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PIR boards PirroStucco

DESCRIPTION:

PirroStucco is an insulation board made of rigid polyisocyanurate (PIR) foam, with faced with fiber glass.

PirroStucco is resistant to combustion, does not spread flame, does not melt and does not form burning melt drops, which is important for the insulation of flat roofs and vertical surfaces. Polyisocyanurate has a low thermal conductivity, which makes it possible to significantly reduce the required insulation thickness, reducing, in turn, the need for transportation, lifting and installation (up to 80 % less than insulation made of mineral wool or polystyrene).

The board has facings with high peeling strength. Fiberglass gives the PIR plate excellent adhesive characteristics, as when gluing the PIR plate on the roof or to the wall. When using boards on flat roofs with a concrete, it is recommended to use an adhesive method of installation with liquid bitumen or polyurethane foam glue, laying the boards in one layer. In this case, boards with profiling of the “quarter" type are used. The mechanical fastening method is used when installing PIR plates on a profiled steel sheet.

The low density of the material reduces the load on the frame of the existing building, reducing the consumption of materials for the designed load-bearing structures. The applicable plate sizes of 2400 × 1200 mm and 1200 × 1200 mm help to increase productivity and reduce construction time.

It is possible to walk on the PIR plate during installation and during operation because it is strong in compression. The plate does not lose its thermal and mechanical properties as the insulation of mineral wool can do if there is a leak or dampness.

PirroStucco does not require sanding the surface of the slab before applying the base plaster. For face insulation, it is recommended to use boards with “tongue and groove" end profiling, which makes the boards self-aligning. Size 1200×600 mm boards are used for the plaster facade. The dimensions and weight of the board provide high convenience during construction work.

APPLICATION:

The PirroStucco plate is designed for the installation of a thermal insulation layer in flat unused and exploited roofs of industrial, public buildings and structures with a roofing carpet made of polymer materials (for example, PVC with fleece) and based on bitumen or polymer waterproofing.

It can be used in private housing construction:

- for wall insulation as part of thin-layer plaster facades,
- in floors, including underfloor heating systems, it allows to reduce the overall thickness of the floor structure.
- in rooms of a small area due to the preservation of useful area (balconies, loggias, etc.) for plastering.

PirroStucco boards are intended for thermal insulation in a thin-layer plaster facades. It is used for thermal insulation of the walls from the inside under the plastering, insulation for attics and intermediate floors, in floors, including in the systems of underfloor heating. It is used in flat roofs of industrial, public and other facilities with roof cladding on the basis of bitumen and polymer waterproofing adhesive attachment method, including the exploited roofs.

PACKAGE:

Boards are packed in bundles of up to 600 mm in height and covered with shrink film.

The bundles are formed in pallets up to 2400 mm height. At the bottom of each pallet there are the support for the forklift. Each bundle and pallet is provided with the label.

TRANSPORTATION:

In covered vehicles in a horizontal position. Pack sizes are optimal for standard internal dimensions of road transport. Loading and transportation should comply with current shipping rules for the corresponding kinds of transport.

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TECHNICAL FEATURES:

Characteristic	Description	U. m.	Meaning	Test method/ Standard
Facings	Upper facing: fiber glass Lower facing: fiber glass	-	-	TC 22.21.41-007-09151858-2019 ch.1
Linear dimensions of the plates and profiling	Type I (Straight) Width and Length, на толщинах 30 … 150 mm	mm	1200x2400, 1200x1200	GOST R 56590-2016 TC 22.21.41-007-09151858-2019 ch.1
	Type L (четверть 15мм), Width and Length in p. d. for t = 50 … 100 mm	mm	1185x2385, 1185x1185, 1185x585	
	Type Z (“tongue-and-groove” 10 mm) Width and Length in p. d. for t = 60 …100 mm	mm	1190x2390, 1190x1190, 1190x590	
	Thickness class by limit deviation	mm	T3 t ≤ 40 mm T2 t ≥ 50 mm	GOST EN 823-2011 GOST P 56590-2016
Thermal conductivity	Board PIR, λ_{10}	W/m·K	0,023	GOST 7076-99
	Board PIR, λ_{A}	W/m·K	0,024	GOST 7076-99, GOST 24816-81, SP 23-101-2004
	Board PIR, λ_{B}	W/m·K	0,025	
Density	Polyisocyanurate foam, ρ	kg/m3	31±2	GOST 17177-94, TC 22.21.41-007-09151858-2019 ch.1
Deformation	At the specified values of the compressive load and temperature	% level	≤ 5 DLT2(5)	GOST EN 1605-2011, GOST P 56590-2016
Dimensional stability	At the set values of temperature and humidity	level	DS(-20,0)2 DS(70,90)3	GOST EN 1604-2011, GOST R 56590-2016
Water absorption	With long-term partial immersion, Wlp	kg/m2	< 0,3	GOST EN 12087-2011
	With a short-term partial immersion, Wsp	kg/m2	< 0,5	GOST EN 1609-2011 m. A
Vapor permeability	Polyisocyanurate foam without faces, μ	mg / (m·h·Pa)	≤ 0,05	GOST 25898-2012
Vapor resistance	On both facing plates	m2·h·Pa/ mg	1,5	-
Board strength	For compression at 10% deformation, σ for plates with a thickness of: ≤ 40 мм ≥ 50 mm	kPa (kg/cm2)	≥ 120 (1,2) ≥ 150 (1,5)	GOST EN 826-2011
	in the direction perpendicular to the front surfaces, σp for plates with a thickness of: ≤ 50 mm ≥ 60 mm	kPa (kg/cm2)	≥ 80 (0,8) ≥ 60 (0,6)	GOST EN 1607-2011
Fire-technical characteristics	Resistant to combustion Flammability Group of smoke-forming ability Toxicity	-	Г2, В3, Д2, Т3	GOST 30244-94, GOST 30402-96, GOST 12.1.044-89, p. 4.18, p. 4.20
Application conditions temperature		°C	-70..+110	TC 22.21.41-007-09151858-2019 ch. 1

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	Board PIR, λ_B	W/m·K	0,025	

Calculated data for operating conditions A													
Thickness, mm	30	40	50	60	70	80	90	100	110	120	130	140	150
Thermal resistance $R_T=d/\lambda_A$, m^2·K/ W	1,25	1,67	2,08	2,50	2,92	3,33	3,75	4,17	4,58	5,00	5,42	5,83	6,25
Heat transfer coefficient K=1/R_T, W/m^2·K	0,8	0,6	0,48	0,40	0,34	0,30	0,27	0,24	0,22	0,20	0,18	0,17	0,16
Calculated data for operating conditions B													
Thickness, mm	30	40	50	60	70	80	90	100	110	120	130	140	150
Thermal resistance $R_T=d/\lambda_A$, m^2·K/ W	1,20	1,60	2,00	2,40	2,80	3,20	3,6	4,00	4,40	4,80	5,20	5,60	6,00
Heat transfer coefficient K=1/R_T, W/m^2·K	0,83	0,63	0,50	0,42	0,36	0,31	0,28	0,25	0,23	0,21	0,19	0,18	0,17

STORAGE:

Boards are stored or horizontal surface, closed from rain and direct sun exposure. It is necessary to ensure fire safety requirements. Boards should be stored in their original packaging.

When bundles are stored without the support bars, it is recommended to check the absence of sharp edges on the support surface.