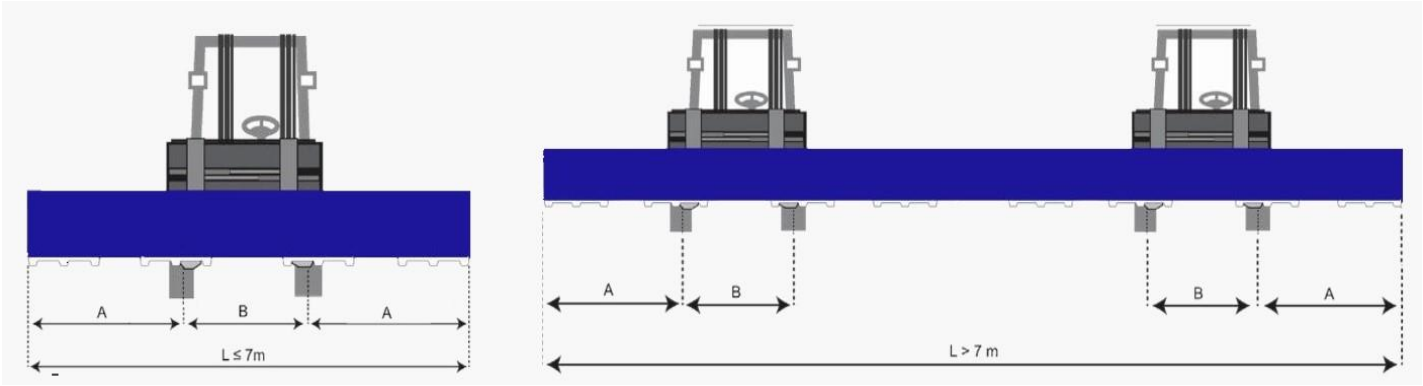
Any protective film must not be exposed to the sun's rays and must be completely removed once the panel has been installed.

Panel Sandwich Group reserve the right to modify these handling instructions without prior notice.

LATERAL UNLOADING AND HANDLING WITH A FORKLIFT

The pack must be lifted and/or transported by the forklift's forks or prongs. The minimum supporting surface of the forks must be 12 cm wide and 120 cm long.

The separation between the supporting surfaces **must be at least 1.50 m for packs measuring less than 7.00 m long**. For lengths of more than 7.00 m, extendable forks or two forklifts must be used, leaving a maximum overhang of 2.50 m between the last fork and the end of the panel.



Distance between forks: B ≥ 1.50 m A ≤ 2.5 m

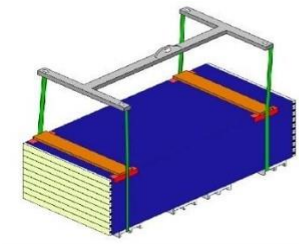
HANDLING AND UNLOADING WITH A CRANE

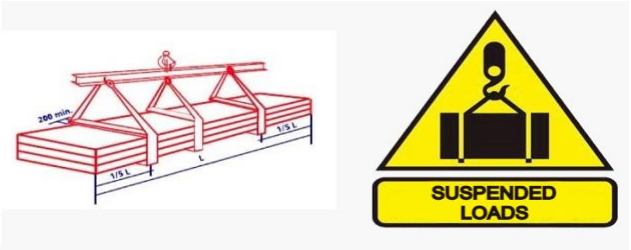
For lifting with a gantry crane and slings with a minimum width of 200 mm, the packs must be protected **using wooden panels or separators with a minimum width of 200 mm**, to prevent the crushing force of the slings from damaging the packs during lifting.

These separators must be placed at the base and top part of the panel, and the use of edge protections to prevent scuffing of the panels is recommended.

For panels of more than 6 metres, a lifting beam **must be used to avoid damaging the panel**. The recommended supporting stripsor points, based on panel length, are:

- **Up to 6 metres:** 2 strips
- **From 6 to 9 metres**: 3 strips
- **From 9 to 12 metres:** 4 strips
- **From 12 to 15 metres:** 5 strips

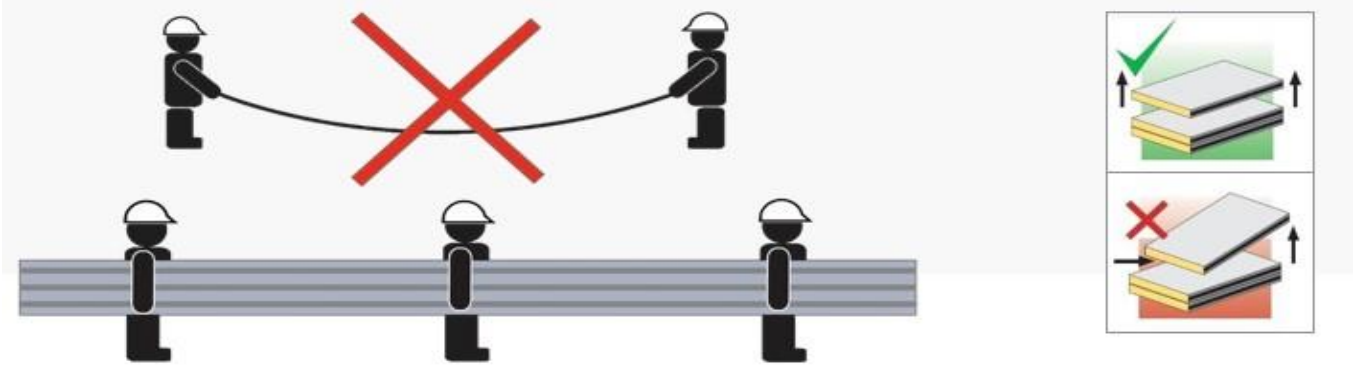




During unloading with a crane, the works will be signposted, and Occupational Health and Safety Regulations will beobserved, avoiding the presence of personnel beneath suspended loads:

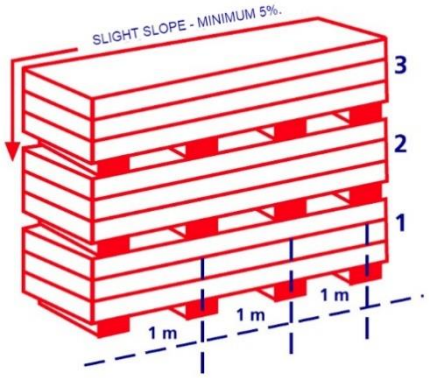
MANUAL HANDLING

- **For manual handling of the panels on site, the following must be taken into account:**
  - Do not slide panels over each other.
  - In the event of manual transport, hold the panel every 3 m as a maximum, transporting it in a position that is perpendicular to theground.

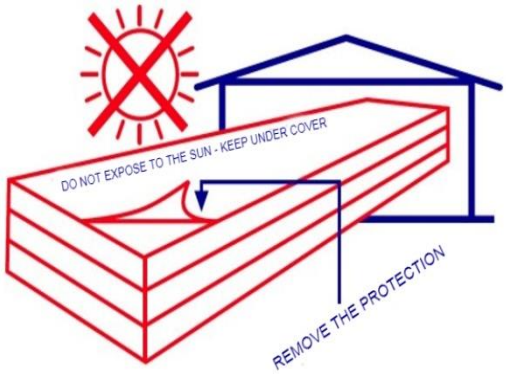


STORAGE

- Find a location on site requiring the least possible movement, so that material **can be unloaded without damaging** it.
- Place the pack on a flat and rigid surface, installing every metre at the most, a block of expanded polystyrene or wood **70 mm thick and 250 mm** wide.
- Store the packs on the ground or directly on the roof (for roof panels) on a ventilated and **slightly sloping surface (5%)** to favour the flow of potential condensation and avoid the stagnation of any water. This will also prevent rainwater retention.



- No more than three rows (packs) can be placed on top of each other and the blocks of wood or expanded polystyrenemust **always be placed at several points in between them**.
- Keep the packs below a roof, and if this is not possible, **protect them with a waterproof fabric** and ensure at all times that there is adequate ventilation. The protective film that the panels have in some cases on their outer face, inner face, or on both, must not be exposed to sunlight and will have to be removed within a period of 30 days from the panels' date of manufacture.



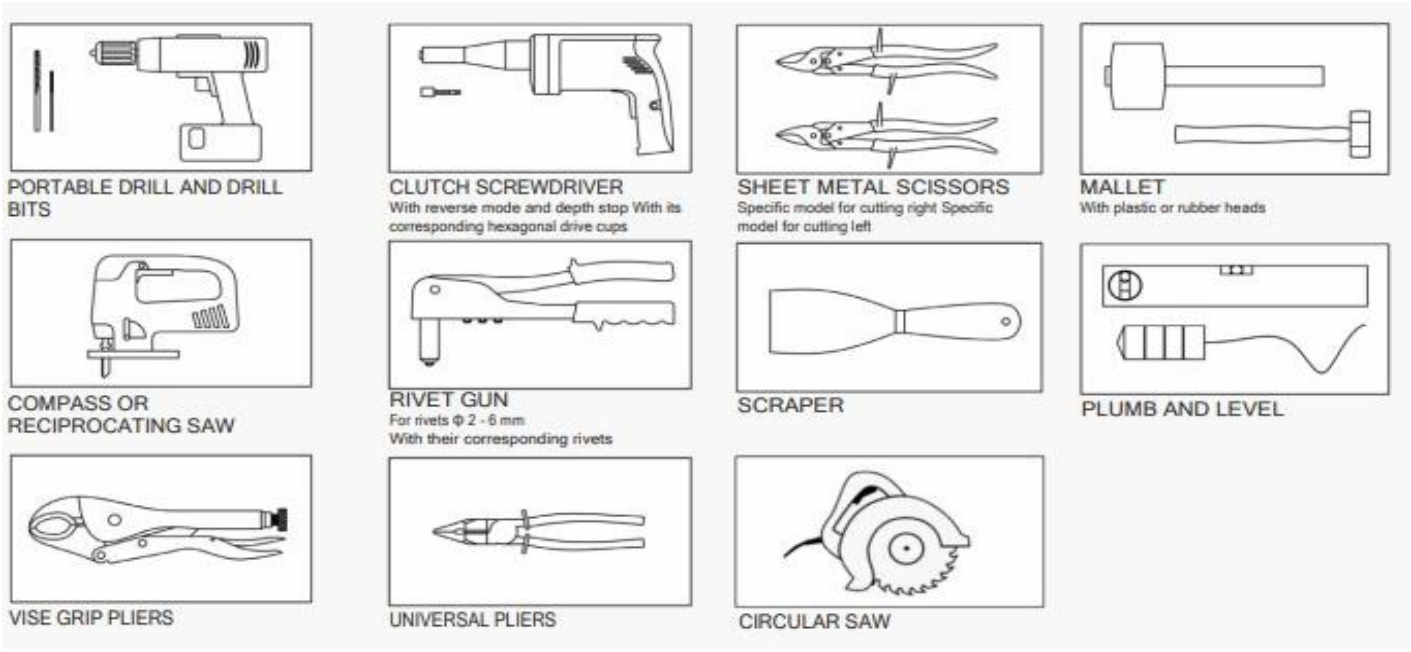
- The place for storing screws **must be covered** to prevent their deterioration.
- **Be careful in handling the panel up** to the place where it will be installed. Avoid potential collisions with obstacles in theway or resting the panel against places with protrusions that could pierce it.
- For safety, **secure the unloaded material to avoid any problems** due to strong winds.
- When the pack is situated on the roof structure**, take care with the distribution of the weight on the structure** and donot allow it to accumulate in just one sector.
- It is recommended that the product is **not stored on site for more than one month** counting from the date of delivery

WORK TOOLS AND CUTTING TOOLS

It is totally unadvisable to use the panels for structural purposes or to support constructive elements. For this reason, if complemented with heavy weights requiring a structural support, it is essential for this support to be the building's structure and not the panels.

- ### Working tools:

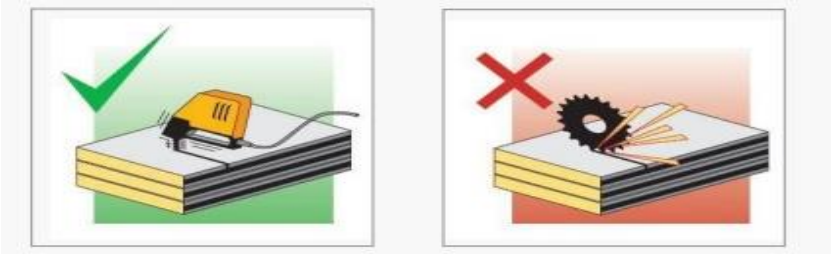
  The instructions provided in the manuals for the different tools to be used during roof installation must be observed. At the same time, the appropriate personal and collective protective equipment must be used for the tools and site in question.



- ## Panel cutting:

Insofar as possible, avoid cutting the panels on site. A compass saw will be used with fine teeth or a cold cutting disk, ensuring that its cutting plane is perpendicular to the panel's metal sheet.

Protect the zone adjoining the cutting area to prevent any deterioration of the metal sheet lining.
Do not use cuttingtools that produce hot sparks.



- ## Cutting method

Cutting line

- Determine and protect the surface on which the cut will be made and place adhesive tape or masking tape to protect the panel's finished surface **as much as possible**.
- Draw on the tape using a marker, the guide line to be followed by the cut.

Cut execution

- Check that the path line is correct and proceed to cut the panel using a vertical saw.
  If the full thickness is to be cut, make sure that the length of the saw blade is greater than the thickness of the panel.
  When cutting just one face (required for overlaps or in special installations) **verify that the saw blade penetrates** the insulating core to the required depth.
- Immediately after cutting, carefully clean the particles and metal shavings that may remainon the panel's edges and/or surface, because over time they can generate rusting points, damaging the paint.
  Use the vacuum, both in the workshop and in assembly zones, **guaranteeing at all times that the panel surfaces are clean and free** of cutting waste and metal particles.

Cut finish

- If necessary, sand down the panel ridges until a perfect finish is obtained. **Remove thetape** from the surface and clean the panel leaving it ready for installation.

Cutting with straight or serrated saw:

- The saw's cutting teeth must cut in an ascending direction and the panel must be placed with the outer face on the opposite side to the cutting surface, **to prevent the tooth's cutting force** from detaching the metal sheet from the foam.

Cutting with a circular saw:

The disk's teeth must be short and prepared for cutting metal sheet (diamond disk or similar). For cutting, the machine will be supported on the panel's outer face.