



## EVATHERM L

### PIR INSULATION FOR WARM FLAT ROOFS

#### PROFILE

A high performance rigid polyisocyanurate (PIR) foam board and is faced with a gas diffusion tight multilayer foil on both sides for use in warm roofs under a Liquid Applied Waterproofing system.

Description: The board is tongue and grooved but taping the joints may provide a better finish with less ghosting of the joints being visible. For tapered roofing, we recommend normal tapered system using Evatherm A is installed with a finishing 50mm layer of Evatherm L. Currently Evatherm L is only available in thicknesses of 50mm, 90mm & 120mm. These boards are bonded using a PU adhesive.

#### BENEFITS OF EVATHERM L

- Wider choice: Evatherm L in a wide range of thicknesses, will assist in meeting the appropriate Building Regulation standard with any form of warm flat roof construction.
- Quality: Outstanding product quality manufactured to ISO 9001 Quality Systems. All of our products carry the CE Mark to show compliance with the harmonised European Standard BS EN 13165.
- Ozone friendly: Zero ozone depletion potential.
- Low thermal conductivity: The declared thermal conductivity value of 0.024W/Mk.
- Compatibility: Fully compatible with most synthetic (PVC, EPDM etc) and bitumen based single-ply membrane waterproofing systems.
- Warm roof construction: No requirement for roof ventilation and inherently safe from harmful interstitial condensation.
- Reduced risk of condensation: Condensation within the roof structure is avoided as it is maintained at the same temperature as the inside of the building.
- Handling: Evatherm L is lightweight yet tough and resilient. The boards are easily cut using a knife or finetoothed saw.
- Durability: Evatherm L boards are rot-proof, durable and maintenance free.
- Lap joint edge profile: Evatherm L is available with a Tongue and Groove edge detail to prevent thermal bridging at board joints.

#### PRODUCT FEATURES

Shi lap edge  
Length 1200mm  
Width 1200mm

Tongue and groove (50mm)  
Length 1190mm  
Width 1190mm

Tongue and groove (90 & 120mm)  
Length 1160mm  
Width 1160mm

Compressive Strength:  
Compressive strength at 10% deformation exceeds 150kPa at yield.

Thermal Conductivity:  
The declared thermal conductivity, D-value of Evatherm L is 0.024 W/mK when tested using EN 13165:2012 + A2:2016

Designation Code:  
PUR - EN 13165 - T2 - DS(TH)8  
- DLT(2)5 - CS(10/Y)150 - TR80  
- WL(T)2

## DESIGN - SINGLE PLY MEMBRANE WATERPROOFING SYSTEMS

Evatherm L boards are recommended for use with liquid applied waterproofing systems from ICB

- **Condensation:** To reduce the risk of interstitial condensation, an air and vapour control layer (AVCL) should be installed on the warm side of the insulation. The AVCL can also control air and heat leakage from within the building. Reference should be made to BS 5250:2021 and BS 6229:2018 for the condensation assessment and adequate bonding to the deck.
- **Roof Loading:** EvaTherm L boards are suitable for loads associated with the pedestrian maintenance traffic on the roof; for areas of heavier pedestrian traffic extra precautions should be taken such as the use of specially designed walkways (consult the membrane manufacturer for specific details). Care must be taken to avoid damage to boards by impact or by concentrated loads during installation. When using ballasted systems the roof structure must be designed to accept the additional dead load, minimum 80 kg/m<sup>2</sup>.
- **Roof Drainage:** To ensure adequate drainage the roof should have a minimum finished fall of 1:80 as BS6229:2018. This means designing with a fall of 1:40. This will take into account for building tolerances, permitted deviations, deflections under load and possible deflections/settlement.
- **Thermal Bridging:** With increasing levels of insulation it is vitally important to ensure continuity of the insulation at the junction of elements. At the junction of the roof and the wall packing the eaves with compressible mineral fibre insulation will both prevent thermal bridging and close the cavity. At upstands and parapets the cavity wall insulation should be continued above the level of the roof to ensure continuity of the wall and roof insulation (See Figures 1 and 2).
- **Wind Uplift:** The wind uplift force exerted on the roof will vary according to geographical location, site location and building height. Reference should be made to BS 6229:2018 for adequate bonding of the air and vapour control layer to the deck to help resist wind uplift. Calculations relating to the bonding and any supplementary fixings should be made with reference to BS 6399-2:1997.

**Moisture Vapour Transmission:**  
The foil faces of the Evatherm L board give it an almost infinite water vapour resistance value. The joints between boards however will facilitate the passage of moisture vapour under normal conditions of temperature and humidity; a practical value for the moisture vapour resistance of the system is 100 MNs/g.

**Specific Heat Capacity:**  
The specific heat capacity is 1.4 kJ/kgK.

**Durability:**  
When correctly installed, Evatherm L boards are maintenance free and have an indefinite life at least equal to that of the building.

**Storage:**  
Evatherm L boards are supplied wrapped in polythene to provide short term protection. On site the boards should be stored in dry conditions, clear of the ground, on a clean level surface.

**Resistance to Solvents:**  
The foam is not resistant to ketonic solvents. Boards that have been in contact with harsh solvents, petrol, mineral oil, or acids, should not be used.

**Reaction to Fire:**  
Euroclass F (BS EN 13501-1)  
Class 1 (BS 476, Part 7)