



**Energy Saving Technologies**

# **GENERAL RULES FOR HANDLING, CUTTING, TRANSPORTATION, AND STORAGE OF SANDWICH PANELS**

# CUTTING

PIR Premier and PUR Classic sandwich panels should be cut with a jigsaw or circular saw. Use a special blade for sandwich panels. Thus the cut will stay smooth and clean without jagged edges. Do not remove protective foil before cutting.

Do not cut sandwich panels with an angle grinder!

# PACKING OF SANDWICH PANELS

Metal faces of PH Insulation sandwich panels are protected with 35—50 µm polyethylene wrap, which should be removed after installation.

Please note that the removal of the wrap before the installation may lead to damaging of the panels. We also advise removing the wrap immediately after installation and no later than three months after the panel is manufactured. After this time, it may be difficult to remove the wrap, and panel coating may deteriorate.

Panels are stacked in packs up to 1,200 mm high. The number of panels in each pack depends on their type and thickness.

To prevent friction during transportation, cardboard sheets are used.

All packs contain a note with a packing list, where the order number, amount, size, type, and total weight of the panels is indicated.

## PACKING OF PIR PREMIER PANELS

Corners of packs are protected with vertical metal angles.

For roof panels, additional cardboard angles are added on the corners to protect them from friction during transportation.

The pack is wrapped with stretch wrap, and the upper layer of the coil is fastened. The overlap of the wrap in the layer is 35—40%.

The packs are placed on strong Styrofoam supports, 8 cm thick and 35 kg/m<sup>3</sup> dense. The number of supports depends on the length of the panels.

## PACKING OF PUR CLASSIC PANELS

In places of contact of packing wrap with the edges of locking system, additional plastic or cardboard angles are placed under the wrap to protect the panels from friction during transportation.

Corners of package are protected with vertical metal angles.

The pack is wrapped with stretch wrap and placed on strong Styrofoam supports 8 cm thick and 35 kg/m<sup>3</sup> dense. The number of bars depends on the length of panels.

Photo 1.  
Wall Sandwich Panels Packs

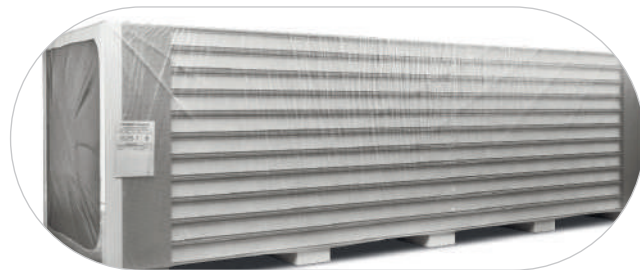
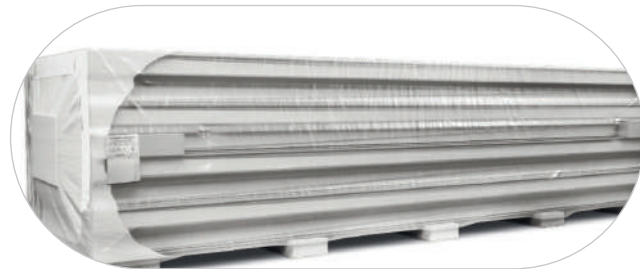


Photo 2.  
Roof Sandwich Panels Packs



# TRANSPORTATION

PH Insulation will deliver the products to any destination in the world by road, rail, and sea. This is the best option, because each load needs a carefully selected mode of transportation and responsible delivery service. PH Insulation uses online auctions to hire professionals for a reasonable price and safely deliver your order as soon as possible.

If you would prefer to arrange delivery of your sandwich panels independently, please make sure that the trucks of the company you choose are not equipped with self-engineered equipment (hacks, angles etc.); this may reduce the area of the body and damage the panels during transportation.

Loading of sandwich panels is performed from the sides, so sliding stakes should be placed on both sides of the truck.

The internal dimensions of the semi-trailer should be 13,600 × 2,450 × 2,600 mm (LWH). If they are even 2–3 cm smaller, the panels may not fit, and another truck may be required. Therefore, please make sure that the deliverer understands the importance of precise dimensions.

The body should be clean, flat, and free of foreign objects.

Ask the deliverer if the truck is equipped with any stakes for large-size and long loads, for example tubes or timber. These reduce the actual loading space, so the panels may not fit even if the dimensions of the truck meet the formal requirements.

The driver should bring 20-24 cargo straps and 20-24 plastic corners for the straps, see Image 1. PH Insulation does not sell or rent such equipment.

During transportation, stability and fastening of the panels should be controlled, and loose straps should be tightened. Molded elements should not touch the surface of panels during transportation.

Do not put other loads on packs.

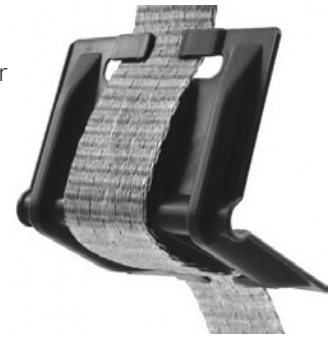


Image 1. Plastic corners

## MODE OF TRANSPORTATION

Most often, the panels are transported by road, for example in a flatbed truck, side truck, or covered truck. Please note that some vehicles are not suitable for the transportation of sandwich panels and doors for cold rooms.

Suitable options:

1. Flatbed trucks are suitable for short distances. If the distance is over 700 km, we strongly advise against this option because headwind and precipitation may damage the cargo.
2. Side trucks
3. Curtain or covered semi-trailers

# CONTAINERS

20' standard, 40' standard, and 40' high-cube cargo containers are available. If you want to transport PH Insulation products in a container, please notify your project manager in advance and pay attention to the internal dimensions of the freight shipping container.

Please note that some semi-trailers are NOT suitable for transportation of panels and doors for cold chambers due to construction features; it is physically impossible to load our products to such trucks. Therefore, we recommend arranging the type of truck with the manager of your project in advance.

If a truck is equipped with a tail lift, the forklift will not be able drive close and properly load or unload packs of sandwich panels.

Side stakes will also be an obstacle, because the panels are loaded from the side.

If the truck is equipped with permanent or non-sliding stakes, it will be impossible to safely load the packs of sandwich panels or doors for cold storages.

# CONTRACTORS

Some transportation companies on the delivery market are unreliable. Please make sure that your partner is trustworthy. Check their constitutional documents and tax reports and look for references.

We advise against companies with a period of registration of less than a year or with a legal address in a place of mass registration.

# STORAGE

Store sandwich panels on a flat surface (maximum 5% slope), up to two packs in a stack. The total height of the stack should not exceed 2.4 m. The upper pack should not extend beyond the bottom one. Place wooden supports (at least 10 cm thick) under the bottom pack with a maximum 1 m span between the supports.

Store sandwich panels in their waterproof factory package in an open or semi-closed warehouse and follow the fire safety procedures. Keep the panels away from moisture.

During short-term outdoor storage, protect the panels from direct sunlight, dust, and precipitation. Gently tilt the packs to prevent the accumulation of rainwater.

PLEASE DO NOT:

- put any loads on packs;
- put the second row of packs with a shift in respect to the bottom row;
- walk on panels;
- lift packs by the edge.

Table 1 shows the number of wall panels in a standard factory pack, and the number of packs in a standard truck.

Table 1.

The number of full packs of wall panels (width = 1,185 mm) in a standard truck with internal dimensions 13.4 × 2.45 × 2.6 m

Thickness of panels, mm	Panels per pack	Height of pack, m	Area of 16 packs, (L=3 m), m <sup>2</sup>	Area of 12 packs, (L=4 m), m <sup>2</sup>	Area of 8 packs, (L=5 m), m <sup>2</sup>	Area of 16 packs, (L=6 m), m <sup>2</sup>	Area of 4 packs, (L=3 m), m <sup>2</sup>
40	18	0.8	1024	1024	853	1024	683
50	18	0.98	1024	1024	853	1024	683
60	18	1.16	1024	1024	853	1024	683
80	14	1.2	796	796	664	796	531
100	11	1.18	626	626	521	626	417
120	9	1.16	512	512	427	512	341
140	8	1.2	455	455	379	455	303
150	7	1.13	398	398	332	398	265

Table 2. The number of full packs of roof panels (width = 1,000 mm) in a standard truck with internal dimensions 13.4 × 2.45 × 2.6 m

Thickness of panels, mm	3 m panels			4 m panels		
	Panels per pack	Height of pack, mm	Packs per truck	Panels per pack	Height of pack, mm	Packs per truck
30	22	1180	16	22	1180	12
40	18	1160		18	1160	
60	14	1200		14	1200	
80	10	1080		10	1080	
100	8	1040		8	1040	
120	8	1200		8	1200	
150	6	1100		6	1100	
200	4	960		4	960	

Table 3.

The number of full packs of roof panels (width = 1,000 mm) in a standard truck with internal dimensions 13.4 × 2.45 × 2.6 m

Thickness of panels, mm	3 m panels			4 m panels		
	Panels per pack	Height of pack, mm	Packs per truck	Panels per pack	Height of pack, mm	Packs per truck
30	22	1180	8	14	780	6
40	18	1160		12	800	
60	14	1200		14	1200	
80	10	1080		10	1080	
100	8	1040		8	1040	4
120	8	1200		8	1200	
150	6	1100		6	1100	
200	4	960		4	960	

Table 4 shows the number of wall and roof panels in a pack depending on their thickness, and tentative weight of one running meter of panels in a pack.

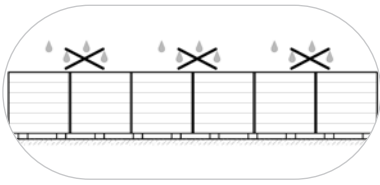
Table 4.

Standard factory packs of PH Insulation sandwich panels

Type	Panel thickness, mm	Panels per pack	Height of pack, mm	Weight of pack per 1 running meter, kg
Wall panels (width = 1,185 mm)	40	28	1210	328
	50	22	1190	268
	60	18	1170	228
	80	14	1210	191
	100	11	1190	161
	120	9	1170	140
	140	8	1210	132
	150	7	1140	119
	160	7	1210	122
	180	6	1170	111
	200	5	1090	97

Roof panels (width = 1,000 mm)	30	22	1190	191
	40	18	1170	198
	60	14	1210	165
	80	10	1090	126
		12	1290	151
	100	8	1050	107
		10	1290	134
	120	8	1210	114
150	6	1110	93	
	4	960	70	

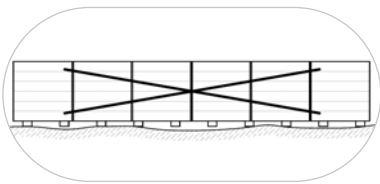
Table 5.  
General recommendations for storage of sandwich panels



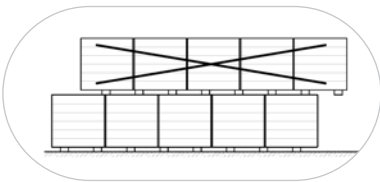
Keep away from moisture.  
Control package integrity.



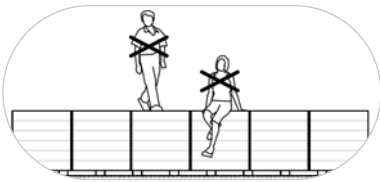
Do not put other objects on the surface of panels.



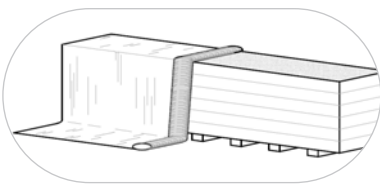
Store panels on a flat surface.



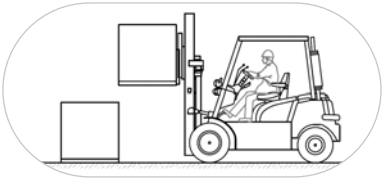
Avoid overhanging of the second row.



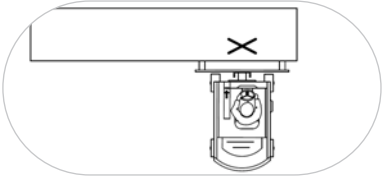
Do not walk on panels.



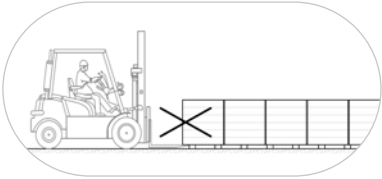
Protect panels from direct sunlight.



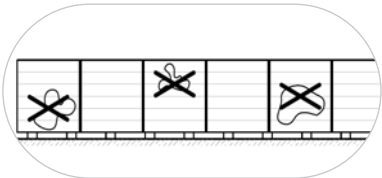
Lift packs one by one.



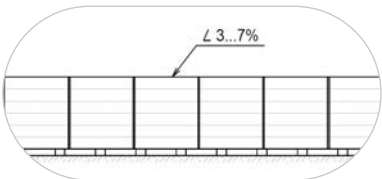
Do not lift by the edge.



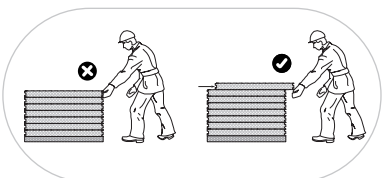
Do not jolt.



Avoid contamination.



Place the panels with a gentle lengthwise slope.



Do not lift panels by the lock



**PROFHOLOD**

**+7 (495) 240-83-14**

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