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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
96/3226
Product Sheet 1

MANTHORPE CAVITY CLOSERS

MANTHORPE THERMAL CAVITY CLOSER

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the Manthorpe Thermal Cavity Closer, for use as a cavity closer and to form an opening in masonry cavity walls.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Hygrothermal behaviour — the product can be used in Accredited Construction Details (version 1.0) for jambs and sills which require a path of minimum thermal resistance through the closer of 0.45 $Wm^{-2}K^{-1}$. The product can also be used with a 21 mm window/door frame set back in some constructions (see section 5).

Weather resistance — the product is effective as a damp-proof barrier and when used in a suitable wall construction will resist the passage of water into the interior of the building in flush and check reveal installations (see section 6).

Structural stability — in terms of wind loading resistance, the product can be used in all areas of the UK. The product must not be used to support loads from the masonry (see section 7).

Behaviour in relation to fire — the installed product will not contribute significantly to the growth of a fire. The product does not constitute a cavity barrier (see section 8).

Durability — the product, protected within the cavity, will last the normal expected life of a building (see section 10).

The BBA has awarded this Agrément Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Second issue: 8 January 2009
Originally certificated on 27 March 1996

Chris Hunt
Head of Approvals — Physics

Greg Cooper
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, the Manthorpe Thermal Cavity Closer, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:

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

Requirement:	C2(b)	Resistance to moisture
Comment:		The product prevents the passage of moisture from the outer leaf to the inner leaf of a cavity wall at window or door openings. See sections 6.1 to 6.3 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to minimising the risk of condensation. See sections 5.2 and 5.3 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to minimising heat loss at jambs and sills. See sections 5.1 to 5.3 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 10 and the *Installation* part of this Certificate.

In addition to the contribution which the product can make to meet the relevant Requirements, the following comments should be noted:

Requirement:	A1	Loading
Comment:		When used in conventional masonry cavity walls, the product will not adversely affect the structural stability of the walls. Use of the product does not obviate the need for conventional wall ties between the inner and outer leaves at window and door openings. See sections 7.1 and 7.2 of this Certificate.
Requirement:	B3(4)	Internal fire spread (structure)
Comment:		The product can be used in constructions that meet this Requirement. See sections 8.1 to 8.3 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See sections 9 and 10 and the *Installation* part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	3.10	Precipitation
Comment:		Walls incorporating the product can satisfy this Standard, with reference to clauses 3.10.1[1][2] and 3.10.3[1][2]. See sections 6.1 to 6.3 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to minimising the risk of condensation, with reference to clauses 3.15.1[1], 3.15.4[1] and 3.15.5[1]. See sections 5.2 and 5.3 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to minimising heat loss at jambs and sills, with reference to clauses 6.2.3[1], 6.2.4[1] and 6.2.5[2]. See section 5.1 of this Certificate.

In addition to the contribution which the product can make to meet the relevant Standards, the following comments should be noted:

Regulation:	9	Building standards — construction
Standard:	1.1(a)(b)	Structure
Comment:		When used in conventional masonry cavity walls the product will not obviate the need for conventional wall ties between the inner and outer leaves at window and door openings, with reference to clause 1.1.1[1][2]. See sections 7.1 and 7.2 of this Certificate.
Standard:	2.4	Cavities
Comment:		In conjunction with a cavity barrier, the product can satisfy this Standard, with reference to clause 2.4.1[1][2] and Annex 2.B[1] or 2.D[2]. The product does not constitute a cavity barrier. See sections 8.1 to 8.3 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for this product under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1[1][2] and Schedule 6[1][2].

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 10 and the *Installation* part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product is acceptable. See section 9 of this Certificate.

Regulation:	C4(b)	Resistance to ground moisture and weather
Comment:		Walls incorporating the product can contribute to meeting this Regulation. The product can be used where check reveals are required. See sections 6.1 to 6.3 of this Certificate.
Regulation:	C5	Condensation
Comment:		The product can contribute to minimising the risk of condensation. See section 5.3 of this Certificate.
Regulation:	F2(a)(i)	Conservation measures
Regulation:	F3	Target carbon dioxide Emissions Rate
Comment:		The product contributes to minimising heat loss at jambs and sills. See section 5.1 of this Certificate.

In addition to the contribution which the product can make to meet the relevant Regulations, the following comments should be noted:

Regulation:	D1	Stability
Comment:		When used in conventional masonry cavity walls, the product will not obviate the need for conventional wall ties between the inner and outer leaves at around window and door openings. See sections 7.1 and 7.2 of this Certificate.
Regulation:	E4(4)	Internal fire spread — Structure
Comment:		The product does not constitute a cavity barrier. See sections 8.1 to 8.3 of this Certificate.

Construction (Design and Management) Regulations 2007
Construction (Design and Management) Regulations (Northern Ireland) 2007

In the opinion of the BBA, the use of the Manthorpe Thermal Cavity Closer, in relation to this Certificate, is not subject to the requirements of these Standards.

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of the Manthorpe Thermal Cavity Closer, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, the Manthorpe Thermal Cavity Closer, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure*, Sub-section *External Walls — Masonry — Thermal insulation*.

General

This Certificate relates to the Manthorpe Thermal Cavity Closer, for use in masonry walls with cavity widths from 50 mm to 150 mm.

The product closes the cavity at window and door openings without forming a thermal bridge, provides a damp-proof barrier between inner and outer wall leaves at the point of closure and can be used to establish the cavity width and to form an opening. It can be used in check reveal installations.

The product is suitable for use with timber, PVC-U, aluminium or steel window and door frames.

The product is non-loadbearing and window and door frames must be fixed independently to the masonry. Proprietary frame fixings, which may be recommended by the manufacturer, are outside the scope of this Certificate.

It is important that the designers, planners, contractors and/or installers ensure that the product is installed and used in accordance with the Certificate holder's instructions and the information given in this Certificate.

Technical Specification

1 Description

1.1 The Manthorpe Thermal Cavity Closer is available in the following range:

Rigid

- G240 double extrusion — double flange
- G241 single extrusion — single flange
- G241M single extrusion — single flange, multi-width
- G242 double extrusion — single flange
- G247 single extrusion — double flange
- G247M single extrusion — double flange

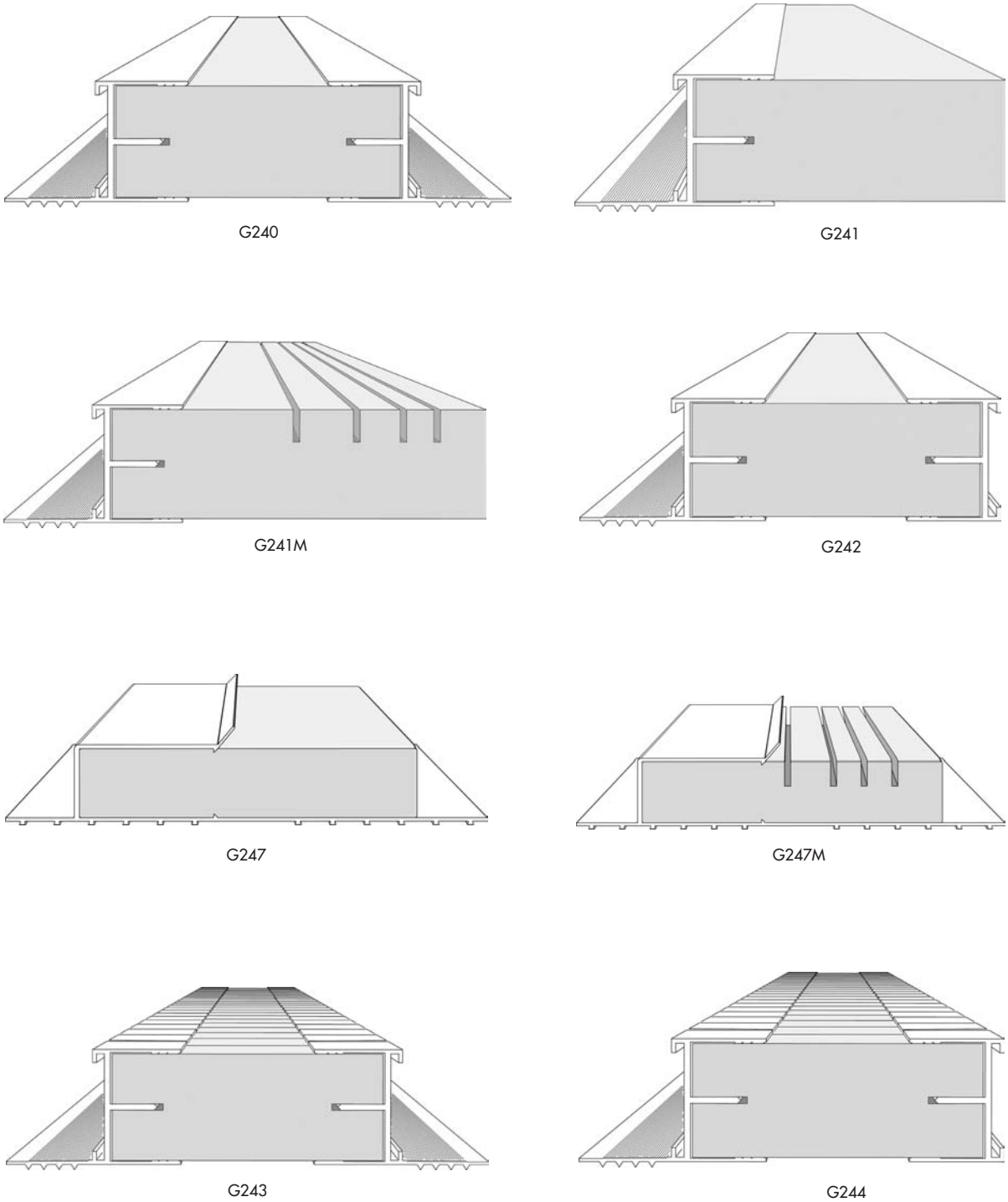
Flexible

- G243 double extrusion — double flange
- G244 double extrusion — single flange.

1.2 Each one comprises a core of grooved extruded, polystyrene insulation[1] (27 mm thick for rigid, 24 mm thick for flexible) with extruded PVC-U sections push-fitted either one or both sides (see Figure 1). The PVC-U sections incorporate fixing channels and those with ribbed flanges include fixing holes in the flanges.

(1) Including fire-retardant additive.

Figure 1 Closer profile

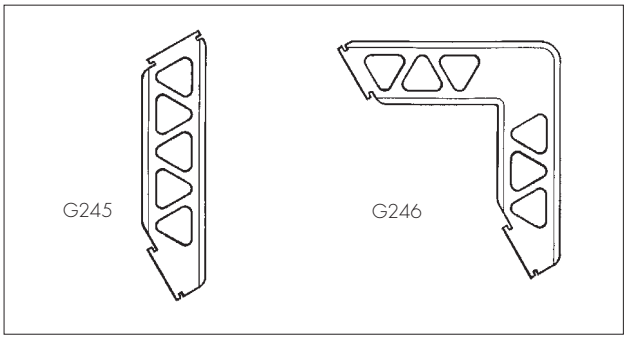


1.3 Profiles G240, G242M and G243 are available in 2.5 m lengths and five main widths, 50 mm, 65 mm, 75 mm, 90 mm, 100 mm and 150 mm, dependent on the width of the polystyrene insulation block. Intermediate sizes between 50 mm and 150 mm are available to order. Profiles G241 and G241M are available in 2.44 m lengths. Profile G241 is available in widths of 50 mm, 65 mm, 75 mm, 90 mm, 100 mm and 150 mm. Profile G241M multi-width has a polystyrene insulation block 100 mm wide that is pre-notched at 50 mm, 65 mm, 75 mm and 85 mm intervals for cutting to size on site. Profiles G247 and G247M are available in 2.44 m lengths, G247 is available in 50 mm, 65 mm, 75 mm, 90 mm, 100 mm and G247M multi-width has a polystyrene insulation block 100 mm wide that is pre-notched at 50 mm, 65 mm, 75 mm and 85 mm intervals for cutting to size on site.

1.4 The flexible types (G243 and G244) are used for forming closers in circular and arched openings (diameter greater than 500 mm) and are manufactured from the rigid types (G240 and G242 respectively) by cutting 3 mm wide grooves across the PVC-U sections at 25 mm centres. Rubber bands at 500 mm centres are used to hold the profile together prior to installation.

1.5 Injection-moulded polypropylene clips (straight — G245, right-angled — G246) are available for fixing and for jointing profiles (see Figure 2).

Figure 2 Clips



1.6 Quality control includes visual and dimensional checks during manufacture and assembly.

2 Delivery and site handling

2.1 The closer profiles are delivered to site in polythene sleeves, each bearing a product identification label and containing six lengths of profile, and a copy of the installation instructions. Clips are supplied separately in bags of 100 (G245) and 50 (G246).

2.2 The profiles should be stored flat, away from direct sunlight and excessive heat and supported along their length to prevent distortion.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Manthorpe Thermal Cavity Closer.

Design Considerations

3 Use

3.1 The Manthorpe Thermal Cavity Closer is suitable for use in masonry walls with nominal cavity widths in the range of 50 mm to 150 mm and with window and door frames made from timber, PVC-U, aluminium or steel.

3.2 The product can be used as a template, to form an opening around which a wall can be constructed.

3.3 The product provides a damp-proof barrier, acts as a cavity closer without forming a thermal bridge, and avoids the need for cutting bricks and blocks. It can also be used to form a check reveal where required.

3.4 Masonry walls into which cavity closers are incorporated must be constructed in accordance with one or more of the following technical specifications:

- BS 5628-1 : 2005 and BS 5628-3 : 2005
- the National Building Regulations:

England and Wales — Approved document A1/2, Section 1C

Scotland — Mandatory Standard 1.1[(1)(2)], *Small Buildings Guide*

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet D.

3.5 The PVC-U flange can provide an adequate key for traditional plaster finishes. However, in locations where the plaster may be subjected to repeated impact (eg at door reveals from door slamming) it is recommended that wet plaster be replaced by dry lining. Where the polystyrene insulation is exposed at the internal reveal an expanded metal mesh fixed across the closer to the blockwork is required for use with wet plaster.

3.6 Proprietary frame fixings, which may be recommended by the manufacturer, are not covered by this Certificate.

4 Practicability of installation

The product can be readily installed by following the instructions supplied.

5 Hygrothermal behaviour

5.1 The product can be used to limit heat loss and assign the default heat loss rate for jambs and sills in Table 3 of BRE Information Paper IP 1/06 *Assessing the effects of thermal bridging at junctions and around openings* in SAP and SBEM calculations where:

21 mm set-back

- the window/door frame is set-back not less than 21 mm into the wall cavity (25 mm air gap or less, see Figure 3) and the wall's:
  - — U value is <0.35 $Wm^{-2}K^{-1}$
  - — cavity insulation is full fill, or
  - — cavity insulation is partial fill and the cavity is not more than 150 mm wide.

30 mm set-back

- the path of minimum thermal resistance through the product is at least 0.45 m^2KW^{-1} when used in jambs and sills with the window/door frame set back 30 mm or more into the wall cavity (see Figures 3 and 6). The product can therefore be used in accordance with the *Accredited Construction Details* (version 1.0).

5.2 Jambs and sills incorporating the product in accordance with section 5.1 will adequately limit the risk of local surface condensation.

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

5.4 Door frames installed with proprietary fixings which cannot be set back into the wall cavity by 21 mm or 30 mm (see section 5.1) may require additional thermal insulation, for example dry lining, to minimise excessive heat loss and the risk of excessive surface condensation.

5.5 The junctions between the wall and the front and back of the window/door frame must be effectively sealed.

6 Weather resistance

6.1 The product is effective as a vertical damp-proof barrier at jambs of window and door openings in masonry constructions, where a brick/block closer and dpc detail would normally be used. The product is also effective as a horizontal damp-proof barrier at the sill or threshold.

6.2 Profiles G240 and G243 with PVC-U flanges extending over both leaves at a flush (in-line) wall opening are suitable for use in the 'sheltered' and 'moderate' exposure categories, as defined in Table 11 of BS 5628-3 : 2005 and depicted as exposure zones 1 and 2 in the map contained in Section 3.1 of BRE report (BR 262 : 2002) *Thermal insulation : avoiding risks*. These profiles may also be considered for use in other areas where a conventional return brick/block closer detail with dpc has been found to provide adequate resistance to the penetration of wind-driven rain.

6.3 Profiles, G241, G241M, G242, , G244 are suitable for use at a rebated opening (check reveal). In this construction, in which the frame is protected by a conventional dpc and positioned in a rebate behind the outer leaf at the jamb, the product is suitable for use in exposure categories up to and including 'very severe' as defined in Table 11 of BS 5628-3 : 2005 which covers all exposure zones in the United Kingdom.

7 Structural stability

7.1 The product is non-loadbearing and must not be used to support loads from the masonry. Lintels are required above window or door openings.

7.2 The product will not have an adverse effect on the structural stability of brickwork or blockwork walls, constructed in the conventional manner in accordance with normal good practice as defined in BS 5628-1 : 2005 and BS 5628-3 : 2005. Use of the product does not obviate the need for conventional wall ties around the openings.

7.3 Door and window frames should be fixed to the masonry by conventional means in addition to any fixings to the closer.

8 Properties in relation to fire

8.1 The installed product will not contribute significantly to the growth of a fire.

8.2 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 where generally cavity barriers are not required around openings in masonry wall construction. In Scotland and Northern Ireland, however, the product is only suitable for use in conjunction with a cavity barrier meeting the performance requirements defined in:

Scotland — Mandatory Standard 2.4, clause 2.4.1[1][2] and Annex 2.B[1] or 2.D[2]

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet E, Paragraph 3.37.

8.3 The use of the product does not preclude the need to provide suitable fire protection to steel lintels where this is necessary to satisfy the Building Regulations.

9 Maintenance

To ensure the maximum weathertightness, the silicone seal between window or door frames and masonry must be checked regularly and repairs or renewal carried out promptly.

10 Durability

The product is durable when installed in accordance with this Certificate and will not suffer significant degradation since it is protected within the cavity. The product will last the normal expected life of a building.

Installation

11 General

11.1 Installation of the Manthorpe Thermal Cavity Closer must be carried out in accordance with the manufacturer's installation instructions.

11.2 Typical installation details are shown in Figures 3 to 6 inclusive[1]. The windows in these Figures are shown for information only and do not form part of this assessment.

(1) For all situations shown in Figures 3 to 6, an additional cavity barrier is required in Scotland and Northern Ireland.

Figure 3 Sill detail

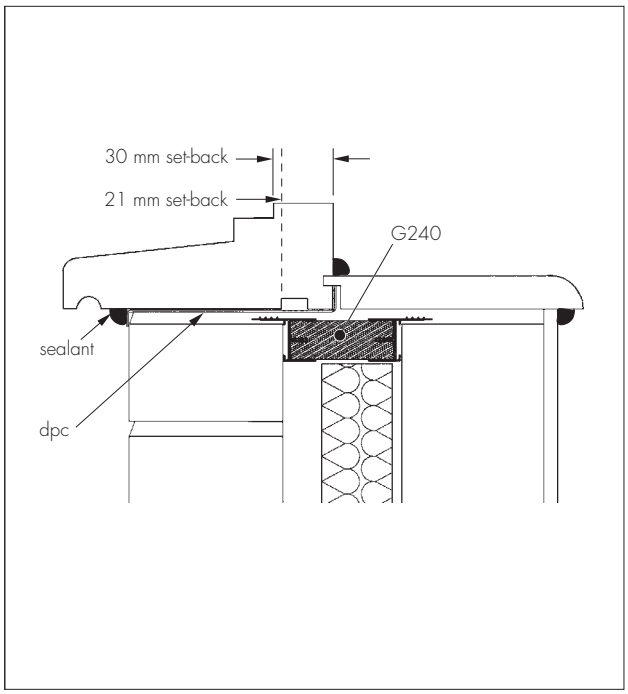


Figure 4 G240 closer built in prior to window

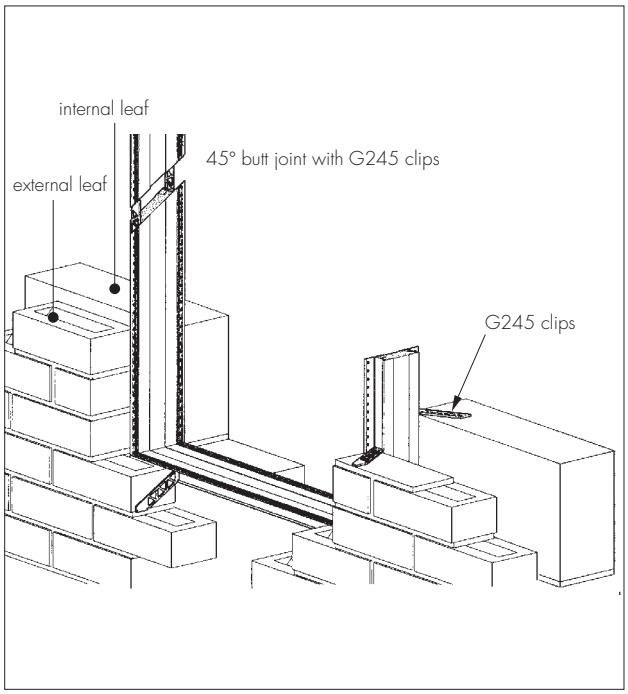


Figure 5 Use of G242 closer in check reveal

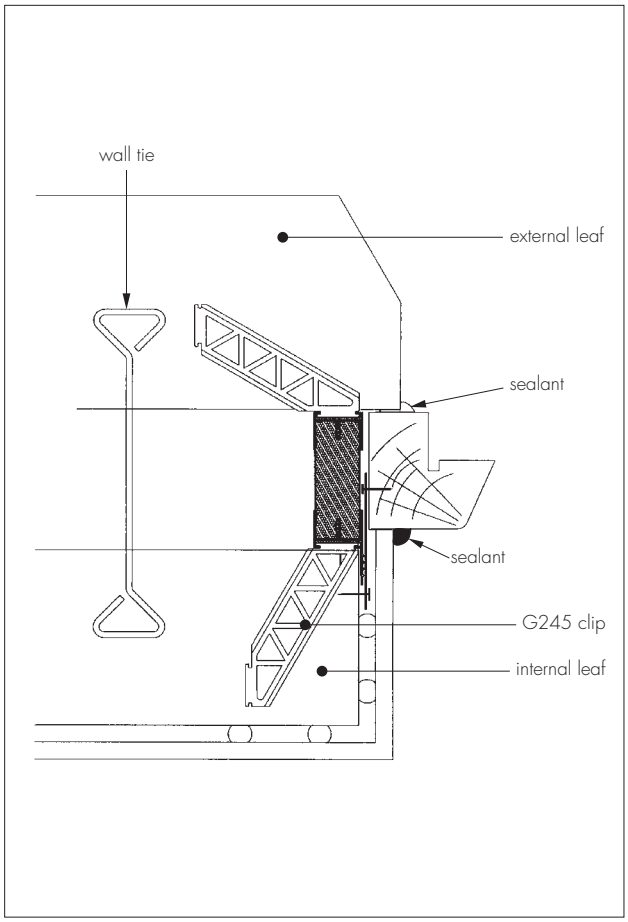
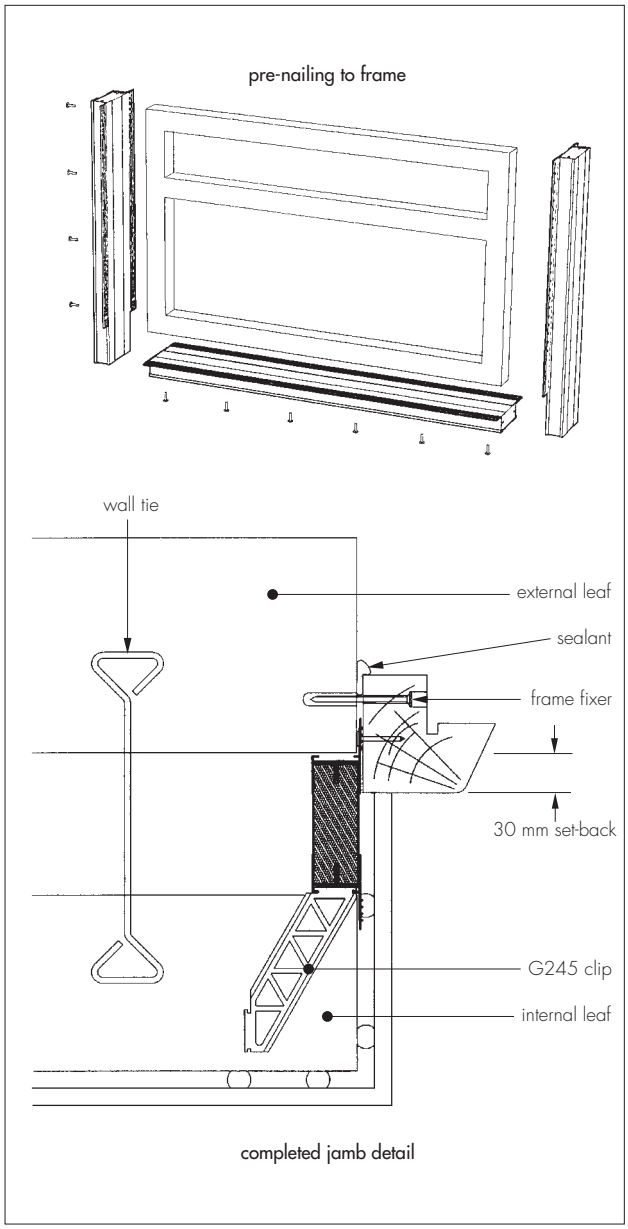


Figure 6 Use of G242 closer jamb detail



11.3 At the build-in stage, it must be ensured that the sub-frame remains plumb, level and square and with parallel sides.

11.4 When installed in conjunction with the cavity closer, the back edge of the window/door frames should be setback at least 21 mm behind the inner face of the outer leaf to meet thermal requirements (see section 5.1) whilst ensuring that the front edge of the frame remains over the outer leaf.

11.5 A cavity barrier may be required (see section 8.2).

12 Procedure

Individual closer lengths built in during wall construction and prior to installation of window or door

12.1 The wall is built to sill level and the product selected to suit the application and cavity width.

12.2 A length of closer is cut to suit the width of the window and inserted in the cavity at the sill (see Figure 3).

12.3 Two jamb sections of closer are cut to oversail the sill by 75 mm and the flanges are trimmed back by 75 mm so that the closer can sit in the cavity butted up against the sill section (see Figure 4). Props or a dummy frame may be used to keep the jamb sections in position at this stage.

12.4 The wall is built up at the jambs and the closer sections secured by clips (G245) located in the channel in the PVC-U section and resting in the mortar course (see Figure 4), and fixed through the flange holes into mortar courses. Clips should be used as necessary to hold the jamb sections in place prior to the installation of the window or door. A minimum of four clips per window jamb, two near the top (one into each leaf) and two near the bottom, are recommended by the manufacturer.

12.5 The G240, G243, G247, G247M and G243 profile is used where the brickwork and blockwork are in-line (see Figures 3, 4 and 6) and G241/G241M/G242/G244 where the brickwork is rebated to the blockwork (see Figure 5, check reveal).

12.6 Cut lengths may be butted against each other at the jambs provided that they are butted an angle of 45° sloping down to the outer leaf and there is no more than one join per jamb. The joint is secured and aligned by inserting a clip (G245) into the PVC-U section channel and sliding it across the joint (see Figure 4).

12.7 An insulated lintel and ancillary damp-proof protection is fitted at the head and the window/door fixed to the outer leaf by proprietary fixings ensuring that an effective sealant is applied

around the perimeter of a window/door internally prior to applying internal finishes and that the window is weather-proofed externally, using a suitable low modulus silicone sealant.

12.8 In locations where the plaster may be subject to repeated impact (eg door reveals from door slamming) it is recommended that wet plaster be replaced by dry lining.

Use of preformed closer frame

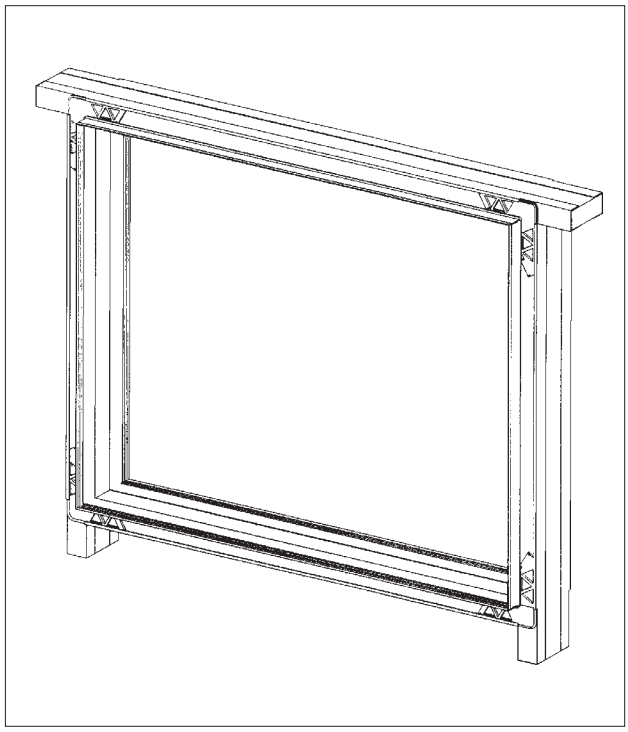
12.9 The closer profiles may be pre-assembled into a closer frame to be used as a former for an opening during the building of a wall.

12.10 Sill and jamb sections are cut as described in sections 12.2 and 12.3. For the construction of a frame, the channels, as well as flanges, need to be trimmed back by 75 mm at the base of the jamb sections.

12.11 To complete the frame a dummy head section is cut 150 mm oversize and flanges/grooves cut back by 75 mm at each end.

12.12 Eight right-angled clips (G246) are pushed into the channels at both sides of the ends of the head and sill sections, and the protruding legs of the clips pushed into the channels of the jamb section (see Figure 7).

Figure 7 Preformed closer frame



12.13 To increase the rigidity of larger frames, horizontal timber braces may be fixed through flange holes across jamb sections, to be removed as the wall is built.

12.14 When the wall approaches head level, the dummy head section and clips are removed, to be used again for another frame.

12.15 The wall is built around the frame as described in section 12.4 and the installation completed as detailed in sections 12.7 and 12.8.

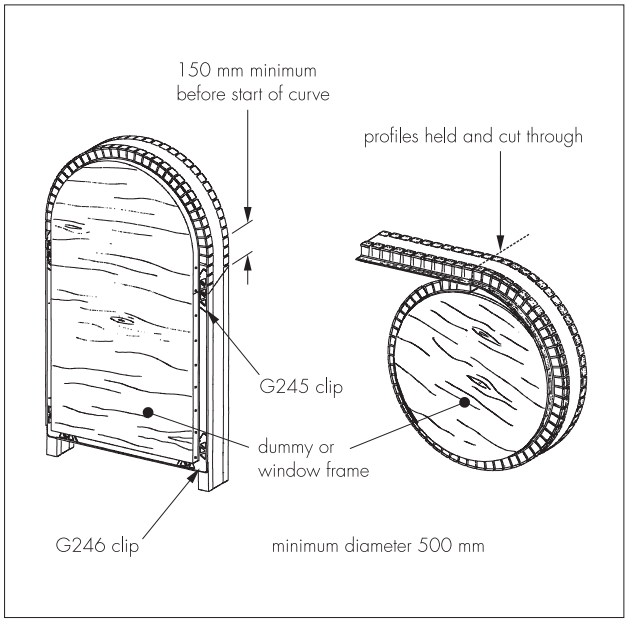
Closer built in with window or door

12.16 The closer sections are cut as described in sections 12.2 and 12.3 and the outer flange secured to the window/door frame through the fixing holes with galvanized clout nails (timber frame) or self-tapping screws (PVC-U or metal frame).

12.17 The frame with attached closer is sat on the sill with the sill closer in the cavity, the masonry built up around the jambs, and the installation completed as described in sections 12.7 and 12.8 (see Figure 6).

12.18 Profiles G243 and G244 for use around circular openings are fitted in a similar way. The profiles are shaped around and nailed to a frame (or dummy frame) before the overlapping ends are cut with a fine-toothed saw to give a close fitting butt-joint (see Figure 8). On the larger diameter windows profiles may be butt jointed with G245 clips used as described in section 12.6. The assembly is sat on the wall at the base of the window and the masonry built up around the frame following conventional practice for circular windows. Where a dummy frame has been used, retaining nails are removed as the wall is built, and the dummy frame just prior to the installation of the window. To complete the installation, the frame is fixed to the masonry using traditional or proprietary fixings, a weatherproof sealant incorporated between frame and outer leaf, and wet plaster applied at the internal reveal, taking note of the recommendations in section 12.4. It is recommended that circular profiles be used under a suitable cavity tray to shed water away from the closer, frame and inner leaf at this position.

Figure 8 Assembly of arched and circular closers



12.19 Profiles G243 and G244 may also be used to close archways, following the procedure outlined in section.

12.20 In this application the ends of the closer are cut at 45° and butt-jointed with G245 clips to rigid jamb sections as described in section 12.6 (see Figure 8).

Refurbishment

12.21 The product can also be used in refurbishment work. In this application any return brick closer must be removed and the cavity cleared at the opening. In Scotland and Northern Ireland, a suitable cavity barrier will be required in conjunction with the new closer (see section 8.2). The closer sections are cut as described in sections 12.2 and 12.3, inserted into the cavity and screwed to the masonry through the flange holes. The window is then installed and the installation completed as described in sections 12.7 and 12.8.

Technical Investigations

13 Tests

Tests were carried out on the Manthorpe Thermal Cavity Closer in accordance with MOAT No 8 : 1973, MOAT No 17 : 1990 and BS EN 12608 : 2003 on PVC-U extrusions to determine:

- shrinkage on heating
- resistance to cracking in acetone
- changes on heating.

14 Investigations

An assessment was made of:

- heat loss and condensation risk in accordance with the Accredited Construction Details (version 1.0) and the Accredited Construction Details (Scotland)
- weather resistance of the product when installed in accordance with the manufacturer's instructions
- the practicability of the installation
- fire resistance and structural stability of walls incorporating the cavity closer sub-frame
- durability of the components used in the construction of the product
- the manufacture and quality control of the extruded profiles.

Bibliography

BS 5628-1 : 2005 *Code of practice for the use of masonry — Structural use of unreinforced masonry*
BS 5628-3 : 2005 *Code of practice for the use of masonry — Materials and components, design and workmanship*

BS EN 12608 : 2003 *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors — Classification, requirements and test methods*

MOAT No 8 : 1973 *Directive for Rigid PVC Products Used Externally in Building*

MOAT No 17 : 1990 *UEAtc Technical Guide for the Agrément of windows in PVC-U*

15 Conditions

15.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

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

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

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

15.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does 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; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any 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 manufacture, supply, installation, use and maintenance of this product/system.

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