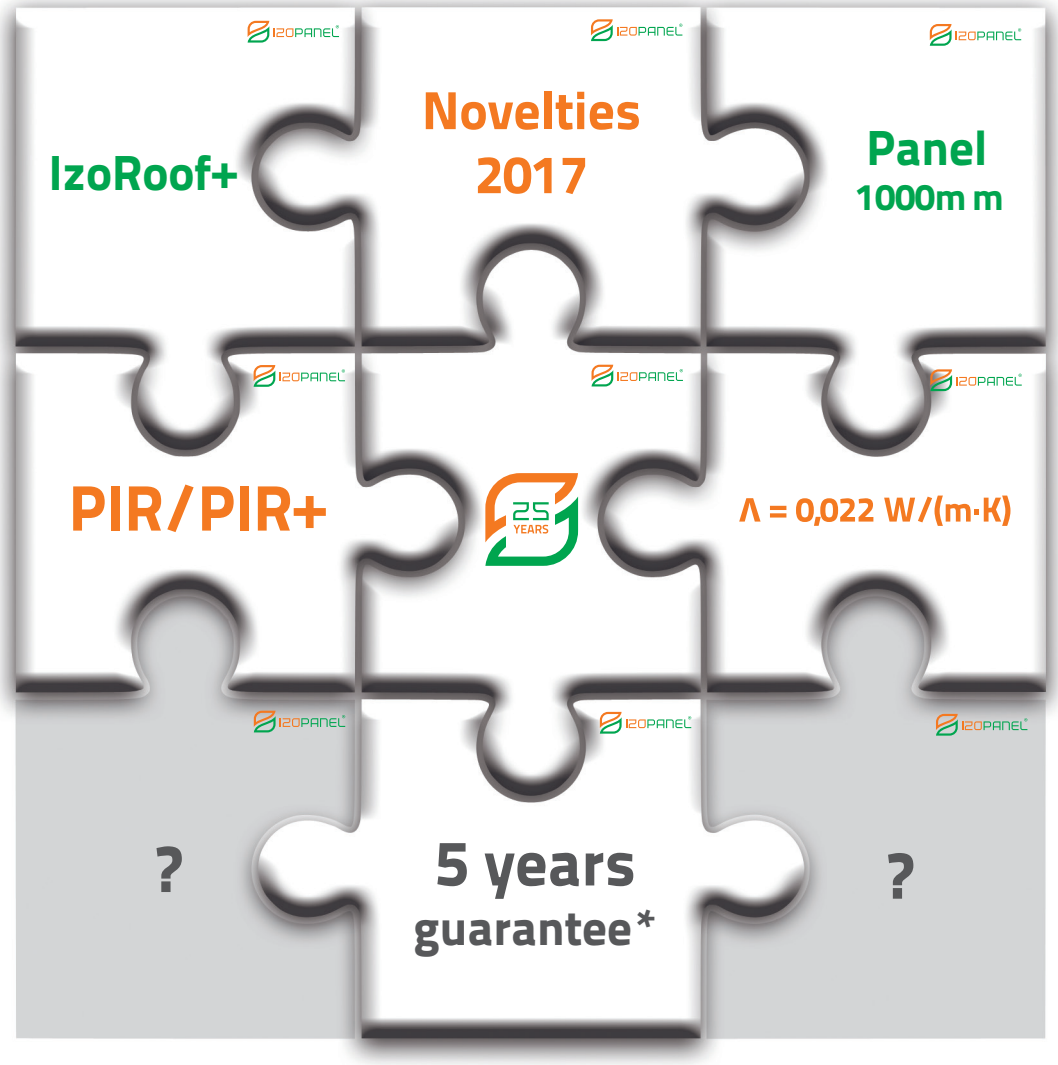
IZOPANEL®

Sandwich panels

Manufacturer's catalogue



* Details in the guarantee panels

our products

IzoRoof+ NEW

SIMPLE AND FAST ASSEMBLY

roof sandwich panel with PIR/PIR+ foam core

page 14

PIR/PIR+

ENERGY EFFICIENCY

roof and wall sandwich panel with PIR/PIR+ foam core

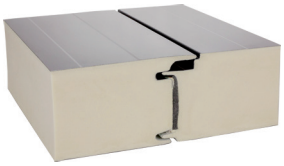
page 9-14

IzoCold

EXCELLENT THERMAL INSULATING POWER

cold room sandwich panel with PIR/PIR+ foam core

page 12



IzoGold

AESTHETIC ELEVATION

wall sandwich panel with hidden fastening, with PIR/PIR+ foam core

page 11

EPS

ECONOMICAL SOLUTION

roof and wall sandwich panel with EPS core

page 18-20

MWF

FIRE RESISTANCE

roof and wall sandwich panel with MWF core

page 15-17

More information inside

company

Izopanel Sp. z o.o., the manufacturer of sandwich panels, for 25 years has been delivering products to meet customer's needs. A quarter-century period of developing our products has resulted in creation of a database of experienced specialists who can help customers during all stages of the investment. We have developed a technology making our panels an economical, durable solution which also enables to achieve favourable thermal, acoustic and fire protection parameters.

Our advantages

- High-end production line
- Highest quality manufacturing
- Innovative solutions
- Expert technical assistance
- Reliable and professional service
- After-sales support
- On-term
- Comfortable
- Safe delivery

balance of benefits

Sandwich panels with coated metal lining have been used in building industry for over 40 years. Some of the benefits of using Izopanel sandwich panels are:

Thermal insulation.
Thermal conductivity of panels with polyisocyanurate foam core is 0,022 W/mK.

Durability. Protection against weather conditions, maintaining properties and appearance for many years. When coating is properly selected for local conditions, several years' durability of panels may be reached without any problem.

Waterproofness. Water, snow and damp will not get through. Perfectly finished joints ensure complete waterproofness for many years, if installation standards are followed.

Sound absorption. Properly selected core material can give very good noise insulation parameters. They are particularly important if insulation of outside noise, reduction of industrial noise propagation to the outside of the building or noise reduction within the building is required.

Fire resistance. Properties according to the needs. Proper type of core can ensure reaching fire resistance class up to EI120 (mineral wool). This enables protection of escape routes and separation of fire compartments from each other.

Easy and quick installation, low construction costs. mm thick IPR-PIR foam panel has the same heat-transfer coefficient U as a 75 cm thick aerated concrete wall, 60 cm thick structural clay tile wall or a 190 cm thick brick wall.

Resistance. Roof panels can withstand the load of snow and wind depending on their thickness and climatic zone, with supports placed every 3 m. Wall panels in most cases can be used with supports span of up to 6 m. This results in real savings in terms of the supporting structure and also in the costs of the entire building.

Benefits for the natural environment. Entire power input in the production of the material used for thermal insulation of the building pays for itself after two or three years from installation, on average. Materials used in production are recyclable. Steel can be easily reused. Waste core materials can also be recycled, while production of the panels itself is not harmful to the environment.

LINING

Steel sheet	Requirements	Description
Steel type according to PN-EN 10346	S250 GD; S280 GD; S320 GD	Steel grades with higher strength parameters for manufacture of sandwich panels.
Sheet gauge [mm] according to PN-EN 10143	0,40; 0,50; 0,60	For internal and external lining of the Izopanel sandwich panel.
Galvanic plating according to PN-EN 10346	Z225 - 275	Double-sided zinc coat, electroplated, with weight of 225 - 275 g/m^2.
	AZ150	Double-sided aluminium and zinc coat, electroplated, with weight of 150 g/m^2.

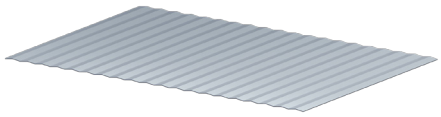
Paint Coats	
Standard Poliester 25 µm	Standard paint coat with thickness of 25 µm, resistant to weather conditions. This coat is smooth and may be used for roofings and walls. Corrosion resistance class RC3.
HDS	Paint coat with thickness of 35 µm. It is smooth or granular and has good UV resistance. Recommended for roofings and walls, for sandwich panels or accessories. Corrosion resistance class RC4.
HDX	Paint coat with thickness of 55 µm. Strong coat with very good UV and corrosion resistance and very good colour stability. Recommended for buildings exposed to difficult weather and environmental conditions - on roofs, elevations or air conditioning devices. Corrosion resistance class RC5.
Prisma	High quality paint coat with thickness of 50 µm and aesthetic appearance. Perfect choice for buildings that are to draw attention and stand the test of time. The product is under a unique Confidex® Guarantee, granted for up to 30 years. It is particularly recommended in areas with high levels of industrial pollution and in seaside regions.. Corrosion resistance class RC5.
HPS 200	Paint coat with thickness of 200 µm. Most often chosen by architects in Europe for walls and in particular roofs, where highest durability and quality are required. It is particularly recommended in areas with high levels of industrial pollution and in seaside regions. Also under Confidex® Guarantee with the period of up to 30 years. Corrosion resistance class RC5.
FarmCoat	Special paint coat with thickness of 35 µm for agricultural applications, resistant to aggressive conditions inside farm buildings. Corrosion resistance class RC3.
FoodCoat	Special paint coat with thickness of 50 µm for food industry applications, such as cold stores; approved for contact with food.
FoodSafe	Special paint coat with thickness of 120 µm for food industry applications, such as cold stores, approved for contact with food. Resistant to most cleaning agents.

PIR/PIR+ panels are also manufactured with stainless steel cladding.

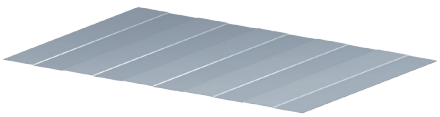
Designation according to EN 10088	Designation according to AISI/ASTM	Chemical composition (%)								
		C	Si	Mn	P max	S	N	Cr	Mo	Ni
1,4301	304	≤ 0,07	≤ 1,00	≤ 2,00	0,045	≤ 0015	≤ 0,11	17,50 - 19,50	-	8,00 - 10,50

PROFILE TYPES

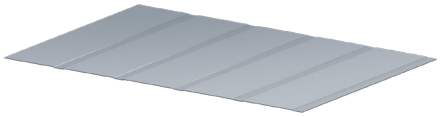
Thanks to the variety of profile types of IZOPANEL sandwich panels lining and a wide selection of paint coats in various colours, our products can give a unique character to any building.



M - corrugated



L - linear



R - grooved

BP - smooth

*in BP profile (no profiling), slight corrugation of the surface is possible; the permissible deviation from the flatness is specified in PN-EN 14509:2013 standard

colours

I group – very bright colors

RAL 1015 RAL 7035 RAL 9002 RAL 9010

II group – bright colors

RAL 1002 RAL 1003 RAL 1017 RAL 1021 RAL 5012 RAL 6011 RAL 6018 RAL 7040 RAL 7047 RAL 9006

III group – dark colors

RAL 3000 RAL 3011 RAL 5010 RAL 6029 RAL 8004 RAL 9007

RAL 6020 RAL 7016 RAL 7024 RAL 8017

IV group - other coats*

PVC (F) PVDF 9010 25 µm FarmCoat 9010 35 µm HDS 9010 35µm HDX 9010 55µm INOX 1.4301 FoodSafe 120 µm

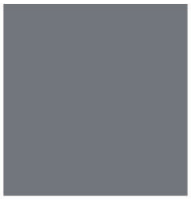
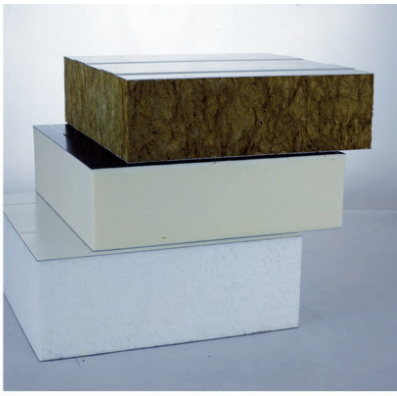
Use chart to select colour.
IZOPANEL reserves the right to accept differences between sample colours presented in the offer and the actual colours of the products.

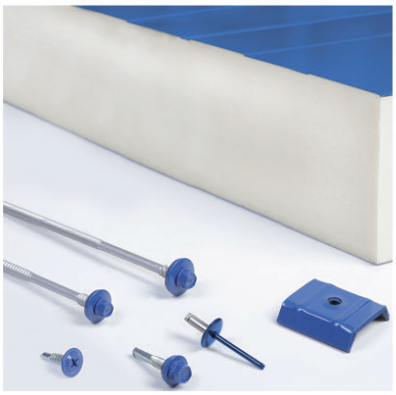
PERMISSIBLE LENGTHS CHART

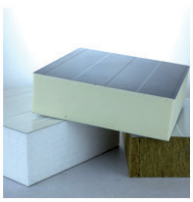
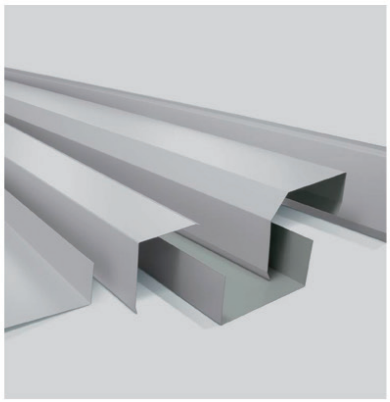
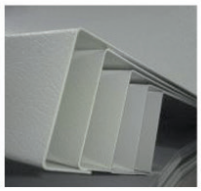
CORE	PANEL TYPE	COLOUR GROUPS		
		I [m]	II [m]	III [m]
PIR/PIR+	IzoWall / IzoGold / IzoCold	16	12	9
	IzoRoof / IzoRoof+	16	15	12
MWF	IzoWall	13	9	6
	IzoRoof	13	11	9
EPS	IzoWall	13	9	6
	IzoRoof	15	11	9

* Lengths are specified individually

comprehensiveness



FLASHING

Contributes to the final appearance of the entire structure. The IZOPANEL system and available colours of coated sheet enable architects and contractors to select combinations freely. Standard flashing offer is included in the technical catalogue.

Length:
- standard 2500 mm

Material:
- steel sheet with organic coating:
  standard polyester 25 µm

Additional protection:
- protective film

ACCESSORIES

Complete system is the strength of our company. We offer all auxiliary components for installation of sandwich panels, such as: screws for panels and flashings, touch-up paints, seal tapes and flanges.

Sandwich panel fasteners:
- **self-drilling**
  - for hot-rolled structures (wall thickness between 3 and 14 mm)
  - for cold-bent structures (wall thickness between 1.5 and 5 mm)
  - for wooden structures
- **self-drilling for flashings**
  - same colour as ext./int. lining
- **other**
  - tight rivets
  - special fasteners for refrigerating engineering

Seals and other accessories:
- **seal tapes for purlins and sandwich panels**
- **seal flanges for cable penetrations through the cladding**
- **touch-up paints**
- **silicones and foams**

PIR/PIR+ sandwich panels

GENERAL CHARACTERISTICS

CORE

Polyisocyanurate (PIR/PIR+) foams are expanded plastics produced as a result of a polyaddition reaction with isocyanates in the presence of activating and stabilizing agents. As the blowing agent we use a traditional hydrocarbon - pentane, which is perfectly safe for the ozone layer. By using special polyester-derived polyols in polyisocyanurate (PIR/PIR+) foams, we obtain more aromatic bonds. Additionally, by means of increasing the so-called index in appropriate conditions, polyisocyanurate rings of high chemical resistance are produced. As a result, in the PIR/PIR+ foam three-dimensional structures are obtained. Therefore the PIR/PIR+ foam behaves much better in fire. PIR/PIR+ foams are characterised by very good physical and chemical parameters, high resistance to moisture, high chemical resistance and resistance to fungi and mildew. Panel density is 40 kg/m^3 ± 3.

PIR+ – To highlight the unique properties of our PIR foam being result of individually chosen formula, we marked it with a special trademark – PIR+.

BENEFITS

IZOPANEL PIR and PIR+ sandwich panels have polyurethane-based foam cores. PIR/PIR+ foam is a material with excellent insulating and thermal properties, which is reflected by thermal conductivity rating.

λ = 0,022 W/m*K (PIR/PIR+)

This foam is a good noise insulation material which is characterized by specific acoustic resistance coefficient:

R_w = 25-27 dB

and acoustic absorption coefficient:

α_w = 0,15

Our PIR/PIR+ sandwich panels are non-flammable due to the properties of PIR foams.

B
Flash resistant

Panels with foam core give very good results in burning behaviour tests, depending on foam type and thickness, their fire resistance class is

EI 15 (PIR)
EI30-60 (PIR+)

Proper joint profile guarantees perfect leakproofness, preventing air infiltration and ensuring steam and blowing rain resistance.

PIR/PIR+ panels manufacturing programme includes three types of wall panels and one type of roof panels.

Wall panels are available in three types:

- **IzoWall**

Standard wall panel. Thickness range: 40 to 120 mm. Suitable for walls, to be installed vertically or horizontally. Fastening to the structure with screws through the panels.

- **IzoGold**

Wall panel with hidden fasteners. Thickness range: 60 to 120 mm. Suitable for walls, to be installed vertically or horizontally. Fastening to the structure with screws inside panel joint. These panels form a smooth facade with no visible joints.

- **IzoCold**

Cold store panel, with reverse heat flow direction. Unlike the standard panels, their joints have no soft seals and aluminium seals which could form a thermal bridge. In order to eliminate heat flow, the core has a tongue-and-groove joint. Thickness range: 120 to 220 mm. Suitable for walls of cold stores and freezers, as well as ceilings and suspended ceilings. Panels to be installed outside building structure.

Roof panels are available in two types:

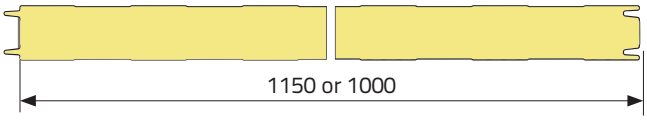
- **IzoRoof / IzoRoof+**

Suitable for pitched roof with small and medium pitch angle. These panels have trapezoidal outer surface. Thickness range: 60 to 160 mm. On request roof panels may be produced with a lap joint which enables longitudinal assembly. The lap joint may be left-sided or right-sided. Technical drawing in the "Storage, transport, installation and service rules" section presents the principle of determining the side of the lap joint.

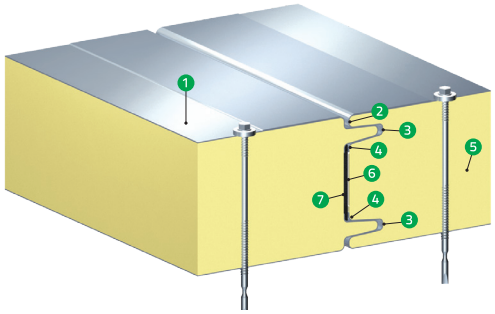
IzoWall

NEW! *

Wall panel



L/R/M/BP
L/R/M/BP



1. Profiled lining with a unique surface design.
2. Large bend radii guarantee durability of lining protective coatings.
3. Double panel lock guarantees best fire resistance properties.
4. Profiled edges facilitate assembly and ensure proper thermal insulating power.
5. Core made of stiff, freon-free, self-extinguishing PIR/PIR+ foam with very good thermal insulation properties.
6. Seamless polyurethane seal keeps proper thermal insulating power and tightness of joint - applied in manufacture.
7. Protecting strip prevents diffusion, water and gas infiltration and steam penetration into the insulating core.

The IzoWall sandwich panels are designed for use on external walls, suspended ceilings and internal walls. They may be installed vertically or horizontally. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

PIR **PIR+**

g	weight		λ	U	λ	U
[mm]	[kg/m²]		[W/(m·K)]	[W/(m²·K)]	[W/(m·K)]	[W/(m²·K)]
	0,5/0,4 mm	0,5/0,5 mm				
40	9,0	9,8	0,022	0,57	0,022	0,57
60	9,8	10,6		0,37		0,37
80	10,6	11,4		0,27		0,27
100	11,4	12,2		0,22		0,22
120	12,2	13,0		0,18		0,18

Thermal insulating power

	PIR			PIR+		
g [mm]	reaction to fire	fire propagation	fire resistance	reaction to fire	fire propagation	fire resistance
40	Bs-2, d0	NRO	-	-	NRO	
60				B-s2, d0		EI15**
80			EI15			EI15
100				B-s1, d0		EI30
120						

Burning behaviour

waterproofness	Air permeability	
	thrust	suction
A class	n = 0,8388, C= 0,0116	n = 1,1072, C = 0,0074

Leakproof-ness

Parameters according to PN-EN ISO 717-1:1999		
R_W≥	R_{A1}≥	R_{A2}≥
25	23	20

Acoustic properties

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m²], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
40	2,7	3,5	4,2	4,8	3,9	3,0
60	3,3	4,2	5,2	5,9	4,8	3,7
80	3,8	4,9	6,0	6,8	5,5	4,3
100	4,3	5,5	6,7	7,6	6,2	4,8
120	4,7	6,0	7,4	8,3	6,8	5,2

KG

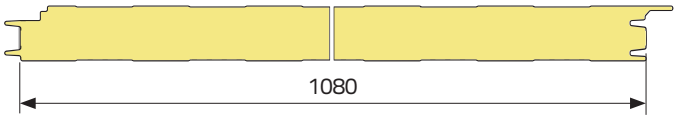
Load capacity

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

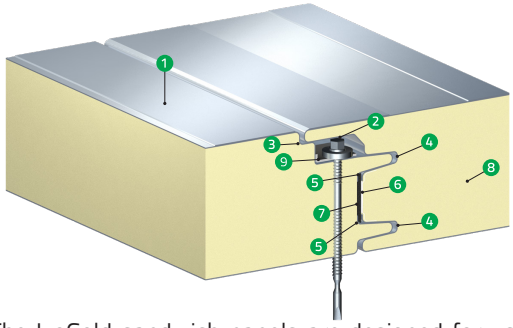
* New - panel in modular size of 1000 mm
** Classification valid when fire-proof sealing is used

IzoGold

Wall panel with hidden fastening



L/R/M/BP
L/R/M/BP



1. Profiled lining with a unique surface design.
2. Hidden fastener gives the facade a uniform appearance.
3. Large bend radii guarantee durability of lining protective coatings.
4. Double panel lock guarantees best fire resistance properties.
5. Profiled edges facilitate assembly and ensure proper thermal insulating power.
6. Seamless polyurethane seal keeps proper thermal insulating power and tightness of joint - applied in manufacture.
7. Protecting strip prevents diffusion, water and gas infiltration and steam penetration into the insulating core.
8. Core made of stiff, freon-free, self-extinguishing PIR/PIR+ foam with very good thermal insulation properties.

The IzoGold sandwich panels are designed for use on external walls, suspended ceilings and internal walls. They may be installed vertically or horizontally. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

PIR **PIR+**

g	weight		λ	U	λ	U
[mm]	[kg/m²]		[W/(m·K)]	[W/(m²·K)]	[W/(m·K)]	[W/(m²·K)]
	0,5/0,4 mm	0,5/0,5 mm				
60	9,0	9,8	0,022	0,42	0,022	0,42
80	9,8	10,6		0,29		0,29
100	10,6	11,4		0,22		0,22
120	11,4	12,2		0,19		0,19

Thermal insulating power

g	PIR			PIR+		
[mm]	reaction to fire	fire propagation	fire resistance	reaction to fire	fire propagation	fire resistance
60	Bs-2, d0	NRO	EI15	Bs-2, d0	NRO	-
80						
100						
120						

Burning behaviour

waterproofness	Air permeability	
	thrust	suction
A class	n = 0,7578, C = 0,0335	n = 0,7778, C = 0,0115

Leakproof-ness

Parameters according to PN-EN ISO 717-1:1999		
R_W ≥	R_{A1} ≥	R_{A2} ≥
25	23	21

Acoustic properties

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m²], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
60	3,3	4,2	5,2	5,9	4,8	3,7
80	3,8	4,9	6,0	6,8	5,5	4,3
100	4,3	5,5	6,7	7,6	6,2	4,8
120	4,7	6,0	7,4	8,3	6,8	5,2

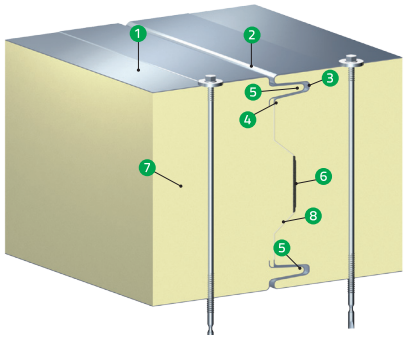
KG

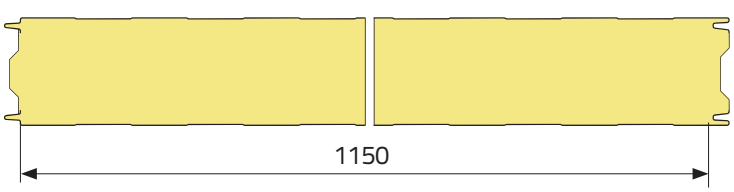
Load capacity

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

IzoCold

Cold store panel





L/R/M/BP
L/R/M/BP

1. Profiled lining with a unique surface design.
2. Sealant applied at the construction site (optional).
3. Large bend radii guarantee durability of lining protective coatings.
4. Profiled edges facilitate assembly and ensure proper thermal insulating power.
5. Double panel lock guarantees best fire resistance properties.
6. Labyrinth core joint eliminates thermal bridge.
7. Core made of stiff, freon-free, self-extinguishing PIR/PIR+ foam with very good thermal insulation properties..
8. Zalecana niskoprężna pianka poliuretanowa.

The IzoCold sandwich panels are designed for use on external walls, suspended ceilings and internal walls of cold stores and freezers. Most often they are installed vertically. Panels with the PIR/PIR+ core are characterised by improved fire protection properties and slightly better thermal properties.

PIR **PIR+**

g	weight		λ	U	λ	U
[mm]	[kg/m²]		[W/(m·K)]	[W/(m²·K)]	[W/(m·K)]	[W/(m²·K)]
	0,5/0,4 mm	0,5/0,5 mm				
120	12,2	13,0	0,022	0,18	0,022	0,18
140	13,0	13,8		0,16		0,16
160	13,8	14,6		0,14		0,14
180	14,6	15,4		0,12		0,12
200	15,4	16,2		0,11		0,11
220	16,2	17,0		0,10		0,10

Thermal insulating power

g	PIR			PIR+		
[mm]	reaction to fire	fire propagation	fire resistance	reaction to fire	fire propagation	fire resistance
120	B-s2, d0	NRO	EI15	Bs1, d0	NRO	EI30
140						
160						
180						
200						EI30/EI60*
220						

Burning behaviour

waterproofness	Air permeability	
	thrust	suction
A class	n = 1,1983, C = 0,0022	n = 1,0141, C = 0,0036

Leakproof-ness

Parameters according to PN-EN ISO 717-1:1999		
R_W≥	R_{A1}≥	R_{A2}≥
27	24	22

Acoustic properties

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m2], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
120	4,7	6,0	7,4	8,3	5,9	5,2
140	3,9	5,1	6,2	7,8	6,3	4,9
160	4,2	5,4	6,6	8,3	6,7	5,2
180	4,5	5,7	7,0	8,8	7,1	5,5
200	4,7	6,1	7,4	9,2	7,5	5,6
220	4,9	6,4	7,8	9,7	7,9	5,6

KG

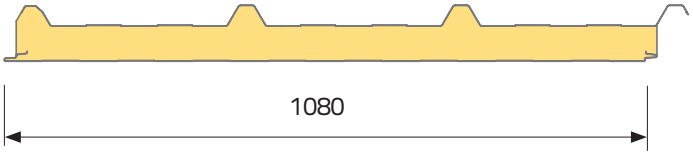
Load capacity

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

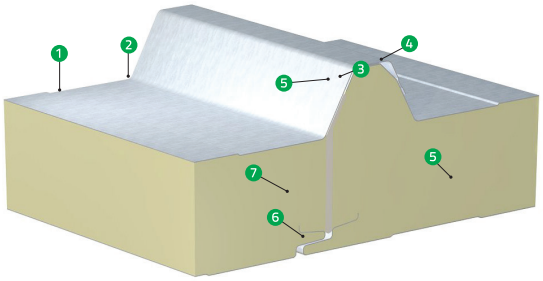
*Płyty obustronnie szyte co 150mm wkrętami

IzoRoof+ NEW

Roof panel



L/R/M/BP
L/R/M/BP



1. Profiled lining with a unique surface design
2. Large lining bend radius guarantees durability of the protective coating.
3. CSeamless polyurethane seal, applied in manufacture, guarantees joint tightness
4. Capillary action preventing chamber.
5. Core made of stiff, freon-free, self-extinguishing PIR/PIR+ foam with very good thermal insulation properties.
6. Profiled edges guarantee tightness of joint
7. Protecting strip prevents diffusion, water and gas infiltration and steam penetration into the insulating core.

The **IzoRoof+** sandwich panels are designed for use as roofs for various buildings. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue"

PIR **PIR+**

g	weight		λ	U	λ	U
[mm]	[kg/m²]		[W/(m·K)]	[W/(m²·K)]	[W/(m·K)]	[W/(m²·K)]
	0,5/0,4 mm	0,5/0,5 mm				
60	10,2	11,1	0,022	0,36	0,022	0,36
80	11,0	11,9		0,27		0,27
100	11,8	12,7		0,22		0,22
120	12,6	13,5		0,18		0,18
140	13,4	14,3		0,16		0,16
160	14,2	15,1		0,14		0,14

Thermal insulating power

	PIR			PIR+		
g [mm]	reaction to fire	fire propagation	fire resistance	reaction to fire	fire propagation	fire resistance
60	Bs2, d0	B_{ROOF}(t1)	-	Bs-2, d0	B_{ROOF}(t1)	-
80						
100			REI15			REI20
120						
140						
160						

Burning behaviour

waterproofness	Air permeability	
	thrust	suction
A class	n = 0,6443, C = 01098	n = 0,4498, C = 0,2433

Leakproof-ness

Parameters according to PN-EN ISO 717-1:1999		
R_{A2}≥	R_{A1}≥	R_W≥
21	24	26

Acoustic properties

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m²], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
60	3,7	4,9	3,0	3,0	2,0	1,1
80	4,2	5,5	4,0	4,0	2,6	1,3
100	4,6	6,1	4,9	4,9	3,4	1,6
120	5,0	6,7	5,7	5,7	4,1	2,0
140	4,2	5,6	6,3	6,3	4,5	2,1
160	4,5	6,0	7,0	7,0	4,9	2,6

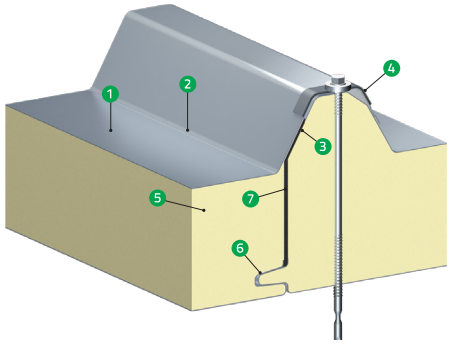
KG

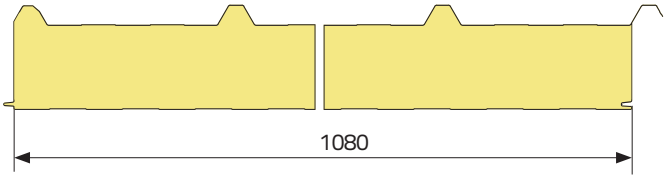
Load capacity

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

IzoRoof

Roof panel





TR
L/R/M/BP

1. Profiled lining with a unique surface design.
2. Large lining bend radius guarantees durability of the protective coating.
3. Seamless polyurethane seal, applied in manufacture, guarantees joint tightness
4. Capillary action preventing chamber.
5. Core made of stiff, freon-free, self-extinguishing PIR/PIR+ foam with very good thermal insulation properties.
6. Profiled edges guarantee tightness of joint
7. Protecting strip prevents diffusion, water and gas infiltration and steam penetration into the insulating core.

The IzoRoof sandwich panels are designed for use as roofs for various buildings. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

PIR **PIR+**

g	weight		λ	U	λ	U
[mm]	[kg/m²]		[W/(m·K)]	[W/(m²·K)]	[W/(m·K)]	[W/(m²·K)]
	0,5/0,4 mm	0,5/0,5 mm				
60	10,2	11,1	0,022	0,36	0,022	0,36
80	11,0	11,9		0,27		0,27
100	11,8	12,7		0,22		0,22
120	12,6	13,5		0,18		0,18
140	13,4	14,3		0,16		0,16
160	14,2	15,1		0,14		0,14

Thermal insulating power

	PIR			PIR+		
g [mm]	reaction to fire	fire propagation	fire resistance	reaction to fire	fire propagation	fire resistance
60	Bs2, d0	B_{ROOF}(t1)	-	Bs-2, d0	B_{ROOF}(t1)	-
80						
100			REI15	Bs-1, d0		REI30
120						
140						
160						

Burning behaviour

waterproofness	Air permeability	
	thrust	suction
A class	n = 0,6662, C = 0,0177	n = 1,2430, C = 0,0044

Leakproof-ness

Parameters according to PN-EN ISO 717-1:1999		
R_{A2}≥	R_{A1}≥	R_W≥
21	24	26

Acoustic properties

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m²], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
60	3,7	4,9	3,0	3,0	2,0	1,1
80	4,2	5,5	4,0	4,0	2,6	1,3
100	4,6	6,1	4,9	4,9	3,4	1,6
120	5,0	6,7	5,7	5,7	4,1	2,0
140	4,2	5,6	6,3	6,3	4,5	2,1
160	4,5	6,0	7,0	7,0	4,9	2,6

KG

Load capacity

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

MWF sandwich panels

GENERAL CHARACTERISTICS

CORE

Currently, mineral wool is usually produced from basalt stone which is melted at a temperature of +1400°C and undergoes a process of defibering. A binder is added to stone fibres prepared this way. Fibres also undergo the process of hydrophobisation, as a result of which mineral wool products do not absorb water and form a spatial and stable base of insulation. The core is made of hard incombustible lamella mineral wool with density of 100 ± 20 kg/m^3, class A1.

The delivered material is tested in terms of use of prohibited harmful substances, such as CFC, HCFC. It is important for us that materials used in our products are free of substances that are harmful to the natural environment

BENEFITS

The core of IZOPANEL MWF sandwich panels is mineral wool (stone wool). MWF has good insulating and thermal properties, which is reflected by thermal conductivity rating.

λ = 0,040 W/m*K

MWF panels also have very good noise insulation properties which is characterized by specific acoustic resistance coefficient:

R_w= 31-32 dB

and acoustic absorption coefficient:

α_w = 0,15

Including the burning behaviour of sandwich panels with mineral wool core the product can be classified as

A2
Non-flammable

Panels with MWF core show very good results of fire resistance tests. Depending on the core thickness their fire resistance class is

EI 120

Proper joint profile guarantees perfect leakproofness, preventing air infiltration and ensuring steam and blowing rain resistance.

MWF panels manufacturing programme includes single type of wall panel and single type of roof panel.

Wall panels are available in single type:
- **IzoWall**

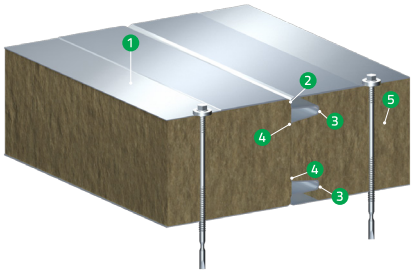
Standard wall panel. Thickness range: 40 to 250 mm. Suitable for walls, to be installed vertically or horizontally. Fastening to the structure with screws through the panels.

Roof panels are available in single type:
- **IzoRoof**

Suitable for pitched roof with small and medium pitch angle. These panels have trapezoidal outer surface. Thickness range: 60 to 250 mm. On request IzoRoof panels may be produced with a lap joint which enables longitudinal assembly. The lap joint may be left-sided or right-sided.

IzoWall MWF

Wall panel



L/R/M/BP
L/R/M/BP

1. Profiled lining with a unique surface design.
2. Large bend radii guarantee durability of lining protective coatings.
3. Double panel lock guarantees best fire resistance properties.
4. Profiled edges facilitate assembly and ensure proper thermal insulating power.
5. Core made of hard incombustible mineral wool (MWF).

The IzoWall sandwich panels are designed for use on external walls, suspended ceilings and internal walls. They may be installed vertically or horizontally. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

NOTE! Assembly instructions can be found at the end of the catalogue.

Thermal insulating power

g [mm]	λ [W/(m·K)]	U [W/(m²·K)]	weight [kg/m²]		
			0,5/0,5 mm	0,5/0,6 mm	0,6/0,6 mm
40	0,040	0,96	13,2	14,0	14,9
60		0,64	15,4	16,2	17,1
80		0,48	17,6	18,4	19,3
100		0,39	19,8	20,6	21,5
120		0,33	22,0	22,8	23,7
140		0,28	24,2	25,0	25,9
150		0,26	25,3	26,1	27,0
160		0,23	26,4	27,2	28,1
175		0,22	28,0	28,9	29,8
200		0,20	30,8	31,6	32,5
230		0,17	34,1	34,9	35,8
250		0,16	36,3	37,1	38,0

Burning behaviour

thickness [mm]	reaction to fire	fire propagation	fire resistance
40 - 60	A2 - s1, d0	NRO	-
80			EI 45
100 - 140			EI 60
150 - 250			EI 120

Leakproof-ness

waterproofness	Air permeability	
A class	thrust	suction
	n = 0,8388, C = 0,0116	n = 1,1072, C = 0,0074

Acoustic properties

Parameters according to PN-EN ISO 717-1:1999		
$R_W \geq$	$R_{A1} \geq$	$R_{A2} \geq$
31	30	28

KG

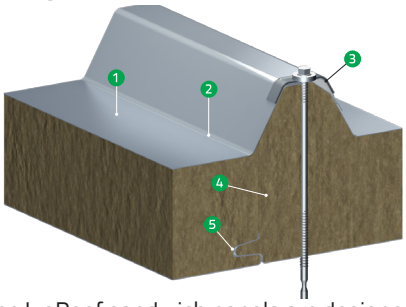
Load capacity

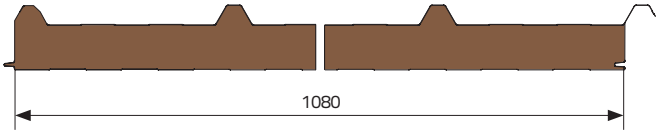
g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m2], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
60	2,7 m	3,5 m	4,3 m	5,1 m	4,1 m	2,9 m
80	3,1 m	4,0 m	4,9 m	5,9 m	4,8 m	3,3 m
100	3,3 m	4,5 m	5,5 m	6,6 m	5,4 m	3,3 m
120	3,3 m	4,9 m	6,0 m	7,2 m	5,5 m	3,3 m
150	3,3 m	4,8 m	5,9 m	7,1 m	5,5 m	3,3 m

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

IzoRoof MWF

Roof panel





TR
L/R/M/BP

1. Profiled lining with a unique surface design.
2. Large lining bend radius guarantees durability of the protective coating.
3. Capillary action preventing chamber.
4. Core made of hard incombustible mineral wool (MWF).
5. Profiled edges guarantee tightness of joint

The IzoRoof sandwich panels are designed for use as roofs for various buildings. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

NOTE! Assembly instructions can be found at the end of the catalogue.

Izolacyjność cieplna

g [mm]	λ [W/(m·K)]	U [W/(m²·K)]	weight [kg/m²]		
			0,5/0,5 mm	0,5/0,6 mm	0,6/0,6 mm
60	0,040	0,63	15,6	16,5	17,4
80		0,48	17,8	18,7	19,6
100		0,39	20,0	20,9	21,8
120		0,33	22,2	23,1	24,0
140		0,28	24,2	25,3	26,2
150		0,26	25,5	26,4	27,3
160		0,25	26,6	27,5	28,4
175		0,23	28,3	29,2	30,1
200		0,20	31,0	31,9	32,8
230		0,19	34,3	35,2	36,1
250		0,16	36,5	37,4	38,3

Burning behaviour

thickness [mm]	reaction to fire	odporność na działanie ognia zew.	fire resistance
60	A2 - s1, d0	$B_{ROOF}(t_1)$	-
80 - 250			≥ REI 60

Leakproof-ness

waterproofness	Air permeability	
A class	thrust	suction
	n = 0,6662, C = 0,0177	n = 1,2430, C = 0,0044

Acoustic properties

Parameters according to PN-EN ISO 717-1:1999		
R_W ≥	R_{A1} ≥	R_{A2} ≥
32	31	28

Load capacity

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m2], with limiting ULS.				
	-1 kN/m²	-0,6 kN/m²	0,6 kN/m²	1 kN/m²	2 kN/m²
60	2,8 m	3,8 m	1,7 m	1,2 m	0,8 m
80	3,2 m	4,4 m	2,3 m	1,5 m	0,8 m
100	3,6 m	4,9 m	2,9 m	1,9 m	0,9 m
120	4,0 m	5,5 m	3,5 m	2,4 m	1,1 m
150	4,5 m	6,2 m	4,0 m	2,7 m	1,3 m

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

EPS sandwich panel

CORE

Expanded polystyrene foam is a porous plastic obtained by expanding granules of polystyrene. It is consists of interconnected, round closed cells filled with polystyrene foam. Porous structure of the expanded polystyrene foam is complemented by small air voids between the expanded granules. Being a synthetic material, expanded polystyrene foam is resistant to water and humidity, and moreover has high diffusion resistance which minimises its water vapour permeability. Density of expanded polystyrene is related directly to its strength parameters and thermal conductivity. The core of Izopanel sandwich panels is made of optimally selected material – proper expanded polystyrene with density ≥ 15 kg/m^3.

BENEFITS

The core of IZOPANEL EPS sandwich panels is made of expanded polystyrene boards. Expanded polystyrene has very good insulating and thermal properties, which is reflected by thermal conductivity rating:

λ = 0,040 W/m*K

Panels with EPS core also have satisfactory noise insulation properties which are characterized by specific acoustic resistance coefficient:

NRO
fire retardant

Proper joint profile guarantees perfect leakproofness, preventing air infiltration and ensuring steam and blowing rain resistance.

Wall panels are available in single type:
- **IzoWall**

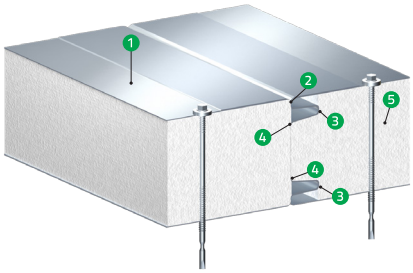
Standard wall panel. Thickness range: 40 to 250 mm. Suitable for walls, to be installed vertically or horizontally. Fastening to the structure with screws through the panels.

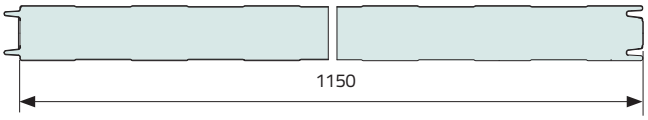
Roof panels are available in single type:
- **IzoRoof**

Suitable for pitched roof with small and medium pitch angle. These panels have trapezoidal outer surface. Thickness range: 60 to 250 mm. On request IzoRoof panels may be produced with a lap joint which enables longitudinal assembly. The lap joint may be left-sided or right-sided. Technical drawing in the "Storage, transport, installation and service rules" section presents the principle of determining the side of the lap joint..

IzoWall EPS

Wall panel





L/R/M/BP
L/R/M/BP

1. Profiled lining with a unique surface design.
2. Large bend radii guarantee durability of lining protective coatings.
3. Double panel lock guarantees leakproofness.
4. Profiled edges facilitate assembly.
5. EPS core.

The IzoWall EPS sandwich panels are designed for use on external walls, suspended ceilings and internal walls. They may be installed vertically or horizontally. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

Thermal insulating power

g [mm]	λ [W/(m·K)]	U [W/(m²·K)]	weight [kg/m²]	
			0,5/0,4 mm	0,5/0,5 mm
40	0,040	0,86	8,3	9,1
50		0,74	8,4	9,3
60		0,62	8,6	9,4
75		0,51	8,8	9,7
80		0,46	8,9	9,7
100		0,38	9,2	10,0
120		0,31	9,5	10,3
125		0,31	9,6	10,4
140		0,27	9,8	10,6
150		0,26	9,9	10,8
160		0,24	10,1	10,9
175		0,22	10,3	11,2
180		0,21	10,4	11,3
200		0,20	10,7	11,5
250		0,16	11,4	12,3

Burning behaviour

thickness[mm]	reaction to fire	fire propagation
40	-	-
50 - 100	-	NRO
100 -250	-	

Leakproof-ness

waterproofness	Air permeability at the pressure difference 50Pa
A class	< 1.5 m³/(h*m²)

Load capacity

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m2], with limiting ULS.					
	-1 kN/m²	-0,6 kN/m²	-0,4 kN/m²	0,4 kN/m²	0,6 kN/m²	1 kN/m²
50	2,4 m	3 m	3,6 m	3,6 m	3 m	2,4 m
60	2,7 m	3,3 m	4,1 m	4,1 m	3,3 m	2,7 m
75	2,9 m	3,8 m	4,7 m	4,7 m	3,8 m	2,9 m
100	3,8 m	4,8 m	5,9 m	5,9 m	4,8 m	3,8 m
125	4,2 m	5,4 m	6,6 m	6,6 m	5,4 m	4,2 m
150	4,5 m	5,9 m	7,4 m	7,4 m	5,9 m	4,5 m

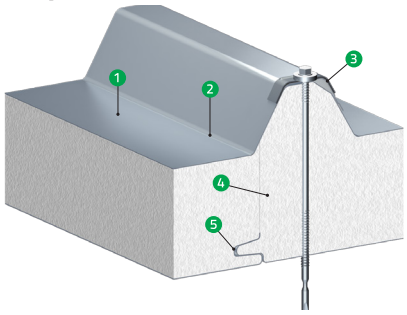
The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

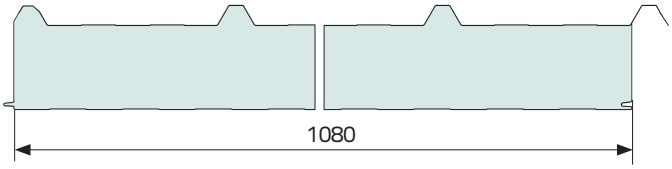
* For sheet gauges of 0.5/0.4 mm (for 0.5/0.5 mm)
** AT-15-5340/2014 applies to sandwich panels with thickness of: 50, 60, 75, 100, 125, 150, 200, 250 [mm]

Sandwich panels are manufactured according to Technical Approval AT-15-5340-2014**

IzoRoof EPS

Roof panel





TR
L/R/M/BP

1. Profiled lining with a unique surface design.
2. Large lining bend radius guarantees durability of the protective coating.
3. Profiled edges guarantee tightness of joint.
4. Capillary action preventing chamber.
5. EPS core.

The IzoRoof EPS sandwich panels are designed for use as roofs for various buildings. Fastening to the supporting structure is carried out with use of self-drilling screws. Amount of the screws and their arrangement should be determined according to the 'Technical catalogue".

Thermal insulating power

g [mm]	λ [W/(m·K)]	U [W/(m²·K)]	weight [kg/m²]	
			0,5/0,4 mm	0,5/0,5 mm
60	0,040	0,60	8,8	9,7
75		0,49	9,0	9,9
80		0,47	9,1	10,0
100		0,38	9,4	10,3
120		0,32	9,7	10,6
125		0,30	9,7	10,7
140		0,28	10,0	10,9
150		0,26	10,2	11,0
160		0,24	10,3	11,2
175		0,22	10,5	11,4
200		0,19	10,9	11,8
250		0,16	11,7	12,5

Burning behaviour

thickness[mm]	reaction to fire	odporność na działanie ognia zew.	fire resistance
60 - 250	-	$B_{ROOF}(t_1)$	-

Leakproof-ness

waterproofness	Air permeability at the pressure difference 50Pa
A class	< 1.5 m³/(h*m²)

Load capacity

g [mm]	Maximum length [m] of a single-span beam as a panel with 0.4/0.5 mm bright coloured cladding, double-sided linear profile type for individual values of specific load [kN/m2], with limiting ULS.				
	-1 kN/m²	-0,6 kN/m²	0,6 kN/m²	1 kN/m²	2 kN/m²
60	2,9 m	3,8 m	3,8 m	2,9 m	2,1 m
75	3,3 m	4,2 m	4,2 m	3,3 m	2,3 m
100	3,5 m	4,5 m	4,5 m	3,5 m	2,4 m
125	3,9 m	5 m	5 m	3,9 m	2,7 m
150	4,2 m	5,4 m	5,4 m	4,2 m	3 m
200	4,8 m	6,3 m	6,3 m	4,8 m	3,5 m
250	5,4 m	6,7 m	6,7 m	5,4 m	3,9 m

The table above is only a simplified summary of the Strength Properties Tables - a separate study that is the proper basis for strength calculations.

* AT-15-5340/2014 applies to sandwich panels with thickness of: 50, 60, 75, 100, 125, 150, 200, 250 [mm]

Sandwich panels are manufactured according to Technical Approval AT-15-5340-2014*

our implemented projects

MODERN OFFICE AND WAREHOUSE BUILDING

Technologies used:

IzoRoof PIR
IzoCold PIR
IzoWall PIR

ADMINISTRATION BUILDING

Technologies used:

IzCold PUR

ADMINISTRATION BUILDING

Technologies used:

IzoWall PUR

WAREHOUSE

Technologies used:

IzoWall PUR

our implemented projects

SPORTS HALL

Technologies used:

IzoWall PUR

OFFICE BUILDING

Technologies used:

IzoWall PUR

WAREHOUSE

Technologies used:

IzoRoof EPS

OFFICE BUILDING

Technologies used:

IzoWall PUR

See instructions at our website: www.izopanel.pl

To download the instructions, scan the QR code >

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