IKO Enertherm XPS and WCL

Technical Data Sheet

March 2024

PRODUCT INFORMATION

IKO Enertherm XPS is a rigid extruded polystyrene board, the product represents no known threat to the environment and has zero Ozone Depletion Potential (ODP) and a Global Warming Potential (GWP) of less than five. It is non-bio-degradable and 100% recyclable.

A lightweight lap joined board with high compressive strength and performance. It is used for thermal insulation for a wide variety of flat roofs including inverted roofs below ballast, paving, green and blue.

Thickness (mm)	Product Code	Thermal Resistance (m2K/W)	Length (mm)	Width (mm)	Compressive Strength *(kPa)
50	30400050	1.50	1250	600	300
70	30400070	2.10	1250	600	300
100	30400100	3.00	1250	600	300
130	30400130	3.90	1250	600	300
160	30400160	4.80	1250	600	300
180	30400180	5.45	1250	600	300
200	30400200	6.05	1250	600	300
205**	30400205	6.21	1250	600	300
210**	30400210	6.36	1250	600	300
215**	30400215	6.51	1250	600	300
220	30400220	6.65	1250	600	300
230	30400230	6.95	1250	600	300
245	30400245	7.40	1250	600	300

SPECIFICATION

Compressive Strength: IKO enertherm 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, soil 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 enertherm 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 Resistance: 625MNs/g.m when tested in accordance with BS EN 12086.
Moisture Absorption: 0.6% by volume when tested in accordance with EN 12087.

Nominal Density: 32kg/m3

IKO Enertherm XPS (mm)	U-Values (W/m2K)
130	0.25
160	0.20-0.24
180	0.18-0.19
200	0.16-0.17
220	0.15
230	0.14
245	0.13
270 (200+70)	0.12
290 (220+70)	0.11
320 (2x 160)	0.10

Calculation Method: BS EN ISO 6946 incorporating Design Lambda value 150mm Reinforced Concrete Deck (2% reinforcement), 7.5mm Hot Melt Waterproofing Layer R-value, IKO enertherm WCL fx, 50mm Layer 20-40mm Ballast 2.50 W/mK 0.030 m2K/W 0.001 Rainfall - Met Office Statistics, UK Average 1981 – 2010 3.16 mm/day

THERMAL PERFORMANCE

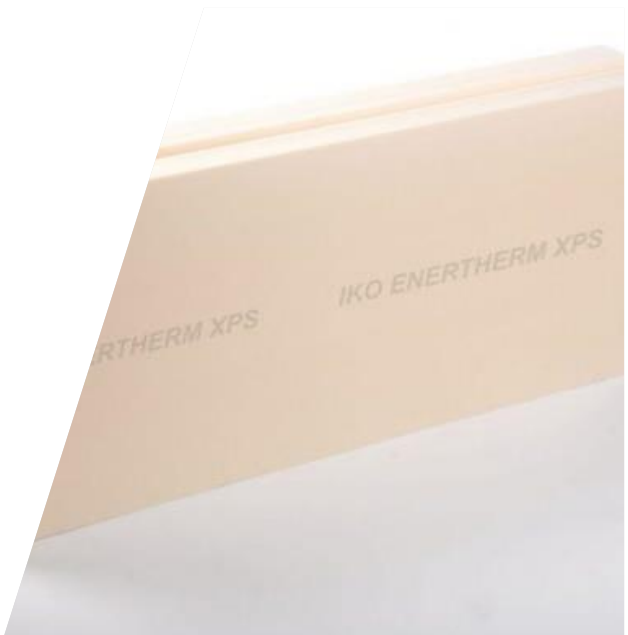
The declared thermal conductivity of IKO Enertherm XPS is – 0.033 W/mK

The design thermal conductivity including moisture correction fact or is;

- + or equal to 100mm thickness – 0.034 W/mK
- - 100mm thickness – 0.035W/mK

FEATURES AND BENEFITS

- ❖ 15MM lap joint
- ❖ Excellent thermal performance
- ❖ High compressive strength
- ❖ Highly resistant to water absorption
- ❖ Able to resist repeated freeze/thaw cycles
- ❖ Lightweight and easy to install
- ❖ Tough and durable
- ❖ Dimensionally stable
- ❖ BBA Certified



MATERIAL HANDLING & STORAGE

IKO enertherm XPS is lightweight, 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.

ENERTHERM XPS INSTALLATION

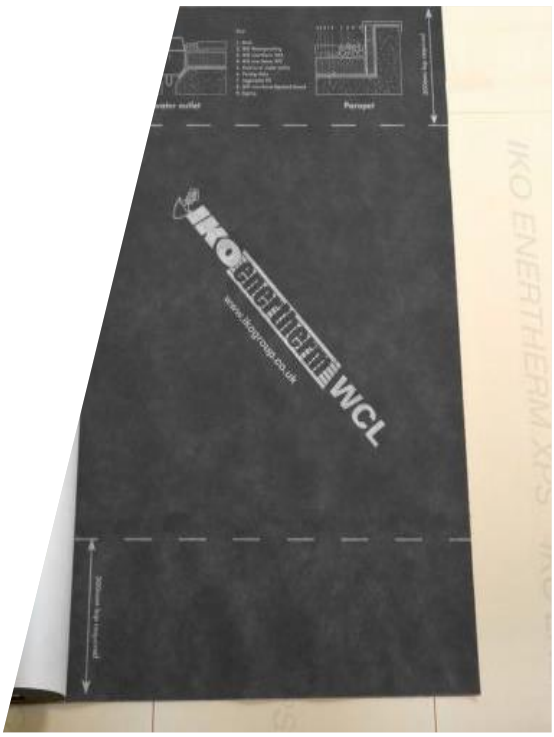
Boards should be laid in a brick bond pattern, ensuring all joints between the boards are tight and that no gaps exist where they meet rooflights, edge details and other services which perforate the roof deck. The boards can be cut easily using a fine tooth saw, sharp knife or a hot wire cutter.

IKO ENERTHERM WCL PRODUCT INFORMATION

IKO Enertherm WCL is a high performance, thermally bonded tri-laminate of polypropylene; spun bonded (outer layers) and microporous (inner layer). It is used as a Water Flow Reducing Layer (WFRL) between Enertherm XPS insulation and the roof ballast layer in inverted roof systems, including Green, Bio-diverse and Blue roof applications.

IKO Enertherm WCL's 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.

Property	Test	Data
Length	-	100m
Width	-	1.5m
Weight	-	95g/m2
Water resistance	EN 20811	1.5m of water head
Tensile strength in MD	EN 12311-1	185N/5cm
Tensile strength in CD	EN 12311-1	130N/5cm
Water vapour transmission	Lyssy	1200g/m2.d
UV stability under constant exposure	prEN 1297	Up to 4 Months



ENERTHERM WCL INSTALLATION

IKO Enertherm WCL must be laid with 300mm laps, overlapping in the downward direction of he 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 and Waterproofing (LRWA) Guidance Note No.14 – Best Practice for the Installation of Water Flow Reducing Layers in Inverted Roofs.

DISCLAIMER

Whilst every precaution is taken to ensure that the information given in this literature is correct and up to date it is not intended to form part of any contract or give rise to any collateral liability, which is hereby specifically excluded.

IKO reserves the right to amend and/or withdraw this document without notice.

Intending purchasers of our materials should therefore verify with the company whether any changes in our specification, application details, withdrawals or otherwise have taken place since this literature was issued.

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