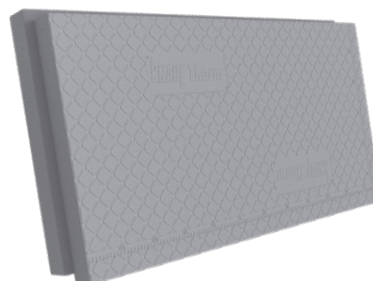


## Knauf Therm EXPERT Hydro EPS 100 $\lambda$ 31



KNAUF Therm EXPERT Hydro EPS 100  $\lambda$  31 polystyrene panels are designated by the following code according to EN standard - EN 13163:2012+A1:2015

**EPS –EN 13163-T(2)-L(2)-W(2)-S(5)-P(5)-BS150-CS(10)100-DS(N)5-DS(70,-)1-WL(T)3,5**

### PURPOSE

KNAUF Therm EXPERT Hydro EPS 100  $\lambda$  31 is a product that can be used in many ways, while meeting all the requirements for a modern thermal insulation material. The use of the panel is mainly determined by the parameters of compressive strength and low water absorption.

The main purpose is:

- protection of underground construction elements down to 3 m below ground level
- Thermal insulation of plinths in External Thermal Insulation Composite System (ETICS)
- Insulation of thermal bridges
- Drainage (with extra fabric layer)
- Insulation of a flat roof with inverted layers

KNAUF Therm EXPERT Hydro EPS 100  $\lambda$  31 can be used in places where the permissible operational loads do not exceed 30kN/m<sup>2</sup> ( 3000 kg/m<sup>2</sup>).

### GUIDELINES FOR FASTENING KNAUF THERM EXPERT HYDRO EPS 100 $\lambda$ 31

The surface of the KNAUF Therm EXPERT Hydro panel has a texture ensuring optimal adhesion of plasters, fillers and adhesives. Thanks to the edges with the Z-type lock, the butt jointing eliminates the formation of thermal bridges and reduces the labour consumption of insulation works. The shape of the surface of the KNAUF Therm EXPERT Hydro panel in the form of a fine-sized mesh facilitates its cutting and laying. It also enables water runoff, which additionally improves the thermal properties of the partition. When used on a wall as a drainage panel, the water flow rate is 0.3 l / s \* m.

KNAUF Therm EXPERT Hydro insulation panel can be cut precisely with a thermal knife, ordinary knife or similar tool. The time of laying the panel is approx. three minutes per square meter - laying over the existing waterproof layer in the offset joint.

The panels are mounted to the foundation walls using the "point" method using solvent-free bituminous glue (number of gluing points following the guidelines of the glue manufacturer). We recommended laying the

panel with the inscription KNAUF on the outside, although gluing the other way round is not an error. Always use a filter fleece for drainage! In cohesive soil types, we recommend laying a separating layer (e.g. filtering fleece) on the slab. On the one hand, it prevents the transfer of soil subsidence to the insulation, and on the other, it allows ground moisture to flow on the surface of our panels and drain it, in a controlled manner, to the perimeter drainage and the collector.

ATTENTION

Protect panels against direct contact with substances damaging polystyrene, e.g. organic solvents (acetone, nitroglycerin, benzene, etc.)

## TECHNICAL DATA

$\lambda_D$ Thermal conductivity coefficient W/(mK)	≤ 0.031
Depth usage [m]	To 3 m
Edge shape	Rectangular - overlapped
Dimensions	1200 x 600
Thickness [mm]	100, 120, 150, 180
Compressive stress CS at 10% deformation	CS(10)100(≥ 100)
Self-extinguishing capacity	SELF-EXTINGUISHING
Class of reaction to fire	E
Bending strength (kPa)	BS 150 (≥ 150)
Water absorption (long-term submersion)	WL(T)3,5 (≤ 3,5%)

## PACKAGING, STORAGE, TRANSPORT

KNAUF Therm EXPERT Hydro EPS 100  $\lambda$  31 polystyrene panels are solely 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 Hydro EPS 100  $\lambda$  31 should be stored in a manner that protects them against mechanical damage and the weather conditions

Packaging and Thermal resistance				
Panel Thickness {mm}	100	120	150	180
Number of panels per package [pcs.]	6	5	4	3
Thermal resistance $R_D$ [m <sup>2</sup> *K/W]	3,20	3,85	4,80	5,80
Package volume [m <sup>3</sup> ]	0,432	0,432	0,432	0,389
Covered area [m <sup>2</sup> ]	4,32	3,6	2,88	2,16

## KNAUF THERM EXPERT HYDRO WILL SOLVE MULTIPLE PROBLEMS.

### 1. Insulation of thermal bridges (formwork inserts and plaster underlay)

The KNAUF Therm EXPERT Hydro panels as insulation of thermal bridges, the permanent formwork (e.g. at lintels, binders, columns and ring beam formwork) is laid in a tight joint, with the elements shifted. The rectangular shape of the edges reduces the amount of waste.

### 2. Plinth

Thanks to its high compressive strength, the KNAUF Therm EXPERT Hydro panel is used to insulate external walls with thermal insulation systems in the plinth area exposed to impact. Rectangular edges optimize the laying of panels in terms of labour and amount of waste. Fixing the insulation panels (glueing or mounting with expansion bolts) should be carried out according to the guidelines of the insulation system manufacturer. When applying plasterboard and tile coverings on the panels' surface, follow the manufacturers' guidelines of plastering mortars.

### 3. Exterior cellar walls

Regardless of the intended scope of application, the KNAUF Therm EXPERT Hydro panels can never be used as waterproofing isolation. For the proper installation of the panels on the underground elements of the building, a functional waterproofing layer should be provided on their surface. In any case, the existing insulation is protected against harmful factors from the ground surrounding (protection of underground walls).

### 4. Inverted roof

In an inverted roof, the thermal insulation material is in the wet zone. KNAUF Therm EXPERT Hydro panels are placed on the existing waterproof layer, protecting the waterproofing against mechanical damage.

For the proper use of the panels on the underground elements of the building, functional waterproofing should be provided on their surface.

## ADVANTAGES FOR ...

#### ...a seller

- saving warehouse space
- one product that meets several customers needs at the same time
- lower storage costs
- KNAUF Therm EXPERT Hydro panel can replace many other products
- the constant availability of a sufficient amount of material from the manufacturer
- possibility of more reloading due to greater mechanical strength
- branding with the KNAUF logo - aesthetic and promotional values

#### ... the contractor

- lower costs and capital intensity
- quick installation thanks to more extensive than standard board dimensions: 1200 x 600 mm
- Easy to cut and lay thanks to the fine mesh on the surface
- the KNAUF Therm EXPERT Hydro board is widely used on the construction site
- lower demand for storage space on the construction site
- Exclusion of the possibility of installing inadequate material is - the KNAUF Therm EXPERT Hydro panel is suitable for almost all applications
- porous texture makes it easier to cut and insulate the element

#### ... an architect

- cost savings for investors
- certainty and safety in planning and supervising works
- facilitating design work - only one product is used in several different scopes.