Product Data Sheet

V1.0

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IKO etherm XPS

IKO etherm XPS rigid extruded polystyrene (XPS) insulation.

Thickness (mm)	Thermal Resistance (m2K/W)	Length (mm)	Width (mm)	Compressive Strength *(kPa)
50	1.67	1250	600	300
60	2.00	1250	600	300
80	2.60	1250	600	300
100	3.10	1250	600	300
115	3.71	1250	600	300
120	3.75	1250	600	300
130	4.20	1250	600	300
140	4.50	1250	600	300
145	4.68	1250	600	300
160	5.15	1250	600	300
165	5.32	1250	600	300
175	5.65	1250	600	300
180	5.80	1250	600	300
190	6.13	1250	600	300
195	6.29	1250	600	300
200	6.45	1250	600	300

*Minimum compressive strength at 10% compression

Features & Benefits

- Rebated Edge Profile
- Excellent thermal performance
- High compressive strength
- Highly resistant to water absorption
- Able to resist repeated freeze/ thaw cycles
- Lightweight & easy to install
- Tough and durable
- Dimensionally stable

Introduction

IKO etherm XPS is a rigid extruded polystyrene (XPS) thermal insulation, with excellent thermal insulation capability, high compressive strength and resistance to moisture.

IKO etherm XPS is suitable for use in inverted roof applications on new or existing flat roofs, and balconies and terraced roofs with either zero pitch or slopes between 1:80 and 1:6.

It is used in conjunction with etherm WCL water-flow-reducing layer between the insulation and the ballast layer

Thermal Performance & Edge Finish

Declared thermal conductivity;

80mm - 200mm thickness = **0.031W/mK**
50mm – 60mm thickness = **0.030W/mK**

Design thermal conductivity including moisture correction factor;

80 - 200mm thickness = **0.032W/mK**
50mm – 60mm thickness = **0.031W/mK**

Rebated edge profile to all 4 sides.

DESIGNATION CODE: XPS-EN 13164-T1-CS(10\Y)300-CC(2/1.5/50)130-DS(70,90)-WL(T)0.7-WD(V)1,2,3[(1)]-FTCD1

(1) Thickness dependant

Specification

Compressive Strength: IKO etherm XPS is highly resistant to compression and withstands both occasional and long term static loads. The high compressive strength and rigidity of the product allows a range of ballast material including gravel and concrete slabs to be used as part of the construction.

Load bearing construction elements should be designed to adequately support the combination of imposed and dead loads without creating excessive deflection. IKO etherm XPS has a compressive strength of 300kpa at 10% compression.

NB: As a guide a safety factor of 2.50 should be employed for design purposes when assessing the impact of long term loading.

Durability: Continuous service temperature limit is up to +70º C.

Water vapour diffusion resistance factor µ (tabulated value): 100MU when tested in accordance with BS EN 12086.

Reaction to Fire: EN13501-1 Class E

Long term water absorption by total immersion: <0.7% by volume when tested in accordance with EN 12087.

Handling & Storage

IKO etherm XPS is lightweight and easy to handle and install. It is supplied in four sided packaging designed to be easily recognised and is labelled with identifying product and manufacturing data. Ensure the product is not stored close to open flames or other ignition sources and avoid volatile organic compounds and chemicals such as solvents. Do not expose to prolonged sunlight as this will result in surface degradation. When outside storage for extended periods is required cover the products with opaque/light coloured sheeting.

Installation

Boards should be laid in a brick bond pattern, ensuring all joints between the boards are tight and that no gaps exist where they meet rooflights, edge details and other services which perforate the roof deck. The boards can be cut easily using a fine tooth saw, sharp knife or a hot wire cutter.

Inverted Roof Ballasting

A roof ballast layer must be installed as work progresses to protect the insulation boards and the Water Flow Reducing Layer (WFRL) from the effects of wind uplift and UV degradation. The ballasted roof finish may be minimum 50mm deep layer of ballast or minimum 40mm thick concrete paving, which must be assessed by a specialist for its suitability according to region exposure and building height. In addition, the dead load imposed by the finish must be allowed for in calculating the total acceptable load on the deck. Care must be taken to ensure that upgraded roofs are capable of carrying the increased load and depth of the installed system. Ballast must not be stacked in one place on the roof unless the roof is capable of supporting it.

For buildings in sheltered regions, or less than 10 storeys, a minimum load of 80Kg/m2 to resist wind uplift is required. On buildings up to 15 storeys, the build-up above can still be used, but the perimeter must be loaded with paving slabs determined by reference to BS EN 1991-1-2: 2002. For other exposure conditions or tall buildings, specialist advice should be sought.

IKO Etherm WCL

IKO etherm WCL is used as a Water Flow Reducing Layer (WFRL) between etherm XPS insulation and the roof ballast layer.

Length (m)	Width (m)	Area per Roll (m^2)
50	1.5	120 (allowing for laps)

All dimensions are nominal

Introduction

IKO etherm WCL is a high performance polyethylene geotextile which is used in combination with IKO etherm XPS as part of the IKO etherm system for inverted and green roofs.

IKO etherm WCL water resistant properties result in reducing the flow of water through the roof construction. This means that the impact on thermal performance by rainwater cooling is virtually negated.

Features & Benefits

- Improves thermal performance
- Water vapour permeable

Handling & Storage

IKO etherm WCL is easy to handle and install and can be cut with a knife or scissors. It is supplied in rolls in polythene packaging and is labelled with identifying product and manufacturing data. The product may be stored flat or upright on a clean, level surface and should be kept under cover.

Installation

IKO etherm WCL must be laid with minimum 300mm laps, overlapping in the downward direction of the designed flat roof slope. At upstands and penetrations, the membrane must be turned up to finish above the surface of the ballast layer; at drainage outlets, the membrane must be turned down. For further guidance please refer to Liquid Roofing & Waterproofing Association (LRWA) Guidance Note No.14 – Best Practice for the Installation of Water Flow Reducing Layers in Inverted Roofs

This technical datasheet is applied to products sold by IKO PLC and valid until withdrawal or until modification. Since this datasheet may be subject to revision, it is the responsibility of designer/end-user to make sure of possessing the latest version of the datasheet (*see date of issuing). Most recent version of this datasheet can be also accessed under www.ikogroup.co.uk. Modification of the technical datasheet repeals the previously issued versions!