

SEMPRE TERM GRAFIT EPS 031 expanded polystyrene foam boards

Sempre[®]

PROPERTIES

- low thermal conductivity coefficient
- low water absorption even after prolonged contact
- high dimensional stability in the part

APPLICATION

SEMPRE TERM GRAFIT EPS 031 polystyrene boards are made by expanding polystyrene and forming the resulting balls at the right temperature and pressure into a block form with a light cellular structure. It has a low thermal conductivity coefficient, low water absorption and high dimensional stability under various temperature conditions. It is also a material that is biologically resistant to mould, fungi and bacteria, which gives it a wide range of application options. Designed for use in construction as thermal insulation in product sets for external wall insulation of buildings meeting the requirements of Technical Assessment, in external composite insulation systems (ETICS) meeting the requirements of EN 13499. Ideal for thermal insulation in areas where it is desirable to use polystyrene boards of lesser thickness. The polystyrene boards should be installed according to the building design documentation, manufacturer's recommendations, while also following the rules of the trade. SEMPRE TERM GRAFIT EPS 031 boards should not be used in areas exposed for long periods of time to temperatures above 80°C. To adhere polystyrene boards, use building adhesives designed for this type of work, we particularly recommend TESOROMONT START TS-100 and TESOROMONT UNIVERSAL TU-200 adhesive mortars. Detailed information is available in the Technical Product Data Sheet (www.semperfaby.pl).

TECHNICAL DATA

Group of products	Polystyren			
Colors	Grey			
Dimensions	1000 x 500 mm / ± 2 mm			
Product designation code according to EN 13163:2012 +A2: 2016	EPS EN 13163 T(2)-L(2)-W(2)-Sb(5)-P5-CS(10)50-BS100-DS(N)2-DS.(70,-)2-TR100			
Parameters	Parameter	Norm	Value	Unit
	Thermal conductivity, coefficient λ_D (thermal resistance RD - table below)		≤ 0,031	kg/m ³
	Thickness		10-300 T2 (± 2)	W/ m K
	Length		L2 (± 2)	mm
	Width	EN 13163:2012 + A2:2016	W2 (± 2)	mm
	Rectangularity in length and width		S _b (5) (± 5/1000)	mm
	Flatness		P(5) (± 5/1000)	mm
	Compressive strength - compressive stress at 10% compression		CS(10)50 (≥ 50)	kPa
	Bending strength (at 23°C/ 55% RH relative)		BS 100 (≥ 100)	kPa
	Tensile strength perpendicular to faces TR		TR 100 (≥ 100)	kPa
	Reaction of fire	EN 13501-1	E	---

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

USE INSTRUCTION

Substrates

The substrate should be clean, load-bearing, compact, even and degreased. Loose grains and impurities as well as poorly bonded coatings of old emulsion paints should be thoroughly removed. The seasoning periods of the preceding coats should be observed. Use BUDOMONT ZS-640 mortar to fill any defects and irregularities in the substrate, and BUDOMONT ZT-620 mortar to fill deeper areas. Fungus and algae infested surfaces should be disinfected with ALGHESIL algae and fungus remover. SEMPRE TERM GRAFIT EPS 031 polystyrene boards should be installed according to the building design documentation, the manufacturer's recommendations, and at the same time following the rules of the trade. For installation of polystyrene boards, use building adhesives designed for this type of work, especially we recommend TESOROMONT START TS-100 and TESOROMONT UNIVERSAL TU-200 adhesive mortars. Detailed information is available in the Technical Product Data Sheet (www.semperfaby.pl).

Product preparation

On site, the panels should not be exposed to sunlight due to increased heat absorption.

Start gluing the first layer of polystyrene foam at a distance of min. 20 cm from the ground level. In order to eliminate the so-called overlapping of foamed polystyrene, it is recommended to use a starter strip which, after levelling, is screwed with dowels to the wall of the building being insulated.

Application

When fixing Styrofoam panels, apply adhesive mortar along the perimeter of the panels with a strip 3 to 4 cm wide, and on the remaining surface apply 6 to 8 patches with a diameter of 8 - 12 cm, or 3 larger patches so that when the panel is pressed down, the adhesive covers at least 40% of the panel surface. The amount of adhesive mortar and layer thickness (depending on the condition of the substrate) should be selected so that good contact with the wall is achieved. However, the thickness of the adhesive layer should not exceed 1 cm.

STORAGE

Store the product in a place protected from damage, direct sunlight and other adverse weather conditions and from contact with substances containing organic solvents and their vapours.

ADDITIONAL INFORMATION

SEMPRE TERM GRAPHITE EPS 031 does not age, rot or decay. Protected against UV radiation, it does not "fade" as a result of natural ageing. However, a prerequisite for the block's durability is its UV protection. In the absence of such protection, the product deteriorates, crumbling over time. It is resistant to temperatures below 80°C. Above this temperature, the material softens and melts.

SAFETY AND HYGIENE AT WORK/FIRE-PROTECTION

Flammability class E according to EN 13501-1.

It is not classified as hazardous to human health and life or to the environment under current legislation. Working with polystyrene does not require any personal protective equipment such as gloves, dust masks, protective clothing and goggles. Observe basic health and safety rules when working.

The manufacturer guarantees the product quality, but shall not be liable in terms of its use. The information herein provided is based on the manufacturer's knowledge resulting from many years of observations. This information cannot however replace professional know-how of the contractor and does not exempt the contractor from complying with the rules of the building art and the safety and hygiene at work, thus do not constitute any legal grounds for the settlement of disputes in court. For further questions or doubts, please contact the manufacturer.