

Designated by Government  
to issue  
European Technical  
Approvals

**DAMCOR**

Couche isolante pour embrasures  
Offnungsdampschichte

**Product**




- THIS CERTIFICATE RELATES TO DAMCOR, AN INSULATED DAMP-PROOF COURSE FOR USE IN CONJUNCTION WITH A RETURN BLOCK DETAIL, WHERE A CAVITY IS CLOSED AROUND WINDOW AND DOOR OPENINGS.

- The product is for use with timber, PVC-U or metal window or door frames and masonry cavity walls. It is available in a range of sizes to suit different return block header widths.

- It is essential that the product is installed in accordance with the conditions set out in the Design Data and Installation parts of this Certificate.

**Regulations**

**1 The Building Regulations 2000 (as amended) (England and Wales)**

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of damp-proof courses with the Building Regulations. In the opinion of the BBA, Damcor, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: C4  
Comment:

Resistance to weather and ground moisture

By preventing the passage of moisture to the inner leaf of a cavity wall, the product can contribute to meeting this Requirement. See sections 9.1 to 9.3 of this Certificate.

Requirement: L1  
Requirement: L2  
Comment:

Dwellings

Buildings other than dwellings

The product can meet these Requirements. See section 11.1 of this Certificate.

Requirement: Regulation 7  
Comment:

Materials and workmanship

The product is acceptable. See section 13 of this Certificate.

In addition to the contribution which the products can make to meeting the relevant requirements, the following comments should be noted.

Requirement: B3(1)  
Comment:

Internal fire spread (structure)

The product is acceptable. See section 10 of this Certificate.

## 2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, Damcor, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product can contribute to a construction meeting this Standard. See the <i>Installation</i> part of this Certificate.
Standard:	B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is acceptable. See section 13 of this Certificate.
Regulation:	12	Structural fire precautions
Standards:	D2.1 and D2.2	Structural protection — Principles
Standards:	D6.1 and D6.2	Concealed spaces — Principles
Comment:		In conjunction with a cavity barrier, the product can satisfy these Standards. The product does not constitute a cavity barrier. See section 10 of this Certificate.
Regulation:	17	Resistance to moisture
Standard:	G3.1	Resistance to precipitation — Resistance to precipitation
Comment:		The product can contribute to meeting the requirements of this Standard. See sections 9.1 to 9.3 of this Certificate.
Regulation:	18	Resistance to condensation
Standard:	G4.1	Condensation — Interstitial condensation
Comment:		The product can contribute to satisfying this Standard. See section 11.2 of this Certificate.
Standard:	G4.2	Condensation — Surface condensation
Comment:		The product can satisfy this Standard. See section 11.1 of this Certificate.
Regulation:	22	Conservation of fuel and power
Standard:	J4.1	Buildings in purpose group 1 — Limiting thermal bridging at junctions and around openings
Standard:	J9.1	Buildings in purpose groups 2 to 7 — Limiting thermal bridging at junctions and around openings
Comment:		Walls incorporating the product can satisfy these Standards. See section 11.1 of this Certificate.

## 3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Damcor, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 13 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		The product can contribute to satisfying the requirements of this Regulation. See sections 9.1 to 9.3 of this Certificate.
Regulation:	C5	Condensation
Comment:		The product can contribute to satisfying the requirements of this Regulation. See section 11.2 of this Certificate.
Regulation:	E4	Internal fire spread — Structure
Comment:		The product is acceptable. See section 10 of this Certificate.
Regulation:	F2	Building fabric
Comment:		The product will contribute to meeting the requirements of this Regulation. See section 11.1 of this Certificate.

## 4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See section: 6 *Delivery to site and storage* (6.3).

# Technical Specification

## 5 Description

5.1 Damcor consists of 18 mm thick expanded polystyrene bonded to a 0.5 mm thick polyethylene strip. The polystyrene strip will achieve an 'E' rating as defined in BS EN 13163 : 2001. The polyethylene either complies with BS 6515 : 1994 or is the subject of a valid Agrément Certificate.

5.2 The polyethylene strip overlaps the expanded polystyrene at both edges to allow for the extension of the damp-proof course into the window or door and cavity.

5.3 There are two standard sizes of the product as shown in Table 1. Other sizes are also available to order.

5.4 The expanded polystyrene is bought in to an agreed specification from suppliers approved by the BBA.

5.5 Quality control checks are carried out during manufacture and on the final product.

Table 1 Product dimensions

Return block header (mm)	Polyethylene width (mm)	Expanded polystyrene width (mm)
100	165	100
140	225	150

## 6 Delivery to site and storage

6.1 Damcor is supplied in 6 m long rolls. Each roll is packed in polythene bags complete with a label bearing the name of the manufacturer and the BBA identification mark incorporating the number of this Certificate, and a separate sheet of installation instructions.

6.2 Packs of 165 mm wide strip contain eight rolls and packs of 225 mm wide strip contain six.

6.3 The packs should be stored under cover, away from direct sunlight. Care should be taken to avoid organic solvents, or any material containing volatile organic components, such as coal tar, pitch and creosote.

## Design Data

### 7 General

7.1 Damcor is satisfactory for use with timber, PVC-U or metal window and door frames, to provide an insulated damp-proof course at areas where a cavity wall is closed with a return block detail (see Figures 1, 2 and 3).

Figure 1 Typical flush jamb detail

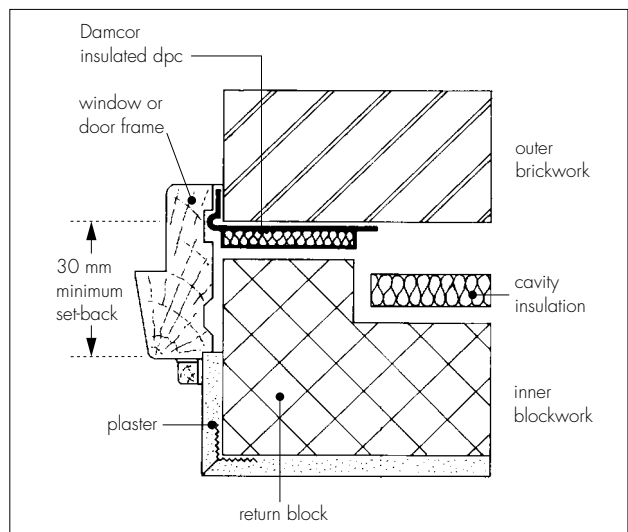


Figure 2 Typical check reveal detail

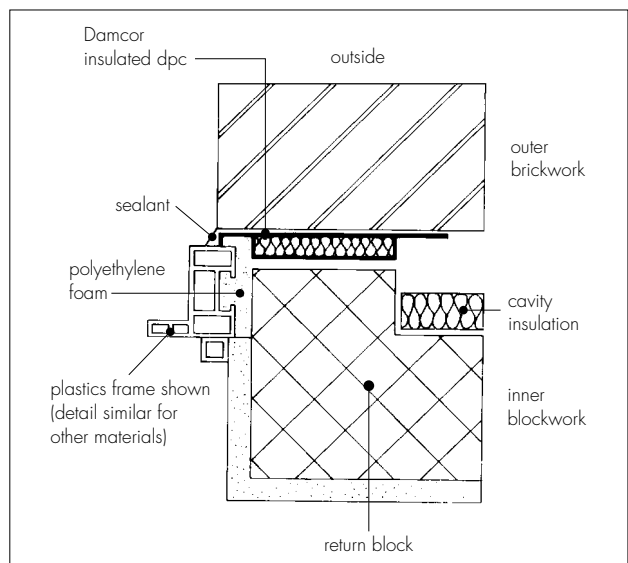
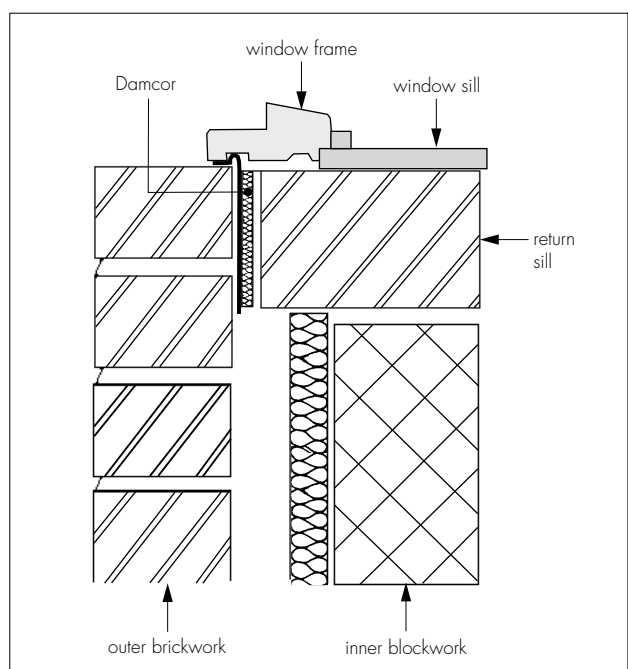


Figure 3 Typical sill detail



## 8 Behaviour under load

8.1 The product is not for use in situations where a load is to be carried.

8.2 The work should be detailed to ensure the expanded polystyrene does not carry loads.

## 9 Weather resistance



9.1 The product forms an effective damp-proof course at the jambs and sill of the opening.

9.2 The frame to wall gap should not exceed 12.5 mm with the standard products, to ensure effective damp-resistant contact can be made with the frame or frame rebate.

9.3 The product can be used with a checked reveal detail (see Figure 2). This feature will provide enhanced resistance to water penetration and is conventional practice in Scotland and Northern Ireland. The use of the product in these situations may require the use of non-standard sizes and should be discussed with the Certificate holder.

## 10 Properties in relation to fire



The product does not constitute a cavity barrier against the penetration of smoke and flame in the context of the Building Regulations. This does not prevent its use in England and Wales or Northern Ireland, where cavity barriers are not required around openings. In Scotland, however, the product is only suitable for use in conjunction with a cavity barrier meeting the performance requirements defined in Technical Standard (D1.3), Table 1.

## 11 Hygrothermal behaviour



11.1 Thermal bridging and the risk of local surface condensation around openings will be acceptable, and meet the following requirements, where the window/door frame is set back 30 mm or more into the wall cavity, fully overlapping the insulated dpc, and the junctions between the wall and the front and back of the window/door frame incorporate an effective sealant:

### **England and Wales**

Approved Document L1, Paragraphs 1.30 and 1.31  
Approved Document L2, Paragraphs 1.9 and 1.10

### **Scotland**

Technical Standards J4.1 and J9.1

### **Northern Ireland**

Technical Booklet F, Paragraphs 1.33 and 1.34.



11.2 Under normal domestic conditions the level of interstitial condensation associated with the product will be low and the risk of any resultant damage minimal.

## 12 Compatibility with other materials

The product is compatible with all materials likely to be in contact in normal constructions.

## 13 Durability



The product is constructed from materials known to be durable and will not suffer significant degradation when protected within the cavity. The product will remain effective for the normal expected life of the building.

## Installation

## 14 General

14.1 Installation of Damcor must follow normal good practice for the detailing of damp-proof courses, as set out in BS 8000-3 : 1989, BS 8000-4 : 1989, BS 8215 : 1991, BRE Digest 380 *Damp-proof courses*, and the Certificate holder's instructions.

14.2 To comply with thermal requirements the inner surface of the window/door frame should be set back at least 30 mm behind the outer leaf (see Figure 1).

14.3 Installation can be carried out by craftsmen using traditional methods. Lengths can be easily cut to size on site using normal hand tools.

14.4 The product is sufficiently robust and flexible to allow manipulation and positioning within the cavity. However, care must be taken during site handling and cavity cleaning to avoid damaging the polystyrene insulation and composite bond. If any significant damage occurs, the material should be replaced.

14.5 The width of the insulation must be sufficient to cover the return block header to avoid any risk of condensation through cold bridging.

14.6 Side projections of the dpc must project beyond the return block header into the cavity, and must not be bridged by mortar. The dpc projection into the opening must locate within the frame.

14.7 The cavity wall construction is built using conventional good practice and return headers installed as appropriate at openings for windows and door frames.

14.8 The product must be incorporated during the building of the wall to ensure that a good seal is formed between the inner and outer leaf and the cavity properly closed.

14.9 Sealant should be applied at the front and back of frame and sill (see section 11.1 of this Certificate). Details of sealant applications are given in section 4.2 of BRE Report BR 262 : 2002 *Thermal insulation : avoiding risks*.

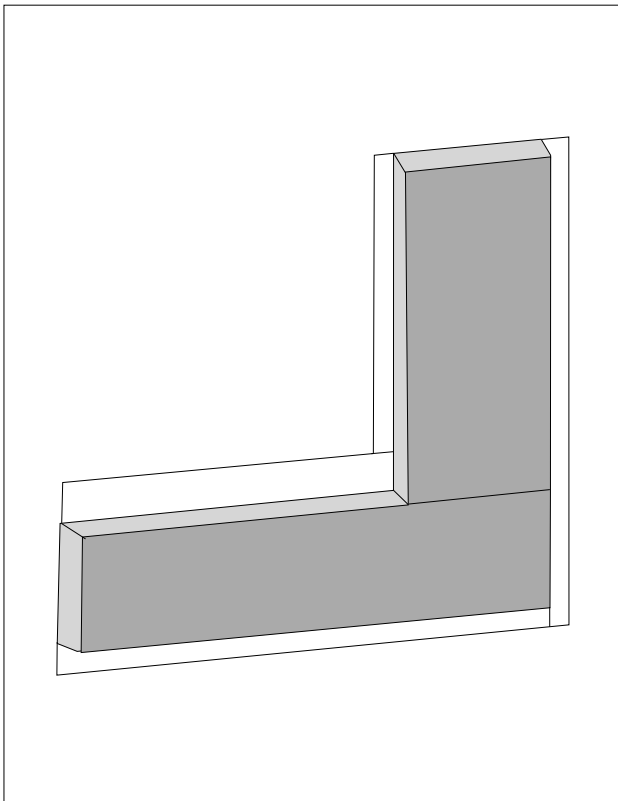
## 15 Procedure

15.1 The wall is built to sill height. If the product is to be used at the sill, the return sill and return block headers may be fitted loose at this stage, to be mortared in place and to the insulation of the product when Damcor is introduced into the wall.

15.2 Jamb and sill sections of the product are cut slightly overlength to give an overlapping corner detail as shown in Figure 4. Insulation is cut from the bottom of the jamb section and the top overlapping dpc is removed from the sill section at the jamb position such that the sill section fits below the insulation of the jamb section but over the jamb dpc.

15.3 Jamb and sill section are fitted into the masonry, making sure of a good tight fit at the corners. The dpc is positioned against the outer leaf and the arrow printed on the insulation indicates which margin of the dpc should be projecting into the window/door opening.

Figure 4 Corner overlap



15.4 Brick and blockwork are built up at the jamb ensuring that the Damcor remains vertical, the insulation flush with the inner leaf, and that a complete seal is made between inner and outer leaf.

15.5 Excess product is cut off at the window/door head.

15.6 The product may be held in place during installation either by nailing to the window/door frame using galvanized felt nails, or by applying a sand/cement joint up to the polystyrene insulation.

15.7 Where a return sill is not used, a suitable insulated cavity closer may be used at the sill position. This should butt up against the Damcor jamb sections, which should project a minimum 100 mm below the sill closer. Where the product is used only as a vertical dpc it may be fed directly from the roll as the wall is built.

15.8 Appropriate insulated lintels and ancillary damp-proof protection are incorporated at the head and window/door frames fixed into place. Where the product has not been pre-fixed to the window/door frame (see section 15.6), the polyethylene dpc projecting into the opening is folded round and trapped between window/door frame and outer leaf (see Figures 1, 2 and 3).

15.9 A durable weatherproof sealant, such as a low-modulus silicone, is applied over a back-up strip between the frame and outer leaf (see also section 14.8).

15.10 Either wet plaster or a dry lining on plaster dabs is applied to the internal reveal.

## Technical Investigations

The following is a summary of the technical investigations carried out on Damcor.

### 16 Tests

16.1 Tests were carried out to determine the peel strength of the composite bond.

16.2 Independent test data were examined and assessed relating to the following properties of the expanded polystyrene:

- fire performance
- thermal conductivity
- density
- flexibility.

### 17 Investigations

17.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

17.2 A re-examination was made of the data and investigations carried out on the polyethylene dpc material as part of the assessment leading to the issue of a previous Certificate.

17.3 An assessment was made of the fire resistance and structural stability of walls incorporating the product.

17.4 An assessment was made of the hygrothermal properties of constructions incorporating the product. In making this assessment, reference was made, as appropriate, to the 'Robust construction details'<sup>(1)</sup>, BRE Report BR 262 : 2002 *Thermal insulation : avoiding risks*

and BRE Information Paper IP 12/24 *Assessing condensation risk and heat loss at thermal bridges around openings*.

(1) *Limiting thermal bridging and air leakage : Robust construction details for dwellings and similar buildings*, TSO 2002.

17.5 An assessment was made of the durability of the product's materials.

17.6 A user survey was carried out to establish the performance of the product in service.

17.7 A site visit was made to assess the practicability of installation.

## Bibliography

BS 6515 : 1994 *Specification for polyethylene damp-proof courses for masonry*

BS 8000-3 : 1989 *Workmanship on building sites — Code of practice for masonry*

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*

BS EN 13163 : 2001 *Thermal insulation products for buildings — Factory made products of expanded polystyrene (EPS) — Specification*

## Conditions of Certification

### 18 Conditions

18.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) is valid only within the UK;
- (d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (e) is copyright of the BBA;
- (f) is subject to English law.

18.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabrication including all related and relevant processes thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and

(c) are reviewed by the BBA as and when it considers appropriate.

18.4 In granting this Certificate, the BBA is not responsible for:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature or standard of individual installations of the product or any maintenance thereto, including methods and workmanship.

18.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product..



In the opinion of the British Board of Agrément, Damcor is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 93/2925 is accordingly awarded to TDI (UK) Ltd.

On behalf of the British Board of Agrément

Date of Fourth issue: 5th December 2003

A handwritten signature in black ink, appearing to read 'P. C. Newson', is written over a light grey background.

Chief Executive

*\*Original Certificate issued 12th July 1993. This amended version includes reference to revised national Building Regulations, Standards, new CDM Regulation statement, revised Hygrothermal behaviour and Behaviour in relation to fire statements and new Conditions of Certification.*

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For technical or additional information,  
contact the Certificate holder (see  
front page).

For information about the Agrément  
Certificate, including validity and  
scope, tel: Hotline 01923 665400,  
or check the BBA website.