

APPROVAL SHEET
SUBMITTAL DETAILS

Document ref.	S 0	Revision	P01
Originator	BREL Facades	Date	02.09.25
Description	8 mm Hardie fibre cement panels A2, s1-d0		
Attention	HARRIS		
SRS code	-		
Notes	Hampton Court		

The documents listed below have been examined by the Subcontractor for conformity with the design intent and the contractors obligation under the project agreement –

Equipment specifying schedule		Builderswork requirements	
Manufacturer's data		Assembly and installation details	
Design check calculations		O&M information	
Certified performance data		List of recommended spares	
Quality assurance and control documents		Commissioning data	

Additional submission / supporting documentation details

Note:



APPROVAL SHEET

DESIGN TEAM REVIEW

Returned Status:

A

Accepted

B

Reviewed; accepted
subject to comments
below

C

Rejected; for the
reasons detailed
below

Comments:

Name:

Signed:

Date:

Technical Datasheet

Hardie® Panel

Facade cladding



A2 fire-rated performance that's affordable. With James Hardie, It's Possible™

- Design flexibility
- Durable
- Affordable performance
- A2 fire protection

15 Year
Warranty

Product

Hardie® Panel are 8mm or 11mm thick, large size and weather resistance facade panels made from fibre cement with coloured surface. James Hardie fibre cement is made of Portland cement, milled sand, cellulose fibres, water and selected additives.

Application

Purposely designed as an external cladding for residential and commercial buildings in both new build and renovation. Hardie® Panel cladding is a ventilated rainscreen system fixed to a main substrate of timber frame, steel frame or masonry wall construction. Hardie® Panel facade cladding can be installed horizontally and vertically, with or without insulation.

Approvals

Construction Material Class as per EN 13501-1: non-combustible A2-s1, d0

Properties

Fibre cement panels according to DIN EN 12467: Class 2, Type A, Level I

Thickness	8mm	11mm
Length	Raw: 3048 mm, Net*: 3038 mm	
Width	Raw: 1220 mm, Net*: 1210 mm	
Density	~ 1300 kg/m ³	
Weight	10,2 kg/m ²	14,4 kg/m ²
Thermal conductivity	$\lambda_{10, tr} = 0,23 \text{ W/mK}$	
Thermal resistance	R10, tr = 0,035 m ² K/W	R10, tr = 0,048 m ² K/W
Characteristic value: Flexural Strength (as per EN 12467)	16,0 MPa perpendicular to fibre direction 11,0 MPa parallel to fibre direction	17,7 MPa perpendicular to fibre direction 11,9 MPa parallel to fibre direction
Water absorption (as per DIN 52103:1988-10, Procedure A, 14 days):	30%	
Modulus of elasticity	6200 N/mm ²	
Linear Strain	≤ 0,5 mm/m	
Impact Resistance (as per EAD 090062-00-0404)	Category 1 (H1-3, S1-4)	

* we recommend trimming of 5mm per side for optimal squareness

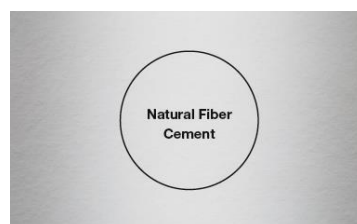
Dimensional tolerance for equilibrium moisture content for standard panel sizes as per EN 12467

Length tolerance	± 5 mm	
Width tolerance	± 3,66 mm	
Thickness tolerance	± 0,8 mm	± 1,1 mm
Squareness	2mm/m	

Textures and Colours

Front side with coloured coating and natural fibre cement surface
Backside: slightly rough, potentially paint residues.
Colour of the panel: light grey

Available in 6 standard colours and custom colour (RAL or NCS):



Storage

For 8mm thickness 25 panels and for 11mm thickness 18 panels are stacked on wooden pallets packed with a protective film against environmental impact. Outdoor storage is possible due to frost resistance of the product. A film cover must be used for protection against moisture and

Disposal

Disposal as per local regulations for concrete / fibre cement
EAK: 170101 (Concrete)

Warranty

15 years as per warranty statement

Additional Information

Our recommendations are based on extensive tests and practical experience. They do not replace guidelines, standards, approvals, and applicable technical data sheets. Due to the multitude of possible influences during processing and application, we recommend testing the processing and application prior to installation.

However, because of factors that fall beyond James Hardie's knowledge and control, which can affect the use of the products, no warranty is given or implied with respect to such information. James Hardie's policy is one of continuous improvement. James Hardie therefore reserves the right to alter specifications at any time and without notice. Delivery, processing, and warranty for the properties guaranteed by us are carried out in accordance with our General Terms and Conditions.

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™ and ® denote a trademark or registered trademark owned by James Hardie Technology Ltd and James Hardie Europe GmbH. Please check the latest version. Version: 06/2024 TDS-Hardie® Panel EN. Follow the latest version of the installation guide.

Your high performance
facade panel.
With James Hardie,
It's Possible™

Hardie® Panel

Hardie® Architectural Panel





IT'S POSSIBLE

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Hardie® Panel and Hardie® Architectural Panel are independently EPD certified for the full product lifecycle.



The ecobau institute in Switzerland has confirmed that Hardie® Panel is fulfilling the highest requirements concerning ecological performance by awarding the highest possible certificate of eco-1.



IT'S POSSIBLE™

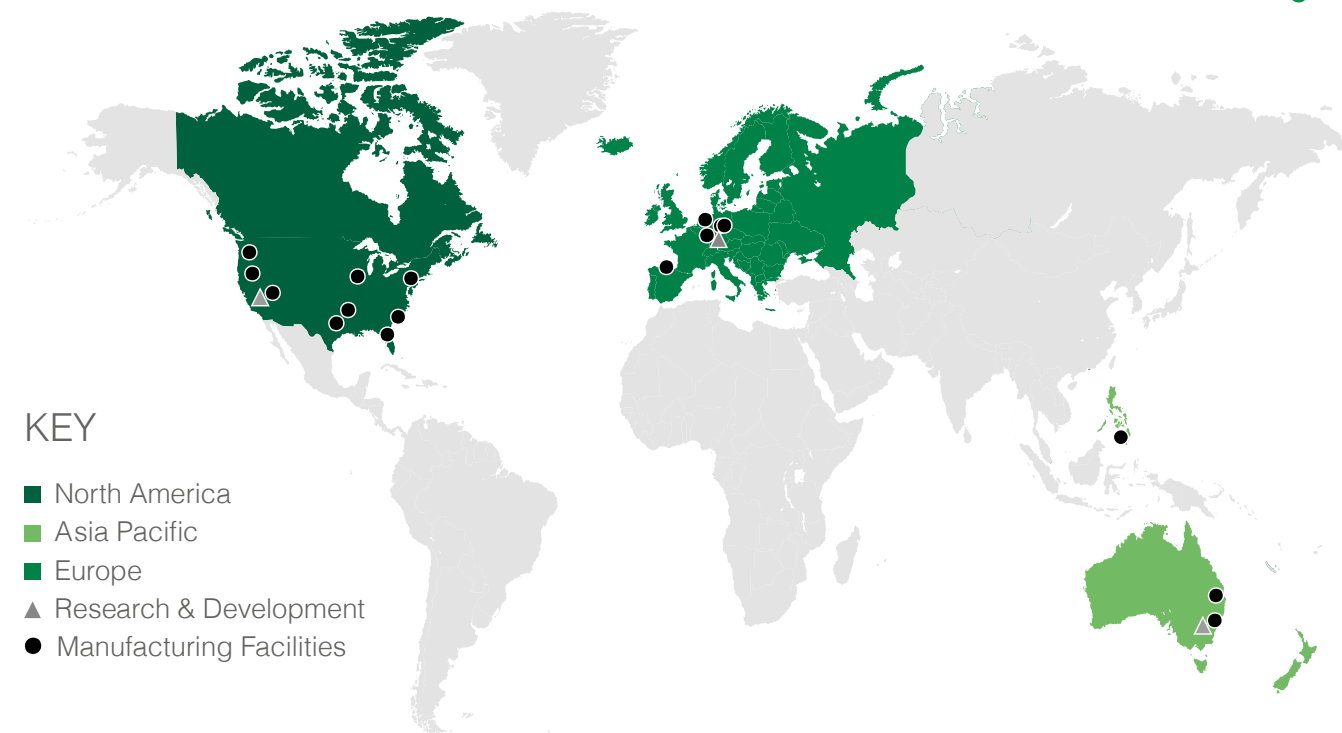
James Hardie™

James Hardie, leading the manufacture of high-performance fibre cement and fibre gypsum building solutions. As a trusted innovator and industry leader, we empower homeowners and building professionals alike to achieve their dreams with premium quality solutions.

Our products enable endless possibilities for designing forever homes and exceptional buildings, whilst also delivering trusted protection and long-lasting beauty.

We are a fast-paced company dedicated to our customers. We strive to deliver market driven innovation, an inclusive and empowering culture, and an unwavering commitment to our Zero Harm safety initiative. Whilst operating with a global mindset, we put great care into how our business can support the local communities in which we operate, live and work in.

Our cladding products not only create a stylish stand-alone solution, but also look great with other building materials such as stone, wood and brick, making design potential endless. We will provide sustainable solutions for your project, giving you affordable, individual designs, energy efficiency and everything you need to ensure your project looks stunning for years to come.



Build your projects with a global organisation that's been pursuing excellence since 1888.

**A2 FIRE RATED PERFORMANCE
THAT'S AFFORDABLE**

With James Hardie. It's Possible™



If you are looking for high performance, A2 fire-rated facade cladding at a competitive price – Hardie® Panel products are the right choice for your next project.

Whatever look you choose, you know you're getting the strength and durability your clients deserve.

A2
fire-rated

15 Year
Warranty



**Design
Flexibility**

A choice of textures in a range of stylish colours will enable you to build modern contemporary designs.

**A2 Fire
Protection**

James Hardie is the global leader of fibre cement products. You can trust in the quality of our A2-s1, d0 rated cladding, backed by an industry leading 15-year warranty.

**Affordable
Performance**

A smart, cost effective solution for every project, giving you style, quality and protection at an unmatched price.



HARDIE® ARCHITECTURAL PANEL

Brushed Concrete

HARDIE® ARCHITECTURAL PANEL

Smooth Sand

HARDIE® ARCHITECTURAL PANEL

Metallics

**Hardie®
Panel**

Building a better future for all™

Hardie® Panel and Hardie® Architectural Panel are medium-density fibre cement panels, specifically engineered to meet the European climate conditions for external cladding.

With their unmatched design flexibility in combination with affordability, they are the go-to ventilated facade cladding solution for renovation or new build. Not only built to last, they are also optimised for low resource use and related CO₂ emissions, setting new sustainability standards.



8 mm

For all building types.

11 mm

Achieves European Assessment Document 090062-00-0404 Category I for impact. For the first 1.5m height of the wall in high footfall areas.

Endless design possibilities

Hardie® Panel and Hardie® Architectural Panel are some of the most innovative products when it comes to fibre cement facade cladding.

They not only impress with performance but are also a real design all-rounder: pick any of our amazing colours or your individual colour, choose a texture, and make every project individual.

Hardie® Panel comes in a natural fibre cement surface. Hardie® Architectural Panel is available in two textures, Brushed Concrete, and Smooth Sand. All of the textures are available in 6 standard colours and custom colour.

An outstanding solution

Hardie® Architectural Panel Metallics combines the look of a fibre cement facade cladding with a special metallic look that comes in 6 metallic colours.

Application

Hardie® Panel and Hardie® Architectural Panel can be used in rainscreen facades and soffits, fixed to either timber, metal sub-frames or masonry walls using corrosion resistant fixings.

SMART SUSTAINABILITY
MEETS DESIGN FLEXIBILITY

Hardie® Architectural Panel



Technical values

Thickness	8 mm	11 mm
Length	Raw: 3048 mm Net: 3038 mm	
Width	Raw: 1220 mm Net: 1210 mm	
Density	~ 1300 kg/m³	
Weight	11,2 kg/ m²	13,7 kg/m²
Thermal conductivity	$\lambda_{10, tr} = 0,23 \text{ W/mK}$	
Thermal resistance	$R_{10, tr} = 0,035 \text{ m}^2\text{K/W}$	$R_{10, tr} = 0,048 \text{ m}^2\text{K/W}$
Flexural strength (as per EN 12467)	14,0 MPa perpendicular to fibre direction 8,5 MPa parallel to fibre direction	17,0 MPa perpendicular to fibre direction 11,8 MPa parallel to fibre direction
Modulus of elasticity	5100 N/mm²	
Linear Strain	$\leq 0.05 \text{ \%}^*$	
Impact Resistance (soft and hard impact as per EAD 090062-00-0404) ^{*1}	–	Category 1 (H1-3, S1-4)

A2
fire-rated

15 Year
Warranty

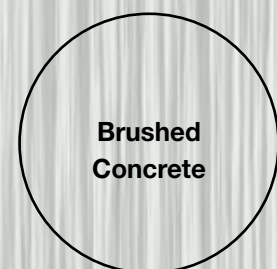


* between 30 % and 90 % rel. humidity
*1 on timber aluminum steel and NV3

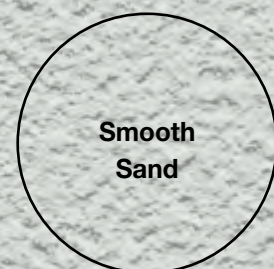
TEXTURE & COLOUR

Hardie® Architectural Panel

Hardie® Architectural Panel is available in two textures: Smooth Sand and Brushed Concrete. These textures will enable you to build modern, contemporary designs – specifically formulated to give you a long-lasting and low maintenance, consistent finish for years to come.



Brushed
Concrete

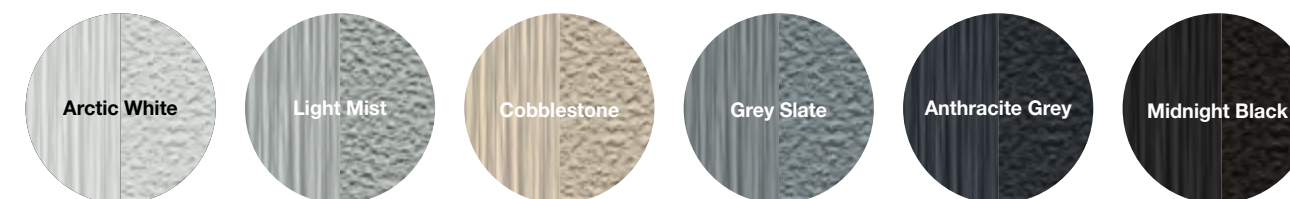


Smooth
Sand



A modern look

Our standard colour range gives a choice of minimalistic white, grey, beige or black tones to choose from. Pure one coloured facades or a combination of them will give your building a unique, modern and clean style. And for an even more individual aesthetic look you can request your individual custom colour on each of our surfaces.



Custom colour

Not the right colour for you? Hardie® Architectural Panel is available in custom colour – choose from your favourite colour systems like RAL or NCS – for unique buildings and maximum design flexibility.

CASE STUDY

Clarach Bay, Aberystwyth

Hardie® Panel has been utilised as the panel of choice on a unique leisure centre project. The project brief specified the use of non-combustible large format panels and required colours that matched the shoreline next to the project. With our colour flexibility we provided the look the client wanted. The architect and installer was impressed by not only the technical specification of the A2 fire-rated cladding, but also the quick availability and the competitive pricing which allowed the project to come in within the planned budget.



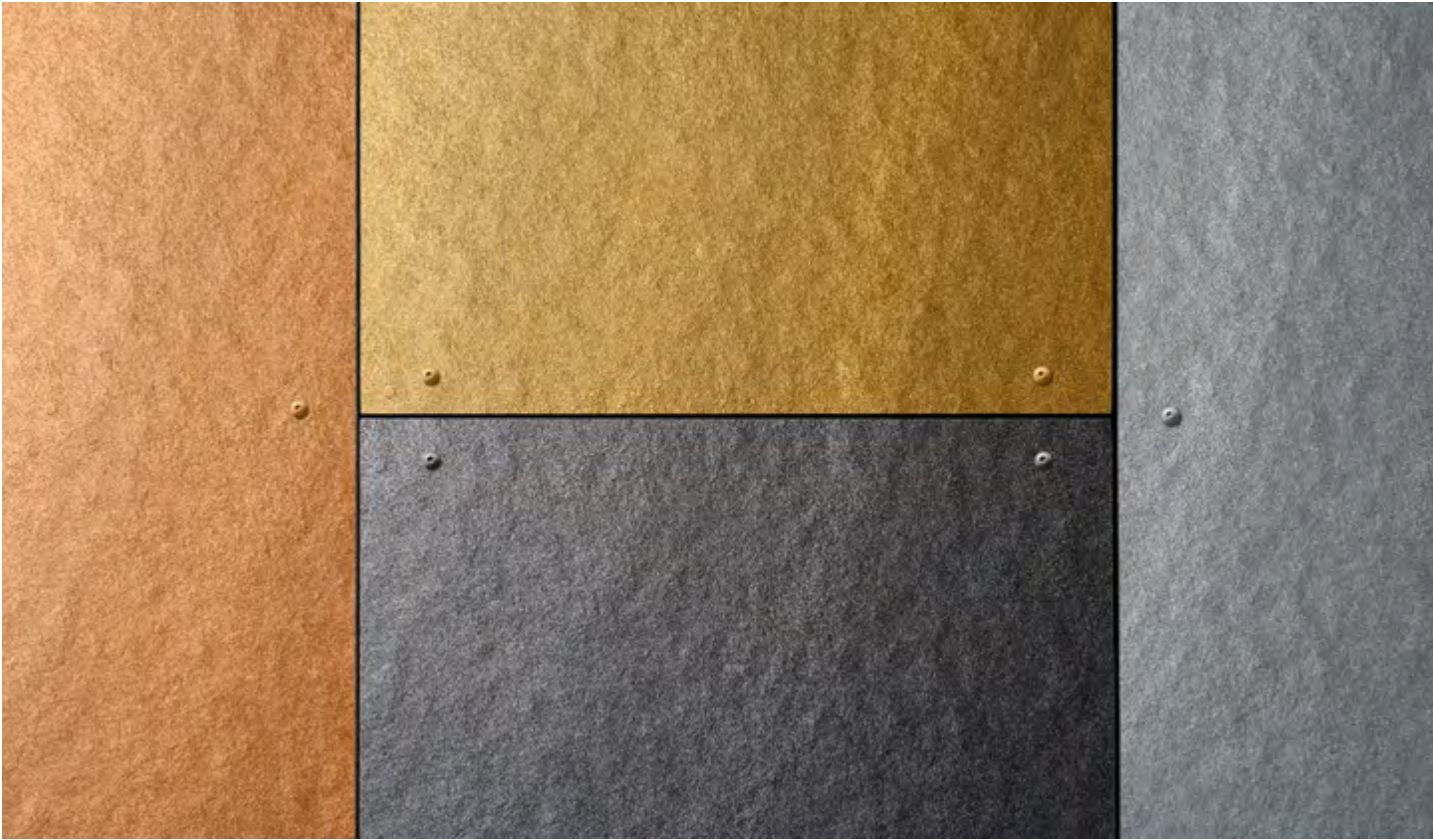
This development had its unique challenges and with the support of the manufacturer we were able to develop a solution that will withstand the salt, sea and air over time. We are certainly looking forward to working with James Hardie going forward and specifying any future innovations”.

Architect & Installer – Nick Carroll Architects



UNIQUE FIBRE CEMENT TEXTURE
WITH A METALLIC LOOK

Hardie® Architectural Panel Metallics



Technical values

Thickness	8 mm	11 mm
Length	Raw: 3048 mm Net: 3038 mm	
Width	Raw: 1220 mm Net: 1210 mm	
Density	~ 1300 kg/m³	
Weight	11,2 kg/ m²	13,7 kg/m²
Thermal conductivity	$\lambda_{10, tr} = 0,23 \text{ W/mK}$	
Thermal resistance	$R_{10, tr} = 0,035 \text{ m}^2\text{K/W}$	$R_{10, tr} = 0,048 \text{ m}^2\text{K/W}$
Flexural strength (as per EN 12467)	15,5 MPa perpendicular to fibre direction 10,1 MPa parallel to fibre direction	18,0 MPa perpendicular to fibre direction 12,5 MPa parallel to fibre direction
Modulus of elasticity	6200 N/mm²	
Linear Strain	$\leq 0.05 \text{ \%}^*$	
Impact Resistance (soft and hard impact as per EAD 090062-00-0404) ^{**1}	–	Category 1 (H1-3, S1-4)

A2
fire-rated

15 Year
Warranty



* between 30 % and 90 % rel. humidity
**1 on timber aluminum steel and NV3

Hardie® Architectural Panel Metallics

Your perfect match: Hardie® Architectural Panel
Metallics combines the advantages of fibre cement
facade cladding with a metallic look. Elevating your
design flexibility to a new level.



Silver



Gold



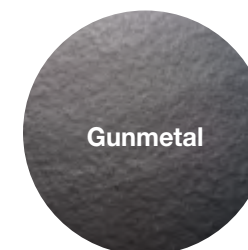
Copper



Steel



Bronze



Gunmetal

Setting accents

Our Metallics colourline has been inspired by typical metal materials, combining them with the unique look of our fibre cement surface.

When exposed to natural sunlight, the facade panel will show its metallic sparkling, allowing you to integrate special accents into your building.

MEDIUM DENSITY FIBRE CEMENT
ENGINEERED FOR EUROPEAN CLIMATE

Hardie® Panel



Technical values

Thickness	8 mm	11 mm
Length	Raw: 3048 mm Net: 3038 mm Raw: 2438mm Net: 2428mm	
Width	Raw: 1220 mm Net: 1210 mm	
Density	~ 1300 kg/m³	
Weight	11,2 kg/ m²	13,7 kg/m²
Thermal conductivity	$\lambda_{10, tr} = 0,23 \text{ W/mK}$	
Thermal resistance	$R_{10, tr} = 0,035 \text{ m}^2\text{K/W}$	$R_{10, tr} = 0,048 \text{ m}^2\text{K/W}$
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A2
fire-rated

15 Year
Warranty

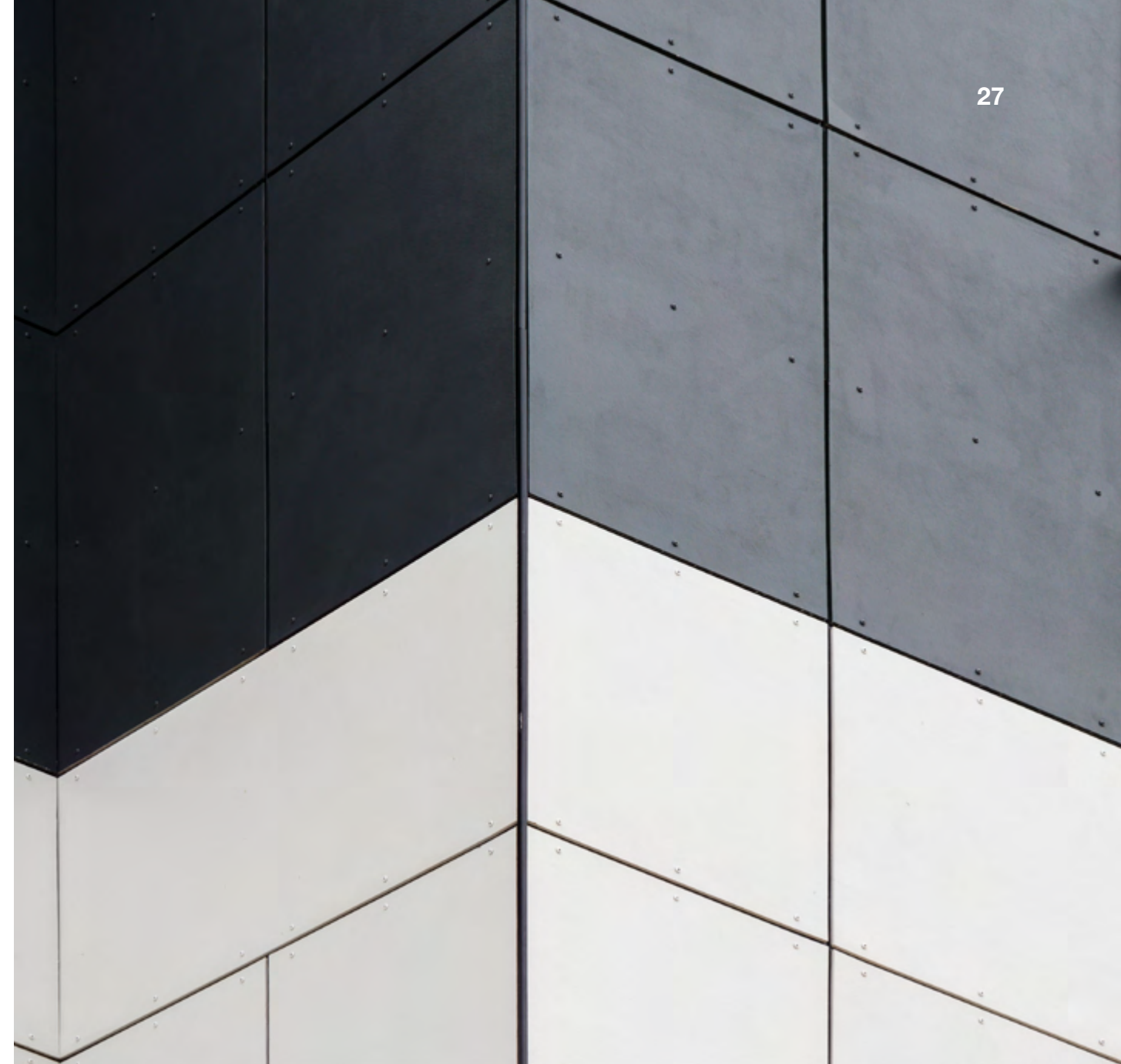


^{*} between 30 % and 90 % rel. humidity
^{*1} on timber aluminum steel and NV3

TEXTURE & COLOUR

Hardie® Panel

Hardie® Panel is available in a natural fibre cement texture and a variety of core colours – and if you need something special, you can choose from almost any colour – for your individual design.



Modern colours for clean lines

For your individual look, you can play with one of our standard colours from the modern colourline we offer. Or further upgrade your building by adding in or choosing your individual custom colour.



Custom colour

Not the right colour for you? Hardie® Panel is available in custom colour – choose from your favourite colour systems like RAL or NCS – for unique buildings and maximum design flexibility.

CASE STUDY

Mitcham Road, London

Featherstone Homes completed this luxury development of 22 apartments in London using custom colour Hardie® Panel. The project spanned 800m² and required our products to be used in walkways, balconies and soffits. The developer's commitment to their projects is to help purchasers move in to a home which has been built to exceptional standards and therefore chose James Hardie as one of their trusted partners due to the quality of our products. This is their fourth project working with us.



James Hardie have been amazing! Their level of professionalism and commitment towards supplying the cladding at Mitcham was outstanding. James Hardie offers a profound service, they aim to understand their clients needs and execute the task effectively every-time.”

Company Buyer – Sam Waters

A Reliable System



Our accessories were developed for easy installation and perfectly complement to our Hardie® Panel cladding range, providing an overall system you can rely on.

Hardie™ Panel MetalTrim™ profiles are the perfect finish for a modern facade with accessories that fit the panel colour perfectly, by creating a nice contrast with colour-headed fixings and profiles. Colour matched rivets or screws can also be sourced for your project.



Hardie™ Panel MetalTrim™

Length: 3000 mm, for exterior corners. Available in all standard colours to match the Hardie® Panel range.



Hardie™ Panel Standing Seam Trim

Length: 3000 mm, facade design option. Available in Anthracite Grey and Midnight Black. Other colours available on request.



Hardie™ Panel Standing Seam End Trim

Length: 3000 mm, facade design option. Available in Anthracite Grey and Midnight Black. Other colours available on request.



Hardie™ Panel Rivet

with stainless steel rivet mandrel for the installation of Hardie® Panel cladding to metal sub-frames.



Hardie™ Panel screws for timber

A2 stainless steel screws for attaching the Hardie® Panel cladding to wooden sub-frames.



Hardie™ Seal edge coating

Essential for optimum installation. Use for coating cut ends to ensure long lasting performance of the facade.



Expertise on your Side

Our dedicated team of Hardie® Panel experts have extensive experience and specialist knowledge to support your project, so contact us to see how we can help meet your requirements. Trust our fibre cement products knowing that you have made the best choice.



Chose your fixing system:

Hardie® Panel can be used with most standard fixing systems on the market. Contact our team for further technical details on the solutions.



Hardie® Panel
Screw Fixing



Hardie® Panel
Rivet Fixing



Hardie® Panel
Secret Fix

INNOVATIVE PRODUCT DESIGN MEETS

Smart Sustainability

Hardie® Panel and Hardie® Architectural Panel are setting new sustainability standards in facade cladding for CO₂ and use of resources – EPD verified.



Innovative Medium Density for European Climate

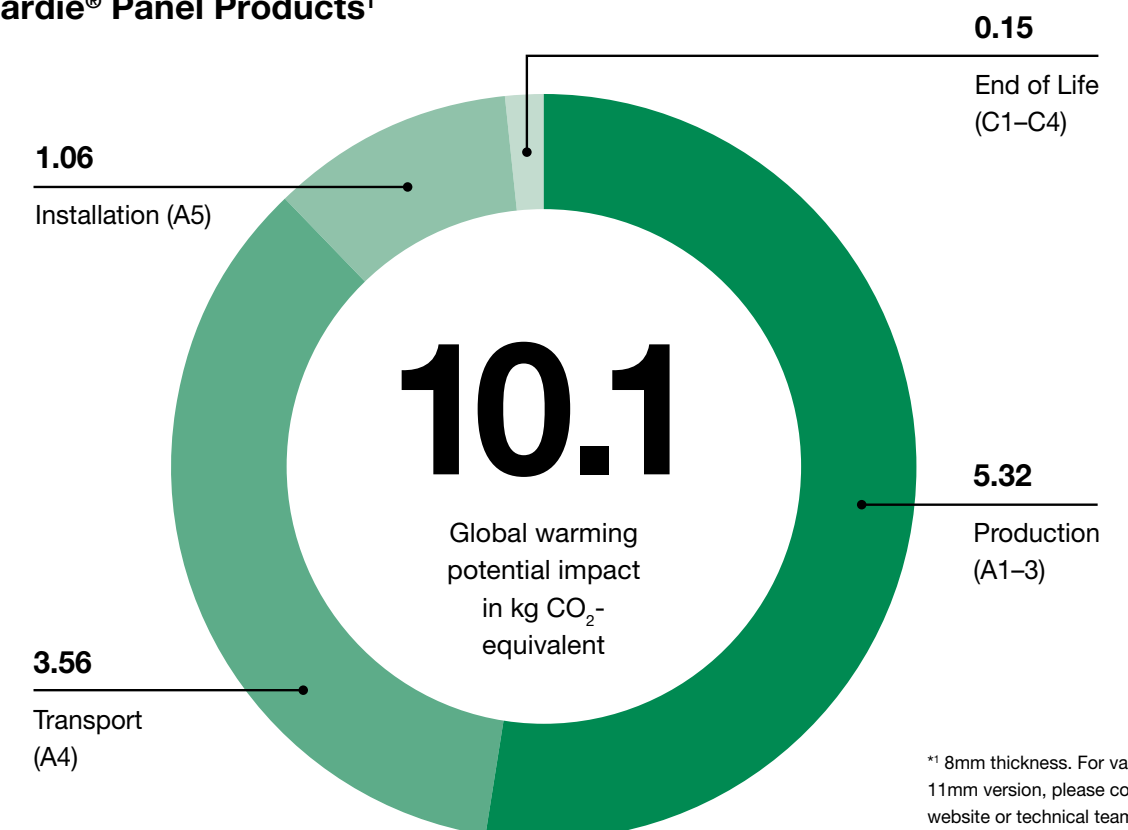
For our advanced generation of products, we use medium density fibre cement that minimises resource and CO₂ levels.

Perfectly adapted to the European climate. Perfect suitability for all applications.

- **Smart sustainability** meets endless design possibilities
- **Lowest global warming potential** amongst non-combustible facade materials*
- **Unique technology** engineered for durability in European climate

*production, transport, installation and end-of life stage

Total lifecycle emissions for all Hardie® Panel Products¹



Technical Information



Composition

Hardie® Panel cladding products are made of Portland cement, sand, cellulose fibres, water and selected additives.

Quality & Certification

The production of Hardie® Panel cladding is audited annually by external auditors. Hardie® Panel cladding product specifications and classifications comply with EN 12467:2012 and EN13501-1.



Applications

Purposely designed as an external cladding for residential and commercial buildings in both new build and renovation. Hardie® Panel is a cladding material for rainscreen systems fixed to a main substrate of timber frame, metal frame or masonry wall construction. Hardie® Panel cladding can be installed horizontally and vertically, with or without insulation.

Squareness

The panels are supplied square and straight according to EN12467 – level 1.

Sub-Frame

Hardie® Panel cladding can be installed on timber, aluminium or steel sub-frames using corrosion resistant screws or rivets.

Easy installation

Cutting with Hardie™ Blade saw blade, suitable for most cable- or battery-powered circular saws.

Approvals

Construction material class as per EN 13501-1: has a fire classification of A2-s1,d0.

Properties

Fibre cement panels according to EN 12467 – Type A, class 2.

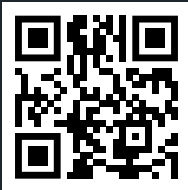
INNOVATIVE PRODUCT DESIGN MEETS

Project Support

Our dedicated team of Hardie® Panel experts have extensive experience and specialist knowledge to support your project. Trust our fibre cement products knowing that you have made the best choice. Contact us using the QR code below to see how we can help meet your requirements.



Contact your local Hardie® Panel expert:
jameshardie.co.uk/local-representative



Find all technical documents:
jameshardie.co.uk/technical-literature



Order your Hardie® Panel sample now:
jameshardie.co.uk/panel-sample-request



Custom colour

Choosing individual colours for your projects gives you unlimited design flexibility. How will your next project with Hardie® Panel facade panels look like?

You will find the latest version of this brochure in digital form on our website. Technical modifications subject to changes. Should you require additional information, please contact our customer service. All products are guaranteed for 15 years. Further information on our guarantee promise can be found on our website.

Last updated 04/2025

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Agrément Certificate

05/4248

Product Sheet 2

JAMES HARDIE CLADDING SYSTEMS

HARDIEPANEL (SOFFIT APPLICATION)

This Agrément Certificate Product Sheet⁽¹⁾ relates to HardiePanel⁽²⁾, a fibre-reinforced Portland cement-based soffit board, for use in new and existing buildings as an exterior non-loadbearing, decorative cladding for the underside of roof overhanging eaves or balconies fixed directly over timber truss members, steel or masonry substrate or aluminium substrate.

(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, will contribute to enabling a roof or balcony to meet national Building Regulations. The risk of interstitial condensation will depend on the location and humidity class and should be assessed for each project (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 Second issue: 22 July 2021

Originally certificated on 25 June 2005

Hardy Giesler
Chief Executive 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 MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.*

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

British Board of Agrément

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www.bbacerts.co.uk

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 sections 7.1, 7.2 and 7.7 of this Certificate.	
Requirement:	C2(c)	Resistance to moisture
Comment:	The risk of interstitial condensation must be assessed for each construction. The product can adequately limit the risk of surface condensation provided the necessary ventilation area is maintained within the roof space. See sections 4.2 to 4.4 and 8 of this Certificate.	
Regulation:	7(1)	Materials and workmanship
Comment:	The product is acceptable. See section 10 and the <i>Installation</i> 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 <i>Installation</i> part of this Certificate.	
Regulation:	9	Building standards applicable to construction
Standard:	1.1(a)(b)	Structure
Comment:	The product is acceptable for use, with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ . See sections 4.2 to 4.4 and 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 sections 7.1, 7.2 and 7.6 of this Certificate.	
Standard:	3.15	Condensation
Comment:	The risk of interstitial condensation must be assessed for each construction. The product will contribute to enabling a roof to comply with clauses 3.15.1 ⁽¹⁾ , 3.15.2 ⁽¹⁾ and 3.15.4 ⁽¹⁾ of this Standard. See sections 4.2 to 4.5 and 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)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The product is acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Condensation
Comment:		The risk of interstitial condensation must be assessed for each construction. See section 8 of this Certificate.
Regulation:	30	Stability
Comment:		The product is acceptable for use as set out in sections 4.2 to 4.4 and 6 of this Certificate.
Regulation:	35(4)	Internal fire spread (structure)
Comment:		The product is unrestricted by this Regulation, however use of the product over timber supports is restricted in some cases. See section 7.2 of this Certificate.
Regulation:	36(a)	External fire spread
Comment:		The product is unrestricted by this Regulation. See sections 7.1 and 7.2 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 3.5) and 11 *General* (11.5) of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, the use of HardiePanel in soffit and eaves applications, in relation to this Certificate, is not subject to the requirements of these Standards.

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 soffit board, satisfying the requirements of Category A, Class 2 boards in accordance with BS EN 12467 : 2012.

1.2 The product has the following characteristics:

Thickness (mm)	8
Width (mm)	1220
Length (mm)	3050
Weight (kg·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:

- breather membrane meeting the requirements of BS 5250 : 2011
- galvanized or stainless-steel nail fixings, 40 mm long by 2.4 mm diameter, with a minimum 5.7 mm head diameter for fixing soffit panels to timber battens
- stainless-steel self-drilling/tapping T20 drive, 4.8 mm x 38 mm screws with a 12 mm Torx head diameter for fixing the soffit panels to timber battens
- stainless-steel T25 drive, 5.5 mm x 25 mm screws, with a minimum head diameter of 12 mm for fixing the soffit panels to aluminium subframes
- aluminium rivets (AlMg3 EN AW-5754), 5 x 16 mm, with a minimum head diameter of 14 mm – for securing the cladding panels to aluminium subframes.

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

- James Hardie EPDM tape for protection of timber battens on board joints
- PVC or metal 'H' profile joint trims for covering butted joints between the boards
- proprietary soffit ventilators designed to provide the minimum ventilation recommended in BS 5250 : 2011 and the national Building Regulations
- flexible joint sealant.

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 boards are delivered on wrapped pallets weighing between 900 and 2200 kg depending on the size of the product. 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, with the edges and corners protected from breakage. Stacks of loose boards should not exceed one metre in height.

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

3.4 If for any reason the boards become wet, they should be allowed to dry prior to installation.

3.5 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 externally as an exterior non-loadbearing, decorative cladding for the underside of roof overhanging eaves or balconies fixed directly over timber truss members, or aluminium or steel substrate.



4.2 The designer must ensure that the strength and integrity of the intended substrate is commensurate with that required of the soffit boards. The boards must be fixed only to sound substrates at centres not exceeding 600 mm.

4.3 Framing must have sufficient strength and stiffness to accept the boards, and to resist and transmit any dead and imposed loads that may be applied to the structure.

4.4 New timber should be provided with preservative treatment in accordance with the recommendations given in BS 8417 : 2011. Guidance on recommended wood preservation is also given in *NHBC Standards 2014, Part 2 Materials*, Chapter 2.3 *Timber preservation (natural solid timber)*. Care should be taken to ensure sufficient time is allowed for complete curing or drying of the preservative before the boards are fixed to the substructure.

4.5 Ventilated boards can contribute towards providing the necessary roof space ventilation. Guidance on the provision of the minimum adequate ventilation to avoid condensation is given in BS 5250 : 2011 and the national Building Regulations.

4.6 Appropriate ventilation may be provided by the use of additional ventilation grilles (see section 1.5 for details).

5 Practicability of installation

The product must be installed by a competent general builder, or a contractor, experienced with this type of product.

6 Strength and stability

Wind loading



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 will be pull-through/shear through the panel of the fixings owing to wind suction.

6.3 When installed in accordance with the requirements of this Certificate, the boards will withstand, without permanent deformation or damage, the design wind actions likely to be encountered in the UK. The panel can withstand dynamic wind pressures shown in Table 1.

Table 1 Maximum wind pressure

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

(1) Minimum nail head diameter 5.7 mm.

(2) Self-drilling/tapping screw with 12 mm head diameter.

(3) Minimum rivet head diameter 14 mm.

6.4 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 fixings of substrate (outside the scope of this Certificate).

6.5 The boards have adequate resistance to the hard and soft body impacts likely to occur in practice.

6.6 The boards are not designed to be load-bearing and therefore must not be independently used to support fixtures. Items required to be attached to the soffit must be fixed in line with the structural framing elements and only after ensuring that the required loads can be accommodated.

7 Performance in relation to fire



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

7.2 The product is not subject to any restriction in 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 m², or on any hospital or residential care building with a total storey area more than 200 m².



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 can limit the risk of interstitial condensation when it is installed in accordance with BS 5250 : 2011 and the *Installation* part of this Certificate.

8.2 Provision must always be made to allow water that has penetrated behind the soffit boards to drain away.

9 Maintenance



Under normal conditions, maintenance is restricted to occasional cleaning, maintenance painting, localised repairs and replacing of elements such as joint seals and fixings. Advice regarding recoating and maintenance procedures can be obtained 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 In common with other cementitious materials, the matrix material 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 Installation of HardiePanel must be carried out in accordance with the Certificate holder's instructions and the requirements of this Certificate.

11.2 The boards must be fixed to a sound timber frame or metal frame (aluminium or steel), using suitable corrosion-resistant nails and screws.

11.3 Large cut-outs can be made using a circular saw, and small holes may be drilled using a carbide-tipped knife, or scored and snapped upwards along the scoring line.

11.4 When a penetration in the board is required, a hole should be formed using a hole saw. The hole should be made approximately 8 mm larger in diameter than the penetration, and the gap sealed with a suitable sealant.

11.5 When cutting the boards, especially when using power tools, precautions should be taken to avoid exposure to silica dust. Suitable personal protective equipment must be used.

11.6 Calculations should be made to ascertain if the resulting roof ventilation conforms to the requirements of relevant Building Regulations or whether additional ventilation is required.

12 Procedure

12.1 The boards should be fixed at maximum 600 mm centres along their length and 300 mm centres across their width, using the nails or screws described in section 1.4.

12.2 A gap should be maintained between the fascia and the edge of the HardiePanel to allow for drainage/vent gap at this location; fixings must be provided at the distance specified in the *Installation* manual.

12.3 The boards are butted together in moderate contact or can be fixed with an open joint with a maximum width of 8 mm. In both cases the joint must be supported behind by a metal rail or timber batten; the latter should be protected by the installation of James Hardie's EPDM (see Figures 1 and 2).

Figure 1 HardiePanel balcony soffit on metal frame

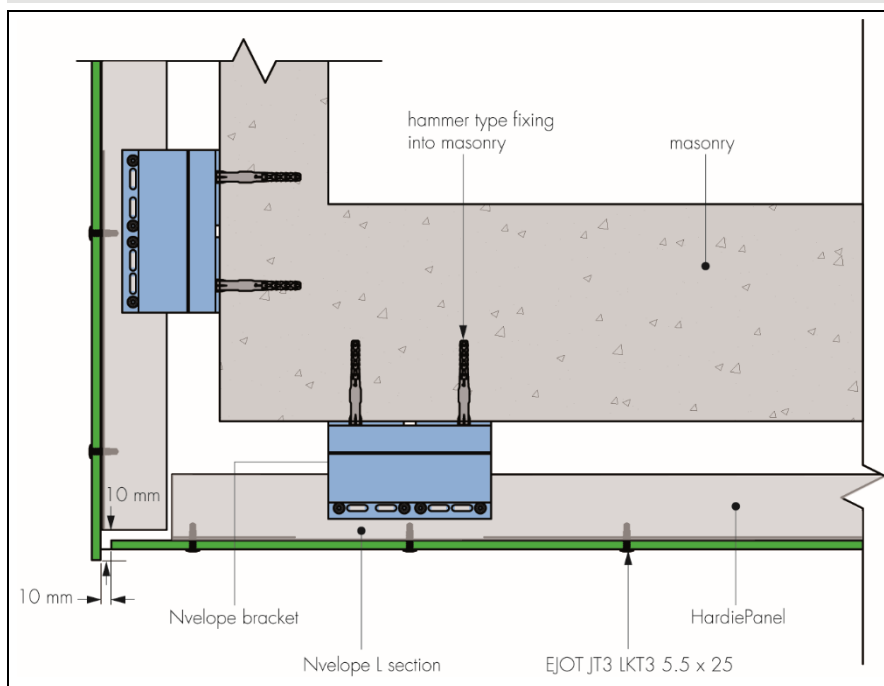
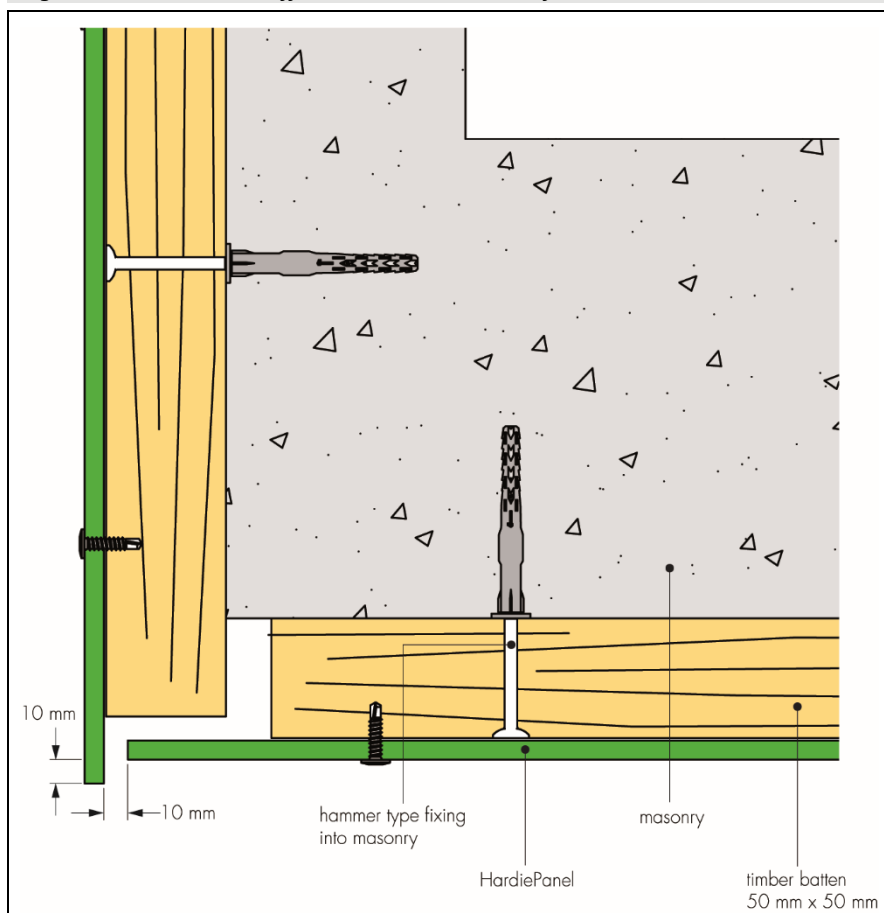


Figure 2 HardiePanel soffit detail on timber Sub frame



12.4 Building expansion joints should be followed through the boards.

13 Tests

Tests were carried out and the results assessed to determine:

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

14 Investigations

14.1 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.

14.2 An assessment was made of existing data relating to:

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

14.3 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.

14.4 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 8417 : 2011 + A1 : 2014 *Preservation of wood — Code of practice*

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

BS EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

ISO 8336 : 2017 *Fibre-cement flat sheets — Product specification and test methods*

15 Conditions

15.1 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.

15.2 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.

15.3 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.

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

15.5 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.

15.6 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.