TECHNICAL DATA SHEET

(TDS 21.02.2022)

MIAMI ECO XPS Blue 300, extruded polystyrene

Miami Eco XPS Blue 300 extruded polystyrene. Insulation of closed cellular foam.

Intended use or uses:

- thermal insulation of buildings
- thermal insulation of doors
- manufacture of sandwich panels
- thermal insulation of installations and industrial equipment.

General information:

The Miami Eco XPS Blue 300 panels are a trademark for the thermo-insulating extruded polystyrene foam panels produced for Miami Building Distribution Sp. z o.o. with the latest environment-friendly technology. The Miami Eco XPS Blue 300 extruded polystyrene insulating panels are according to the European regulations regarding the emission of substances that affect the ozone layer, they do not contain CFC–HCFC compounds and do not contribute to global warming.

Conformity:

The Miami Eco XPS Blue 300 panels (extruded polystyrene insulating panels) have been tested according to the EN 13164:2012+A1:2015 standard (system 3) and tests have shown that the performances are according to the reference. The CE conformity marking is applied by the producer on the label of the collective wrapping of the extruded polystyrene panels and on the accompanying documents.

Process:

The production of the Miami Eco XPS Blue 300 panels is based on the physical expansion of the melted plastic material in the extruder, where the temperature, pressure, melted material and the quantities of blowing agents are controlled continuously.

Product advantages:

The closed cellular structure of the panels produced using this technology and the additives mixed with the polystyrene determine superior, long-lasting technical characteristics:

- superior mechanical resistance
- reduced thermal conductivity
- homogenous density
- high resistance to moisture
- resistance to vapor diffusion
- elasticity resistance to freeze-meltdown cycles
- lack of capillarity
- small specific weight (ease of handling)
- ease of cutting with usual tools
- clean, odor-free non-irritating for the skin
- increased resistance to fire.

Specifications:

Table 1. Classification of Miami Eco XPS Blue 300 boards - depending on surface treatment

1	**MIAMI ECO XPS Blue 300**	Grooves: for braking (narrow) and for additional adherence (wide) Thickness 20 – 240 mm*	
2	**MIAMI ECO XPS Blue 300**	Smooth or wafer surface Thickness 20 – 240 mm*	 

* including the possibility of using thermobonding

Table 2. Classification of Miami Eco XPS Blue 300 boards - depending on the edge type

1	**MIAMI ECO XPS Blue 300**	Straight Edge Thickness 20 – 240 mm*	
2	**MIAMI ECO XPS Blue 300**	Step cut edge Thickness 30 – 240 mm*	

* including the possibility of using thermobonding

Table 3. Technical characteristics

Essential characteristics	**Standard**	**Performance – declared level**				
		Thickness [mm]				
		20	**30**	**40**	**50**	**60 - 240**
Heat conductivity at 10°C (λ_{10}) [W/m*K]	EN 13164 EN12667	0,033			0,034	
Thermal conductivity, not more than[W/m*K]						
Compressive strength at 10% deformation, not less than [MPa]	EN 826 EN 13164	0,33			0,34	
Bending strength, not less than [MPa]	EN 1607	0,25				
Long-term water absorption by total immersion – W_{lp} volume, not more than [%]	EN 12088	0,9				
Water absorption by long-term immersion – W_{lt} weight, not more than [kg/m2]	EN 12087 EN 13164	0,4				
Siła wyginania [MPa]	EN 12089	0,2	0,25	> 0,3		
Modulus of elasticity [MPa]	EM 826 EN 13164	15		18		

Water vapor permeability (μ), nie więcej niż [mg/(m*h*Pa)]	EN 12086 EN ISO 10456	0,008	0,007	0,008
Capillarity		0		
Linear thermal expansion coefficent, not more than [mm/mK]	EN 14581	0,07		
Reaction to fire, RTF class	EN 13501	E		
Working temperature [°C]	EN 14306 EN 14706	From -50 to +75		
Time to work efficently, years		25		
Durability with freezing/defrosting as a resistance to freezing/defrosting after water absorption by long-term immersion, FTCI1 [%]	EN 12091	≤ 1		
Durability with freezing/defrosting as a resistance to freezing/defrosting after water absorption by long-term diffusion, FTCD1 [%]	EN 12091	≤ 1		
Long-term thickness reduction (as dimensional stability in specified temperature conditions 70°C and relative humidity 90%), DS (70/90) [%]	EN 1604	≤ 5		
Tensile strength to face plane TR 200 (not less than 200) [kPa]	EN 1607 EN 13164	205		
Length dimension tolerance, not more than ±8 [mm]	EN 822 EN 13164	±3		
Width dimension tolerance, not more than ±8 [mm]	EN 822 EN 13164	+2; -1		
Thickness dimension tolerance T1 (thicknesses: up to 50 mm ±2, 50-100 mm -2 /+3) [mm]	EN 822 EN 13164	±1		

Tab. 4 Variants of MIAMI ECO XPS Blue 300 board

Length [mm]	Width [mm]	Thickness [mm]
1200 - 3500	to 800 (1600)*	to 120**

* Width in one piece up to a maximum of 800 mm (recommended up to 750 mm); there is a posibility to gain double width by applying connection with step-cut edge.

**A maximum thickness of 120 mm in one piece, but by thermobonding (hot welding) maximum thickness of 240 mm is possible; 3-6 mm thickness is possible to be obtained by cutting with hot wire and from 8 mm on the production machine with an extrusion.

Tab. 5 Recommended thickness of MIAMI ECO XPS Blue 300 board to avoid uniknąć condensation in the environment

Relative humidity [%]	Recommended plate thickness [mm] for ambient temperature	
	Temperature [°C]	
	-10	-15
60	20	30
70	30	40
80	50	60
90	100	120

Tab. 6 Comparative characteristics of different insulation materials with MIAMI ECO XPS Blue 300 extruded polystyrene

Foam material	Polyurethane foam	Mineral wool board	MIAMI ECO XPS Blue 300 board
Open cell structure	Available open and closed cell structure	Fibers placed randomly in horizontal and vertical directions	Closed (tight) cell structure
Weak moisture conductivity	Low moisture conductivity	Low moisture conductivity	Moisture resistance
Light material	Light material	Medium light material	Light material
Medium hardness	Low hardness	Low hardness	High hardness
Medium compression resistance	Low compression resistance	Medium compression resistance	High compression resistance
Non-toxic	Non-toxic, emits CO and CO_2 at 500 °C	Non-toxic	Non-toxic
Unsuitable for use under heavy load	Unsuitable for use under heavy load	Some mineral wool boards can be suitable for use under heavy load	Suitable for use under heavy load
Breaks down	Enough durable	Enough durable	Durable
Vulnerable to UV radiation	Almost not sensitive to UV radiation	Enough not sensitive to UV radiation	Almost not sensitive to UV radiation

Tab. 7 Chemical resistance of MIAMI ECO XPS Blue 300 – Building materials andi factor operating on XPS boards

Bitumen	+
Water-based cold asphalt	+
Glue heated bitumen (good bitumen adhesion)	0
Solvent-based glue heated bitumen, solvent for example gasoline	-
Asphalt	-
Lime	+
Cement	+
Anhydrite	+
Gypsum	+
Anhydrous plaster	+

Sand (aggregate)	+
UV radiation	-
Open flame	-

Tab. 8 Chemical resistance of MIAMI ECO XPS Blue 300 – chemicals

Water	+	Amine	-
Saltwater	+	Aromatic hydrocarbons	-
Alkali	+	Halogen hydrocarbons	-
Acid (weak and diluted)	+	Aliphatic hydrocarbons	-
Acid (concentrated)	+	Methane, ethane, propane, butane, heptane	-
Hydrochloric acid (up to 35%)	+	Gasoline	-
Hydrochloric acid (up to 95%)	+	Diesel, fuel oil	0
Hydrofluoric acid	+	Paraffin oil	0
Phosphoric acid	+	Petroleum jelly	0
Formic acid	-	Miscellanea	0
Acetic anhydride	-	Phenol	0
Inorganic liquified gases (O_2, N_2 etc.)	+	1% phenol	+
Organic liquified gases (methane, ethane, propylene etc.)	-	Motor oil	-
Ether	-	Camphor oil vapors	-
Oils and fats	0	Naphtalene vapors	-
Alcohol	+	Tetrahydrofuranie	-
Esther	-	Ketones	-

+ resistance
0 conditionally resistance
- nonresistance

Packaging informations of MIAMI ECO XPS Blue 300

Due to the different widths, lengths and thicknesses (as ordered), the boards MIAMI ECO XPS Blue 300 made of extrudd polystyrene are packed in large pallets approximately 2,7 to 2,9 meters high. To protect against mechanical damage, during transport, pallets are secured with cardboard or/and polystirene foam or polyethylene or other protective material. Due to the different board's widths, it is possible to pack two columns and two small pallets in a single large, cost-effective packaging and safety solution. The pallet base is made of lightweight extruded polystirene (xps) pads for easy unloading of the forklift truck. Pallets are wrapped with a safety stretch film.

Storage informations:

MIAMI ECO XPS Blue 300 boards made of polystirene can be stored outside the warehouse building, but should be protected from direct sunlight (UV), preferably in original packaging. Too long direct effects of intense sunlight on MIAMI ECO XPS Blue 300 boards made of extruded polystyrene can lead to lose color on their surface and to degrade it. Miami ECO XPS Blue 300 boards are waterproof and non-biodegradable. There is no risk of soil or water contamination. MIAMI ECO XPS Blue 300 made of extruded polystirene boards are fully recyclable (recycling). Do not store boards with open flames and/or other hot or hot surfaces. Pallets of MIAMI ECO XPS Blue 300 boards are packaged in the eco-friendly film and can be unloaded manually or/and using a forklift truck.

Manufacturer:

Elit – Plast sp. z o.o.
ul. Wostocznaja, Chersoń, Ukraina
ul. Mikulinieczka Tarnopol, Ukraina

Produced for:

Miami Building Distribution sp. z o.o.
ul. Fabryczna 10, 62-200 Gniezno
Tel.: +48 61 639 47 51
Email: office@mbdistribution.pl
www.mbdistribution.pl

MIAMI BUILDING DISTRIBUTION SP. Z O.O.
ul. Fabryczna 10, 62-200 Gniezno
NIP 7842517227, REG. 382681805
KRS 0000774360, tel. +48 61 6394521
email: office@mbdistribution.pl
www. mbdistribution.pl

Jerzy Łojek
PROKURENT