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Agrément Certificate

05/4248

Product Sheet 1

JAMES HARDIE CLADDING SYSTEMS

HARDIEPANEL

This Agrément Certificate Product Sheet(1) relates to HardiePanel(2), a fibre-reinforced Portland cement board for use as an exterior non-loadbearing, decorative cladding over timber, steel, or masonry substrate walls.

(1) Hereinafter referred to as 'Certificate'.

(2) HardiePanel is a registered trademark of James Hardie International Finance B.V.

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

Strength and stability — the product has acceptable resistance to wind and impact loads (see section 6).

Performance in relation to fire — the product is classified as A2-s1, d0 in accordance with BS EN 13501-1 : 2002. The use of the boards on timber substrates is restricted in some cases (see section 7).

Weathertightness — the product, when installed, is not weathertight and must be used in conjunction with a suitable vapour permeable membrane (see section 8).

Durability — the product is durable and can be expected to have a service life in excess of 30 years (see section 10).

The BBA has awarded this 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 Third issue: 22 July 2021

Originally certificated on 25 June 2005

Hardy Giesler
Chief Executive Officer

Regulations

In the opinion of the BBA, HardiePanel, 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 product is acceptable for use as set out in section 6 of this Certificate.
Requirement:	**B4(1)(2)**	**External fire spread**
Comment:		The product is unrestricted by this Requirement. See section 7.1, 7.2, 7.4 and 7.7 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The product does not provide a watertight or airtight cladding. To achieve a weatherproof construction, a breather membrane must be installed. See section 8 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See section 10 and the *Installation* part of this Certificate.
Regulation:	**7(2)**	**Materials and workmanship**
Comment:		The product is unrestricted by this Regulation. See section 7.1 and 7.2 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Durability, workmanship and fitness of materials**
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 applicable to construction**
Standard:	1.1	Structure
Comment:		The product is acceptable for use, with reference to clause 1.1.1[(1)(2)]. See section 6 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is not classified as 'non-combustible' and therefore its use will be restricted under clauses 2.6.5[(1)] and 2.6.6[(2)] of this Standard. See section 7.1, 7.2, 7.5 and 7.6 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product is not classified as 'non-combustible' and therefore its use will be restricted under clause 2.7.1[(1)(2)]. See section 7.1, 7.2, 7.5 and 7.6 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product does not form a watertight or airtight facing. To achieve a weatherproof construction a breather membrane must be installed to meet this Standard, with reference to clause 3.10.5[(1)(2)]. See section 8 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product 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 this product 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 product is acceptable. See section 10 and the *Installation* part of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The product does not form a watertight or airtight facing. To achieve a weatherproof construction, a breather membrane must be installed. See section 8 of this Certificate.
Regulation:	**30**	**Stability**
Comment:		The product is acceptable for use as set out in section 6 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The product is unrestricted by this Regulation. See section 7.1, 7.2 and 7.4 of this Certificate.

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

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 1 *Description* (1.2) and 3 *Delivery and site handling* (3.1, 3.2 and 3.4) of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, HardiePanel, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Part 6 *Substructures (excluding roofs)*, Chapter 6.9 *Curtain walling and cladding*. Chapter 6.1 external masonry walls, Chapter 6.2 external timber frame walls and Chapter 6.10 light steel frame walls and floors.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European standard BS EN 12467 : 2012.

Technical Specification

1 Description

1.1 HardiePanel is a fibre-reinforced Portland cement board, satisfying the requirements of Category A, Class 2 in accordance with BS EN 12467 : 2012.

1.2 The product has the following characteristics:

Thickness (mm)	8
Width (mm)	1220
Length (mm)	2400

Weight ($kg \cdot m^{-2}$)	11.2
Finish	Smooth and Cedar as standard.

1.3 The product is supplied factory primed and coated with ColorPlus(1). The performance of the primer and ColorPlus, including durability, resistance to fire and UV, has not been assessed by the BBA and is outside the scope of this Certificate.

(1) ColorPlus is a registered trademark of James Hardie International Finance B.V.

1.4 Ancillary materials for use with the product include:

- HardieTrim NT3(1) — a 25 mm thick fibre-reinforced cement board, complying with the requirements of Class 1, Category A in accordance with BS EN 12467 : 2012
- structurally supporting Nvelope corner bracket system
- breather membrane meeting the requirements of BS 5250 : 2011
- galvanized or stainless-steel nails, 40 mm long by 2.4 mm minimum diameter, with a minimum head diameter of 5.7 mm — for securing the cladding panels to timber battens. Stainless steel grade 304 T25 Torx drive screws, 5.5 x 25 mm, with a minimum head diameter of 12 mm — for securing the cladding panels to aluminium subframes
- stainless steel self-drilling/tapping screws, T20 Torx drive 4.8 x 38 mm with a 12 mm head diameter — for securing the panels to timber battens
- Aluminium rivets (EN AW-574 (AlMg3)) 5mm x 16 mm, with a head diameter of 14mm; Stainless Steel 1.4541 Mandrel in accordance with EN 10088-3 – for securing the cladding panels to aluminium subframes.

(1) HardieTrim is a registered trademark of James Hardie International Finance B.V.

1.5 Other items which may be used with the product, but which are outside the scope of this Certificate, are:

- Horizontal Z profile — coated aluminium flashing used at horizontal joints
- James Hardie Box section finishing corners
- James Hardie EPDM tape for protection of timber battens on vertical board joints
- James Hardie Ventilation profiles
- PVC or metal H- profile joint trims for covering butted joints between the boards
- Hardie seal Edge Coatings (repair treatment).

2 Manufacture

2.1 The product is manufactured by a batch blending operation, followed by the Hatschek process and high-pressure steam autoclaving.

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 HardiePanel and HardieTrim NT3 are delivered on wrapped pallets weighing up to approximately 2200 kg and 900 kg respectively. They can be unloaded using mechanical handling equipment or by manually removing individual boards.

3.2 The boards should be stored flat, under cover and on a dry, level surface. Stacks of loose boards should not exceed one metre in height.

3.3 Each board is marked with the product name and unique manufacturing code.

3.4 The boards contain crystalline silica, and reference should be made to the current version of EH40 *Occupational Exposure Limits*. In particular, when cutting, drilling or sanding in confined areas, dust levels should be controlled using suitable extraction equipment.

Assessment and Technical Investigations

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

Design Considerations

4 General

4.1 HardiePanel is satisfactory for use as an exterior non-loadbearing wall cladding over timber-framed, masonry or concrete, or steel-framed walls.

4.2 The designer must ensure that the strength and integrity of the intended substrate is commensurate with that required of the cladding system.

4.3 The substrate wall and support frame to which the system is to be fixed must be structurally sound, designed and constructed in accordance with the requirements of the relevant national Building Regulations and Standards:

- timber-frame walls must be designed and constructed in accordance with PD 6693-1 : 2012 and BS EN 1995-1-1 : 2004 and its UK National Annex, and preservative-treated in accordance with BS EN 351-1 : 2007. Guidance on recommended wood preservation is also given in *NHBC Standards* 2020 Part 2 *Materials*, Chapter 3.3 *Timber preservation (natural solid timber)*
- steel-frame substrates must be structurally sound, and designed and constructed in accordance with BS EN 1993-1-1 : 2005 and BS EN 1993-1-3 : 2006, and their UK National Annexes
- masonry walls must be designed and constructed in accordance with the relevant recommendations of BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006, and their UK National Annexes, PD 6697 : 2010, BS 8000-0 : 2014 and BS 8000-3 : 2001.

4.4 Studding framing must be adequately supported by noggings to ensure rigidity.

4.5 A minimum 38 mm drained and ventilated cavity must be maintained behind the cladding, with minimum 500 mm^2 ventilation slots per metre wall length, in accordance with BS 5250 : 2011. This will also satisfy the NHBC requirements (see *NHBC Standards 2020*, Chapters 6.2 and 6.9) for a minimum 38 mm cavity behind cladding installed over timber and steel-framed backing walls.

4.6 The product must be fixed to preservative-treated, timber battens, which should be factory graded to BS 5534 : 2014. Timber battens should aligned vertically at 400 or 600 mm centres. The minimum batten thickness is 50 mm; over masonry substrates this should be increased to accommodate the 40mm length of the fixings.

4.7 When the product is fixed to an aluminium rail subframe the rails must be fixed at 600mm centers.

4.8 When fixing HardiePanel cladding to metal frames, a sheathing layer must be installed over the face of the steel frame, followed by a weather-resistant membrane and installation of timber battens or aluminium subframe. Installation of the cladding must thereafter follow the normal installation instructions.

4.9 Additional guidance on recommended cavity widths is given in *NHBC Standards* 2020 Part 6 *Substructure (excluding roofs)*, Chapter 6.2 *External Timber Framed Walls* and Chapter 6.9 *Curtain walling and cladding*.

5 Practicability of installation

The product must be installed by a contractor experienced with this type of product.

6 Strength and stability

Wind loads

6.1 Design wind actions should be calculated in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. Due consideration should be given to the higher-pressure coefficients applicable to corners of the building as recommended in this Standard. In accordance with BS EN 1990 : 2002 it is recommended that a partial load factor of 1.5 is used to determine the design wind load to be resisted by the panels.

6.2 Under wind loading, the most likely mode of failure is by pull-through of the fixings owing to wind suction.

6.3 When installed at the appropriate spacings for the specified framing and in accordance with the requirements of this Certificate, the boards have a wind load resistance shown in Table 1.

Table 1 Design wind load

Subframe type	Framing/ stud centres (mm)	Fixing type/ dimensions (mm)	Fixings centres vertically (mm)	Max wind pressure (kPa)
Aluminium rail(5) fixed to timber frame or concrete/masonry wall/steel frame	600	5.5 x 25 mm stainless steel screws(2) 5.0 x 16 mm aluminium blind rivets(3)	400	1.27
Timber battens(4) fixed to timber frame/ masonry walls or timber battens(4) fixed into aluminium frame/steel frame	400	4.8 x 38 mm stainless steel screws(2)	300	1.73
Timber battens(4) fixed to timber frame or masonry walls	400 600	2.4 x 40 mm galvanized/ stainless steel nails(1)	200 200	1.9 1.2

(1) Minimum nail head diameter 5.7 mm.
(2) Self-drilling/tapping screw with 12 mm head diameter.
(3) Minimum rivet head diameter 16 mm.
(4) Timber battens 50 x 50mm.
(5) Aluminium rail 2.0mm.

6.4 The design wind load resistance may be increased by reducing batten/rail support spacing. This is particularly important at the corners of buildings and in exposed locations. In common with all cladding, the adequacy of a proposed installation must always be checked by a suitably-qualified engineer, who should include in the check the adequacy of the fixing of battens to the substrate (outside the scope of this Certificate).

6.5 The cladding should not be taken into account when designing a timber stud wall, with or without an additional metal rail, to resist racking forces.

Resistance to impact

6.6 When tested for hard and soft body impact resistance, the product was found to be suitable for use in Use Categories III, as described in Table G.2, an extract of which is shown in the Table 2 of this Certificate.

Table 2 Definition of the impact use categories (from EAD 090062-00-0404 : 2018)

Use Category	Description
I	A zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use.
II	A zone liable to impacts from thrown or kicked objects, but in public locations where the height of the kit will limit the size of the impact; or at lower levels where access to the building is primarily to those with some incentive to exercise care.
III	A zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects.
IV	A zone out of reach from ground level.

Note: Use Category I shown for information only and is not suitable for the system.

7 Performance in relation to fire

7.1 The product has an A2-s1, d0 reaction to fire classification in accordance with BS EN 13501-1 : 2002.

7.2 The panels are not subject to any restriction on building height or proximity to boundaries.

7.3 Use of the product with non-combustible sub-frame is not subject to any restriction on building height or proximity to a boundary.

7.4 The timber subframe is not non-combustible and its use may be restricted in terms of building height or proximity to boundaries.

7.5 In Scotland, if used on timber substrate walls in non-domestic buildings, the boards may only be used on walls more than 1 m from a boundary. For domestic buildings, there is no limitation on proximity to boundary.

7.6 If used on timber substrate external walls, the boards should not be used on any building with a storey more than 11 m above the ground, or on any entertainment or assembly building with a total storey area more than 500 m^2, or on any hospital or residential care building with a total storey area more than 200 m^2.

7.7 In England and Wales, if used on timber substrate external walls, the boards should not be used on buildings that have a storey at least 18 m above ground level and contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools.

7.8 Care must be taken when selecting a coating system to ensure that the fire performance of the installation is not compromised.

7.9 Designers should refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly with regard to requirements for substrate fire performance, cavity barriers, fire stopping of services and combustibility limitations for other materials and components used in the overall wall construction (for example, thermal insulation).

8 Weathertightness

8.1 The product is not airtight, watertight or water-vapour tight. When used on timber stud walls it must be backed by a breather membrane acting as a vapour-permeable water barrier, incorporated behind the cladding under the supporting battens. This breather membrane must meet the requirements of BS 5250 : 2011 and have a vapour resistance less than 0.6 $MN \cdot s \cdot g^{-1}$.

8.2 Where the panel is used as a decorative facing attached to weathertight masonry walls, a water barrier is not necessary as the amount of water that will penetrate the cladding will be small and will not have an adverse effect on the wall.

8.3 If the panel is used in the renovation of a masonry wall which is structurally sound but not fully weathertight, the use of a vapour-permeable water barrier is advisable.

8.4 When used on metallic frames of aluminium or steel, the structural OSB/marine plywood sheathing must be backed up by a breather membrane to provide a vapour-permeable water barrier.

8.5 Provision must always be made to allow water that has penetrated behind the cladding to drain away.

9 Maintenance

Periodic inspections should be carried out to assess the need for cleaning, maintenance painting, localised repairs and replacing of elements such as joint seals and fixings. Advice regarding recoating and maintenance procedures can be sought from the Certificate holder.

10 Durability

10.1 When installed in accordance with this Certificate and the Certificate holder's instructions, and subjected to normal conditions of exposure and use, the product will have an estimated service life in excess of 30 years.

10.2 Cementitious materials can become brittle over time. This can be minimised by the selection of an appropriate coating and regular maintenance painting.

Installation

11 General

11.1 HardiePanel is installed on external timber studs, conventional masonry, or aluminium or steel frames over timber studding, masonry or concrete.

11.2 Large cut-outs can be made using a circular saw, and small holes may be drilled using a carbide-tipped masonry bit, or scored and broken out with a hammer. Detailing around penetrations can be carried out using cutting tools.

12 Procedure

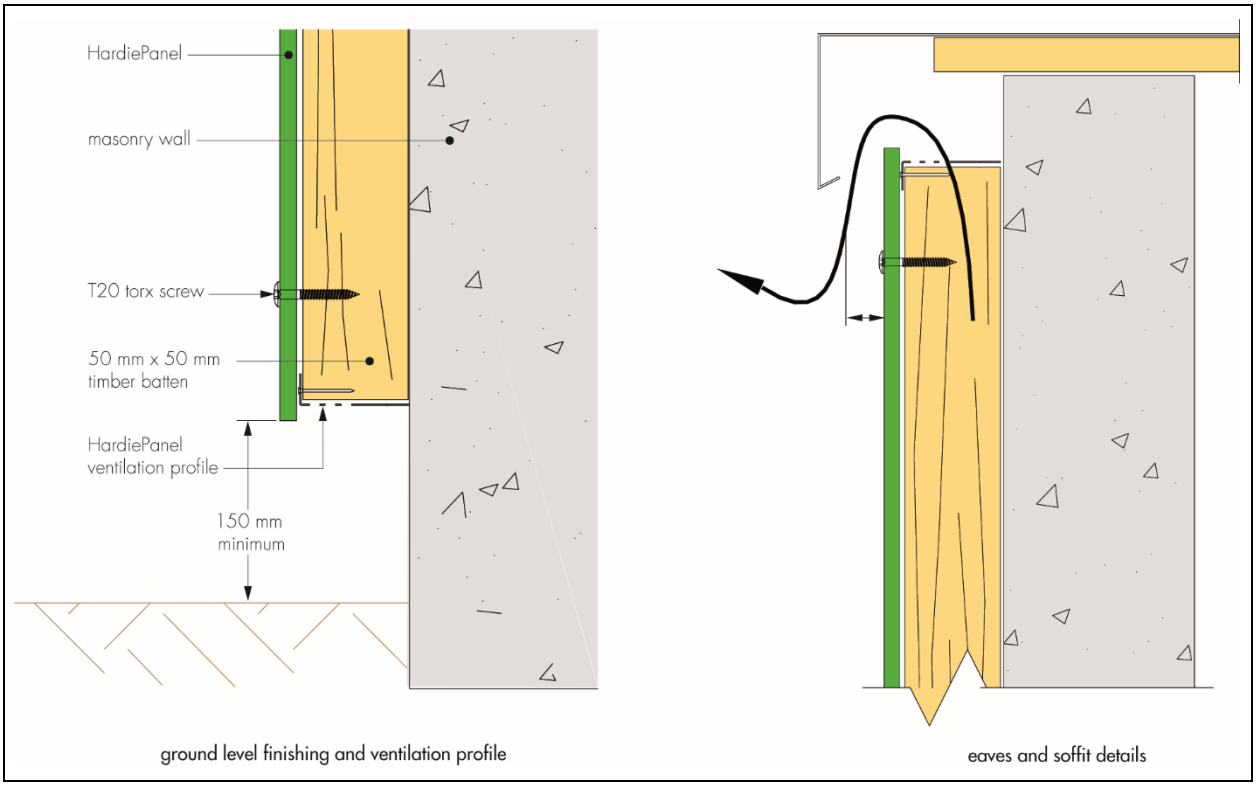
12.1 When required, a breather membrane (see section 8.1) is laid along the wall, with minimum laps of 150 mm.

12.2 Timber wall battens should be fixed over the breather membrane in accordance with section 4.9.

12.3 When installing the boards, a ventilation grille is installed and provision made for a 10 mm drip edge at the base of the first sheet (see Figure 1).

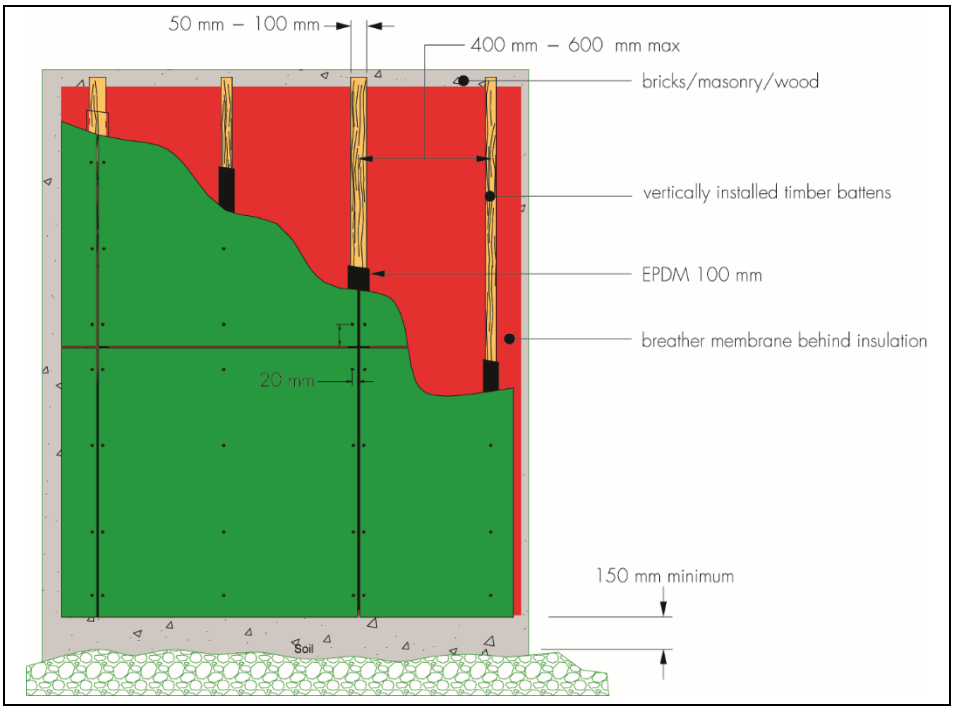
12.4 Provision for ventilation must also be made at the top of the board (see Figure 1).

Figure 2 base and Top ventilation details



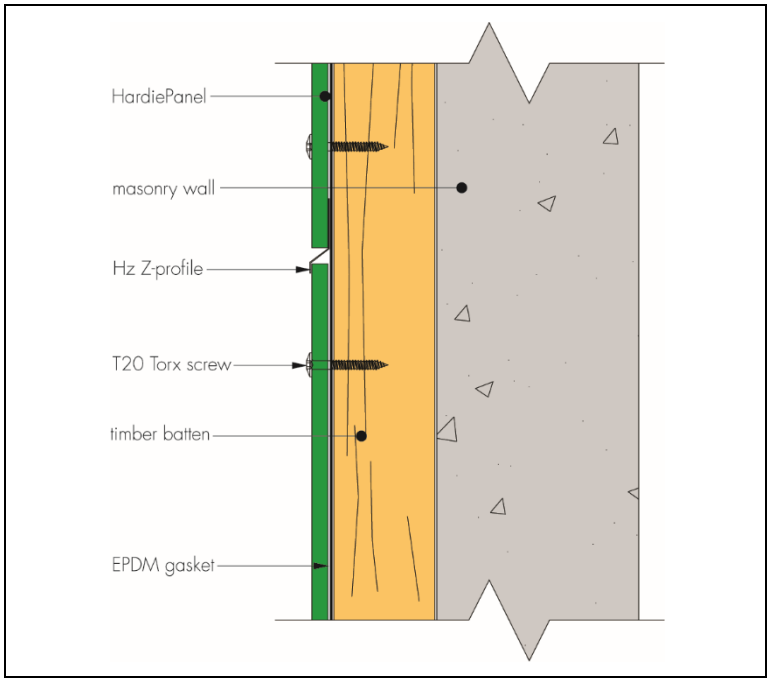
12.5 The boards are fixed to the timber battens or aluminium/steel rails using fixings as described in seciton 1.4. Fixings must be in from vertical edges by 20mm timber battens or 30mm metal battens, and 50-100mm from the bottom and top edges (see Figure 2)

Figure 3 Horizontal jointing detail — timber batten



12.6 Where a horizontal joint occurs between boards, the joint can be left open 8mm (express joint), protected with Hardie Horizontal flashing, concealed with HardieTrim NT3 or butt-jointed. Third-party approved H-profiles of PVC or painted aluminium are also permitted (see Figure 3).

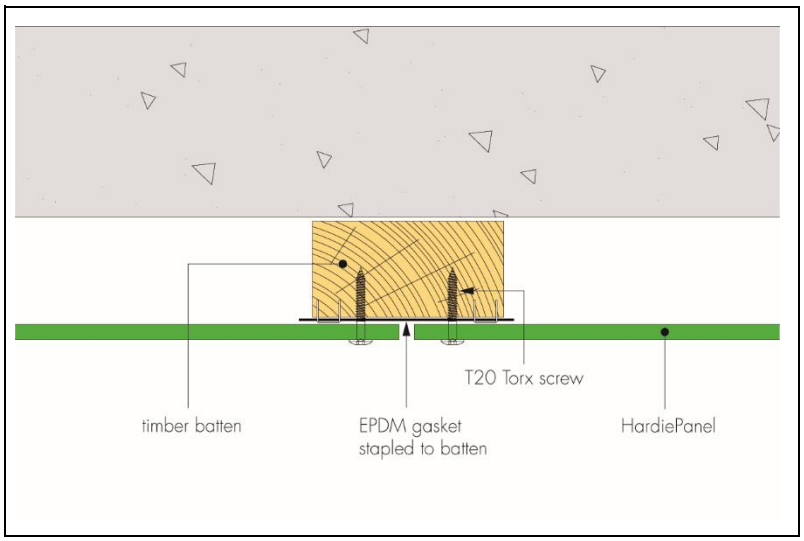
Figure 4 Horizontal jointing detail on timber sub frame"



12.7 Where vertical joints are required, the boards are butted together to form a joint that can be concealed using either an H-profile trim or HardieTrim NT3. Alternatively an 'express' joint is made between boards by using a UV-resistant EPDM gasket behind the joints (see Figure 4). In the latter case, the edges of the board must be painted.

12.8 Building expansion joints must be followed through the boards and these must be not more than 10 m apart, or in accordance with the requirements of the substrate if less than 10 m.

Figure 5 Vertical jointing detail on timber sub frame



12.9 When installing on timber battens, the corner junction can be made either with the HardiePanel Metal External Corner Profile or by a simple butt joint, leaving a 1 mm expansion gap between boards. In all cases, the corner must be structurally supported by using fully blocked timber battens (see Figure 5).

Figure 6 Corner detail on timber sub frame

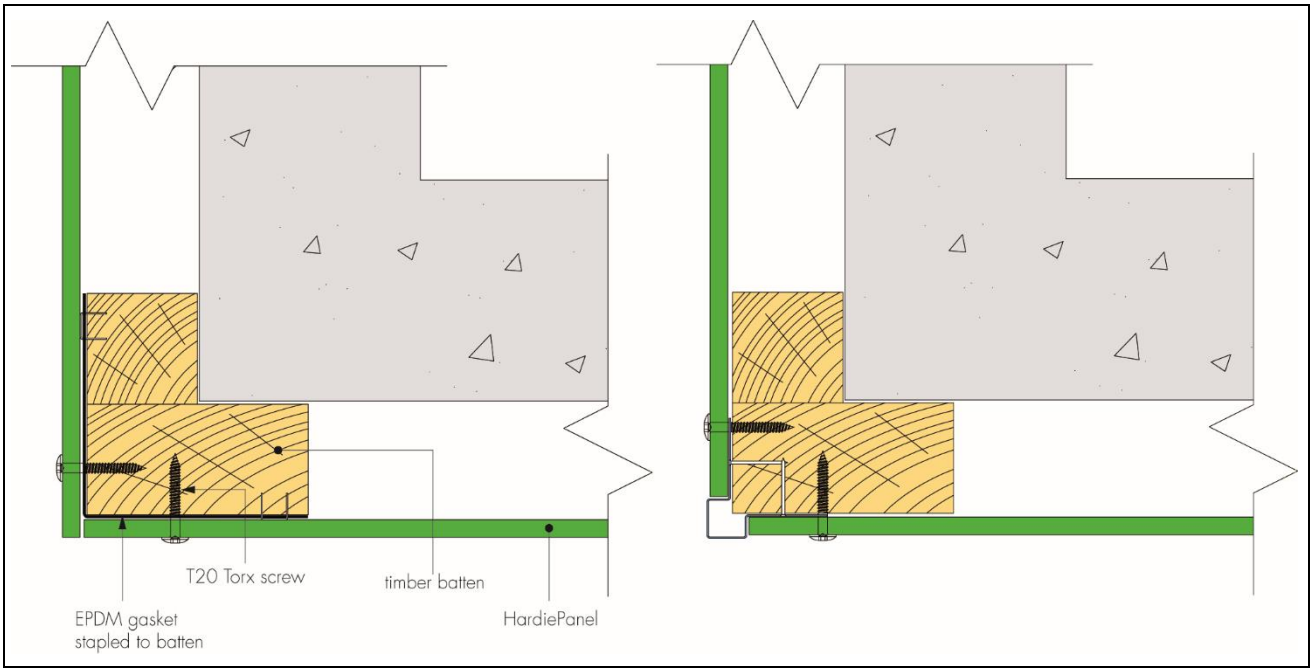
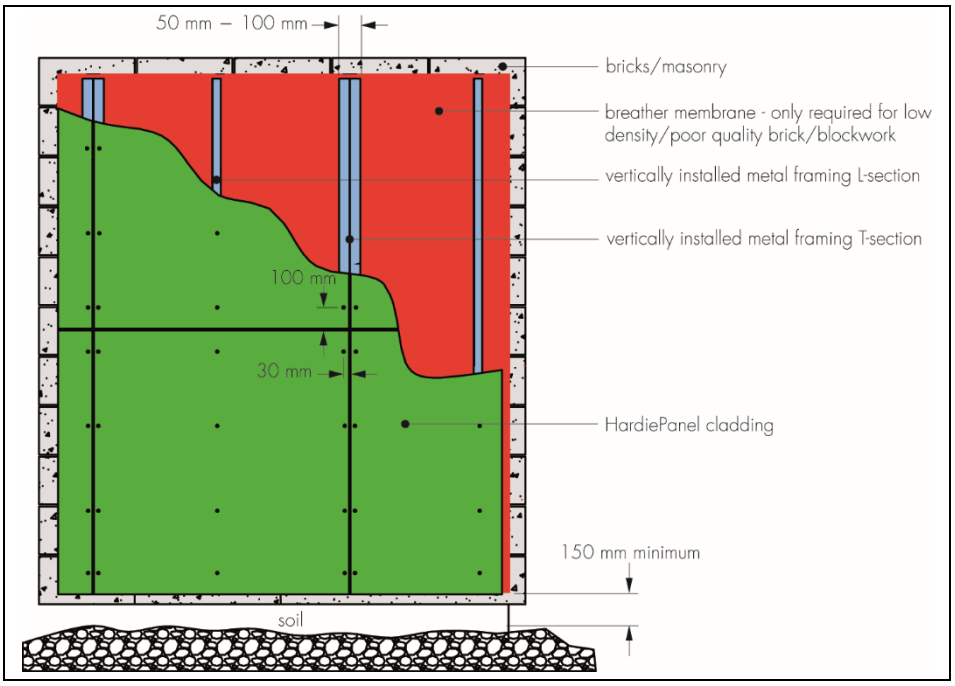
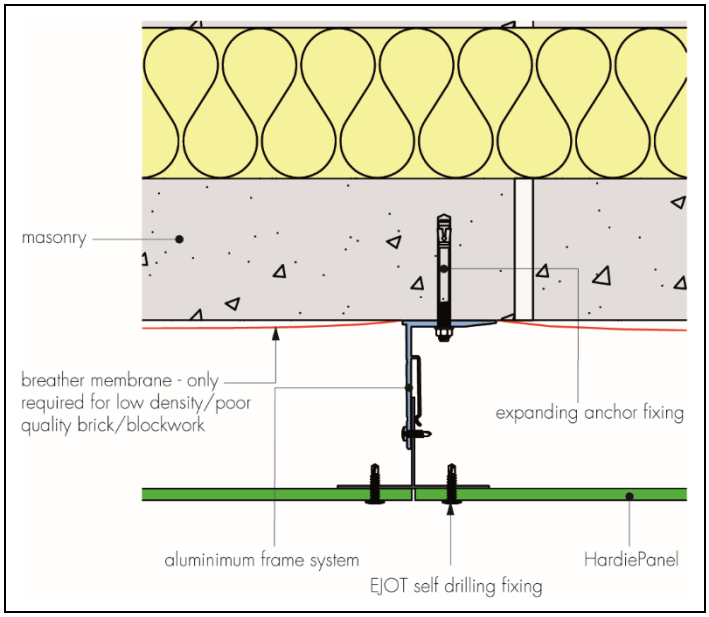


Figure 7 Fixing detail on metal sub frame



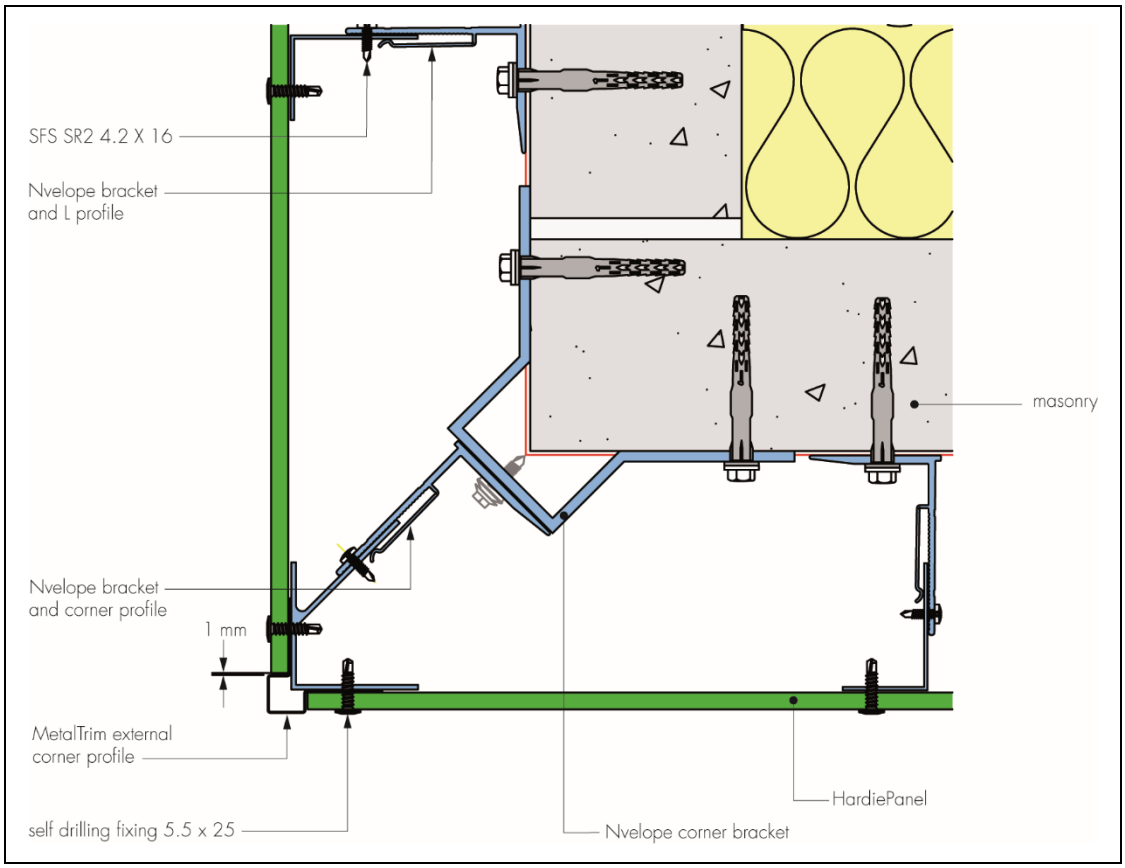
12.10 When HardiePanel is used with Nvelope brackets and rails, these must be adjusted, levelled and fixed appropriately to the substrate and in accordance with the manufacturer's instructions, prior to receiving the cladding panels.

Figure 8 Vertical joint detail using metal sub frame



12.11 When installing on metal framing, the corner junction can be made either with the HardiePanel Metal External Corner Profile or by a simple joint butt, leaving a 1 mm expansion gap between boards. In all cases the corner must be structurally supported by using the Nvelope corner bracket system (see Figure 8).

Figure 9 Corner detail using metal sub frame



13 Repair

Under normal conditions of use, the product is unlikely to suffer more than cosmetic damage, but, should large cracks or breakages occur, damaged panels should be replaced as soon as possible. This may require the temporary removal of undamaged planks above the damaged area.

Technical Investigations

14 Tests

Tests were carried out and the results assessed to determine:

- water absorption
- water vapour permeability
- resistance to hard body impact
- resistance to soft body impact
- ease of overcoating
- adhesion of coatings.

15 Investigations

15.1 An assessment was made on data to BS EN 12467 : 2012, in relation to:

- dimensions
- bending strength
- apparent density
- resistance to freeze/thaw
- resistance to water soak
- resistance to soak/dry cycling
- resistance to heat/rain cycling
- water impermeability.

15.2 An assessment was made of existing data relating to:

- fire propagation
- surface spread of flame
- resistance to wind loading.

15.3 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.

15.4 Visits were made to sites where the product has been in service.

Bibliography

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*

BS 5534 : 2014 + A2 : 2018 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*

BS 8417 : 2011 + A1 : 2014 *Preservation of wood — Code of practice*

BS EN 1995-1-1 : 2004 + A2 : 2014 *UK National Annex to Eurocode 5: Design of timber structures. General. Common rules and rules for buildings*
NA to BS EN 1995-1-1 : 2004 + A2 : 2014 UK National Annex to *Eurocode 5: Design of timber structures — General*

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 12467 : 2012 + A2 : 2018 *Fibre-cement flat sheets — Product specification and test methods*

BS EN 13501-1 : 2002*Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

PD 6697 : 2019 *Recommendations for the design of masonry structures to* NA to BS EN 1996-1-1:2005+A1:2012 *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.