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Agrément Certificate
16/5318
Product Sheet 1

LISNASTRAIN CAVITY TRAYS

LISNASTRAIN CATCHMENT TRAYS, STEPPED CAVITY TRAYS AND RIDGE TRAYS

This Agrément Certificate Product Sheet⁽¹⁾ relates to Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays, used to form a damp-proof course at the abutment of a pitched roof of minimum pitch 15° and a cavity wall of brickwork with cavity widths of between 50 mm and 110 mm.

(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.

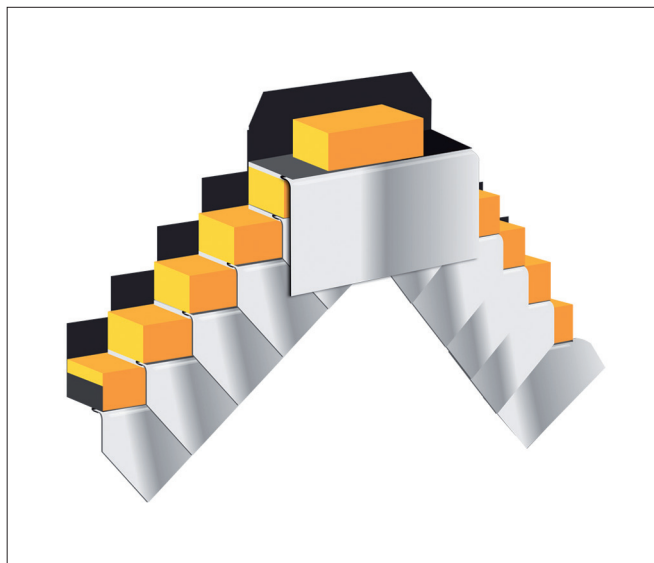
KEY FACTORS ASSESSED

Behaviour under load — the products will not adversely affect the ability of the wall to sustain and transmit compressive loads (see section 6).

Resistance to passage of water — the products will provide an effective barrier against liquid water (see section 7).

Use with cavity wall insulation — the products are compatible with materials currently used as cavity wall insulation. The trays do not form a continuous barrier, therefore blown or injected insulation may penetrate from above or below the trays (see section 8).

Durability — under normal service conditions the products will remain effective throughout the lifetime of the building (see section 10).



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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of First issue: 17 May 2016

John Albon — Head of Approvals
Construction Products

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Claire Curtis-Thomas
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, Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays, 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 Building Regulations 2010 (England and Wales) (as amended)

Requirement: A1	Loading
Comment:	The products can contribute to satisfying this Requirement when properly installed. The presence of a damp-proof course can, however, reduce the shear and tensile strength of a wall at that location. See section 6 of this Certificate.
Requirement: C2(b)	Resistance to moisture
Comment:	The products can contribute to satisfying this Requirement. See section 7 of this Certificate.
Regulation: 7	Materials and workmanship
Comment:	The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1)	Durability, workmanship and fitness of materials
Comment:	The products can contribute to a construction satisfying this Regulation. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation: 9	Building standards applicable to construction
Standard: 1.1(a)(b)	Structure
Comment:	The products can contribute to satisfying this Standard. The presence of a damp-proof course can, however, reduce the shear and tensile strength of the wall at that location. See section 6 of this Certificate.
Standard: 3.10	Precipitation
Comment:	The products can contribute to a construction satisfying this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.4 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard: 7.1(a)	Statement of sustainability
Comment:	The products can contribute to meeting 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.
Regulation: 12	Building standards applicable to conversions
Comment:	All comments given for the 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 Building Regulations (Northern Ireland) 2012 (as amended)

Regulation: 23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:	The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation: 28(b)	Resistance to moisture and weather
Comment:	The product can contribute to satisfying this Regulation. See section 7 of this Certificate.
Regulation: 30	Stability
Comment:	The products can contribute to satisfying this Regulation. The presence of a damp-proof course can, however, reduce the shear and tensile strength of the wall at that location. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2015

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

Information in this Certificate may assist the client, Principal Designer/CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.4) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

1 Description

1.1 Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays are injection-moulded from ribbed polypropylene 2 mm thick. The trays are available in left-handed and right-handed forms, and feature an adjustable folded back upstand for use in clear cavities of between 50 mm and 110 mm in width.

1.2 The trays are factory-fitted with Code 4 (Blue)⁽¹⁾ lead flashing, stapled and sealed with an adhesive/sealant.

(1) As defined by BS EN 12588 : 2006.

1.3 The trays can also be supplied with alternatives to lead flashing:

- Ubiflex — a mixture of modified bitumen and additives reinforced with an aluminium mesh
- Perform — an aluminium mesh reinforcement coated with a mixture of rubber polymer and additives.

1.4 Tray lengths and details of the number of trays needed to cover a linear metre depending on the roof pitch can be found in Table 1.

Table 1 Stepped and Catchment Trays — lengths and design details

Length (mm)	Roof pitch (°)	Number of trays per linear metre of sloped roof
174	50	9
174	47.5	8.5
232.5	42.5–45	8
232.5	40	7.5
232.5	35–37.5	7
232.5	32.5	6.5
232.5	30	6
290	27.5	5.5
290	22.5–25	5
385	20	4
385	17.5	3.5
460	15	3

1.5 Ancillary items that may be used with the products, but which are outside the scope of the Certificate, include:

- weeps for channelling water from a wall
- horizontal porch trays
- corner trays
- cavity trays for blockwork.

2 Manufacture

2.1 The products are manufactured by injection moulding and cut to length, then welded, stapled and sealed.

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.

3 Delivery and site handling

3.1 The products, together with installation instructions, are packed in corrugated cardboard cartons or on pallets, as appropriate. Boxes and pallets carry a label bearing the product name.

3.2 To prevent damage or surface contamination, the products should be stored in a secure place in the original packaging.

3.3 Leaded trays should be lifted by the lead flashing and not by the back of the tray.

3.4 The conventional precautions for handling lead, defined in HSE publication L132 *Control of Lead at Work Regulations 2002 Approved Code of Practice and guidance*, should be observed when using cavity trays with lead flashing.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays.

Design Considerations

4 General

Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays, when specified and installed in accordance with this Certificate and PD 6697 : 2010, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006, BS EN 1996-3 : 2006 and BS 8215 : 1991, are satisfactory for use as a damp-proof course (dpc) at the abutment of a pitched roof and a cavity brick wall with cavities of between 50 mm and 110 mm and a minimum roof pitch of 15°.

5 Practicability of installation

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

6 Behaviour under load



The products will not adversely affect the ability of a wall to sustain and transmit compressive loads. However, the presence of a dpc can reduce the shear and tensile (and therefore bending) strengths of a wall, and the effect of wind and other horizontal or upward forces should be considered at the design stage.

7 Resistance to passage of water



7.1 The trays do not form a continuous barrier against liquid water, but a 100 mm overlap between successive trays is sufficient to prevent penetration of water below the units when the trays are installed in accordance with this Certificate.

7.2 Where the trays do not contact the inner leaf, care must be taken to ensure that the trays project far enough into the cavity to intercept any drips which originate from the wall ties.

8 Use with cavity wall insulation

Medium-density polypropylene has no effect on, and is unaffected by, materials currently used as cavity wall insulants. However, where the trays are not bonded to the inner leaf, they do not form a continuous mechanical barrier, and blown or injected insulation may penetrate from the cavity above to below the trays. This possibility must be considered when an in-situ-applied cavity insulation is used.

9 Maintenance

As the products are confined within the wall and wall cavity and have suitable durability (see section 10), maintenance is not required. However, any damage occurring before enclosure must be repaired (see section 13).

10 Durability



When installed correctly into the cavity, the trays will remain effective for the expected life of the building.

Installation

11 General

11.1 Lisnastrain Catchment Trays, Stepped Cavity Trays and Ridge Trays may be installed in any weather that permits bricklaying.

11.2 Trays must be laid between even beds of fresh mortar, and any perforations or frogs in adjacent courses should be filled with mortar.

11.3 Precautions are necessary when the cavities are cleaned, including:

- use of cavity battens to reduce mortar droppings on the trays
- removal of mortar droppings before they harden, using a technique that avoids causing damage to the tray (use of steel rods, for example, should be avoided)
- inspection of trays for damage as the work proceeds.

11.4 Weep holes should be provided in every starter or corner starter tray.

12 Procedure

12.1 The outer leaf is built up to 150 mm above the upper surface of the roof truss or other abutting structure, at its foot or equivalent to 75 mm above the finished roof line. The next course of the outer leaf is laid to fit the tray.

12.2 A catchment tray is laid on an even bed of fresh mortar, positioned so that the upstand is in contact with the inner leaf or projects sufficiently into the cavity to enable it to intercept drips originating from the wall ties.

12.3 Installation should continue progressively with the appropriate intermediate trays, with each successive tray overlapping the previous tray by 100 mm. Different pitches can be achieved by cutting bricks as required.

12.4 The ridge tray is installed at the top of the run in the same way.

12.5 Where trays with attached flashings are used, the flashings are dressed directly over the roof surface as required.

12.6 If flashing is required for unlead trays, the joint below the tray is raked out to a depth of 25 mm, and the flashing inserted to extend under the tray. Wedges are inserted above the tray to ensure good contact between it and the flashing. The joint is repointed and the flashing dressed over the roof surface.

12.7 Flashings may be lead, or any other material covered by, and used in accordance with, a current BBA Certificate.

13 Repair

Damaged cavity tray units should be replaced prior to the installation of brick, block or masonry courses above the unit.

Technical Investigations

14 Tests

Tests were carried out and the results assessed to determine:

- specific gravity
- thermal distortion
- impact resistance
- adhesion to mortar
- effectiveness of water discharge
- resistance to water penetration.

15 Investigations

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

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

BS EN 1996-1-2 : 2005 *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*

BS EN 1996-3 : 2006 *Eurocode 6: Design of masonry structures — Simplified calculation methods for unreinforced masonry structures*

BS EN 12588 : 2006 *Lead and lead alloys — Rolled lead sheet for building purposes*

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.