

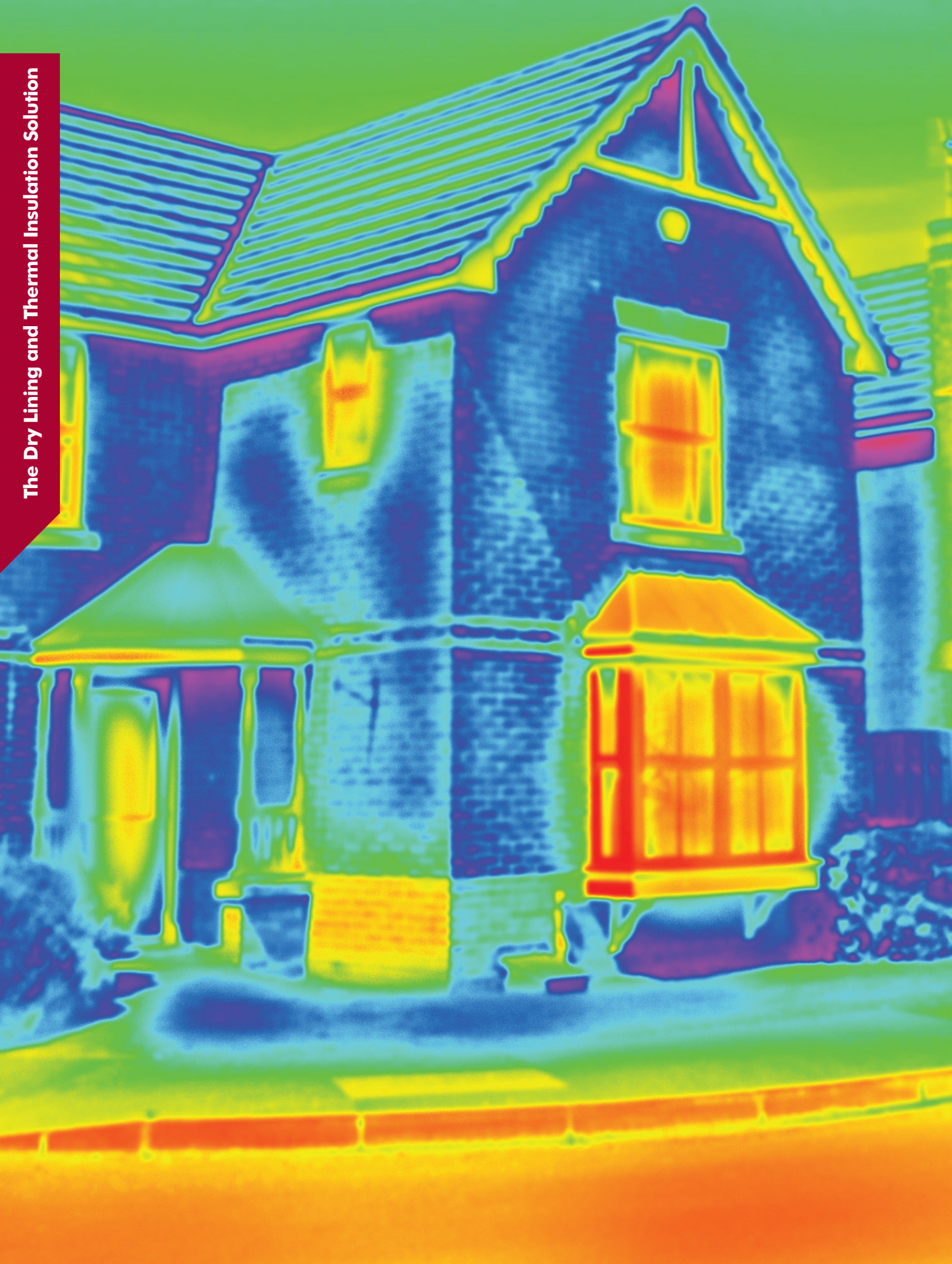


# Thermal Laminate Board



[www.speedlinedrywall.co.uk](http://www.speedlinedrywall.co.uk)

The Dry Lining and Thermal Insulation Solution



# The Dry Lining and Thermal Insulation Solution

Around a third of all heat lost within un-insulated or poorly insulated properties escapes through external walls. Heat naturally flows from a warm area into a cold one and in colder months this cycle is increased causing a greater degree of heat loss. While improving efficiency and performance of energy systems may be perceived as a potential solution, it is commonly recognised that enhancing the thermal fabric of a building is fundamental in reducing heat loss and fuel consumption within the built environment.

Speedline Thermal Laminate Board provides a dry lining and thermal insulation solution in a single application and is suitable for internal lining of masonry walls, lining the underside of rafters within a pitched roof application and the underside of joists within a flat roof location.

Speedline Thermal Laminate Board will assist you to meet or upgrade to the current Building Regulations and avoid the risk of condensation. Locating the thermal insulation layer on the internal side of the structure is more responsive to heating conditions resulting in the ambient internal temperature of a building becoming comfortable quicker within colder months, in addition to reducing thermal bridging through the structure – this makes Speedline Thermal Laminate Board the ideal solution for internal lining of external walls, pitched roofs and ceilings.

## Description

A high performance insulation solution comprising a PIR foam with a kraft paper/aluminium multi-layer finish, factory bonded to a 12.5mm tapered edge plasterboard offered in a board size of 1.2m x 2.4m.

The foam has a very low thermal conductivity (k) of 0.022W/mK with the plasterboard 0.19W/mK providing an optimum thermal insulation solution.

## Speedline Thermal Laminate Range

Board Thickness	Length	Width	Thermal Resistance (m <sup>2</sup> K/W)	Weight (kg)*
37.5mm	2400mm	1200mm	1.21	27
52.5mm	2400mm	1200mm	1.88	28
62.5mm	2400mm	1200mm	2.31	29
72.5mm	2400mm	1200mm	2.79	30
82.5mm	2400mm	1200mm	3.30	31
92.5mm	2400mm	1200mm	3.70	31.5

\* Weight indicated is approximate.

## Benefits

- Dry lining and thermal insulation solution in a single board
- Suitable for both direct bonding ('dot and dab') and mechanical fixing
- Achieves a thermal resistance range of between 1.21m<sup>2</sup>K/W and 3.70m<sup>2</sup>K/W
- Easy to handle and install
- Ideal for new build and refurbishment projects
- Manufactured in accordance with ISO 14001: 2004
- The plasterboard facing used within Speedline Thermal Laminate Board achieves an ODP (Ozone Depletion Potential) and GWP (Global Warming Potential) of less than 5
- The PIR insulation used within Speedline Thermal Laminate Board achieves Zero ODP and GWP of less than 5
- Board weights range from 27kg – 31.5kg

# Application & Performance

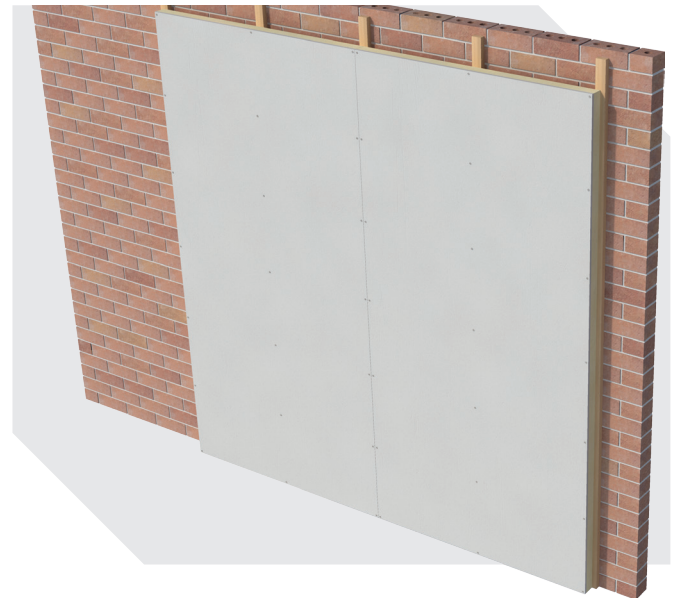
Speedline Thermal Laminate Board is a versatile insulation and dry lining solution which may be installed in a variety of locations within a building.

The following details are intended to provide an indication of both application and achieved performance within the noted construction build-up.

## Solid Masonry Walls – Mechanical fix onto Timber Battens

Board Thickness	Thermal Resistance (m <sup>2</sup> K/W)	U-Value (W/m <sup>2</sup> K)
62.5mm	2.31	0.34
72.5mm	2.79	0.29
82.5mm	3.30	0.26
92.5mm	3.70	0.23

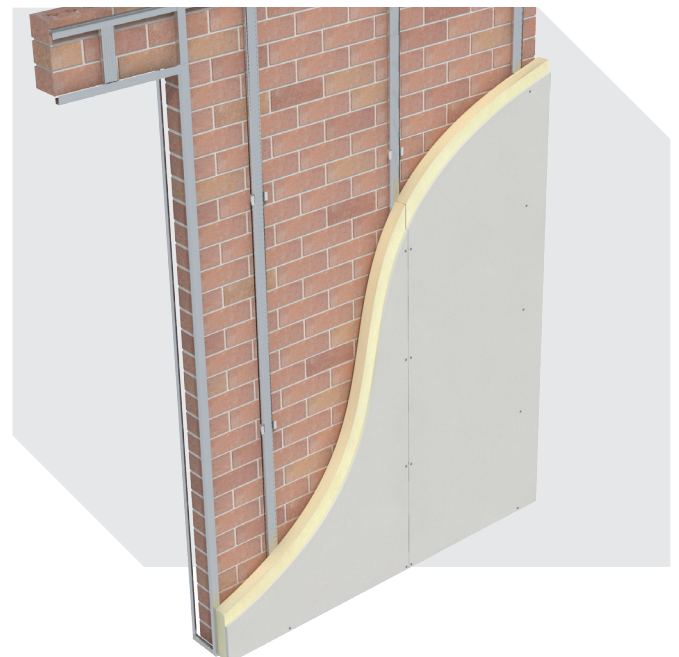
The above U Value calculation is based upon a solid 215mm masonry wall with Speedline Thermal Laminate Board being mechanically fixed into timber battens.



## Solid Masonry Walls – Mechanical fix onto Speedline Wall Liner System

Board Thickness	Thermal Resistance (m <sup>2</sup> K/W)	U-Value (W/m <sup>2</sup> K)
62.5mm	2.31	0.34
72.5mm	2.79	0.29
82.5mm	3.30	0.26
92.5mm	3.70	0.23

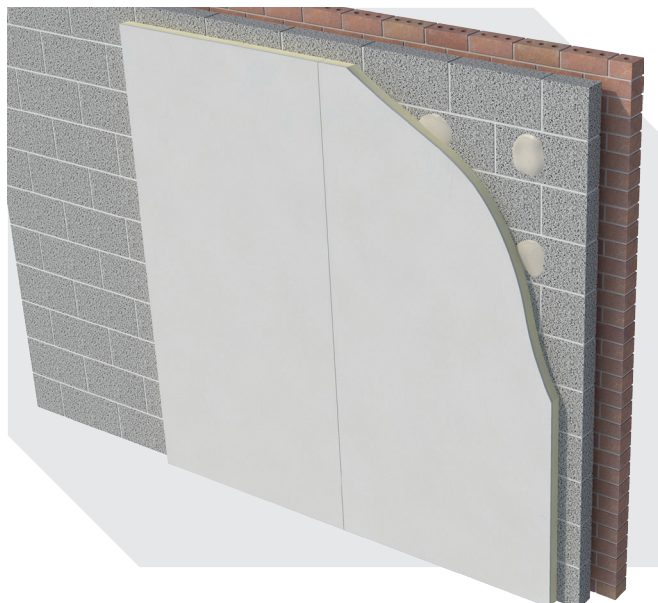
The above U Value calculation is based upon a solid 215mm masonry wall with Speedline Thermal Laminate Board being mechanically fixed into Speedline Wall Liner System.



## Masonry Cavity Wall

Board Thickness	Thermal Resistance (m <sup>2</sup> K/W)	U-Value (W/m <sup>2</sup> K)
62.5mm	2.31	0.30
72.5mm	2.79	0.26
82.5mm	3.30	0.23
92.5mm	3.70	0.21

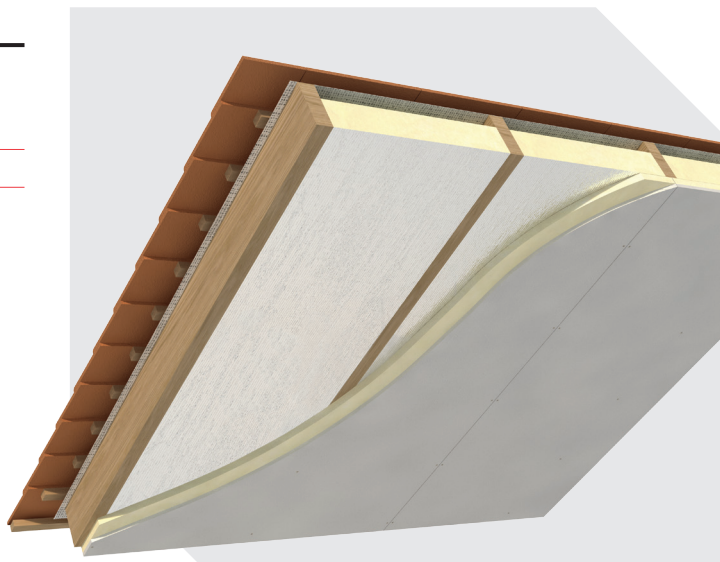
The above U Value calculation is based upon a masonry cavity wall (103mm facing brick – 50mm clear cavity – 100mm lightweight blockwork 0.22 W/mK) with Speedline Thermal Laminate Board being directly bonded to the internal surface with Speedline Drywall Adhesive.



## Pitched Roof Application

Board Thickness	Thermal Resistance (m <sup>2</sup> K/W)	U-Value (W/m <sup>2</sup> K)
37.5mm	1.21	0.18
52.5mm	1.88	0.16
62.5mm	2.31	0.15

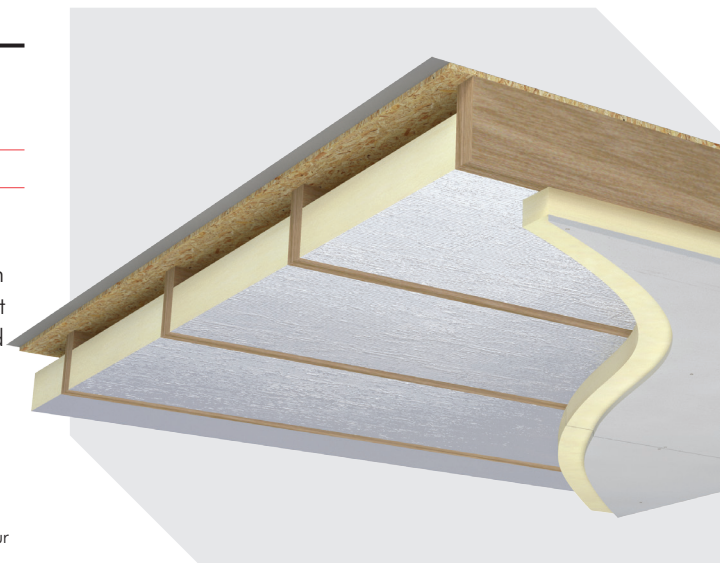
The above U Value calculation is based upon a pitched roof construction complete with 100mm PIR Insulation located between timber rafters at 600mm centres with Speedline Thermal Laminate mechanically fixed to the underside of the rafters.



## Flat Roof Application

Board Thickness	Thermal Resistance (m <sup>2</sup> K/W)	U-Value (W/m <sup>2</sup> K)
37.5mm	1.21	0.18
52.5mm	1.88	0.16
62.5mm	2.31	0.15

The above U Value calculation is based upon a flat roof construction complete with 100mm PIR Insulation located between timber joists at 600mm centres with Speedline Thermal Laminate mechanically fixed to the underside of the joists.



Where U Value performance is quoted this is offered as a guide only, please contact your local Speedline stockist should project specific U Value calculations be required.

# Linear Thermal Bridging – Window & Door Reveals

Linear thermal bridging around window and door reveals is a common weak point within the envelope of a building. Accredited Construction Details (ACD's) provide guidance against a selection of details which are designed to limit thermal bridging through the external fabric of a building. In relation to window reveals, the main factor to consider is the R-value (thermal resistance) of the intended solution.

ACD's require a minimum thermal resistance of  $0.34\text{m}^2\cdot\text{K}/\text{W}$  to be deemed acceptable under current guidance and assist in achieving thermal compliance requirements. Adopting a minimum of 37.5mm Speedline Thermal Laminate Board around the reveals within window and door openings will exceed this requirement.

Reference made to Accredited Construction Details is in consideration to: Masonry Internal Wall Illustration Details Version 1.0 applicable to details MII-WD-01, MII-WD-02, MII-WD-03, MII-WD-05 & MII-WD06. It is necessary to address additional requirements outlined under the noted ACD's to achieve compliance.



# Fixing Instructions

## Pitched & Flat Roof Application

The supporting rafter/joist spacing should not exceed 600mm. Boards should be adequately screw fixed through the board into the supporting timber joists or rafters using Speedline Coarse Thread Drywall Screws, with the fixings driven in with the screw heads flush with the gypsum board ensuring a minimum of 25mm penetration is achieved into the supporting timbers. Speedline Fire Rated Acoustic Sealant may be used to achieve an airtight seal at perimeter joint locations.

## Direct Bonding ("dot & dab")

Speedline Drywall Adhesive will adequately adhere the boards to a suitable masonry background. The adhesive installation instructions should be followed while ensuring the masonry background is completely dry. Additionally, suitable mechanical fixings should be used to prevent early collapse of the board in the event of a fire. Speedline Fire Rated Acoustic Sealant may be used to achieve an airtight seal at perimeter joint locations.

If considering bonding to a solid masonry wall then consideration must be given towards the condition of the wall and measures taken to ensure the external wall is fully weatherproof to prevent moisture penetration from occurring. Should moisture penetration occur in such locations it will be necessary to install Speedline Thermal Laminate Board using Speedline Wall Liner System or timber battens.

## Mechanical fix onto Timber Battens

Battens should be adequately anchored into the supporting masonry wall and spacing should not exceed 600mm centres. Boards should be adequately screw fixed through the board into the supporting timber structure using Speedline Coarse Thread Drywall Screws, with the fixings driven in with the screw heads flush with the gypsum board ensuring a minimum of 25mm penetration is achieved into the supporting framework. Speedline Fire Rated Acoustic Sealant may be used to achieve an airtight seal at perimeter joint locations.

## Mechanical fix onto Speedline Wall Liner System

Install Speedline Wall Liner System in accordance with Speedline installation guidelines, ensuring vertical members are positioned at 400mm or 600mm centres and that the system is adequately anchored into the supporting masonry wall. Boards should be adequately screwed through the board into the supporting frame using Speedline Drywall Screws, with fixings driven in with the screw heads flush with the gypsum board ensuring a minimum of 10mm penetration is achieved into the supporting framework. Speedline Fire Rated Acoustic Sealant may be used to achieve an airtight seal at perimeter joint locations.

# Product Details

## Product Details

<b>Thermal Conductivity</b>	0.022 W/mk (insulation) 0.19 W/mk (plasterboard)
<b>Compressive Strength</b>	Excess 140kPa at yield (insulation only)
<b>Moisture Vapour Resistance</b>	Installed Value at 100 MNs/g
<b>Fire Performance</b>	Class B s1,d0

## CE Marking

Speedline Thermal Laminate Boards are CE Marked in accordance with the Construction Products Regulation (Harmonised Technical Specification EN 13950:2014)



## Durability, Storage & Handling

Speedline Thermal Laminate Board is rot-proof and durable. The boards can be easily cut using a universal knife or a fine toothed saw and should be stored on a clean level surface, clear of the ground and protected from moisture in dry conditions.

## Health & Safety

Speedline Thermal Laminate Board is inherently safe to handle. During cutting or machining appropriate safety measures must be taken such as use of adequate safety goggles and a face mask. Large scale machining should be connected to a dust extraction system. Ensure care is taken to avoid skin and eye contact with any sharp edges. Do not stand on or otherwise support your weight on this board.

## Specification Clause

The thermal dry lining insulation shall be \_\_\_\_\_ mm thick Speedline Thermal Laminate Board comprising a PIR foam with a kraft paper/aluminium multi-layer finish, factory bonded to a 12.5mm tapered edge plasterboard. Installation to be in accordance with manufacturers written instructions.

**Once installed, Speedline Thermal Laminates can be finished by either 'Taping & Jointing' or gypsum skim plaster. Ensure flat joints are adequately reinforced to prevent cracking and suitable corner protection is used.**

**When installing Speedline Thermal Laminate Board consideration should be given towards installation of internal finishes such as kitchen units and provision made to sufficiently support such units through anchoring into the supporting background.**

**For a full selection of fixings and accessories please visit our website [www.speedlinedrywall.co.uk](http://www.speedlinedrywall.co.uk) where you will find the Speedline Compounds range and many more ancillary products.**



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