

Chorzów, 30.09.2022 r.

## Technical data sheet

### Polystyrene panels EPS 042 FACADE



#### DESCRIPTION:

EPS S 042 FACADE

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,-)1-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 042 FACADE polystyrene panels applied in insulations which do not 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 stud walls with cladding,
- insulation of ceilings from below,
- insulation of floors between ground beams,
- insulation of expansion gaps.

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.

#### PACKING, STORAGE, TRANSPORT:

EPS 042 FACADE 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. 02/S042F
- 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:<br>thickness,<br>length,<br>width,<br>rectangularity,<br>flatness      | T1 (± 1 mm)<br>L2 (± 2 mm)<br>W2 (± 2 mm)<br>S <sub>b</sub> 5 (± 5 mm/1m)<br>P5 (5 mm) |
| Bending strength  | BS 75 ≥ 75 kPa   |
| Dimensional stability under constant normal laboratory conditions                                   | DS(N)2<br>± 0,2 %  |
| Dimensional stability under specific conditions – temperature 70 °C, 48 h                           | DS(70,-)1<br>≤ 1 %   |
| Tensile strength  | TR 80 ≥ 80 kPa   |
| Declared thermal conductivity coefficient λ <sub>D</sub>  | 0,042 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] | 0,20 | 0,45 | 0,70 | 0,95 | 1,15 | 1,40 | 1,65 | 1,90 | 2,10 | 2,35 | 2,60 | 2,85 | 3,05 | 3,30 | 3,55 |
| 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] | 3,80 | 4,00 | 4,25 | 4,50 | 4,75 | 5,00 | 5,20 | 5,45 | 5,70 | 5,95 | 6,15 | 6,40 | 6,65 | 6,90 | 7,10 |

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> )<br>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> )<br>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> )<br>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> )<br>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<br>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> )<br>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> )<br>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> )<br>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> )<br>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<br>PACKAGE (pcs)                    | 4     | 3     | 3     | 3     | 3     | 3     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     | 2     |

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