



FOR WALLS

Eco-Liner



Insulated dry lining board for fix and dab applications



Fibre free rigid polyisocyanurate (PIR) insulation core faced with plasterboard for dry lining and insulating in a one board application





Description

Composite insulated panel comprising a fibre free polyisocyanurate (PIR) insulation core with a bilaminate foil/kraft paper facing on the outer, and bonded to a 12.5mm tapered edge gypsum plasterboard on the inner facing for internal dry lining applications.

Applications

Room side insulation responds quickly to heating systems and applications include upgrading the thermal performance of existing walls, providing a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations /Standards. Ideal for:

- Walls
- Pitched roofs/Cold flat roofs
- Room-in-the-roof applications
- Both new build and renovations



Product properties

DIMENSIONS

Available in standard sizes and various thicknesses as shown below:

Width: 1200mm

Length: 2400mm

Thickness: 37.5mm to 92.5mm (insulation + plasterboard)

Weight: See Table 1 for board weights

COMPRESSIVE STRENGTH

The typical compressive strength of the insulation is 140 kPa when tested at 10% compression to BS EN 826:2013 Thermal Insulating Products for Building Applications – Determination of Compression Behaviour.

DURABILITY

The product is stable, rot proof and durable and when correctly installed has an indefinite life. Durability depends on the method of application, the supporting structure and conditions of use. It should not be used to isolate dampness nor be used in continuously damp/humid conditions. The fibre free insulation core and facings resist attack from mould and microbial growth and do not provide any food value for vermin.

RESISTANCE TO SOLVENTS

PIR insulation resists attack from alkalis, dilute acids, mineral oil and petrol. The fibre free insulation core is not resistant to ketonic solvents. Damaged boards should not be used.

THERMAL CONDUCTIVITY

The thermal conductivity (λ - value) of the insulation is 0.022W/mK.

The 12.5mm gypsum plasterboard element has a thermal conductivity (λ - value) of 0.19W/mK.

The thermal resistances of the range of shown in Table 1.

EcoTherm insulation λ and thermal resistance values stated in this datasheet are in accordance with BS EN 13165: 2012 + A2: 2016 (Thermal insulation products for buildings. Factory made rigid polyurethane foam (PU) products. Specification).

WATER VAPOUR RESISTANCE

Eco-Liner has an integral vapour control layer to minimise the risk of interstitial condensation. If increased water vapour resistance is required, apply 2 coats of a proprietary sealer in drylined/taped/jointed systems.

The insulation facing has a high water vapour resistance and will, therefore, provide a significant resistance to water vapour transmission.



Design considerations

ENVIRONMENTAL

EcoTherm insulation is manufactured with a blowing agent that is CFC/HCFC free and has zero Ozone Depletion Potential (ODP) with a low Global Warming Potential (GWP).

The BRE has assigned Eco-Liner a 2008 Green Guide rating of A+.

EcoTherm Insulation is manufactured under an ISO 14001 Environmental Management System (LPCB certificate - 388 - 7EMS).

Eco-Liner is approved as a Listed Energy Savings Trust (EST) product.

EU Directives set limits on plasterboard to landfill.

FIRE PERFORMANCE

The plasterboard component is Class 0 as defined by the Building Regulations. When properly installed, the insulation will be contained between the wall and internal lining board until one is destroyed. Therefore, the insulation will not contribute to the development of a fire or present a smoke or toxic hazard as the fire develops.

Further details on the fire performance may be obtained from EcoTherm Technical Services.

SPECIFICATION CLAUSE

The Insulation shall be EcoTherm Eco-Liner ___mm thick –Fibre free polyisocyanurate (PIR) insulation core with a bilaminate foil/kraft paper facing on the outer, and bonded to a 12.5mm tapered edge gypsum plasterboard on the inner facing for internal dry lining applications.

It shall be manufactured in accordance to Quality Management System ISO 9001: 2008, Environmental Management System ISO 14001: 2004 and Occupational Health & Safety Management System BS OHSAS 18001: 2007.

INTERNAL FINISHING

The ivory face of the tapered edge plasterboard enables a flat seamless finish using either skim coat plaster or seamless drywall jointing techniques in accordance with manufacturer's guidance.

SPANNING

When fixed to timber framing, metal channels, rafters or battens, the maximum board span should be 600mm.

STANDARDS AND APPROVALS

Eco-Liner is covered by BBA Agrément Certificate No 14//5157.



Standard gypsum plasterboard complies with BS EN 520:2004+A1:2009 Gypsum plasterboards. Definitions, requirements and test methods. Manufacturing process based upon BS EN 13950: 2005.

EcoTherm PIR Insulation is manufactured under an ISO 9001 Quality Management System (LPCB certificate 388 – 7QMS), ISO 14001 Environmental Management System (LPCB certificate - 388 – 7EMS) and BS OHSAS 18001 Occupational Health and Safety Management System (LPCB certificate 388 – 7HS). All certificates are available for download from www.ecotherm.co.uk

All EcoTherm insulation products have a CE Declaration of Performance available for download from www.ecotherm.co.uk

TYPICAL U-VALUES

EcoTherm Eco-Liner gives typical insulation values as shown in Table 1

Project specific U-value calculations and condensation risk calculations are available from EcoTherm Technical Services on request.

For instant U-value calculations 24/7 visit EcoTherm's online U-value calculator at www.ecotherm.co.uk

Table 1

Insulation thickness (mm)	Total thickness (mm)	Total weight per board (kg)	R-value (m ² K/W)*	Typical U-value - Mechanically Fixed to Timber Battens (W/m ² K)	Typical U-value - Dot & Dab Application (W/m ² K)
25	37.5	27.0	1.20	0.55	0.57
30	42.5	27.4	1.40	0.49	0.51
40	52.5	28.3	1.85	0.40	0.41
50	62.5	29.2	2.30	0.34	0.35
60	72.5	30.1	2.80	0.30	0.30
70	82.5	31.0	3.25	0.26	0.26
80	92.5	31.9	3.70	0.23	0.23

Calculations are based on a 215mm thick solid brickwork wall and includes a 2mm plaster skim coat. Timber battens are 25x50mm at 600mm Centres. Adjustments for fixings to be included once fixing centres / type have been confirmed.

The U-values quoted above are for guidance only. Detailed U-value calculations should be complete for each project by EcoTherm Technical Services. For instant U-value calculations 24/7 visit EcoTherm's online U-value calculator at www.ecotherm.co.uk

*This sum is rounded down to the nearest 0.05.

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Site work

HANDLING

- Do not drop boards
- Wear eye protection
- To cut use a fine tooth saw
- Damaged boards should not be used

Cutting plasterboard with power tools and sanding generates dust, so should be kept to a minimum. Ideally all operations which produce dust should be carried out in well ventilated conditions; where possible a dust mask selected in accordance with BS EN 149 should be worn.

The general approach to control of occupational exposure to airborne dust is outlined in Health and Safety.

Ensure accurate trimming to achieve close butt joints and continuity of insulation.

For good drywall practice follow BS 8212:1995 Code of Practice for dry lining and partitioning using gypsum plasterboard and BS 8000-Part 8:1994 Workmanship

Typical fixing instructions for dot & dab

WALL LINING

- When bonding Eco-Liner using proprietary gypsum adhesive, please follow the gypsum adhesive manufacturers instructions.
- Apply a continuous perimeter ribbon of adhesive, 50mm wide, around any openings i.e. windows, electric plug sockets on the external walls to provide a seal.
- Apply 3 vertical rows of gypsum plasterboard adhesive dabs to the wall at 300mm vertical centres and a continuous bead at the bottom and top.
- Install board and ensure it is plumb, working to chalk lines on ceiling and floor by tamping the boards leaving a small gap of 10mm at the base by use of a foot-lifting tool.
- After the gypsum plasterboard adhesive has set, fix suitable nailable plugs (minimum of two) per board at mid-height, 25mm minimum depth into the masonry as a secondary fixing.
- The maximum height of this system is 3m high.
- For sound, existing plasterwork, an alternative is to bond directly using walnut sized dabs of proprietary adhesive at 300mm centres vertically/horizontally. Details are available from EcoTherm Technical Services.



Figure 1

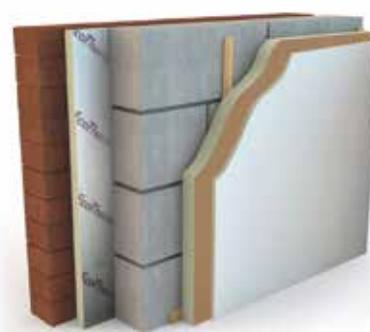


Figure 2

on building sites, Code of practice for plasterboard partitions and dry linings. If required for acoustics and air tightness apply a suitable parge coat prior to lining.

HEALTH & SAFETY

Eco-Liner is chemically inert and safe to use. Product safety information is available to download from www.ecotherm.co.uk

STORAGE

Store boards in a flat, dry area off the ground away from mechanical and water damage and sources of ignition.

If temporary outdoor storage cannot be avoided then they must be completely protected by use of an opaque polythene sheet or tarpaulin.

Boards that have been allowed to get wet should not be used.

Typical fixing instructions for mechanical fixing

Eco-Liner is ideal for insulating a solid brick or block wall via a timber frame or battens to the inside. It can be used with a metal framing system and directly to a timber frame system or brick/block cavity wall.

WALL LINING

- Fix pre-treated 50mm wide x 25mm deep timber battens at maximum 600mm centres with horizontal battens at ceiling and just above floor level.
- Install Eco-Liner using drywall screws at 150mm centres ensuring that they penetrate the timber 25mm deep and not less than 10mm from the edge.
- Screw heads should be driven just below the surface and care taken to ensure that they are not over driven.

LINING PITCHED TIMBER RAFTERS

- When installing the boards under rafters, they must be at right angles to the rafters and supported on all four edges. Therefore noggings must be used across the rafters.

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Please consult EcoTherm for details of BBA certificate numbers for specific products

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