

KNAUF Therm Expert Facade/Roof/Floor XTherm EPS 70 λ 31 (EPS 70)

KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 polystyrene panels are designated by the following code according to PN-EN standard EN 13163:2012+A1:2015

EPS EN 13163 T(1)-L(2)-W(2)-S(5)-P(10)-BS115-CS(10)70-DS(N)2-DS(70,-)2-TR100

KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 polystyrene panels are manufactured on the basis of expanded polystyrene with the addition of an enriched raw material added during the manufacturing process. The enriched composition of graphite added to polystyrene improves insulating properties, thanks to which better thermal insulation effects are achieved at lower panel thicknesses. Panels are manufactured in two versions – ordinary or seamed. The seamed version allows for laying of panels with overlap.

PURPOSE

- **exterior thermal insulation made using the "light wet" (BSO) method**
- **exterior thermal insulation made using the "light dry" method**
- **Thermal insulation on skeleton wall surface**
- **filling of expansion joints**
- **thermal insulation in closed gap of tri-layer wall**
- **thermal insulation in ventilated gap of tri-layer wall**
- **thermal insulation of balcony loggias**
- **thermal insulation of tie beams, window reveals and lintels**
- **thermal insulation of floors under floor underlayer**
- **thermal insulation of full and ventilated flat roofs**

BASIC ADVANTAGES OF KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31

Approx. 30% lower panel thickness in comparison to ordinary polystyrene (possibility of using panel on balconies and loggias without significant losses of residential areas)

- greater or equal thermal insulating power of panel at lower thickness in comparison to ordinary polystyrene panels

GUIDELINES FOR FASTENING KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 PANELS

Before commencing installation of KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 panels, check the condition of the substrate. The substrate must be carrying, clean and degreased. Loose fragments poorly bound to the substrate are to be removed before gluing of polystyrene panels.

Universal KNAUF FIBER-REINFORCED GLUE is recommended for gluing of KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 panels. Before applying glue onto the panel, it is recommended to sand the surface of each KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 panel with fine-grained sandpaper to "roughen" it. This will facilitate adhesion of glue to the panel's surface during its fastening to the wall.

KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 graphite polystyrene has elevated resistance to UV radiation, however long-term, direct exposure to UV radiation may cause a yellowish tarnish on a panel's surface. This tarnish must be removed before execution of the reinforcing layer.

It is recommended to use KNAUF FIBER-REINFORCED GLUE and KNAUF REINFORCING MESH to make the reinforced layer.

Shielding facade meshes should be used during work. KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 panels glued to the facade are to be protected against the direct action of sunlight and weather by using facade meshes on scaffolding.

If KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 panels are installed directly on the ground, anti-moisture insulation in the form of sealing masses, bituminous masses, PE films, or underlayer building paper must be used.

A separating layer in the form of PE film is recommended for floor slabs between storeys. Expansion tapes are used at the point of contact of a floor slab with a wall.

Panels are laid starting from the corner. The first row of panels is to be laid from the wall and pressed to expansion tapes. The next rows of panels are to be laid as "brickwork", avoiding intersection of panel joints. After thermal insulation has been laid down, panels are to be covered with PE film with a thickness of at least 0.2 mm. The film protects insulation panels against moisture and penetration of the screed into the thermal underlayer.

ATTENTION

Panels are to be protected against direct contact with substances that act destructively on polystyrene, e.g. organic solvents (acetone, nitroglycerin, benzene, etc.)

TECHNICAL DATA

λ_D Thermal conductivity coefficient W/(mK)	≤ 0.031
Edge shape	rectangular / seamed
Dimensions	1000 x 500mm max. dimensions: 4000 x
Compressive stress at 10% deformation (kPa)	CS(10) 70
Self-extinguishing capacity	SELF-EXTINGUISHING
Class of reaction to fire	E
Bending strength (kPa)	BS 115 (≥ 115)
Tensile strength (force applied perpendicularly to face surfaces) [kPa]	TR 100 (≥ 100)

PACKAGING, STORAGE, TRANSPORT

KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 polystyrene panels are only delivered in the manufacturer's, i.e. KNAUF Industries, original packaging. A product's packaging contains information concerning: product name, name of manufacturer, production date, Polish Standard no. EN 13163:2012+A1:2015, code according to standard, and declared technical parameters.

KNAUF Therm EXPERT Facade/Roof/Floor XTherm λ 31 graphite polystyrene is to be stored in a manner that protects them against mechanical damage and the weather.

Packaging		Thermal resistance	Standard format 1000*500 [mm]		Seamed panels 990*490 [mm]	
Panel thickness [mm]	Number of panels per package [pcs.]	R _D [m ² *K/W]	Package volume [m ³]	Covered area [m ²]	Package volume [m ³]	Covered area [m ²]
10	56	0.30	0.28	28	-	-
20	30	0.60	0.3	15	-	-
30	20	0.90	0.3	10	-	-
40	15	1.25	0.3	7.5	-	-
50	12	1.55	0.3	6	0.288	5.820
60	10	1.85	0.3	5	0.290	4.850
70	8	2.15	0.28	4	0.272	3.880
80	7	2.50	0.28	3.5	0.273	3.395
90	6	2.80	0.27	3	0.264	2.910
100	6	3.10	0.3	3	0.294	2.910
110	5	3.40	0.275	2.5	0.265	2.425
120	5	3.75	0.3	2.5	0.290	2.425
130	4	4.05	0.26	2	0.252	1.940
140	4	4.35	0.28	2	0.272	1.940
150	4	4.65	0.3	2	0.292	1.940
160	3	5.00	0.24	1.5	0.234	1.455
170	3	5.30	0.255	1.5	0.246	1.455
180	3	5.60	0.27	1.5	0.261	1.455
190	3	5.95	0.285	1.5	0.276	1.455
200	3	6.25	0.3	1.5	0.291	1.455
210	2	6.55	0.21	1	0.204	0.970
220	2	6.85	0.22	1	0.214	0.970
230	2	7.20	0.23	1	0.224	0.970
240	2	7.50	0.24	1	0.232	0.970
250	2	7.80	0.25	1	0.242	0.970
260	2	8.10	0.26	1	0.252	0.970
270	2	8.45	0.27	1	0.262	0.970
280	2	8.75	0.28	1	0.272	0.970
290	2	9.05	0.29	1	0.282	0.970
300	2	9.35	0.3	1	0.292	0.970