Manthorpe Building Products Limited

Manthorpe House Brittain Drive Codnor Gate Business Park Ripley Derbyshire DE5 3ND

Tel: 01773 303000 Fax: 01773 303300

e-mail: mbp.care@manthorpebp.co.uk

website: www.manthorpebuildingproducts.co.uk

POLYPIPE TDI INSULATING DAMP-PROOF COURSE/CAVITY BARRIER

STONECOR AND STONECOR 0.25

This Agrément Certificate Product Sheet⁽¹⁾ relates to Stonecor and Stonecor 0.25, insulating damp-proof courses and cavity barriers, for use in conjunction with a return block detail where a cavity is closed around window and door openings.

(1) Hereinafter referred to as 'Certificate'.

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 — Stonecor products installed in jambs and sills meet and exceed the minimum thermal resistance path of 0.45 m²·K·W⁻¹ as required by the Accredited Construction Details. Default ψ values (psi) in BRE Information Paper IP 1/06 may, therefore, be used for jamb and sill junctions in SAP or SBEM calculations. Stonecor 0.25 products installed in jambs can improve upon the default values by 25% (see section 6).

Water resistance — the products are 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 7).

Properties in relation to fire — the products can contribute to a construction satisfying the requirements of the national Building Regulations (see section 8).

Durability — the products, protected within the cavity, will continue to function for the normal expected life of the building in which they are installed (see section 11).

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 28 October 2019

	and	
J	hn Albon	

Chief Scientific Officer

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. Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément Bucknalls Lane Watford Herts WD25 9BA







Claire Curtis-Thomas Chief Executive

tel: 01923 665300 clientservices@bbacerts.co.uk www.bbacerts.co.uk

©2019 Page 1 of 12 BBBA APPROVAL INSPECTION TESTING TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate

19/5699

Product Sheet 1

Regulations

E Star

In the opinion of the BBA, Stonecor and Stonecor 0.25, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):

	The Bui	lding Regulations 2010 (England and Wales) (as amended)
Requirement: Comment:	B3(4)	Internal fire spread (structure) The products can contribute towards satisfying this Requirement. See section 8.1 of this Certificate.
Requirement: Comment:	C2(b)	Resistance to moisture The products have adequate resistance to the ingress of rain and wind-driven spray and so can contribute towards the wall satisfying this Requirement. See section 7 of this Certificate.
Requirement: Comment:	C2(c)	Resistance to moisture The products will not constitute a significant condensation risk and so can contribute towards the wall satisfying this Requirement. See sections 6.3 and 6.4 of this Certificate.
Requirement: Comment:	L1(a)(i)	Conservation of fuel and power The products can contribute to minimising heat loss at jambs and sills. See sections 6.1 and 6.2 of this Certificate.
Regulation: Regulation: Comment:	7 7(1)	Materials and workmanship (applicable to Wales only) Materials and workmanship (applicable to England only) The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation: Regulation: Regulation: Regulation: Comment:	26 26A 26A 26B	CO ₂ emission rates for new buildings Fabric energy efficiency rates for new dwellings (applicable to England only) Primary energy consumption rates for new buildings (applicable to Wales only) Fabric performance values for new dwellings (applicable to Wales only) The products can contribute to minimising heat loss at jambs and sills. See sections 6.1 and 6.2 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation: Comment:	8(1)(2)	Durability, workmanship and fitness of materials The products can contribute to a construction satisfying this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation: Standard: Comment:	9 2.4	Building standards applicable to construction Cavities The products can contribute towards satisfying this Standard, with reference to clause $2.4.1^{(1)(2)}$ and Annex $2.B^{(1)}$ or $2.D^{(2)}$. See section 8.1 of this Certificate.
Standard: Comment:	3.10	Precipitation The products have adequate resistance to the ingress of rain and wind-driven spray and so can contribute towards the wall satisfying this Standard, with reference to clauses $3.10.1^{(1)(2)}$ and $3.10.3^{(1)(2)}$. See section 7 of this Certificate.
Standard: Comment:	3.15	Condensation The products will not constitute a significant condensation risk and so can contribute towards the wall satisfying this Standard, with reference to clauses $3.15.1^{(1)(2)}$, $3.15.4^{(1)(2)}$ and $3.15.5^{(1)(2)}$. See sections 6.3 and 6.4 of this Certificate.

Standard: Standard: Comment:	6.1(b) 6.2	Carbon dioxide emissions Building insulation envelope The products can contribute to minimising heat loss at jambs and sills, with reference to clauses 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾⁽²⁾ and 6.2.5 ⁽²⁾ . See sections 6.1 and 6.2 of this Certificate.
Standard: Comment:	7.1(a)(b)	Statement of sustainability The products can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the products can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses $7.1.4^{(1)(2)}$ [Aspects $1^{(1)(2)}$ and $2^{(1)}$], $7.1.6^{(1)(2)}$ [Aspects $1^{(1)(2)}$]. See sections 6.1 and 6.2 of this Certificate.
Regulation: Comment:	12	 Building standards applicable to conversions Comments in relation to these products under Regulation 9, Standards 1 to 6, 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 Bui	Iding Regulations (Northern Ireland) 2012 (as amended)
Regulation:	23	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation: Comment:	28	Resistance to moisture and weather The products have adequate resistance to the ingress of rain and wind-driven spray and so can contribute towards the wall satisfying this Regulation. See section 7 of this Certificate.
Regulation:	29	Condensation
Comment:		The products will not constitute a significant condensation risk and so can contribute towards the wall satisfying this Regulation. See section 6.4 of this Certificate.
Regulation:	35(4)	Internal fire spread — Structure
Comment:		The products can contribute towards satisfying this Regulation. See section 8.1 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:		The products can contribute to minimising heat loss at jambs and sills. See sections 6.1 and 6.2 of this Certificate.

Construction (Design and Management) Regulations 2015 Construction (Design and Management) Regulations (Northern Ireland) 2016

In the opinion of the BBA, there is no information in this Certificate which relates to the obligations of the client, designer (including Principal Designer) and contractor (including Principal Contractor) under these Regulations.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, Stonecor and Stonecor 0.25 if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

1 Description

1.1 Stonecor and Stonecor 0.25 consists of 25 mm thick, flexible lava stone wool insulation (aluminium faced for Stonecor 0.25) bonded to a 0.5 mm thick polyethylene strip damp-proof course (dpc). The polyethylene strip complies with BS 6515 : 1984 and is the subject of a valid Agrément Certificate.

1.2 The polyethylene strip overlaps the insulation at both edges to allow for the extension of the dpc into the window or door and cavity.

1.3 There are two standard sizes of the products, as shown in Table 1. Other sizes are also available to order.

Table 1 Product dimensions			
Return block header (mm)	Polyethylene width (mm)	Insulation width (mm)	
100	165	100	
140	225	150	

2 Manufacture

2.1 A roll of the correct thickness insulation is cut to the required width, and laminated to the polyethylene dpc using a continuous process.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by Alcumus ISOQAR (Certificate 17477).

3 Delivery and site handling

3.1 The products are supplied in packs of five 10 m long rolls. Each roll is packed in a polythene bag, with a label bearing the name of the Certificate holder and the BBA logo incorporating the number of this Certificate. Fitting instructions are available on the Certificate holder's website.

3.2 The packs should be stored upright and under cover in a clean, dry area away from direct sunlight and excessive heat, and protected from vehicular and pedestrian traffic.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Stonecor and Stonecor 0.25.

4 Use

4.1 Stonecor and Stonecor 0.25 are for use as damp-proof courses and cavity barriers in conjunction with a return block detail, where a cavity is closed around window and door openings in masonry cavity walls and with timber and PVC-U window or door frames. They are available in a range of sizes to suit different return block header widths.

4.2 The products are non-loadbearing, and window and door frames must be fixed independently to the masonry. Proprietary frame fixings are available, but are outside the scope of this Certificate.

4.3 Masonry walls into which the products are incorporated must be constructed in accordance with the national Building Regulations and one or more of the following technical specifications:

- BS 8000-0 : 2014
- BS 8000-3 : 2001
- BS EN 1996-1-1 : 2005 and its UK National Annex
- BS EN 1996-1-2 : 2005 and its UK National Annex
- BS EN 1996-2 : 2006 and its UK National Annex
- PD 6697: 2010.

5 Practicability of installation

The products are designed to be installed by a competent general builder, or a contractor, experienced with these types of products.

6 Hygrothermal behaviour



6.1 The products can contribute to maintaining continuity of thermal insulation at jambs and sills in wall openings. The path of minimum thermal resistance through the products, calculated to BRE Information Paper IP 8/08, is at least 0.45 m²·K·W⁻¹ when used in jambs and sills with the window/door frame set back 30 mm or more into the wall cavity (see Figures 1, 2 and 3). Example junction details shown in

Figures 1, 2 and 3 are acceptable. For Accredited Construction Details, the corresponding heat loss rates ψ -values (Psi) in BRE Information Paper IP 1/06, Table 3, may be used in carbon emission calculations in England and Wales, Scotland and Northern Ireland. Attention must be given to the correct setback in order to ensure compliance with these requirements. Detailed guidance on limiting heat loss and air filtration can be found in the documents supporting the national Building Regulations.





Figure 3 Typical sill with window detail





6.2 Stonecor 0.25 has been assessed in accordance with BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2016. For wall constructions described in Table 2, jambs incorporating Stonecor 0.25, set back at least 30 mm into the cavity, can improve on the default heat loss rates for jambs shown in Table 3 of BRE Information Paper IP 1/06 by 25% and achieve ψ values of 0.038 W·m⁻¹·K⁻¹, and may be used in SAP and SBEM calculations.

Table 2 Wall construction criteria for meeting 25% improved ψ values for jambs			
Cavity width	Wall construction	Wall U value (W·m ^{−2} ·K ^{−1})	Block type
75	Full fill insulation	≥0.25	Thermal conductivity
90	Full fill insulation	≥0.23	≥ 0.11 W·m ⁻¹ ·K ⁻¹



6.3 Jambs and sills incorporating the products in accordance with sections 6.1 and 6.2 of this Certificate will adequately limit the risk of local surface condensation.



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

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

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

7 Water resistance



7.1 The products form an effective horizontal dpc at the jambs and sill/threshold of the opening. The use of a cavity tray may be required at the head of the opening to provide additional protection.

7.2 The frame to wall gap should not exceed 12.5 mm with the Stonecor standard sizes, to ensure effective dampresistant contact can be made with the frame or frame rebate.

7.3 The products can be used with a check reveal detail, in which the frame is positioned in a rebate behind the outer leaf of the jamb (see Figure 2). This feature will provide enhanced resistance to water penetration and is conventional practice in Scotland and Northern Ireland. The use of these products in such installations may require the use of non-standard sizes and should be discussed with the Certificate holder.

8 Properties in relation to fire



8.1 Stonecor was tested for fire resistance in accordance with BS 476-20 : 1987 and achieved the fire resistance ratings given in Table 3 of this Certificate, with respect to both integrity and insulation. It can therefore act as a cavity barrier for the constructions tested, where required by the national Building Regulations.

Maximum cavity width (mm)	Cavity closer details	Test Report ⁽¹⁾	Integrity rating (minutes)	Insulation rating (minutes)
100	Stonecor (overall size 25 mm x 100 mm, mineral wool fibre density 45 kg m ⁻³)	Review Test Report WF 375575/I, dated 8 November 2016 (original Test Report WARRES 112891, dated 3 August 2000)	30	30
150	Stonecor (overall size 25 mm x 150 mm, mineral wool fibre density 45 kg m ⁻³)	Review Test Report WF 375575/I, dated 8 November 2016 (original Test Report WARRES 112891, dated 3 August 2000)	30	30

(1) The wall assembly was constructed from 150 mm thick autoclaved blockwork incorporating two vertical gaps 25 by 900 mm high. The products were friction fitted into the gaps. Test reports and detailed construction of the cavities tested are available from the Certificate holder.

8.2 Other versions of the products or constructions required to act as cavity barriers, as specified by the relevant national Building Regulations, must be assessed/tested by a UKAS-accredited fire laboratory.

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

9 Structural stability

The products are not for use in situations where a load is to be carried and the work should be detailed to ensure the insulation does not carry loads.

10 Maintenance

The products do not require any maintenance.

11 Durability



The products are durable and, when installed in accordance with this Certificate, will not suffer significant degradation when protected within the cavity. The products will continue to function for the normal expected life of the building in which they are installed.

12 Reuse and recyclability

The insulation component of the products can be recycled.

Installation

13 General

13.1 Installation of Stonecor and Stonecor 0.25 must follow normal good practice for the detailing of the dpc, as set out in BS 8000-3 : 2001, BS 8000-4 : 1989, BS 8215 : 1991, BRE Digest 380 : 1993 and the Certificate holder's instructions.

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

13.3 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 Figures 1 and 3).

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

13.5 The products are 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 insulation and composite bond. If any significant damage occurs, the material should be replaced.

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

13.7 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.

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

13.9 The products 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.

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

14 Procedure

14.1 The cavity wall is built to the sill level, ensuring that the course work is level and flat, and that all excess mortar is removed. If the products are 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 products when introduced into the wall.

14.2 Jamb and sill sections of the products 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.



14.3 Jamb and sill sections are fitted into the masonry with the dpc positioned against the outer leaf, making sure of a good tight fit at the corners.

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

14.5 Any excess should be cut off at the window/door head.

14.6 The products may be held in place during installation either by nailing to the window/door frame using galvanized felt nails⁽¹⁾, or by applying a sand/cement joint up to the insulation.

(1) Outside the scope of this Certificate.

14.7 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 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.

14.8 Appropriate insulated lintels and ancillary damp-proof protection are incorporated at the head, and window/door frames fixed into place. Where the products have not been pre-fixed to the window/door frame (see section 14.6), 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).

14.9 A durable weatherproof sealant, such as low-modulus silicone, is applied over a back-up strip between the frame and outer leaf (see also section 13.9).

Finishing

14.10 A sealant is applied around the perimeter of the window/door internally, prior to applying internal finishes.

14.11 In locations where the plaster may be subject to repeated impact (eg at door reveals from door slamming), it is recommended that wet plaster should be reinforced by hessian scrim or, preferably, replaced by dry lining.

14.12 Finishing trims are fitted after completion of the window installation, where required.

14.13 The window is weather-proofed externally, using a suitable low-modulus silicone sealant.

Technical Investigations

15 Investigations

15.1 An assessment was made of:

- heat loss and condensation risk
- the practicability of the installation
- fire resistance
- effectiveness of composite bond
- durability of the components used in the construction of the products.

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

Bibliography

BRE Digest 380 : 1993 Damp-proof courses

BRE Information Paper IP 1/06 Assessing the effects of thermal bridging at junctions and around openings

BRE Information Paper IP 8/08 Determining the minimum thermal resistance of cavity closers

BRE Report BR 497 : 2016 Thermal performance of buildings

BS 476-20 : 1987 Fire tests on building materials and structures — Method for determination of the fire resistance of elements of construction (general principles)

BS 6515 : 1984 Specification for polyethylene damp-proof courses for masonry

BS 8000-0: 2014 Workmanship on construction sites — Introduction and general principles

BS 8000-3 : 2001 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 1996-1-1 : 2005 + A1 : 2012 Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures

NA to BS EN 1996-1-1 : 2005 + A1 : 2012 UK National Annex to Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures

BS EN 1996-1-2 : 2005 Eurocode 6 : Design of masonry structures — General rules — Structural fire design NA to BS EN 1996-1-2 : 2005 UK National Annex to Eurocode 6 : Design of masonry structures — General rules — Structural fire design

BS EN 1996-2 : 2006 Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry

NA to BS EN 1996-2 : 2006 UK National Annex to Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry

BS EN ISO 9001 : 2015 Quality management systems — Requirements

BS EN ISO 10211 : 2017 Thermal bridges in building construction — Heat flows and surface temperatures — Detailed calculations

PD 6697 : 2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2

16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- 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.

16.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and 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.

16.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

16.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- 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
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

16.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal 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, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue 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.

British Board of Agrément		
Bucknalls Lane		tel: 01923 665300
Watford		clientservices@bbacerts.co.uk
Herts WD25 9BA	©2019	www.bbacerts.co.uk