

YBS Insulation

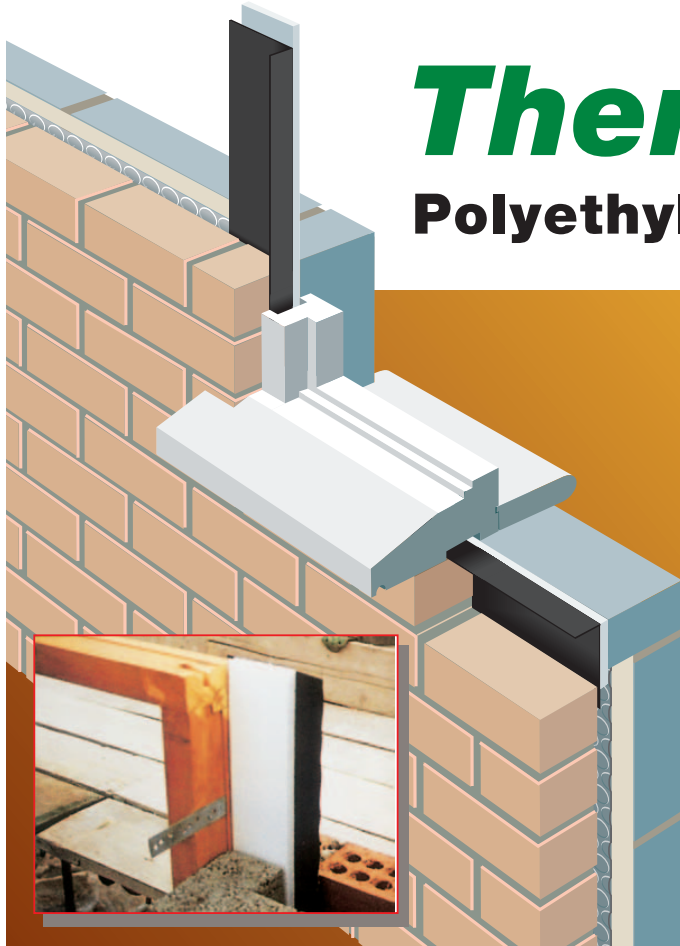
HIGH QUALITY PRODUCTS FOR THE BUILDING INDUSTRY

CI/SfB	(47)	Rn7
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T-bridge+ CERT NO 033/96

Airtec I/DPC CERT NO. 032/96



PLUS *Therma-bridge* Polyethylene Insulating DPC

Eliminates Cold Bridging

Fully Certified

1,000,000 + m/Linear Supplied

CFC/HCFC Free

Rigid Lengths Ease Installation

Meets NHBC and Robust Standards

Manufactured in UK and made to a Quality System meeting the requirements of BS EN ISO 9002



Airtec Insulating DPC

Eliminates Cold Bridging in Cavity Wall Openings

**THE ONE-COMPONENT
INSULATING DPC SYSTEM**

Fully Certified

Meets NHBC and Robust Standards

Lightweight & Waterproof

Reduces Condensation

Easy Installation

www.ybsinsulation.com

The insulating dpc is manufactured with a 40mm exposed dpc which can be used to fix or lap onto the window frame and a minimum 25mm exposed dpc to lap into brickwork cavity.

Therma-bridge Plus is a one component insulating dpc system. It is designed to be used in jamb reveals, cills and thresholds of windows and doors respectively to provide a total solution to the cold bridge problems associated with openings in traditional cavity construction.

A greater awareness of thermal efficiency has led to the reduction of the 'U' value requirements of the structure, as emphasised in the recent revision to the Building Regulations (Approved Document L1 and L2). **Therma-bridge Plus** is designed to offer the perfect solution for the specifier to satisfy this requirement.

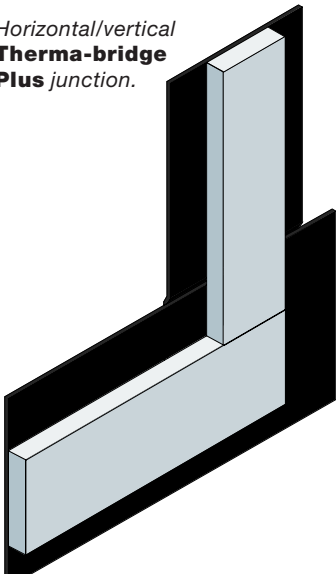
Manufactured in UK and made to a Quality System meeting the requirements of BS EN ISO 9002



Therma-bridge ^{PLUS}

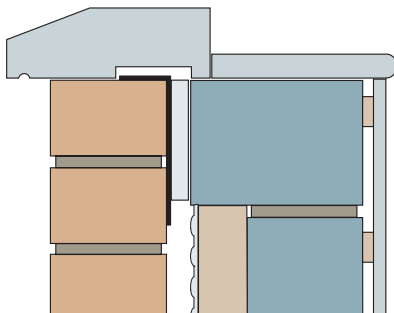
Polyethylene Insulating DPC

Horizontal/vertical **Therma-bridge Plus** junction.



Horizontal

- **Therma-bridge Plus** should be positioned at the cill/threshold reveal and held in place by the returned (closure blockwork).
- Alternatively, **Therma-bridge Plus** can be tacked onto the side of the window frame, if the window is to be built-in.
- **Therma-bridge Plus** should be positioned with the dpc facing outwards.



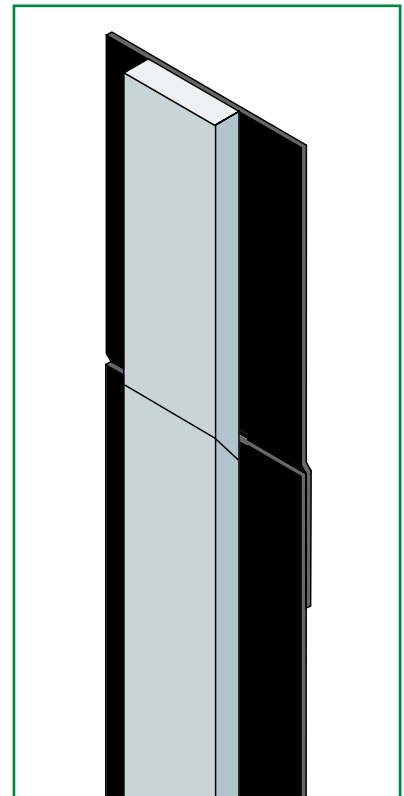
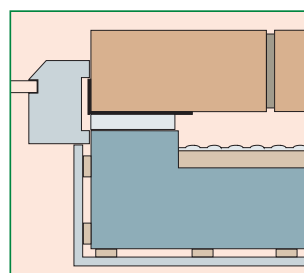
Return block at cill. **Therma-bridge Plus** in horizontal application.

No Waste:

If required, lengths of **Therma-bridge Plus** can be joined, thus eliminating waste. The dpc should be overlapped by 100mm with the insulation being mitred, as shown in the adjacent diagram.

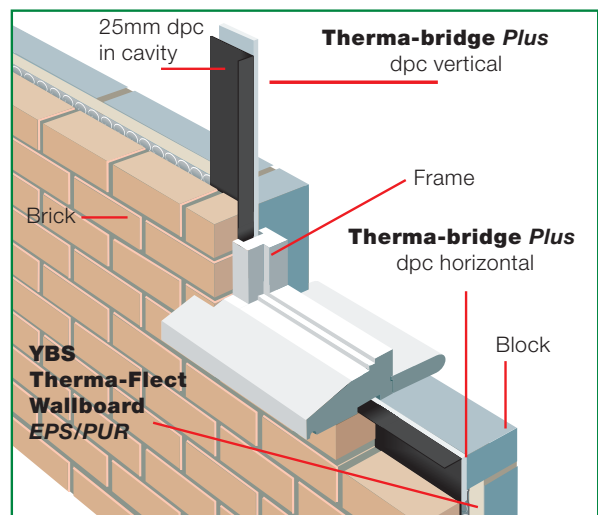
Vertical

- 100mm of the insulation should be cut/ trowelled off the dpc prior to the commencement of the installation.
- The exposed dpc should be lapped onto the horizontal dpc, the insulation cut edge being butted as tight as possible onto the top edge of the horizontally applied **Therma-bridge Plus**.
- **Therma-bridge Plus** should be built-in as the work progresses.
- Alternatively, **Therma-bridge Plus** can be tacked onto the side of the window frame, if the window is to be built-in.
- **Therma-bridge Plus** should be positioned with the dpc facing outwards.



Other non-standard dpc and insulation widths are also available on request. Please telephone our Office for details.

Tel: 01909 721 662



COMPREHENSIVE FIXING DETAILS ARE AVAILABLE UPON REQUEST

Technical Data

Therma-bridge Plus Sizes

**DPC Tolerance
no less than 2mm**

Performance Test Data of DPC

DPC to BS6515 (1984)
High Performance Polyethylene

Total System Width (mm)	Insulation Width (mm)	For Return Block (mm)	DPC Lengths (metres)
165	100	100	1.42, 2.50 or 5m lengths
225	150	140	1.42, 2.50 or 5m lengths
337	150	140/150	1.42, 2.50 or 5m lengths
450	150	140/150	1.42, 2.50 or 5m lengths

Performance Test Data of Insulation

ESP70 (Expanded Polystyrene) to BS EN 13163.

'r' value of product is **0.474 m²K/W**.
(at 18mm thickness)

'k' value of Expanded Polystyrene is **0.038 W/mK**.

Calculation method for assessing Thermal Bridging at the edges of openings

Example

The adjacent diagram shows a window jamb in a masonry cavity wall, with **Therma-Bridge Plus** closing the cavity.

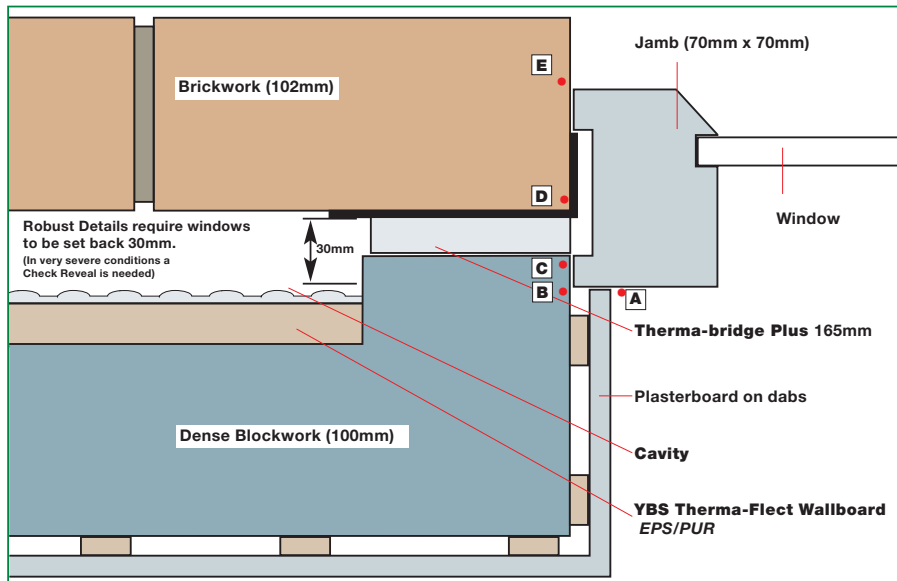
Robust details require a cavity closer with a minimum Thermal Resistance path of 0.45m²K/W.

Calculation of Thermal Resistance Path ('R' value)

This table shows the thermal resistance for each segment of the path ABCDE. The thermal resistance for each segment is obtained by dividing the length of the path segment in metres by its thermal conductivity in W/mK

Path Segments	Length (m)	Conductivity (W/mK)	Resistance (m ² K/W)
A-B	0.0275	0.12	0.23
B-C	0.015	1.13	0.013
C-D	0.018	0.038	0.474
D-E	0.04	0.770	0.052

Thermal Resistance Path ('R' value) = 0.769m²K/W



Jamb reveal detail. **Therma-bridge Plus** in vertical application.

Features

- Insulated dpc: eliminates risk of cold bridging.
- Flexible but robust: easy to use on site, can be cut to size.
- Various standard widths: easy to build into brick/block work.
- CFC/HCFC Free: caring for the environment.
- 8mm insulation, giving the product an 'r' value of 0.474m² K/W.
- Supplied in lengths, simple, quick and economical.

Recommendations

All work should be carried out in accordance to BS5628:Part 3:1985.

Use of masonry, materials and components, design and workmanship. BS8215:1991. Design and installation of damp-proof courses in masonry construction, and the relevant clauses in the Building Regulations.

Technical References

Building Regulations 2000 Approved Document L1 + L2.
BRE publication "Thermal Insulation: Avoiding the risks".
TSO Publication: Limiting Thermal Bridging and Air Leakage : Robust Construction Details for Dwellings and Similar Buildings
BRE Scotland: Conventions for U Value Calculations

For technical advice and support please call:

tel: 01909-721662

or fax:01909-721442

APPLICATION DETAILS

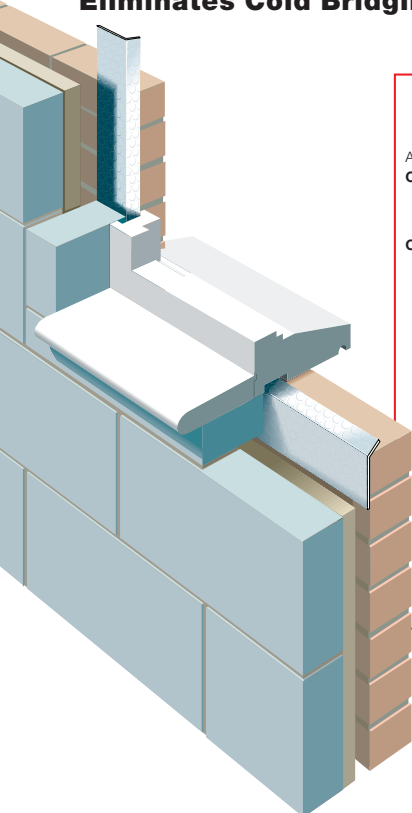
Airtec

INSULATING DPC

Eliminates Cold Bridging in Cavity Wall Openings

Airtec is a multi-layer air bubble film insulation with aluminium foil bonded to one side and is coated with polythene to give durability and corrosion resistance. **Airtec** is an effective insulation material which acts by trapping air within its structure. **Airtec** is fully water proof and will perform as an insulating DPC for the normal life of the building.

Please note:
Airtec INSULATING DPC CAN BE MADE WITH FIRE RETARDANT BUBBLE.



Airtec 200mm and 225mm

FOR USE WITH THERMAL BLOCKS ONLY

Airtec is designed to be built in as the work progresses.

Option 1 Position the required length at the sill/jamb reveal and build the return blockwork towards the outer leaf, this will secure Airtec by compression between the construction.

Option 2 Staple or tack Airtec to the jamb/sill of the window/ door frame if the window is to be built in. Allowing for at least 40mm lap of Airtec to be positioned between the window/door jamb and the outer leaf (See Fig. 1).

Fig. 1

Airtec 300mm and 400mm

FOR USE WITH ALL HIGH DENSITY BLOCKS

Fixing as Airtec 200/225 except a double layer of Airtec is required to achieve the minimum insulation requirements of Medium Density/dense blockwork.

Cut the required length of Airtec and fold lengthways then secure with Airtec 50mm foil tape (ensuring that the foil faces outwards) allowing for a 40mm single lap to protrude into the reveal to be positioned between the window/door jamb and the outer leaf (See Fig. 2).

Fig. 2

Important

- 1) Ensure the window or door frame is set back into the cavity by at least 0mm.
- 2) Ensure that a minimum of 25mm of Airtec protrudes into the cavity after the blockwork has been returned. This will reduce the risk of water migration from the outer leaf.

NB: If reveals are to be plastered; please contact **YBS** Technical Department.

Calculation of Thermal Resistance Path:

Table 1 & 2 gives the resistance 'R' for each segment of the path ABCDE. 'R' for each segment is obtained by dividing the length of the path segments in metres by its thermal conductivity.

Path Segment	Length (Metres)	Conductivity (W/mK)	Resistance (m ² /K/W)
A - B	0.0275	0.117	0.236
B - C	0.025	0.11	0.227
C - D	0.004	0.006	0.125
D - E	0.070	0.770	0.091
Thermal Resistance Path ('R' Value) 0.697m²K/W			

Table 1

Path Segment	Length (Metres)	Conductivity (W/mK)	Resistance (m ² /K/W)
A - B	0.0275	0.117	0.236
B - C	0.025	1.100	0.023
C - D	0.008	0.032	0.250
D - E	0.070	0.770	0.091
Thermal Resistance Path ('R' Value) 0.6m²K/W			

Table 2

'R' min is the sum of the thermal resistance for each path in segment. The minimum thermal resistance shown in tables 1 & 2 is greater than 0.45m²K/W therefore the additional heat loss can be ignored.

Technical References

Building Regulations 2000 Approved Document L1 + L2.

BRE publication "Thermal Insulation: Avoiding risk".

TSO Publication: Limiting Thermal Bridging and Air Leakage : Robust Construction Details for Dwellings and Similar Buildings

BRE Scotland: Conventions for U Value Calculations



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