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Agrément Certificate

04/4147

Product Sheet 2 Issue 1

JAMES HARDIE CLADDING SYSTEMS

HARDIE VL PLANK

This Agrément Certificate Product Sheet⁽¹⁾ relates to Hardie VL Plank, an external fibre-reinforced cement plank, for use in a vertical or horizontal orientation as an exterior non-loadbearing interlock cladding on timber supports over masonry, concrete, steel- and timber-frame substrate walls in residential and commercial buildings.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review



KEY FACTORS ASSESSED

- Section 1. Mechanical resistance and stability
- Section 2. Safety in case of fire
- Section 3. Hygiene, health and the environment
- Section 4. Safety and accessibility in use
- Section 5. Protection against noise
- Section 6. Energy economy and heat retention
- Section 7. Sustainable use of natural resources
- Section 8. Durability

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 issue: 13 September 2023

A handwritten signature in black ink, appearing to read 'Hardy Giesler'.

Hardy Giesler
Chief Executive Officer

Certificate amended on 30 April 2024 to update ancillary items, Table 1, section 2 and Figure 2.

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

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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SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Hardie VL Plank, 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 Building Regulations 2010 (England and Wales) (as amended)

Requirement:	A1	Loading
Comment:		The product is acceptable for use as set out in section 1 of this Certificate.
Requirement:	B3(4)	Internal fire spread (structure)
Comment:		The product can contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement:	B4(1)	External fire spread
Comment:		The product is restricted by this Requirement. See section 2 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product does not provide a watertight or airtight facing but will resist the passage of rainwater to the supporting structure. See section 3 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	7(2)	Materials and workmanship
Comment:		The product may be restricted by this Regulation. See section 2 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See section 9 of this Certificate.
Regulation:	8(3)	Fitness and durability of materials and workmanship
Comment:		The product may be restricted by this Regulation. See section 2 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⁾ of this Standard. See section 1 of this Certificate.
Standard:	2.4	Cavities
Comment:		The product can contribute to satisfying this Standard with respect to clause 2.4.2 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product may be restricted by this Standard with respect to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See section 2 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product may be restricted by this Standard with respect to clause 2.7.1 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.

Standard:	3.10	Precipitation
Comment:		The product does not form a watertight or airtight facing but will resist the passage of rainwater to the supporting structure, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ , 3.10.5 ⁽¹⁾⁽²⁾ and 3.10.6 ⁽¹⁾⁽²⁾ of this Standard. See section 8 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for the 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(1)(a)	Fitness of materials and workmanship
Comment:	(i)(iii)(b)(i)	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	23(2)	Fitness of materials and workmanship
Comment:		The product may be restricted by this Regulation. See section 2 of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The product does not form a watertight or airtight facing but will resist the passage of rainwater to the supporting structure. See section 3 of this Certificate.
Regulation:	30	Stability
Comment:		The product is acceptable. See section 1 of this Certificate.
Regulation:	35(4)	Internal fire spread (structure)
Comment:		The product can contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	36(a)	External fire spread
Comment:		The product may be restricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Hardie VL Plank, 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 *Superstructure (excluding roofs)*, Chapters 6.1 *External masonry walls*, 6.2 *External timber framed walls*, 6.9 *Curtain walling and cladding* and 6.10 *Light steel framed walls and floors*.

Fulfilment of Requirements

The BBA has judged Hardie VL Plank to be satisfactory for use as described in this Certificate. The product has been assessed as a fibre-reinforced Portland cement cladding plank, for use in a vertical or horizontal orientation as an exterior non-loadbearing interlock cladding on timber supports over masonry, concrete, steel- and timber-frame substrate walls in residential and commercial buildings.

ASSESSMENT

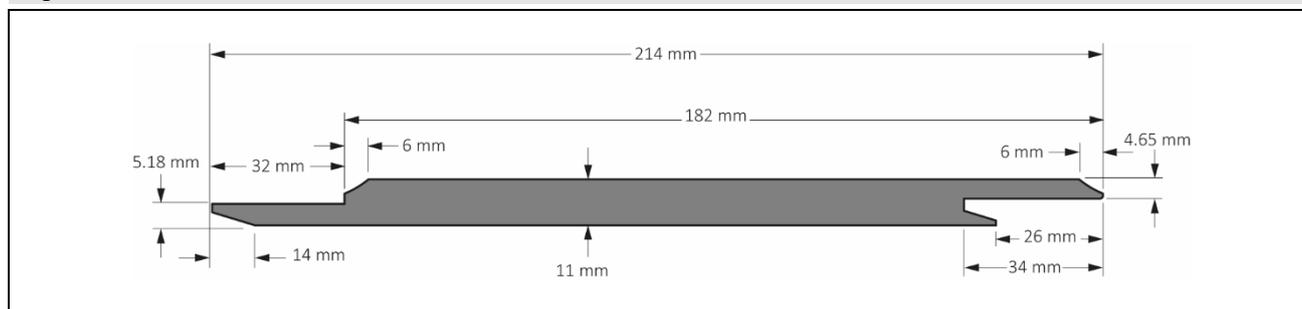
Product description and intended use

The Certificate holder provided the following description for the product under assessment. Hardie VL Plank consists of a fibre-reinforced Portland cement cladding plank with an interlocking longitudinal and a butted traverse joint (see Figures 1 and 2).

The product has the following physical characteristics:

Nominal thickness (mm)	11
Overall width (mm)	214
Cover width (mm)	182
Length (mm)	3600
Density (kg·m ⁻²)	12.4
Average density (kg·m ⁻³)	1130
Finish	textured.

Figure 1 Hardie VL Plank



The plank is supplied factory-primed and coated with ColorPlus⁽¹⁾. The performance of the primer and ColorPlus, including the durability of the coating system, 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.

Ancillary Items

The following ancillary items must be used with the product and have been assessed with the product:

- fixings
 - ring shank nails with the minimum specifications of 35 mm in length by 2.6 mm diameter (head diameter of 6.5 mm), see Table 1
 - stainless steel screws for timber A2 - 4.2 × 40 mm screws, with 10 mm diameter T15 Torx head.

The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- sheathing board
- breather membrane
- ethylene propylene diene monomer (EPDM) joint tape
- starter profile
- ventilation profiles
- window reveal trim
- 2-part external corner trim
- vertical application internal corner trim
- window head and vertical starter trim
- 'J' profile for internal corners and under windowsills
- drip profile for the product
- edge coating seal
- internal and external metal corner profiles
- coated aluminium corner profiles
- timber supports — minimum 25 by 50 mm preservative-treated battens used as framing to support the product at maximum 600 mm centres
- sheathing — of a suitable material used in conjunction with steel- and timber-frames
- mesh to prevent the ingress of birds, vermin and insects
- cavity barriers.

Application

The product is intended for use as a decorative and protective, interlock-jointed, back-ventilated and drained external cladding over vertical or horizontal timber supports on to masonry, steel- and timber-frame substrate walls of new and existing buildings above the damp-proof course (DPC) level.

The product is subject to height restrictions as defined in section 2 of this Certificate.

Product assessment – key factors

The product was assessed for the following key factors, and the outcomes of the assessments is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Wind loading

When tested for dynamic wind loading to EAD 090062-00-0404 : 2018, the product, when installed horizontally using 400, 600 and 625 mm support centres, achieved the ultimate wind load pressure values given in Table 1. These ultimate wind load pressure values also apply to the system with vertical installation.

Table 1 Ultimate wind load pressure values

Support type	Timber support centres (mm)	Fixing type/dimensions (mm)	Fixings centres (mm)	Ultimate wind load pressure values (kPa)	Design wind resistances (kPa) (!)
Timber supports (minimum 45 mm wide x 100 mm deep)	400	IM 45 nails, 2,6 x 35 mm (6.5 mm head diameter)	• horizontal installation – 400 mm centres horizontally and fixed at 180 mm vertical centres	5.4	2.7
	600	IM 45 nails, 2,6 x 35 mm (6.5 mm head diameter)	• horizontal installation – 600 mm batten centres horizontally and fixed at 180 mm vertical centres	3.2	1.6
	625	IM 45 nails, 2,6 x 35 mm (6.5 mm head diameter)	• horizontal installation – 352 mm batten centres horizontally and fixed at 180 mm vertical centres	2.8	1.4
T15 screw, 3,4 x 40.2 mm (10 mm head diameter)			5.6	2.8	

(1) Design resistances are derived from ultimate wind load pressure values divided by the partial material factor of 2.

1.2 Resistance to impact

1.2.1 Resistance to impact test results are given in Table 2 and the Use Categories are defined in Table 3.

Table 2 Hard and soft body impacts

Product assessed	Assessment method	Requirement	Result
A system comprising 11 mm thick planks with overall width of 214 and 3600 mm long, with a 32 mm interlock, attached to timber batten supports at 600 mm spacings	EAD 090062-00-0404 : 2018	EAD 090062-00-0404 : 2018, Table G.2	Product is suitable for Use Categories III and IV

Table 3 Definition of Use Categories (reproduced from EAD 090062-00-0404 : 2018 Table G.2)

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: Categories I and II shown for information only and the product has not been assessed for use in these areas.

1.2.2 On the basis of data assessed, the product can accept the wind actions likely to be met in service in the UK.

1.3 Structural and mechanical properties

1.3.1 Structural performance

The results of modulus of rupture tests are given in Table 4.

Table 4 Modulus of rupture

Product assessed	Assessment method	Requirement	Result
Hardie VL Plank	BS EN 12467:2012	Class 2	Pass

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

2.1.1 The product achieved the classification shown in Table 5.

Table 5 Reaction to fire

Product assessed	Assessment method	Requirement	Result
Hardie VL Plank with ColorPlus coating	BS EN 13501-1 : 2018 Report WF 408013	Declared value	A2-s1,d0
Mounted in construction applications used with or without thermal insulation over any substrate having a fire performance of A2-s1, d0 or better (excluding paper faced gypsum plasterboard) with a minimum 20 mm air gap, mechanically fixed to timber or metallic subframe	and BS EN 15725 : 2010 and DD CEN/TS 15117 : 2005 EXAP report 426883 Iss3		

2.1.2 The product, installed on a non-combustible substrate, is not subject to any restriction in building height or proximity to boundary as defined in the national Building Regulations.

2.1.3 In England, when installed using timber battens, the product must not be used on buildings that have a storey more than 18 m above ground level and which contain: one or more dwellings, an institution, a room for residential purposes, a room in a hostel, hotel or boarding house, student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools.

2.1.4 In Wales, when installed using timber battens, the product must not be used on buildings that have a storey at least 18 m above ground level and which 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.

2.1.5 In Scotland, when installed using timber battens, the product must not be used one metre or less from a relevant boundary or on buildings with a storey 11m or more above the ground.

2.1.6 In Northern Ireland when installed using timber battens, the product must not be used on buildings that have a storey at least 18 m above ground level.

2.1.7 If overcoating, care must be taken when selecting a coating system to ensure that the fire performance of the installation is not compromised.

2.1.8 Cavity barriers should be placed in accordance with the documents supporting the national Building Regulations and should not impede drainage and ventilation pathways.

2.1.9 Designers should refer to the relevant national Building Regulation guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, service penetrations and combustibility limitations for other materials and components used in the overall wall.

2.1.10 Where a wall incorporating the product is required to achieve a period of fire resistance, its performance should be confirmed by a suitably qualified and experienced individual or by a test from a suitably accredited laboratory.

3 Hygiene, health and the environment

Not applicable.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in this product were assessed.

8.1.1 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 expected service life in excess of 30 years.

8.1.2 The durability of the coating has not been assessed by the BBA and is outside of the scope of this Certificate.

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The substrate wall and the subframe to which the product is fixed must be structurally sound and satisfy the requirements of the relevant national Building Regulations and Standards:

- timber-frame walls must be designed and constructed in accordance with PD 6693-1 : 2019, BS EN 1995-1-1 : 2004 and BS EN 1995-1-2 : 2004 and their UK National Annexes, with workmanship in accordance with BS 8000-5 : 1990 and preservative-treated in accordance with BS EN 351-1 : 2007 and BS 8417 : 2011
- steel-frame walls must be structurally sound, and designed and constructed in accordance with BS EN 1993-1-1 : 2005, BS EN 1993-1-2 : 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, and BS 8000-0 : 2014, BS 8000-3 : 2020 and PD 6697 : 2010
- concrete walls must be designed and constructed in accordance with BS EN 1992-1-1 : 2004 and BS EN 1992-1-2 : 2004, and their UK National Annexes.

9.1.2 Designers, planners, contractors and/or installers must ensure that the installation of the product is in accordance with the Certificate holder's instructions and the information given in this Certificate. All design aspects should be checked by a suitably qualified and experienced individual in accordance with the requirements of the relevant national Building Regulations and Standards.

9.1.3 The wind actions on the wall should be calculated in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex, and the recommendations of BS 5534 : 2014. Due consideration should be given to 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 ultimate wind load to be resisted by the cladding system incorporating the product.

9.1.4 A suitably qualified and experienced individual should ensure that:

- the design of the sub-frame is in accordance with the relevant Codes and Standards and has adequate resistance to any actions imposed to (also see section 4.2)
- the proposed system and associated fixing layout provide adequate resistance to wind actions
- the fixings attaching the product to the support subframe have adequate pull-out strength to resist loads imposed by the cladding system
- fixings have an adequate tensile pull-out strength.

9.1.5 The substrate wall must have sufficient strength to resist independently the loads imposed directly by the product and the wind actions normally experienced in the UK, as well as any in plane force effects. The supporting subframe must have sufficient stiffness, such that its deformation does not affect the performance of the product. The product does not enhance the structural performance of the substrate wall.

9.2 Weathertightness

9.2.1 The product is not weathertight and on framed structures must be backed by a breather membrane acting as a vapour-permeable barrier, incorporated behind the cladding under the timber supports.

9.2.2 Where the product is used as a decorative facing attached to weathertight masonry walls, a waterproof membrane 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.

9.2.3 All butt joints between the product are not sealed but the amount of water entering the cavity by wind-driven rain will be minimal. Any water collecting in the cavity owing to rain or condensation will be removed by drainage and ventilation.

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

9.2.5 The clear cavity between the back of the product and the supporting wall must be in accordance with the requirements of *NHBC Standards 2023*, Chapters 6.1 *External masonry walls*, 6.2 *External timber framed walls*, 6.9 *Curtain wall and cladding* and 6.10 *Light steel framed walls and floors*.

9.3 Ventilation and drainage

Ventilation and drainage must be provided behind the product. The clear cavity between the back of the product and substrate wall (or insulation if installed within the cavity) must be at least 20 mm wide, and a minimum ventilation area of 5000 mm² per metre run must be provided at the building base point and at the roof edge. All ventilation openings around the periphery of the product should be suitably protected with mesh to prevent the ingress of birds, vermin and insects.

9.4 Resistance to weather

9.4.1 The vertical timber supports onto which the product is fixed to must be preservative-treated in accordance with BS EN 351-1 : 2007 and BS 8417 : 2011. Guidance on recommended wood preservation is also given in *NHBC Standards 2023*, Part 3 *General*, Chapter 3.3 *Timber preservation (natural solid timber)*.

9.4.2 On the basis of data assessed, the product, when installed, is not weathertight, and in sheathed framework applications must be used in conjunction with a suitable breather membrane.

9.5 Installation

9.5.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.5.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions. A summary of instructions and guidance are provided in Annex A of this Certificate.

9.5.3 The minimum vertical timber support thickness is 25 mm deep x 50 mm wide, aligned at 400 or 600 mm centres. (see Figure 2 in Annex A).

9.5.4 The timber supports are vertically or horizontally fixed at a maximum of 600 mm centres (see Figure 2a in Annex A).

9.5.5 A ventilation gap of 20 mm minimum (see also sections 9.2 to 9.4) must be provided between the cladding layer and the substrate.

9.6 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the product must be carried out by a competent general builder, or a contractor, experienced with this type of product.

9.7 Maintenance and repair

9.7.1 Periodic inspections must be carried out to assess the need for cleaning, localised repairs and replacement of elements, such as fixings. Advice regarding recoating and maintenance procedures can be obtained from the Certificate holder, but such advice is outside of the scope of this Certificate.

9.7.2 Under normal conditions of use, the product is unlikely to suffer damage, but should it occur, damaged planks must be replaced as soon as possible. This may require the temporary removal of undamaged product above the affected area.

10 Manufacture

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate. An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

†10.6 The BBA has undertaken to review 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.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is delivered on polythene wrapped pallets weighing up to approximately 1700 kg. The product can be unloaded using mechanical handling equipment or by manually removing individual items.

11.2 At least two products in each pallet row are marked with the product name, unique manufacturing code and the appropriate classification to ISO 8336 : 2017.

11.3 Delivery and site handling must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.3.1 The product must be stored on edge or flat, under cover, and on a dry, level surface. Stacks of loose product must not exceed one metre in height.

11.3.2 The product must be removed by sliding out to one side and must only be lifted after complete removal from the packaging.

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

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the 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.

CE marking

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

Additional information on installation

A.1 Typical installation details are shown in Figure 2.

A.2 Cutting of the product can be performed using circular saw of the appropriate size.

A.3 Large cut-outs can be made using a jigsaw with a carbide-tipped blade designed for use with fibre cement. Small holes may be drilled using a carbide-tipped masonry bit.

A.4 A starter profile is installed to align the first product to match the lap of the wall. This is nailed along the front face of the timber supports so the lower edge of the strip lies along the line made by the bottom edge of the vertical timber supports.

A.5 The first course of product is then installed onto the starter track, and secured by the appropriate fixings in accordance with the Certificate holder's instructions. Use of the starter track ensures a 10 mm drip edge at the lower edge (see Figure 2l). Nail heads should be flush with the product's outer surface and spaced at a different vertical gauge to the timber support fixings to avoid a fixing clash.

A.6 Subsequent courses of the product are installed in the same way, allowing a 25 mm interlock of the lower edge over the previous row (see Figure 2l).

A.7 Caution should be taken to avoid straddling the product fixings across movement joints in the substrate wall.

A.8 A breather membrane is laid parallel to the direction of the product along the wall, with minimum laps of 150 mm.

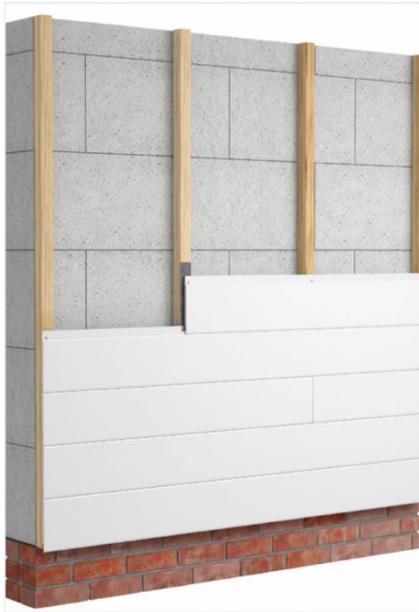
A.9 At the butt joints EPDM tape is fitted behind the joint to protect the timber batten. EPDM tape over sails the tongue of the board below so it sits within the interlock.

A.10 At corners, wall timber supports are fitted to form a solid corner for fixing of the product and corner trim. The product is butted up against the corner trim, as shown in Figures 2c and 2g. The joint must be weathered by the application of a 60 mm EPDM flashing stapled to the batten to form a continuous flashing the full length of the corner trim. A 1 mm gap is left between the ends of the product and the side of the corner trim to allow for movement and water drainage.

A.11 Alternate option for corners is preformed metal 2-part or 'L' finishing profiles, can be installed at corners as an alternative to product corner trims (see Figures 2d to 2h).

A.12 At the top of the wall, a ventilation profile is installed over the timber supports and a 10 mm gap allowed between the top of the product and soffit board. To prevent gap closure, consideration should also be given to cross grain shrinkage of new timber-frame buildings (see Figure 2m).

Figure 2 Typical installation details



a) horizontal application



b) vertical application

Figure 2 Typical installation details (continued)

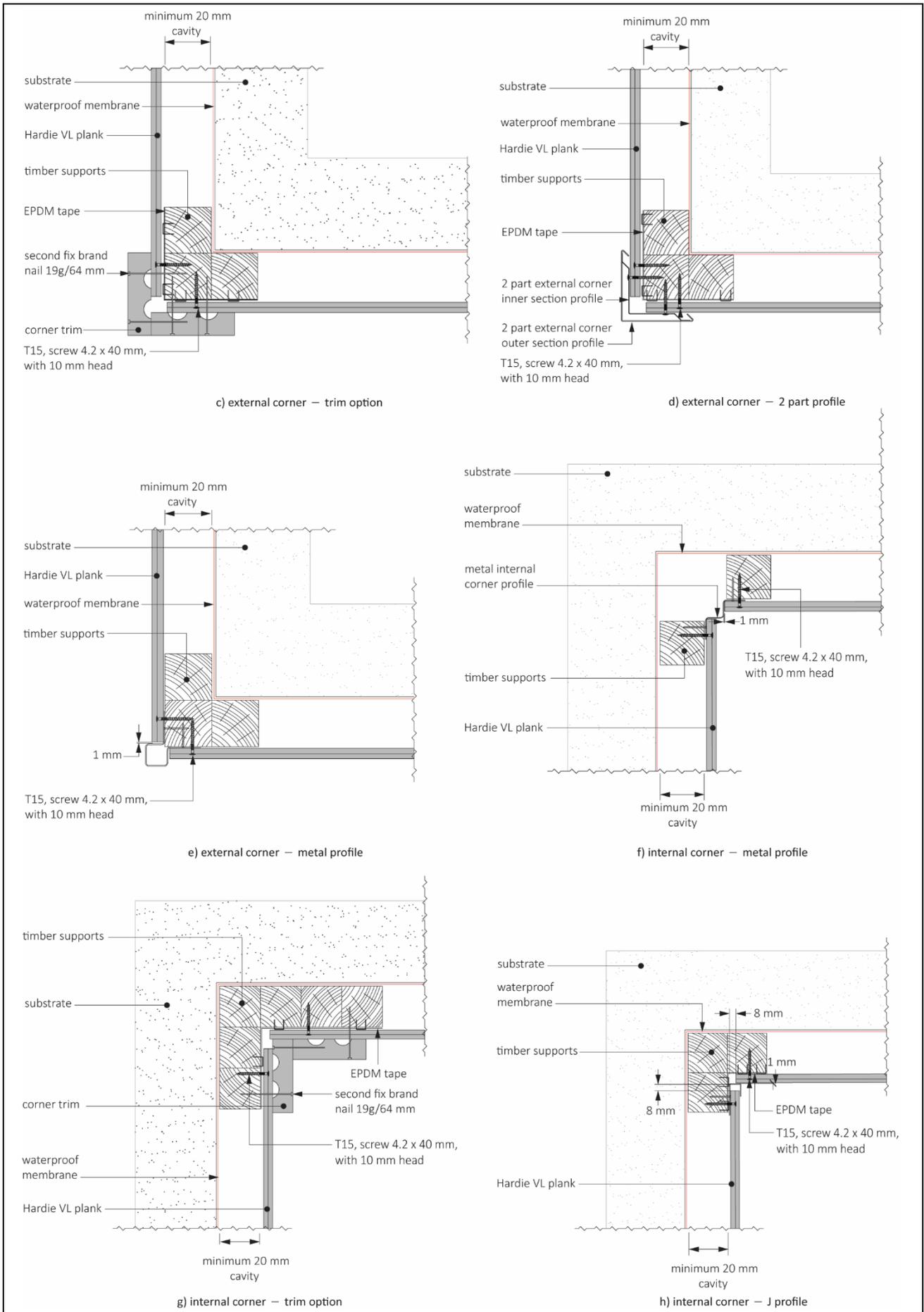
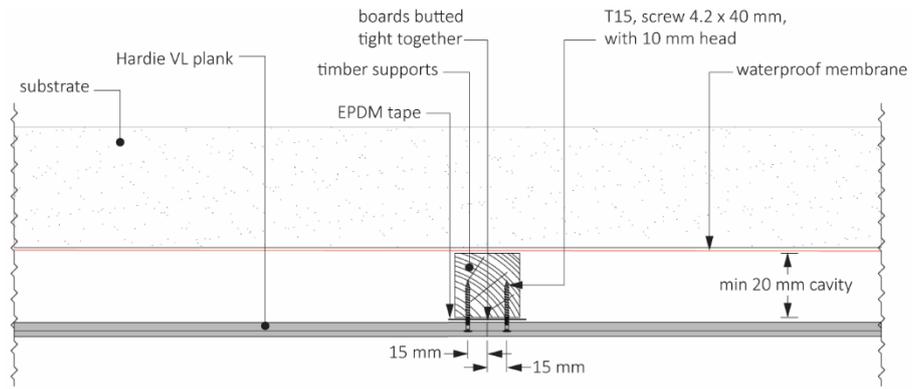
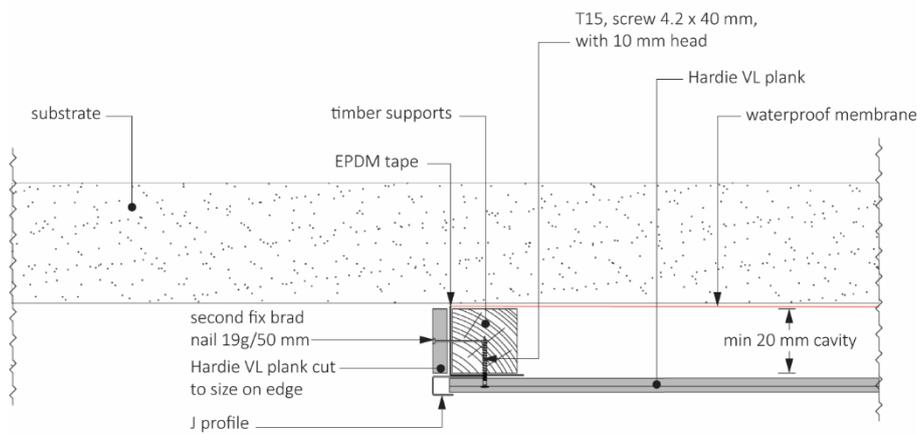


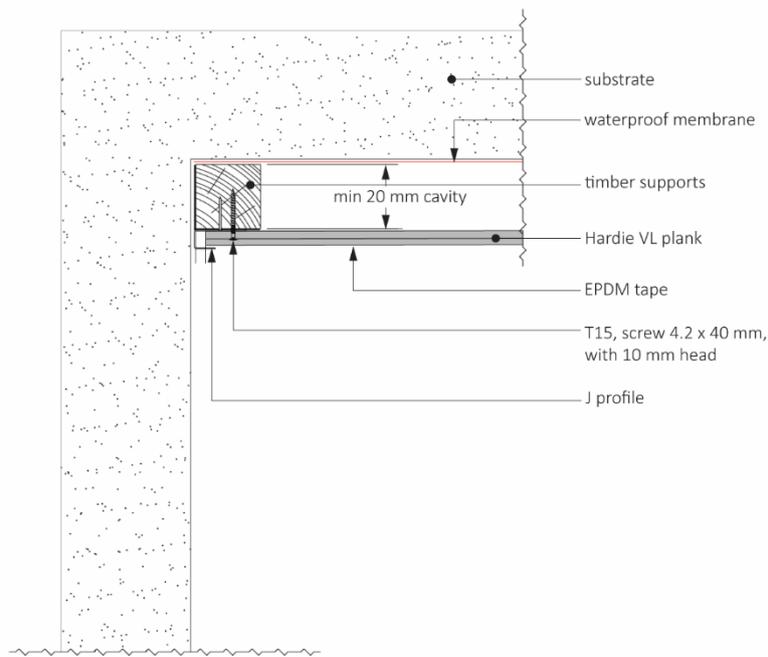
Figure 2 Typical installation details (continued)



i) joint detail – standard butt



j) joint detail – stop end



k) joint detail – abutment

Figure 2 Typical installation details (continued)

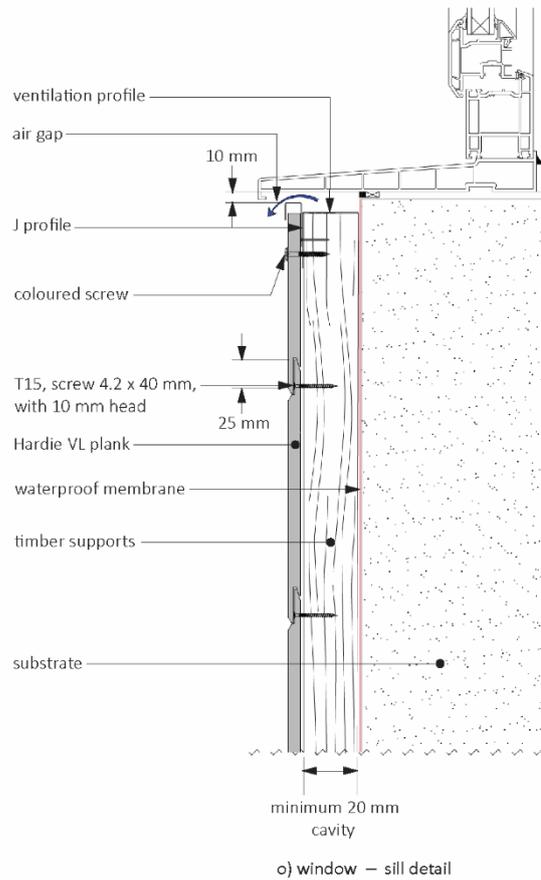
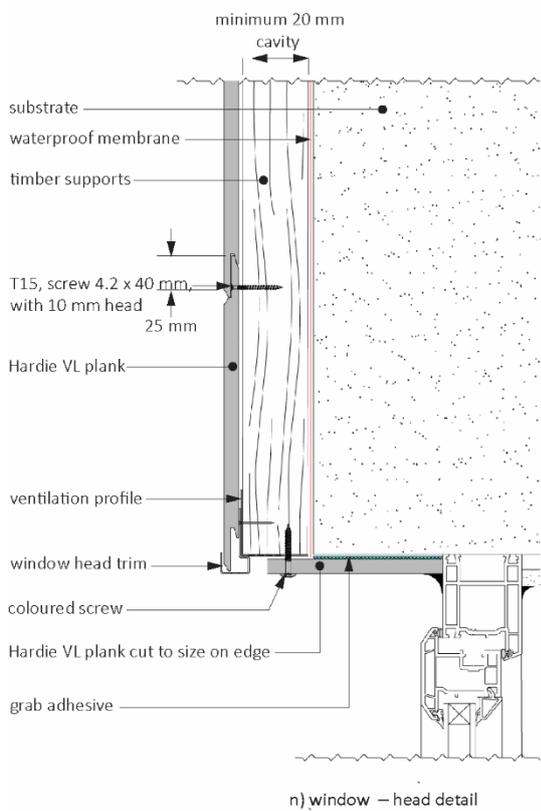
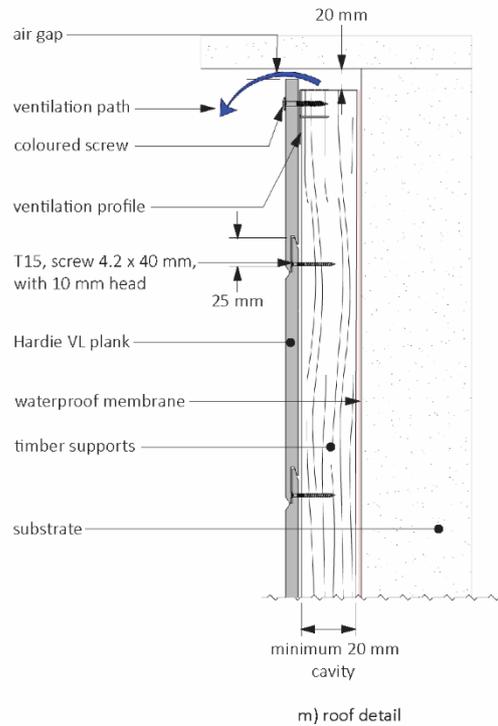
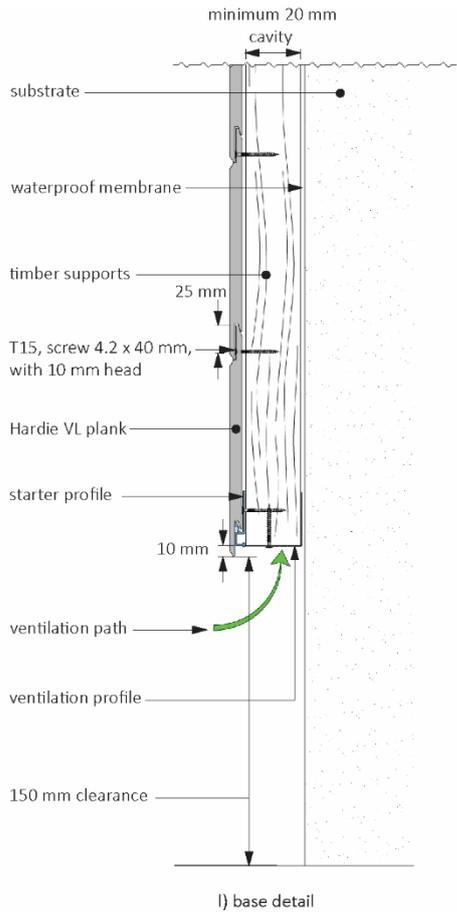
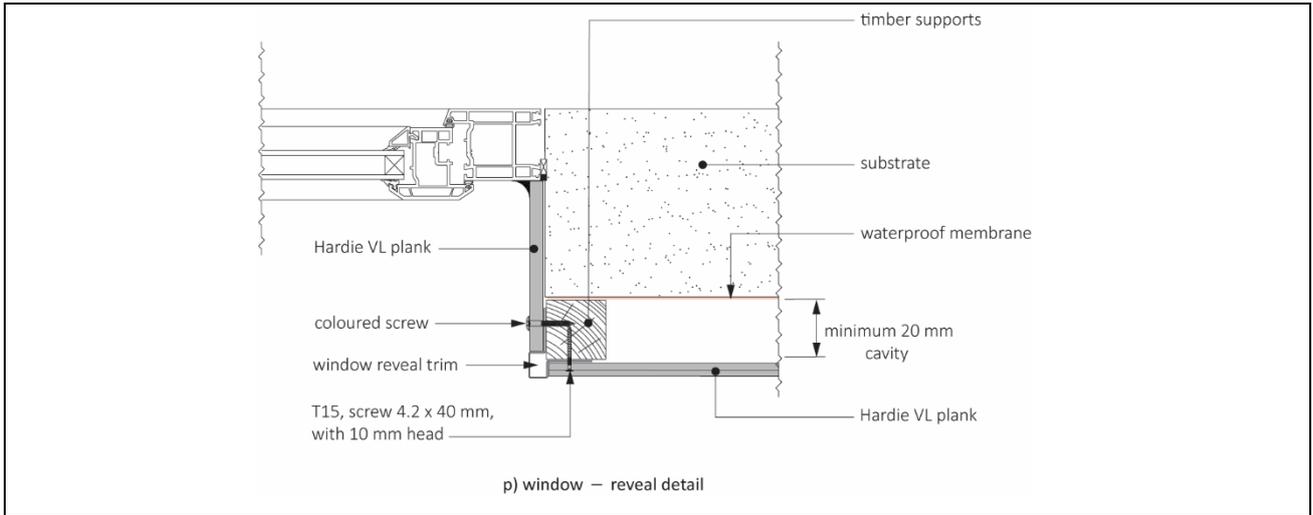


Figure 2 Typical installation details (continued)



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

BS 8000-3 : 2020 *Workmanship on construction sites — Masonry — Code of practice*

BS 8000-5 : 1990 *Workmanship on building sites — Code of practice for carpentry, joinery and general fixings*

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

BS EN 351-1 : 2007 *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

BS EN 1990 : 2002 + A1 : 2005 *Eurocode — Basis of structural design*

BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 — Actions on structures — General actions*

NA to BS EN 1991-1-4 + A1 : 2010 *UK National Annex to Eurocode 1 — Actions on structures — General actions — Wind actions*

BS EN 1992-1-1 : 2004 + A1 : 2014 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*

NA to BS EN 1992-1-1 : 2004 A1 : 2014 *UK National Annex to Eurocode 2 — Design of concrete structures — General rules and rules for buildings*

BS EN 1992-1-2 : 2004 *Eurocode 2 — Design of concrete structures — General rules — Structural fire design*

NA to BS EN 1992-1-2 : 2004 *UK National Annex to Eurocode 2 — Design of concrete structures — General rules — Structural fire design*

BS EN 1993-1-1 : 2005 + A1 : 2014 *Eurocode 3 — Design of steel structures — General rules and rules for buildings*

NA + A1 : 14 to BS EN 1993-1-1 : 2005 + A1 : 14 *UK National Annex to Eurocode 3 — Design of steel structures — General rules and rules for buildings*

BS EN 1993-1-2 : 2005 *Eurocode 3 — Design of steel structures — General rules — Structural fire design*

NA to BS EN 1993-1-2 : 2005 *UK National Annex to Eurocode 3 — Design of steel structures — General rules — Structural fire design*

BS EN 1993-1-3 : 2006 *Eurocode 3 — Design of steel structures — General rules — Supplementary rules for cold-formed members and sheeting*

NA to BS EN 1993-1-3 : 2006 *UK National Annex to Eurocode 3 — Design of steel structures — General rules — Supplementary rules for cold-formed members and sheeting*

BS EN 1995-1-1 : 2004 + A2 : 2014 *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 — Common rules and rules for buildings*

BS EN 1995-1-2 : 2004 *Eurocode 5 — Design of timber structures — General — Structural fire design*

NA to BS EN 1995-1-2 : 2004

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*

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

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

BS EN 12467 : 2012 + A1 : 2016 *Fibre-cement flat sheets — Product specification and test methods*

BS EN 13501-1 : 2007 + A1 : 2009 *Fire classification of construction products and building elements — classification using test data from reaction to fire tests*

BS EN 13859-2 : 2014 *Flexible sheets for waterproofing. Definitions and characteristics of underlays. Underlays for walls*

BS EN 15725 : 2010 *Extended application reports on the fire performance of construction products and building elements*

DD CEN/TS 15117 : 2005 *Guidance on direct and extended application*

EAD 090062-00-0404 *Kits for external wall claddings mechanically fixed*

EH40/2005 *Workplace exposure limits* (Third edition)

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

PD 6693-1 : 2019 *Recommendations for the design of timber structures to Eurocode 5 — Design of timber structures — General — Common rules and rules for building*

PD 6697 : 2019 *Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2*

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