

Technical data sheet №1.01

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PIR boards PirroBitum

TY 5768-001-09151858-2015

Product description:



PirroBitum are insulation boards made of rigid polyisocyanurate (PIR) faced from the bottom side with fiber glass and from the upper side with fiber glass impregnated with bitumen. The bitumen impregnation of PirroBitum upper facing serves as a primer layer and allows to quickly and accurately overlay the traditional bitumen-polymer waterproofing directly on insulation boards. Due to the low water absorption plate PirroBitum is recommended for using in the cold season.

Polyisocyanurate has low thermal conductivity, allowing to significantly reduce the required thickness of insulation, reducing in turn the need of transportation, lifting and mounting.

Mechanical method of attachment is used when PIR boards are installing on profiled steel sheet. For concrete foundations, adhesive mounting method with liquid bitumen is recommended.

The low density of material combined with high compressive strength reduces the load on the building frame and metal consumption for designed bearing structures.

The best ratio of weight plates to overlapping areas gives significant savings on the cost and timing of work; less required thickness reduces the amount of product to transport and costs for installation and fasteners.

PirroInterior boards are recommended as lower plate when installing panels in two layers.

PirroBitum comes with "quarter" end face, "tongue and groove" or straight ends.

FIELD OF APPLICATION:

PirroBitum boards are intended for thermal insulation layer in flat roofs with soft bitumen roll materials when constructing roofs of industrial, public, warehouses and other facilities with profiled sheet foundation or with reinforced concrete foundation.

Also it is used in ballast roofs.

PRODUCT CHARACTERISTICS:

Characteristic	Description	Units.	Value	Test method/ Standard									
Facings	Upper facing: fiberglass impregnated with bitumen Lower facing: fiberglass	-	-	TS 5768-001-09151858-2015									
End face profiling	"Tongue and groove" perimeter profiling (for ≥ 40 mm thickness)	mm	10 (depth)	TS 5768-001-09151858-2015									
	"Quarter" perimeter profiling (for ≥ 30 mm thickness)	mm	15 (depth)										
	Without profiling	-	-										
Dimensions of the boards	Width x Length	mm	1200x1200, 1200x2400	GOST 17177-94, TS 5768-001-09151858-2015									
	Thickness	mm	30..250										
	Thickness discrete values	mm	10	TS 5768-001-09151858-2015									
Density	Isocyanurate without facings, ρ	kg/m ³	31 \pm 2	GOST 17177-94									
Water absorption	Complete immersion, W	%	<1,0	GOST 17177-94									
Coefficient of thermal conductivity (continuation)	Isocyanurate without facings, λ_{25}	W/m·K	0,023	GOST 7076-99									
	Isocyanurate without facings, λ_A	W/m·K	0,024	GOST 7076-99, GOST 24816-81, Set of Rules 23-101-2004									
	Isocyanurate without facings, λ_B	W/m·K	0,025										
Calculation data for application conditions B													
Board thickness, mm	30	40	50	60	70	80	90	100	110	120	130	140	150

Thermal resistance $R_T=d/\lambda_A, m^2 \cdot K/W$	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 $K=1/R_T, W/m^2 \cdot K$	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
Calculation data for application conditions B													
Board thickness, mm	30	40	50	60	70	80	90	100	110	120	130	140	150
Thermal resistance $R_T=d/\lambda_b, m^2 \cdot K/W$	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 $K=1/R_T, W/m^2 \cdot K$	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
Vapor permeability coefficient	Isocyanurate without facings, μ					mg/(m·h·Pa)	0,026	GOST 25898-2012					
Vapor permeability resistance	For upper facing, R					(m ² ·h·Pa)/mg	2,60	GOST 25898-2012					
	For lower facing, R					(m ² ·h·Pa)/mg	0,24	GOST 25898-2012					
Strength of the board	Compressive strength at 10% deformation, σ_{10}					kPa (kg/cm ²)	≥120 (1,2)	GOST 17177-94					
	At bending, σ_i					kPa (kg/cm ²)	≥350 (3,5)	GOST 17177-94					
	At tension transversely to face surface, σ_p					kPa (kg/cm ²)	≥100 (1,0)	GOST EN 1607-2011					
Flammability index	Class of flammability					-	Г3 (KM4)	GOST 30244-94 (Federal law №123)					
Temperature range of application						°C	-70..+120						

PACKAGE:

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

The bundles are formed in the pallets up to 2400mm 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.

STORAGE:

Boards are stored on 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.

WORKS:

According to the "Album of technical solutions for the use of PIR boards in the flat roof with bituminous waterproofing," "Technological card for building roof using insulation boards PirroBitum» and guidance on the use of bitumen-polymer roll materials in the technical documentation of the manufacturer.