ENERGY SAFE TECHNOLOGIES

PROFHOLOD

We believe that Russia can provide the most advanced insulation materials for smart temperature control. So that your business can save energy and money, anywhere in the world.


PROFHOLOD

This is not just an Advertising Brochure

If you are reading this, then you are probably already interested in sandwich panels or refrigeration.

AND THAT IS EXACTLY WHAT WE ARE HERE FOR

PH Insulation (ProfHolod) was founded 17 years ago. With the support of customers like you, we've evolved from a local company with a tiny office and one manufacturing facility into the leading Russian supplier of sandwich panels made with polyisocyanurate PIR, polyurethane PUR and mineral wood.

OUR INSULATION PRODUCTS ALLOW YOU TO

- Save energy and cut construction costs using PIR Premier, the world's most advanced energy-efficient insulator made from only the best components.
- Economize construction time
- Have the utmost confidence in your insulation's quality
- Enjoy one-stop shopping for insulated panels, doors and fittings for cold storages and freezing rooms

PH Insulation is the number one Russian manufacturer of sandwich panels made with polyurethane insulation: PIR and PUR

Over 3.0 m	Over 8 000	Over 2 000	17 years
Square meters of sandwich panels produced annually	Cold room doors produced annually	Customers annually	On the Russian, European, Middle East, US and CIS markets

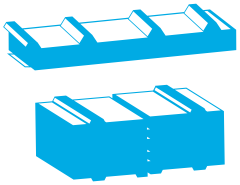
21 export destinations including Baltic states, Belgium, Finland, France, Germany, Israel, Libya, Nigeria, USA

One of three sandwich panels with PU manufactured in Russia annually is produced by PH Insulation

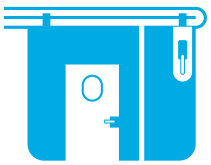
Why Choose PH Insulation?

- On-time delivery
- Fixed prices regardless of the circumstances
- Unlimited free consultations before and after signing a contract
- Premium quality control by PH Insulation's R&D Center

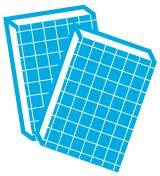
With PH Insulation, you can save energy by...



Insulating your building with wall and roof sandwich-panels made with PIR Premier, PUR Classic, and mineral wool insulation

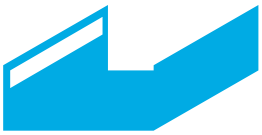


Installing cold room doors (hinged, sliding, and fire-rated).
Installing industrial and traffic doors in your production areas, cafes, restaurants, or on any administrative premises



Insulating your building with multi-purpose PIR Plita® boards

Adding solar energy to your project



Ordering shaped profiles to match the panels' color

Why PU?

16 years ago, we made a decision to revolutionize how people regulate temperature. We chose PU because we are committed to reducing consumption of the planet's two most important resources: electricity and fuel. Our job is to produce the most energy-efficient insulation using the most advanced technology.

We have always believed that Russia has the power to produce the most advanced products to preserve heat or cold.

The biggest advantage of our insulation materials is their low thermal conductivity. At only 0.0194 W/(m*k), our products' thermal conductivity is lower than any other building material in the world. We use two types of foam in our panels: our customized blend PIR Premier, a more advanced polyisocyanurate foam, and PUR Classic, a polyurethane foam developed by the world's leading corporations. Because PIR preserves heat or cold more efficiently than other materials, the cost of providing air conditioning or heating is drastically reduced.

WHAT IS PU?

Polyurethane foam was invented in Germany in 1937. It's a lightweight and durable material consisting of networks of small closed cells. Only 3% of its volume is solid material, while the other 97% is composed of gaseous cells. This means that polyurethane foam can perfectly maintain any temperature you need since the thermal conductivity of gas is hundreds of times lower than that of solid materials.

PU

- Delivers thermal conductivity of up to 0.019 W/(m*K), and with advanced blowing agents up to 0.018 W/(m*K)
- Eco-friendly: used everywhere, from the soles of your shoes to your steering wheel and even to the insulation in spacecrafts' fuel tanks
- Hygienic: used in cold storages for food
- Steam-proof
- Resistant to mold, mildew, rodents and insects
- Preserves unchanged thermal conductivity and other values over time for up to 50 years

HOW IS PUR DIFFERENT FROM PIR?

Polyurethane foam (PUR) and polyisocyanurate foam (PIR) are related polymers of rigid polyurethane foams, which are created as a result of the reaction of several components.

Compared to PUR systems, PIR foam has reduced flammability. Under the influence of flame, the outer layer of PIR is charred to form a porous carbon matrix that protects the inner layers and prevents them from burning.

Insulation sandwich panels with PUR Classic are mainly used to construct refrigerating and freezing rooms.
PUR sandwich panels are also used to build warehouses in earthquake zones. For added strength, these panels can be fastened with cam locks.

PIR, or Polyiso, has a more universal application. PIR Premier sandwich panels are used to build:

- Refrigerators, cold and freezing rooms
- Vegetable and fruit storage
- Agricultural facilities: cowsheds, pig farms, poultry houses, etc.
- Logistic facilities, refrigerated warehouses
- Production and office buildings, workshops
- Service stations, hangars

Sandwich panels with PIR Premier are also used to modernize and improve energy efficiency of buildings constructed from other materials.

LET'S COMPARE THE NUMBERS

In terms of thermal insulation properties, polyurethane foam surpasses the characteristics of standard building materials, such as brick or concrete, by 15 times.
A 100 mm thick sandwich panel with PIR or PUR insulation retains as much heat or cold as a 1.5-meter brick wall.

	PU	EPS	Mineral Wool	Cinder Blocks	Bricks
Thermal conductivity	0.022	0.038-0,052	0.041	0.160	0.370
Thickness, mm, to retain the needed temperature on the same level	100	160	264	730	1 680
Volume of materials needed for a 10 sq. m wall, in m^3	1.0	1.6	2.6	7.3	16.8
10 sq. m wall weight, in kg	124	161	382	2 920	20 160

With sandwich panels metal thickness 0.5 mm, foam density 42 kg/m^3, mineral wool density 115 kg/m^3, polystyrene foam density up to 50 kg/m^3

Why Choose Polyurethane Foam Insulation aside from its Innovation and Energy Efficiency?

YOU REDUCE TRANSPORT COSTS

Lightweight and durable sandwich panels with PIR Premier or PUR Classic insulation are cheaper and easier to transport than tons of brick, cement, sand, reinforced concrete slabs or lumber.

YOU REDUCE FOUNDATION COSTS

Sandwich panels with PIR Premier and PUR Classic insulation reduce a building's total weight by 10 times or more compared to constructions made of brick, concrete, other building materials.

YOU INCREASE INTERNAL FLOOR AREA

Polyurethane foam increases a building's internal floor area. Even though it's comparatively thin, polyurethane foam provides the same insulation as other, thicker materials.

YOU CAN RELY ON ITS FIRE RESISTANCE

PIR Premier meets the main requirement for insulators. It's fireproof, non-combustible, and self-extinguishing when exposed to fire.

YOUR BUILDING WILL LAST FOR OVER 50 YEARS WITH THE SAME ENERGY EFFICIENCY

According to research conducted by the PU Europe Association, the thermal conductivity of polyurethane foam, which has been used in buildings for 33 years, showed an almost unchanged level of 0.0272 W/(m*K) with only a slight decrease in thickness from 60 to 59.05 mm.

YOU WILL REDUCE CONSTRUCTION TIME AND BE ABLE TO START YOUR PROJECT AT ANY TIME OF THE YEAR, IN ANY CLIMATE

It is ten times faster to construct a building made of sandwich panels with polyurethane or polyiso foam when compared with buildings constructed from traditional materials such as brick or concrete. Sandwich panels can be mounted on a metal frame at any time of the year—even in the Far North—since there are minimal stages requiring wet construction.

YOUR BUILDING WILL LOOK UP TO DATE

PH Insulation sandwich panels are factory-made and customized for your specific needs. Their surface doesn't require any additional outside or interior decoration. With a wide color palette to choose from, you will be able to cater to your designers' most sophisticated ideas.

What you need to know about our sandwich panels' core

HOW THE INSULATION MATERIALS EVOLVED

FIRE RESISTANCE AND THERMAL CONDUCTIVITY

How is PIR Premier different from other PIR systems?

For over five years, our custom-made, high quality PIR Premier blend has been used in both sandwich panels and PIR Plita® Board insulator delivering optimal thermal conductivity and physical and mechanical properties. This is because PIR Premier was created specifically for our Pu.Ma lines, whereas most other polyurethane sandwich panel manufacturers use universal foam produced by a limited range of manufacturers.

We created PIR Premier in partnership with international corporations Dow, BASF, and Evonik in 2016. The System is certified according to European standard EN 14509. Fire rating B-s2-d0.
Since 2017, all PH Insulation PIR Premier panels have a CE mark.
By April 2021, we had produced more than 10.000.000 square meters of sandwich panels with PIR Premier with over 12 000 tons of polyol systems. Our customers—over 2 000 legal entities per year—can attest to the quality of the blend.

WHAT'S OUR SECRET?

The PIR Premier system is custom-made to fit the various features of our Pu.Ma production lines. The production lines are produced by the best Italian manufacturers and the production process is uniquely catered to PIR Premier.

There are three main pillars that are vital for successful sandwich panel manufacturing:
1. Polyurethane or polyiso foam systems — 40%
2. Production line — 40%
3. People: knowledgeable professionals— 20%

SYSTEM

To guarantee that our sandwich panels and PIR Plita® Board insulators are of the highest quality, we carefully select PIR system components in our R&D Center, which has been active since 2016.

Among our selection criteria are the foam's physicomechanical properties, flowability, and low thermal conductivity. There are 36 parameters in total.

Because we are dedicated to guaranteeing that every component of our system is high-quality, we have held negotiations with 10 suppliers of chemical agents from around the world to find the best manufacturers of polyether, one of our system's main components. We've signed a contract with several European companies which supply the world's largest corporations, including BASF, Dow, Huntsman, Coim, Evonic, and Covestro.

To ensure that our production lines operate for our customized blend, we have conducted over 100 tests of 9 catalysts from 5 suppliers from around the world in order to achieve the best synergy of catalysts, pressure, components and speed of the press on our production lines.

To guarantee the quality of every square meter panel in every single batch, our R&D Center controls the composition and characteristics of sandwich panels online by monitoring 14 indicators of the Pu.Ma production line.

To improve the operational properties of sandwich panels and determine optimal technological modes for each of the panel thicknesses, the R&D Center daily collects and processes more than 4 GB of data and multimedia information coming from the production line.

The R&D Center conducts tests for destructive control in compliance with European standard EN 14509 based on the following criteria:
- Rupture
- Compression
- Middle layer shift
- Bending span

and on the following non-destructive criteria:
- Artificial aging
- Thermal conductivity measurement

Every week we destroy, cut, tear, press, burn, heat to 100 or more degrees, submerge in water, and freeze in a special chamber up to 50 linear meters of product samples that come directly from our production lines.

This allows PIR Premier insulation sandwich panels to deliver resistance of more than 185 kPa when testing compressive strength at 10% deformation and more than 160 kPa at break at a density of 40 kg/m^3.

To guarantee PIR's quality at all levels, not only do we select the best components and adjust the engineering process, but also make sure PIR functions at the molecular level. In 2020, we put into operation the H&S Anlagentechnik polyether synthesis reactor—the most advanced in the world.

PRODUCTION LINES

We have two Italian continuous Pu.Ma production lines with a total capacity of 6 million square meters of sandwich panels per year. One assembly line is designed exclusively for the production of sandwich panels with polyurethane foam, while the second is designed for the production of both PIR and mineral wool panels.

In 2015, we installed a German H&S Anlagentechnik mixer at our production line, which allows us to mix and accurately measure components according to European standards. The resulting polyol blend is supplied with catalysts, pentane and isocyanate at high pressure to the filling head on the production line. The mixer also allows us to produce primer polyol and mixtures of catalysts.

PEOPLE

Our R&D Center employees frequently attend international conferences and exhibitions on polyurethane systems, including UTECH Europe, the largest polyurethane exhibition in Europe that takes place in the Netherlands, and seminars organized by polyether-producing international corporations. We are committed to building our knowledge of emulsification, nucleation, cell formation, stabilization, and foam hardening.
Our team of Russian scientists will guarantee that your sandwich panels are manufactured with the world's latest innovations in the field of polyurethane foam systems.

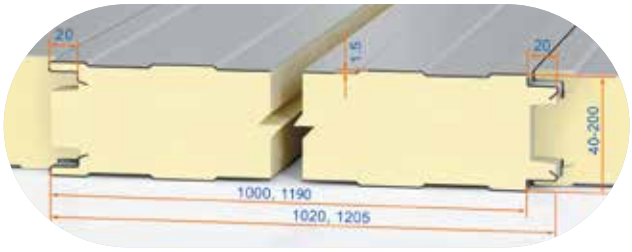

M600

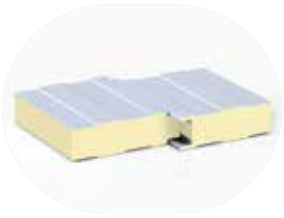

Dargett Brewery
Դարգետ Գարեջուր

What's Inside a PU Sandwich Panel?

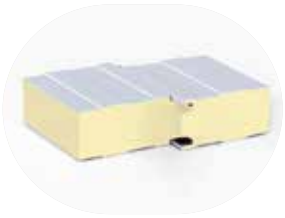
Sandwich panels consist of three layers. Both sides are covered with galvanized and painted coated metal sheets and a protective film for transportation. The space between the metal sheets, the core, is filled with an insulating layer, either fireproof PIR Premier polyisocyanurate foam or PUR Classic polyurethane foam.

WALL SANDWICH PANELS WITH PIR PREMIER AND PUR CLASSIC





1X-SPLINE JOINT FOR WALL PANELS' THICKNESS 40–60 cm



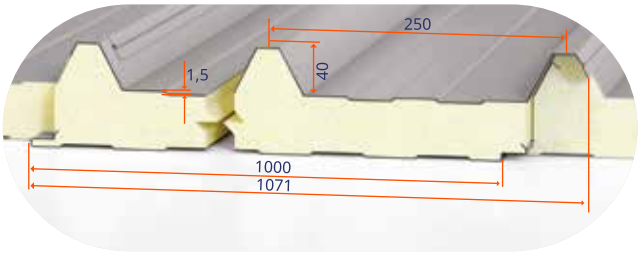
2X-SPLINE CONICAL JOINT FOR WALL PANELS' THICKNESS 80–160 cm

3X-SPLINE CONICAL JOINT FOR WALL PANELS' THICKNESS 180–200 cm

OPTION: ADDED ECCENTRIC LOCKS AND SECRET FIX LOCK

Thickness, mm	Width, mm	Length, mm	Exterior	Fire Resistance	Thermal conductivity
40–200	1000, 1190	PIR up to 16 000, PUR up to 9 300	1.5 mm microprofile or smooth	EI 15 (PUR) EI 30 (PIR) EI 45 (PIR)	0.0194 W/(m*K)

ROOF SANDWICH PANELS WITH PIR PREMIER

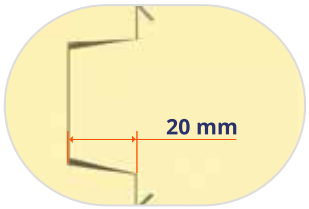


On one side, the roof sandwich panels have 40 mm high trapezoidal rib stiffeners. The other side has a 1.5 mm deep micro profile.

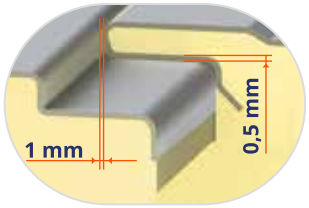
Sanswich panels are generally used in buildings with a roof slope of more than 7 degrees but can also be used with roofs of smaller slopes by installing the rib face-down and subsequently installing a special membrane.

Thickness, mm	Width, mm	Length, mm	Number of ribs	Fire Resistance	Thermal conductivity
30–150	1000	up to 16 000	4x40 mm	RE 15, RE 30	0.0194 W/(m*K)

WALL PANELS

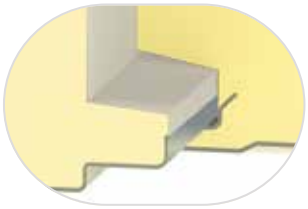


Our 20 mm foam joint is the deepest in Russia. The lock features the largest joint length, securing minimal heat loss at the joint.

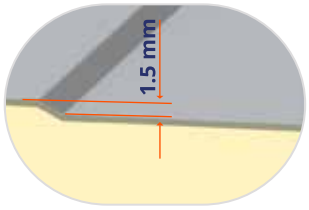


Joint clearances of less than 0.5 mm allow you to minimize thermal loss and usage of installation materials. An external docking clearance of less than 1 mm prevents the destruction of the structure during thermal expansion.

The edges of the metal sheets fit into the foam, strengthening its rigidity. When joining panels on a metal sheet, we use a triangular groove to fix the sealant. The conical shape of the metal plate helps keep the panels in place when docked.

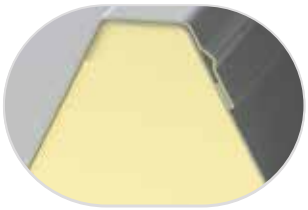


Sandwich panels with PIR Premier are made with sealing PPE tape.
To eliminate cold bridges when installing low-temperature rooms, we recommend removing the PPE tape and filling the joint with foam. We also recommend keeping the tape in order to tighten panel joints when constructing medium-temperature storages and refrigerating rooms.

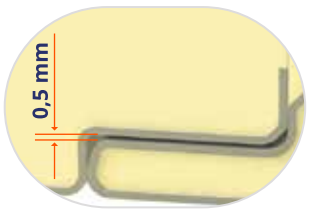


The 1.5 mm microprofile provides the panels with maximum rigidity.

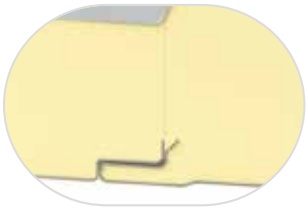
ROOF PANELS



The drip tray located in the castle connection condenses moisture and prevents it from entering the structure. The sheet's metal edge is bent at the junction at 180 degrees to preserve the surface of the metal during installation. This also gives the connection additional rigidity.



The docking lock is made with superb accuracy. Clearances of less than 0.5 mm minimize heat loss and consumption of installation materials. The edges of the metal sheets go deep into the foam, providing solidity and rigidity.



The panels are joined and fixed on the PU. You don't need to use additional construction foam on the joints. External clearance at the junction of metal plates prevents damage to the structure during thermal expansion.

Mineral Wool Sandwich Panels

In 2019, we purchased the second Pu.Ma production line that lets us produce the second type of sandwich panel made with fire-resistant mineral wool. This means you can order two types of sandwich panels from the same manufacturer.

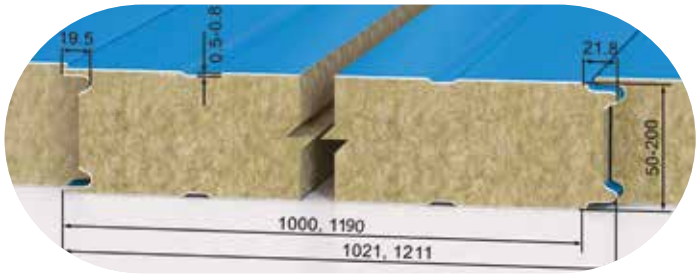
The biggest advantage of mineral wool is its fire-resistance.
Basalt fiber fireproof mineral wool sandwich panels are used in buildings with the highest fire safety requirements.

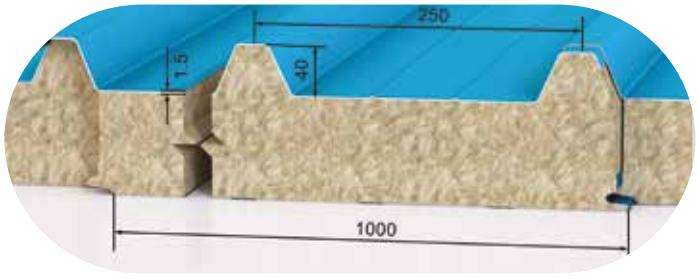
We ensure the panels' durability by using a customized adhesive layer developed at PH Insulation's R&D Center.
This adhesive layer provides a reliable connection between the panel's mineral wool and metal sheets.
A stud-spline, z-locks, hidden locks and roofing locks reduce installation time thanks to how easy it is to connect the sandwich panels.

Thermal conductivity: 0.041 W/(m*K). Panel life: up to 25 years.

MINERAL WOOL SANDWICH PANELS' APPLICATIONS

- Supermarkets, shopping centers
- Production and office buildings
- Sports facilities, stadiums, ice arenas
- Cinemas





Mineral Wool Sandwich Panels' Technical Data

THERMAL CONDUCTIVITY 0.041 W/(M*K).

Average Density, kg/m³		105							
Maximum Length		16 000							
Width	wall	1190, 1000							
	roof	1000							
Panels' Thickness, mm		50	60	80	100	120	150	170	200
Thermal Resistance Coefficient		1.378	1.622	2.110	2.598	3.085	3.817	4.305	5.037
Fire Resistance									
	wall	EI 30		EI 60	EI 90	EI 150		EI 180	
	roof	RE 15		RE 30	RE 45			RE 60	

Fitting Elements for Buildings with Sandwich Panels

Fitting elements are profile products made of steel sheets.
You can purchase standard elements such as corners, guides, ebbs, channel, decorative fillers, etc. or order any custom designed configurations built for your precise specifications.
These can be designed in any color according to the RAL catalog.

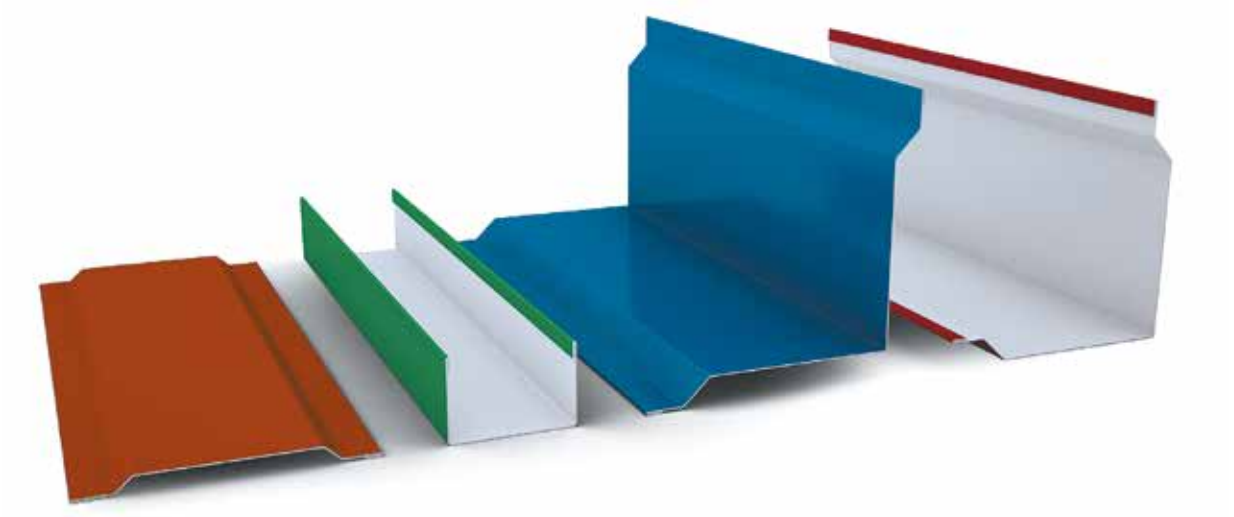
THICKNESS
0.4–2.0 mm

MAXIMUM LENGTH
4000 mm

STEEL
Metal from European or leading Russian manufacturers.

METAL AND COATING OPTIONS:
- Galvanized steel without paint coating
- Coated Galvanized Steel Coil: Polyester, PVDF
- Powder Coated Sheet Steel
- AISI 304 rolled stainless steel for food or AISI 430 for non-food products

WHY PURCHASE PH INSULATION FITTING ELEMENTS?
- You save time and effort by ordering and picking up panels, doors and fittings in a one-stop shopping mode
- All of PH Insulation's fitting elements are covered with an additional layer of paint to match the sandwich panels
- Modern European equipment lets us produce high quality, extremely accurate fitting elements
- All fittings are protected by a film that covers them during transportation and can be easily removed after installation



To Insulate a Building, a House or Make a Flat Roof, Use PIR Plita® Board and Baby PIR Crumbs

Want to pay less for heating or air conditioning when building a flat roof, renovating industrial buildings, or insulating any residential facility from a cottage to a balcony?
Use PIR Plita® Board: polyisocyanurate foam boards in soft facer.

How does PIR Plita® Board differ from sandwich panels?
Only by its coating. In sandwich panels, PIR Premier core is located between two sheets of metal. With PIR Plita® Board, you can put PIR between a variety of materials, including paper sheets, foil, film or fiberglass.

COATING OPTIONS

- Paper
- Film
- Aluminium Foil
- Foil film
- Graphite coating
- Fiberglass

SO THE PIR PLATE IS

- Easy to cut and drill
- Easy to install

PIR Plita® Board mechanical strength makes flat roofs more durable — the board easily withstands the weight of construction or maintenance workers.

Thickness, mm	Width, mm	Length, mm	Coating	Thermal conductivity
30–150	1200	up to 16 000	Soft cladding	0.022 W/(m*K)

Maintenance-wise, 90% of all flat roofs require repair in the third year after construction and then once annually due to precipitation and damage to the roof caused by workers walking on it.

That is why PIR Plita® Board is best suited for a flat roof. Its stiffness, high rate energy efficiency, moisture resistance, low weight, ease of installation and fire safety make it the best choice.

In 2015, the Dutch BDA Keuringsinstituut conducted comparative tests on the number of safe roof movements, trampling for PIR samples with foil, combinations of mineral wool and PIR, and combinations of mineral wool slabs. Roofs made with PIR exhibited the best results. They successfully passed the test with 30 cycles of pedestrian load and the change in compressive strength remained lower than 15%.

BABY PIR

If you need to add insulation to a building with uneven surfaces, you can fill spaces of any size or shape with Baby PIR crumbs insulator with dimensions of 5 — 20 mm. This allows you to fill any empty space and enjoy thermal insulation.

Prefabricated Refrigerating Chambers

To save you time on coordination and logistical costs, PH Insulation manufactures prefabricated sets for cold rooms: PU insulated panels and insulated doors.

What's so Unique About PH Insulation's Refrigerating Chambers?

PIR Premier sandwich panels' quality is guaranteed by our R&D Center. The panels eliminate cold bridges with their tongue-and-groove lock.

We install European hardware on all types of doors, or reinforced metal PH Insulation hardware on sliding doors.

PH Insulation's cold rooms are easy to assemble and disassemble.

Plus, you can order refrigeration equipment and installation separately from our partners working in refrigeration and construction.

This saves you money!

MORE ADVANTAGES OF PH INSULATION'S REFRIGERATING CHAMBERS:

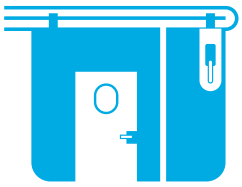
- All chambers are custom-built with individual sizes for your project
- We can install partitions, make internal cutouts, and install several door blocks
- Our cold rooms are suitable for both indoor and outdoor installation
- Improved thermal insulation with high-precision docking profile of panels
- Rigidity due to 1.5 mm micro profile on sandwich panels
- No plastic elements for junctions
- Additional rigidity with eccentric locks
- Multiple assembly-disassembly

A STANDARD REFRIGERATING CHAMBER COMES WITH

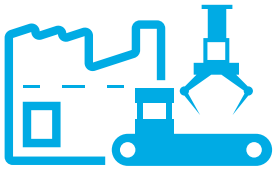
- Roof sandwich panels, color RAL 9003, Zn coating outside
- Floor panels with Zn coating on both sides
- Insulated hinged door 800x1800 mm with mounting kit
- PVC curtain
- Pressure balancing valve
- Consumables: sealant, installation foam, self-tapping screws
- Assembly instruction

PH Insulation Insulated Doors

Top European plastic hardware or Russian-made metal hardware for increased durability



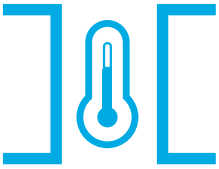
15 types of doors to suit any application



Production Volume: over 8,000 insulated doors annually

Export to 15 countries including Finland, Germany, Latvia, Nigeria

Exterior metal — 0.5 mm thick steel



Insulation: rigid polyurethane foam. Density up to 50 kg/m^3.
Thermal conductivity: 0.022 W/(m*k)


2

Product Line

DOORS FOR REFRIGERATING AND FREEZING CHAMBERS, CONTROLLED TEMPERATURE WAREHOUSES

HINGED

SINGLE LEAF

Hinged Single Leaf (HSLD)
Hinged Single Leaf Half-Hidden (HSLD H)
Hinged Single Leaf Half-Hidden with Rahrbach Hardware (HSLD R)
Hinged Single Leaf Optima (HSLD O)

DOUBLE LEAF

Hinged Double Leaf (HDLD)
Hinged Double Leaf with Rahrbach Hardware (HDLD R)

SLIDING

Sliding Single Leaf (SD) or Double Leaf (SDD)
Sliding with PH Insulation Hardware (SD PH)
Sliding with Automatic Fermatic System (SD F)
Sliding Optima (SD O)
Sliding Door with Gas-Tight Sealing

FIRE RESISTANT DOORS

Sliding Fire Resistant (SD EI)
Hinged Fire Resistant (HD EI)

DOORS FOR INDUSTRIAL AND PRODUCTION FACILITIES

INDUSTRIAL

SINGLE LEAF

Industrial Single Leaf Steel Doors (ISD)

DOUBLE LEAF

Industrial Double Leaf Steel Doors (IDD)

TRAFFIC SWINGING DOORS

SINGLE LEAF

Traffic Swinging Single Leaf (TSS)

Traffic Swinging Single Leaf with Gravity Hinges (TSS G)

Traffic Swinging Single Leaf with Torsion Hinges (TSS T)

DOUBLE LEAF

Traffic Swinging Double Leaf (TSD)

Traffic Swinging Double Leaf with Gravity Hinges (TSD H)

Traffic Swinging Double Leaf with Torsion Hinges (TSD T)

What's so Unique about PH Insulation Doors?

Our doors are produced according to the CE European certificate.
To ensure optimal performance, we design doors made with hardware from only the best European manufacturers:

- Fermod, France, the world leader in hardware for the refrigeration industry
- Rahrbach, Germany
- Coldtech, Italy
- Kide, Spain

If you need extra reinforcement for sliding doors, you can order special PH Insulation hardware that increases your door's lifespan by 1.5 times thanks to steel fittings and reduced material wear.

Our door locks are made of frost-resistant plastic. In accordance with European safety requirements, all locks are supplied with an anti-lock device for opening the door from the inside.

We use internal embedded elements in the door leaf to guarantee that all hardware stays fastened.
The surface of PH Insulation's doors is protected from damage in transport by plastic film.

ULTIMATE DURABILITY: PH INSULATION HARDWARE FOR SLIDING DOORS

Our tracks for sliding doors are made of anodized aluminum and are designed to bear loads up to 200 kg.

The system of side guides for sliding doors is located on the wall without fixing it to the floor. This eliminates any chances of unwanted objects getting into the door guide profiles and ensures reliability and durability.

For over three years, our customers have installed PH Insulation metal fittings on sliding doors that work even in especially severe Russian conditions. The upper brackets are equipped with brass rollers and the lower ones are made of 5 mm thick steel.

CHOOSE YOUR TYPE OF HINGES FOR TRAFFIC DOORS

PH Insulation traffic or impact swinging doors come with two types of hinges:

1) Gravity Hinges
Gravity Hinges are highly durable, boasting 2 mm thick metal.
The lack of a spring mechanism means our hinges last longer than conventional ones. Because they do not require adjustment; gravity hinges are easy to install and provide convenient passage and transportation of goods due to the equal opening and closing speed.

2) Fixed Hinges
Fixed hinges are produced by leading European companies (Kide, Spain, and Coldtech, Italy). Fixed hinges provide a wider opening than traffic doors on gravity hinges. The force needed for opening and closing doors can be adjusted depending on the operating conditions.

IMPORTANT! Timely inspections of the hardware is required in order to prolong the lifespan of your doors. It is necessary to adjust their operating course and check for lubrication on friction surfaces. The frequency of service checks depends on the door's mode of operation, but they are usually carried out once every two weeks.

DOOR LEAF

The door leaf is resistant to mechanical shocks and loads since it is entirely made of 0.5 mm thick steel sheet. Depending on the conditions of your facility's working environment, you can order a door leaf with various types of metal:

- Galvanized steel, painted with polymer paint in white, RAL 9003, or any other color according to the RAL catalog
- Granite Farm coated steel for agricultural applications
- Food Safe Laminated Steel for food and pharmacology
- Unpainted galvanized iron
- AISI 304 stainless steel for food products
- AISI 430 stainless steel for non-food products

FRAME

We produce standard overlap frames from 2 mm thick cold-rolled steel sheet and paint them in any color available in the RAL catalog. We can produce a frame from another metal based on your needs, including AISI 304, AISI 430 stainless steel, etc.

We will supply you with a mounting kit to install the frame to the doorway.

DOOR OPTIONS

We will customize the door to meet your exact needs:

- Adding or removing threshold
- Making doors for opening left or right, up or down, in or out
- For medium or low temperature chambers
- With or without a monorail
- With or without plastic or steel kick plates

BUILDING INFORMATION MODELLING (BIM) TECHNOLOGY

Building Information Modeling or BIM is a three-dimensional model-based technology. BIM empowers engineers to ensure all building components are fully coordinated before installation.

Engineers can freely download BIM libraries for all types of cold-room doors manufactured by PH Insulation at profholod.com or bimobject.com websites. BIM technology allows you to identify the necessary type and size of doors, choose installation hardware kits, thresholds and other options—even color of the doors—and deliver a visual representation of the project at an early stage.

Scan the code for free download of PH Insulation (ProfHolod) BIM libraries at bimobject.com

Add Solar Panels to Your Cold Storage

If you want to save on electrical costs and use the latest green technologies, then choose our autonomous cold-storage rooms with solar panels.
The solar panels are manufactured by our partner, Solaron, the largest manufacturer of solar panels in Armenia.

Depending on installation conditions, geographical latitude, and building requirements, we will advise you on the number of solar panels, the thickness of sandwich panels, and whether you need to connect your storage to an alternating current source of 220 V: wind, gas generators or a stationary electrical network.

A STANDARD REFRIGERATING CHAMBER WITH SOLAR PANELS INCLUDES

- Insulated Sandwich Panels
- Solar panels from Solaron, the largest manufacturer in Armenia
- Mains inverter with integrated charger
- Rechargeable batteries
- Refrigerating door
- Set of fittings
- PVC curtain
- Pressure balancing valve
- Circuit Breakers and Shields
- DC Connectors and Cables
- Fastening system

TODAY YOU CAN SAVE TIME AND DELIVERY COSTS BY ORDERING OUR

- Sandwich panels with three types of insulation: a customized PIR Premier system, a standard system made by international corporations (PUR Classic), and mineral wool
- Insulated doors for your cold storages and freezer chambers
- Refrigerating and freezer rooms with solar panels
- Swinging and industrial doors for your production areas, cafes, restaurants, or any residential and administrative premises
- PIR Plita® Board multtipurpose insulator in soft coating and Baby PIR for insulation inside walls or floors made from brick, cement, ect.
- Technical support starting from project design to installation and maintenance

PH Insulation's Continuous Italian-Made Production Lines for PIR Manufacturing

The Pu.Ma production line installed at our factory in Moscow is over 180 meters long and delivers sandwich panels with a thickness of 40 to 200 mm at a speed of up to 15 meters per minute. The production line consists of the following sections:

PRE-PRODUCTION
Control of incoming raw materials at the PH Insulation R&D Center guarantees the quality of the foam's physical and mechanical properties.

UNCOILERS
A continuous sheet feed system provides for high speed and continuous operation.

CORONARY DISCHARGE PROCESSING
Coronary discharge removes static electricity from metal sheets to improve adhesion to polyurethane foam.

PROFILE FORMING
Consists of 12 and 24 rollers for wall and roof panels. The section's length facilitates increased accuracy in forming the panels' metal parts, which minimizes mechanical stress on paintwork.

ADHESIVE APPLICATION
Preliminary application of a thin layer of adhesive, similar to the main material of the foam, increases adhesion to metal and eliminates bubbles.

HEATING OF METAL SHEETS
Preheating the metal sheet provides the necessary temperature conditions for ideal adhesion of the adhesive layer to the metal.

STORAGE AND DELIVERY OF PENTANE
The production line uses pentane as a blowing agent, which complies with European environmental standards.

H&S MIXER
The mixer of German H&S Anlagentechnik ensures high-quality mixing and dosing of components at the European level. The resulting polyol, the main component of the PIR Premier system, is fed at high pressure alongside catalysts, pentane and isocyanat into the fill head. The mixer produces primer-polyol and any mixture of catalysts.

MIXING COMPONENTS AND FOAM FORMATION
Two interchangeable high-pressure casting heads ensure a continuous production process. Foam is applied on the adhesive layer evenly over the area of the panel with differentiated speed movement of the casting head.

Click for a 360 VR tour around our manufacturing site

You are more than welcome to visit our manufacturing site in Moscow, Russia, or our show-room in Yerevan, Armenia. Scan the code for the address and contact numbers

TRACK PRESS

The exact geometry of the panel is formed inside a 26-meter press as a result of the reaction of chemical components and foam expansion restrictors. The press's horizontal planes consist of perfectly flat steel plates that give the panels a fixed thickness. The lock profile is formed by extra reinforcement on either side of the panel.

CUTTING

The cutting section—comprised of a band saw and a deburring system—is equipped with a hood to remove chips. The saw's speed is synchronized with the speed of the assembly line and can cut panels starting from 2 m long at maximum speed.

COOLER

The foam formation process continues in the cooler, which is designed for 28 panels up to 16 meters long.

LAYER

The tilter-stacker automatically turns the roof panels to form compact packs for the packaging zone.

PACKER

Provides automatic pallet formation and packaging in plastic film of the pallet's six sides.

FINISHED GOODS WAREHOUSE

The foam formation process also continues after the panels leave the assembly line. This stage lasts about 24 hours, during which recently made sandwich panels sit and cool in stock at controlled temperature conditions. This final stage is extremely important in forming geometrically correct panels.

QC

Internal factory inspections are carried out in accordance with EN 14509 standard, which sets the quality level for all European PIR and PUR sandwich panels.

Our History

2005

FIRST FACTORY MANUFACTURING SANDWICH PANELS WITH PUR OPENS OUTSIDE OF MOSCOW

2006

NEW PRODUCTION FACILITY OPENS TO MANUFACTURE SHAPED ELEMENTS

2012

ITALIAN AUTOMATIC CONTINUOUS PRODUCTION LINE COMMISIONED IN THE NEW BUILDING TO MANUFACTURE PIR SANDWICH PANELS UP TO 16 METERS LONG AT A SPEED OF UP TO 15 METERS PER MINUTE

2014

START OF PIR PLITA® BOARD INSULATOR MANUFACTURING

2015

PH INSULATION DESIGNS HARDWARE FOR INSTALLATION OF SOLAR PANELS ON ITS ROOF SANDWICH PANELS

2017

PH INSULATION IS AUTHORIZED TO PUT CE MARK ON ITS PIR PREMIER PANELS

2017

THE RUSSIAN PANELS MANUFACTURER'S ASSOCIATION AWARDS PH INSULATION WITH A DISTINCTION MARK

2018

PH INSULATION DEVELOPS BIM LIBRARIES FOR ITS SANDWICH PANELS, INSULATED DOORS AND FITTINGS

2021

PH INSULATION RECEIVES EUROPEAN CERTIFICATES FOR PIR PLITA® BOARDS AND REFRIGERATING DOORS

2020

BASF LABORATORY RECORDS UNIQUE THERMAL CONDUCTIVITY OF PIR PREMIER SANDWICH PANELS: 0.0194 W/M*K

2007

NEW SANDWICH PANELS PRODUCTION OPENS TO MANUFACTURE PANELS UP TO 6.3 METERS LONG

2010

WITH NEW ITALIAN EQUIPMENT PH INSULATION STARTS TO MANUFACTURE PUR SANDWICH PANELS UP TO 9.3 METERS LONG.

2012

PH INSULATION FOUNDS NAPPAN: THE RUSSIAN ASSOCIATION OF PU SANDWICH PANELS MANUFACTURERS

2010

START OF INSULATED DOORS MANUFACTURING

2015

GERMAN H&S MIXER ADDED TO THE CONTINIOUS LINE FOR MIXING OF PIR COMPONENTS

2016

PH INSULATION OPENS NEW MANUFACTURING AREA FOR INSULATED DOORS MANUFACTURING

2016

PH INSULATION DEVELOPS ITS PROPRIETORY PIR PREMIER BLEND

2016

PH INSULATION OPENS ITS R&D CENTER

2019

PH INSULATION ACQUIRES SECOND ITALIAN CONTINIOUS ASSEMBLY LINE FOR MANUFACTURING OF PIR PREMIER AND MINERAL WOOL INSULATED PANELS

2019

PH INSULATION PUBLISHES THE BIM LIBRARIES ON THE LARGEST SPECIALIZED WEBSITE BIMOBJECT.COM

2020

PH INSULATION PUTS INTO OPERATION H&S ANLAGENTECHNIC POLYESTER SYNTHESIS REACTOR AND BECAME THE FIRST RUSSIAN MANUFACTURER OF SANDWICH PANELS, MANAGING THE QUALITY OF ITS PIR SYSTEM AT THE MOLECULAR LEVEL

2019

PH INSULATION AWARDED FOR CONTRIBUTIONS TO THE DEVELOPMENT OF THE PRODUCTION OF ENERGY EFFICIENT MATERIALS IN RUSSIA

PH Insulation's Geography: export of sandwich panels, insulated doors, PIR Plita® Board, foreign partners

Scan the code
to visit our projects' gallery

PIR PREMIER, PUR CLASSIC, MINERAL WOOL SANDWICH PANELS,
PIR PLITA® BOARDS, INSULATED DOORS, SOLAR PANELS

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