



## GREY EPS 70

## DATA SHEET

EPS 70 thermal insulation panel with GRAPHITE



Exteriors

### Technical benefits

- Guaranteed compressive strength
- Guaranteed tensile strength
- Guaranteed flexural strength
- Guaranteed thermal lambda

### Composition

Sintered Expanded Polystyrene thermal insulation panels with Graphite are made from high quality raw materials and are cut by hot wire from previously cured blocks.

The addition of graphite powders to the raw material helps lower the effect of radiation in the transmission of heat through the panel.

### Supply

- EPS 70 thermal insulation panels with graphite are supplied in polyethylene packaging.

### Use

EPS 70 thermal insulation panels with Graphite are used in external thermal insulation composite systems in new buildings and in renovating existing ones.

The thickness of the panel will be defined according to the thermal insulation requirements and, in any case, in compliance with current legislation.

### Substrate preparation

The application surface must be solid, clean and resistant, dry and free of any degradation due to phenomena such as mould or algae. Otherwise, the surface must be cleaned and/or repaired. Make sure the surface is level and, if necessary, remove any protrusions exceeding 1 cm. On irregular substrates, level off using plaster such as KC 1, KD 2 or KI 7. Deteriorated concrete must be repaired using special mortars.

Any paints or coatings that are weak, crumbling or detaching must be removed mechanically. Once all the removal, repair and substrate preparation operations have been completed, the surfaces then need to be washed; when fully dry, the surfaces can be treated using a specific primer with high penetration, such as MIKROS 001.

Treat substrates with enamel or glazed surfaces by sand-blasting.

In this case, full contact surface bonding is recommended, using A 50 adhesive/skim coat.



## Mixing

The panels are attached using adhesives such as Fassa A 50, A 96 or AL 88. The adhesive is applied across the surface or along the perimeter and central spots, ensuring a minimum adhesion surface equal to at least 50% of the total surface area of the panel. Specifically, the glue must be applied inside the perimeter frame, that is, in the area affected by possible movements of the insulation, making sure the adhesive does not ooze outside of the edges after application.

The panels are applied from the bottom upwards, in a staggered pattern, avoiding gaps between panels. Any joints between panels should be filled with strips of insulating material or FASSA MOUSSE polyurethane sealing foam. The panels are mechanically fixed in a "T" arrangement, choosing the number of anchors per m<sup>2</sup> based on the substrate and the geometry and height of the building. The anchor must be chosen depending on the type of substrate the External Thermal Insulation Composite System is installed on. Once the panels have been mechanically fixed, the reinforced skim coat can be applied. The panels are always finished with two layers of skim coat, using Fassa A 50, A 96 or AL 88 certified skim coats, and reinforced using alkali-resistant fibreglass reinforcing mesh, such as FASSANET 160. When the layer of reinforced skim coat has cured, the external thermal insulation composite system finish cycle is completed by applying RSR 421, RX 561, RTA 549 or FASSIL R 336 thick protective coating, after first having applied the specific primer.

As the panels are dark in colour, assess the need to shield the scaffolding using dark covers, depending on the exposure of the walls to direct sunlight and the climatic conditions during the bonding stage. If these measures cannot be adopted, the panel may be subject to overheating and consequently deformation.

For further technical information and details on application procedures, see the instructions provided in the FASSATHERM External Thermal Insulation Composite System application manual. For special applications and substrates, contact [area.tecnica@fassabortolo.com](mailto:area.tecnica@fassabortolo.com).

## Warnings

- Apply the product at temperatures between +5°C and +35°C.
- Store the packed panels in a dry and airy place, protecting them from weathering, direct sunlight and other heat sources.
- The surfaces of the panels must be clean and intact: only remove the packaging from the panels immediately before application.
- Avoid applying the adhesive only in dots.
- Avoid using boards that are damaged, deteriorated, dirty, etc.
- When installing the panels, protect them from water seepage caused by rain.
- Avoid applying EPS 70 insulating panels with Graphite in contact with the ground.

**For the installation details please read the instructions indicated in Fassa technical installation manual for ETICS.**

## Quality

EPS thermal insulation panels with Graphite are classified and marked according to European standard EN 13163 and are compliant with EN 13499.

## Technical Data

Declared thermal conductivity	0.032 W/m·K
Length	1,200 mm
Width	600 mm
Thickness	30-300 mm



## Technical features

There are several types of EPS panels, classified according to EN 13163, which requires the characteristics to be declared in terms of designation codes, showing the specific upper or lower limits.

Specifications	Designation code	Unit of measure	EPS 70
<b>Compressive strength at 10% deformation</b>	<b>CS (10)</b>	<b>KPa</b>	<b>≥ 70</b>
Flexural strength	BS	kPa	≥ 115
Length	L	mm	L3 (± 3)
Width	W	mm	W3 (± 3)
Thickness	T	mm	T2 (± 2)
Squareness	S	mm/m	S2 (± 2)
Flatness	P	mm/m	P5 (± 5)
Dimensional stability	DS	-	DS(N)5
Declared thermal conductivity	$\lambda_D$	W/m·K	0,032
Density	-	kg/m <sup>3</sup>	15 approx.
Water vapour diffusion resistance	$\mu$	-	20 - 40
Long-term water absorption by immersion	WL(T)	%	≤ 4
Permeability to water vapour	$\delta$	mg/(Pa·h·m)	0.015-0.030
Water vapour permeability in dry conditions	$\delta_a$	kg/m·s·Pa	3.6·10 <sup>-12</sup>
Water vapour permeability in wet conditions	$\delta_u$	kg/m·s·Pa	9·10 <sup>-12</sup>
Specific thermal capacity	C <sub>s</sub>	J/Kg·K	1450
Reaction to fire	-	-	class E

## Thermal resistance

EPS 70 thermal insulation panels with Graphite may have different thermal resistance values, depending on the panel thickness. Thermal resistance R<sub>D</sub> (m<sup>2</sup>·K/W)

Panel thickness (mm)	Declared thermal resistance (m <sup>2</sup> ·K/W)
30	0.93
40	1.25
50	1.56
60	1.88
80	2.5
100	3.13
120	3.75
140	4.38
160	5
180	5.63
200	6.25
220	6.88
240	7.5

The above information refers to laboratory testing; it is possible that in practical applications on site these may differ considerably according to the conditions in which the material is applied. In any case the user must check that the product is suitable for the intended application, taking all responsibility for its use. Fassa reserves the right to make technical modifications without notice.

Technical specifications regarding the use of Fassa Bortolo products for structural or fire prevention applications will only be officially valid if provided by Fassa Bortolo's "Technical Service" and "Research, Development and Quality System". If necessary, contact Technical Service in your country of reference (IT: [area.technica@fassabortolo.com](mailto:area.technica@fassabortolo.com), ES: [asistencia.technica@fassabortolo.com](mailto:asistencia.technica@fassabortolo.com), FR: [bureau.technique@fassabortolo.fr](mailto:bureau.technique@fassabortolo.fr), PT: [assistencia.technica@fassabortolo.com](mailto:assistencia.technica@fassabortolo.com)).

Please note that for the aforementioned products, the assessment is required by the appointed professional, in accordance with regulations in force.