

INSULATED SANDWICH ROOF AND WALL PANELS Transport, Handling, Storage and Installation

TRANSPORT

End-of-production packaging and transport processes are as important as the production stages of the sandwich panel.

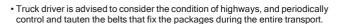
Sandwich panels are wrapped in protective foils with expanded polystyrene (EPS) wedges underneath them at the packaging stage of the production. A protective EPS sheet with a minimum 2 cm thickness is placed under the mineral wool insulated panel packages in order for them not be damaged by the forklift.

A label with the production date and product features on it is placed on the packages.

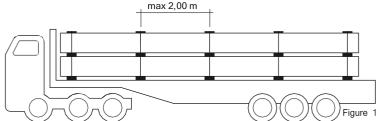
Sandwich Panel package; maximum height 1,35 m, maximum width 1,10 m, maximum length 15 m* and maximum weight 4000 kg. (*Valid in case the special transportation conditions demanded by the buyer are fulfilled.)

Points to consider with regards to transport:

- Sandwich panels can only be carried by means of dropside trucks, trailer trucks, and containers. Except for the container, dispatches are made with forklifts from the left and right sides of vehicles. There shall be no fixed boards etc. in the vehicle body that may hinder side loading.
- So as to prevent the panels from damage, the surface of the transport vehicle which will be loaded shall be stepless, smooth, clean and there shall be no sharp objects (nails, etc.) on the ground or wall of the vehicle body or container.
- Drivers of the transport vehicles shall prepare the vehicle for loading in accordance with Teknopanel instructions.
- Length of the truck bed shall comply with the length of the package to be loaded. For domestic delivery, packages may cross the outer sides of the truck maximum 1,50 m. (This does not apply to mineral wool insulated panels.)
- In order to prevent the panel packages from rubbing against one another and the truck bed during the transport, a protective EPS wedge of maximum 10 cm is placed in the vertical gaps. When it comes to container delivery, the package is applied protective EPS plate on both side surfaces during the packaging stage of the production, and foiled afterwards.



 So as to fix the panel packages on the vehicle, tautening belts with a minimum width of 50 mm shall be equally spaced according to the package length once at every 2 meters maximum. (Figure 1)

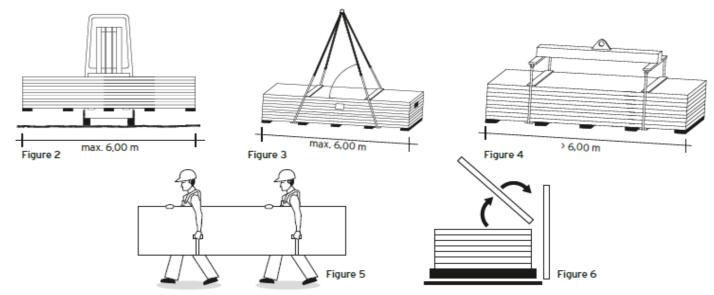


HANDLING

Panel packages shall be handled from the transport vehicle by means of a forklift or crane, depending on their lengths and weights.

Points to consider with regards to handling:

- If the carrying is done by means of forklift, it shall be ensured that the panel at the very bottom of the package is not damaged by the forklift. Forklift shall be covered with protective material such as felt. etc.
- If the carrying is done by means of crane, it shall be ensured that the crane strap does not deform the sides of the panel. Using a flat belt is advised instead of chain or steel rope.
- Panels up to 6 meters shall be carried by means of forklift (Figure 2) or crane by being supported from four points (Figure 3), whereas longer panels shall be carried by means of crane by using a lifting beam to distribute the center of gravity (Figure 4).
- Sandwich panels shall be held completely while being carried by human power, and shall not be carried by holding the empty side lobes in a way that may cause deformation.
- During the carrying and installation, especially the long wall panels shall be carried by being supported from the center as well. When the panel is carried by being held from both ends, its center may break. (Figure 5)
- In order to prevent the lower panel from being scratched while a sandwich panel is taken out of the package, the upper one shall be turned sideways and held up. (Figure 6)

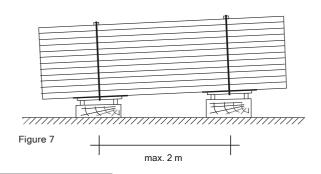


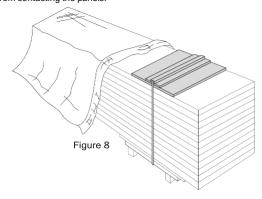
STORAGE

When the panels are stored before installation at the construction site, environmental conditions shall be taken into consideration and some precautions shall be taken against possible negative situations.

Points to consider with regards to storage:

- It shall be ensured that the panels are stocked in a way that allows for a passageway and in an area that is safe from impact.
- The packages shall be piled up on a firm and flat surface, at maximum 2 meter gaps, and by means of wooden or EPS wedges used during the transport. (Figure 7) It shall be ensured that the wedges used in piling up the packages are aligned.
- Unless the stocked panels will be stored in a closed place, they shall be piled up in a slightly inclined position in order for the rain or winter not to pile up on the packages and not enter inside. (Figure 7)
- A waterproof cover shall be spread on closed or partially opened packages so as to protect them from negative weather conditions and in a way that does not create a pool. At the same time, a gap shall be left between the cover and the package that allows for air circulation so as to prevent humidity. (Figure 8)
- · Any materials that may cause corrosion (soil, lime, mortar, fertilizer, acid, salt, etc.) shall be prevented from contacting the panels.



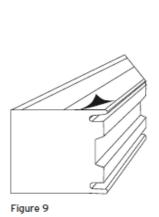


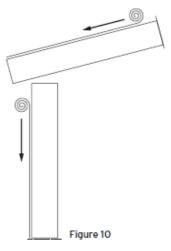
PROTECTIVE FOIL

Metal outer sheet of Teknopanel sandwich panels are covered with transparent foil during production. Therefore, the panels are protected against scratches and dirt. (Figure 9)

Points to consider with regards to protective foil:

- The panels with protective foils shall be stored for maximum 2 weeks, and shall be installed immediately.
- Protective foil shall remain on the panel surface for seven days at the most during the installation, and shall be completely removed after the installation. Otherwise, the foil may stick to the metal because of the sun and may not be removed, or may cause stains on the metal surface as a result of water penetration. (Figure 10)
- Damages that may occur as the protective foil remained on the panel longer than the required time are not covered by Teknopanel A.Ş. guarantee.





INSTALLATION

In order for the sandwich panels, you will use for your building not to be damaged and to display full performance, it is advised to take the necessary precautions and conduct the installation.

Points to consider with regards to installation:

- Teknopanel sandwich panels shall be installed by a technical team qualified in this field.
- While working on the roof, the installation team shall wear flat, plastic sole work shoes in order for the panel surface not to be damaged and use a walking timber.
- If the panels shall be cut on the spot, an appropriate cutting tool shall be used. Grinder shall not be preferred as it may corrode the metal surface.
- Metal waste occurring during the cutting and drilling processes of especially the roof panels shall be immediately swept away so as to prevent the prepainted metal panel surface to be damaged by oxidation.
- During and after the installation, the panels shall be cleaned by means of cleaning product that will not damage the prepainted metal sheets, when necessary.

