

Chorzów, 30.09.2022 r.

## Technical data sheet

### Polystyrene panels EPS 033 PRO LAMBDA ECO



#### DESCRIPTION:

EPS S 033 PRO LAMBDA ECO

Code of designation: EPS EN 13163 T(1)-L(2)-W(2)-S<sub>b</sub>(5)-P(5)-BS75-DS(N)2-DS(70,-)2-TR80

The product complies with harmonised standard applicable for this product type: EN 13163:2012+A1:2015 Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification.

Panels manufactured by polystyrene foaming method and designed for thermal insulation of walls, including thermal insulation of façades.

Standard dimensions of panels: 1000 x 500 mm. Customised dimensions on request.

Panel thickness: 10 – 500 mm

Panels can be manufactured with even or finely-milled edges.

#### USE:

EPS 033 PRO LAMBDA ECO polystyrene panels applied in insulations which require shifting of extensive mechanical load, among others:

- Insulation of walls in external thermal insulation composite systems ETICS (light-wet method),
- insulation of multi-layer walls with ventilated and unventilated air gap,
- insulation of tie beams as formwork lost for plaster,
- insulation of windowsill reinforcements and window reveal,
- insulation in external prefabricated sandwich panels,
- insulation of ceiling from below in external thermal insulation composite systems ETICS.
- insulation of steep roofs under the supporting structure

Polystyrene panels should be used according to the manufacturer's recommendations, guidelines defined in construction design and rules of the trade which means that investment should be implemented in accordance with any and all legal and technical regulations applicable in the construction industry, while maintaining due diligence and taking advantage of the best professional knowledge.

Do not use panels in a direct contact with substances having a destructive effect on EPS polystyrene, e.g. organic solvents (acetone, benzene, nitro), etc.

Due to increased heat absorption by EPS 033 PRO LAMBDA ECO polystyrene boards, it is recommended to protect both the substrate and EPS 033 PRO LAMBDA ECO polystyrene boards from the sun's rays before fixing the boards. In order to protect the polystyrene boards from direct sunlight during insulation works, it is recommended to use scaffolding nets.

#### PACKING, STORAGE, TRANSPORT:

EPS 033 PRO LAMBDA ECO polystyrene panels are delivered only in original Manufacturer's packaging. Polystyrene panels should be stored in a manner preventing them against damage, and protected against direct effect of weather conditions (UV radiation) which destructively affect the surface of polystyrene.

Leaving polystyrene for a longer time with no cover can cause tarnish to appear over its surface. In such case before application of panels it is necessary to remove the tarnish by grinding.

#### Documentation

- Declaration of Performance no. 05/S033F
- Information on EPS safety and operation

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**PERFORMANCE:**

Essential characteristics for the intended use, for thermal insulation in the construction industry	Declared performance, class or level
Dimensional tolerance class: thickness, length, width, rectangularity, flatness	T1 (± 1 mm) L2 (± 2 mm) W2 (± 2 mm) S <sub>5</sub> (± 5 mm/1m) P5 (5 mm)
Bending strength	BS 75 ≥ 75 kPa
Dimensional stability under constant normal laboratory conditions	DS(N)2 ± 0,2 %
Dimensional stability under specific conditions - temperature 70 °C, 48 h	DS(70,-)2 ≤ 2 %
Tensile strength	TR80 ≥ 80 kPa
Declared thermal conductivity coefficient λ <sub>D</sub>	0,033 W/(m K)
Thermal resistance R <sub>D</sub>	Table 2
Reaction-to-fire class	E

Table no. 2 Summary of thermal resistance as a function of thickness

Thickness, d <sub>N</sub> [mm]	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Thermal resistance R <sub>D</sub> [m <sup>2</sup> K/W]	0,30	0,60	0,90	1,20	1,50	1,80	2,10	2,40	2,70	3,00	3,30	3,60	3,90	4,20	4,50
Thickness, d <sub>N</sub> [mm]	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
Thermal resistance R <sub>D</sub> [m <sup>2</sup> K/W]	4,80	5,15	5,45	5,75	6,05	6,35	6,65	6,95	7,25	7,55	7,85	8,15	8,45	8,75	9,05

Standard dimensions of panels: 1000 x 500 mm.

Table no. 3 Packaging

PANEL THICKNESS (m)	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,10	0,11	0,12	0,13	0,14	0,15
PACKAGE VOLUME (m <sup>3</sup> ) even edges	0,300	0,300	0,300	0,300	0,300	0,300	0,280	0,280	0,270	0,300	0,275	0,300	0,260	0,280	0,300
PACKAGE VOLUME (m <sup>3</sup> ) finely-milled edges	-	-	-	-	0,282	0,282	0,263	0,263	0,254	0,282	0,259	0,282	0,245	0,263	0,282
PANEL AREA (m <sup>2</sup> ) even edges	30,00	15,00	10,00	7,50	6,00	5,00	4,00	3,50	3,00	3,00	2,50	2,50	2,00	2,00	2,00
PANEL AREA (m <sup>2</sup> ) finely-milled edges	-	-	-	-	5,64	4,70	3,76	3,29	2,82	2,82	2,35	2,35	1,88	1,88	1,88
NUMBER OF PANELS IN PACKAGE (pcs)	60	30	20	15	12	10	8	7	6	6	5	5	4	4	4
PANEL THICKNESS (m)	0,16	0,17	0,18	0,19	0,20	0,21	0,22	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,30
PACKAGE VOLUME (m <sup>3</sup> ) even edges	0,320	0,255	0,270	0,290	0,300	0,315	0,220	0,230	0,240	0,250	0,260	0,270	0,280	0,290	0,300
PACKAGE VOLUME (m <sup>3</sup> ) finely-milled edges	0,301	0,240	0,254	0,273	0,282	0,296	0,207	0,216	0,226	0,235	0,245	0,254	0,263	0,273	0,282
PANEL AREA (m <sup>2</sup> ) even edges	2,00	1,50	1,50	1,50	1,50	1,50	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
PANEL AREA (m <sup>2</sup> ) finely-milled edges	1,88	1,41	1,41	1,41	1,41	1,41	0,94	0,94	0,94	0,94	0,94	0,94	0,94	0,94	0,94
NUMBER OF PANELS IN PACKAGE (pcs)	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2

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