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Agrément Certificate
13/5082
Product Sheet 1

BAUMIT EXTERNAL WALL INSULATION SYSTEMS

BAUMIT EPS EXTERNAL WALL INSULATION SYSTEMS

This Agrément Certificate Product Sheet(1) relates to Baumit EPS External Wall Insulation Systems, comprising standard white or grey expanded polystyrene (EPS) insulation boards, adhesively fixed, with supplementary mechanically fixings, a reinforced basecoat and render finishes. The systems are suitable for use, with height restrictions, on the outside of external masonry or concrete walls in new or existing domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Thermal performance — the systems can be used to improve the thermal performance of external masonry or concrete walls and can contribute to satisfying the requirements of the national Building Regulations (see section 6).

Strength and stability — the systems can be designed to resist the wind loads experienced for a particular location, and have adequate impact resistance. The impact resistance is dependent on the system chosen (see section 7).

Behaviour in relation to fire — the systems have a B-s1, d0 reaction to fire classification in accordance with BS EN 13501-1 : 2018, and their use is restricted (see section 8).

Condensation — the systems can contribute to limiting the risk of interstitial and surface condensation (see section 11).

Durability — when installed and maintained in accordance with the Certificate holder's recommendations and the terms of this Certificate, the systems will remain effective for at least 30 years (see section 13).

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

On behalf of the British Board of Agrément

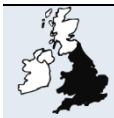
Hardy Giesler
Chief Executive Officer

Date of Second issue: 10 December 2021

Originally certificated on 27 January 2014

Regulations

In the opinion of the BBA, Baumit EPS External Wall Insulation Systems, 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 systems can sustain and transmit wind loads to the substrate wall. See sections 7.1 to 7.12 of this Certificate.
Requirement:	**B4(1)**	**External fire spread**
Comment:		The systems are restricted by this Requirement. See sections 8.1 to 8.4 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The systems provide a degree of protection against rain ingress. See section 10.1 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The systems can contribute to minimising the risk of interstitial and surface condensation. See sections 11.2 and 11.4 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The systems can contribute to satisfying this Requirement. See sections 6.1 and 6.2 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The systems are acceptable. See section 13.1 and the *Installation* part of this Certificate.
Regulation:	**7(2)**	**Materials and workmanship**
Comment:		The systems are restricted by this Regulation. See sections 8.1 to 8.4 of this Certificate.
Regulation:	**26**	**CO_2 emission rates for new buildings**
Regulation:	**26A**	**Fabric energy efficiency rates for new dwellings (applicable to England only)**
Regulation:	**26A**	**Primary energy consumption rates for buildings (applicable to Wales only)**
Regulation:	**26B**	**Fabric performance values for new dwellings (applicable to Wales only)**
Comment:		The systems can contribute to satisfying these Regulations. See sections 6.1 and 6.2 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Durability, workmanship and fitness of materials**
Comment:		The systems can contribute to a construction satisfying this Regulation. See sections 12 and 13.1 and the *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	1.1	Structure
Comment:		The systems can sustain and transmit wind loads to the substrate wall. See sections 7.1 to 7.12 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The systems are restricted by this Standard, with reference to clauses 2.6.4[(1)(2)], 2.6.5[(1)] and 2.6.6[(2)]. See sections 8.1 to 8.3, 8.5 and 8.6 of this Certificate.

Standard:	2.7	Spread on external walls
Comment:		The systems are restricted by this Standard, with reference to clauses 2.7.1[(1)(2)] and 2.7.2[(2)]. See sections 8.1 to 8.3, 8.5 and 8.6 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The systems can contribute to a construction satisfying this Standard, with reference to clauses 3.10.1[(1)(2)] and 3.10.2[(1)(2)]. See section 10.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The systems can contribute to satisfying this Standard, with reference to clauses 3.15.1[(1)(2)], 3.15.4[(1)(2)] and 3.15.5[(1)(2)]. See sections 11.3 and 11.4 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Buildings insulation envelope
Comment:		The systems can contribute to satisfying these Standards, with reference to clauses (or parts of) 6.1.1[(1)], 6.1.2[(1)(2)], 6.1.3[(1)(2)], 6.1.6[(1)], 6.1.10[(2)], 6.2.1[(1)(2)], 6.2.3[(1)], 6.2.4[(2)], 6.2.5[(2)], 6.2.6[(1)], 6.2.7[(1)], 6.2.8[(2)], 6.2.9[(1)(2)], 6.2.10[(1)], 6.2.11[(1)], 6.2.12[(2)] and 6.2.13[(1)(2)]. See sections 6.1 and 6.2 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting the bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard with reference to clauses 7.1.4[(1)(2)] [Aspect 1[(1)(2)] and 2[(1)]], 7.1.6[(1)(2)] [Aspect 1[(1)(2)] and 2[(1)]] and 7.1.7[(1)(2)] [Aspect 1[(1)(2)]]. See section 6.1 of this Certificate.
Regulation:	**12**	**Building standards applicable to conversions**
Comment:		All comments given for these systems 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**	**Fitness of materials and workmanship**
Comment:		The systems are acceptable. See section 13.1 and the *Installation* part of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and water**
Comment:		The systems provide a degree of protection against rain ingress. See section 10.1 of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The systems can contribute to minimising the risk of interstitial condensation. See section 11.4 of this Certificate.
Regulation:	**30**	**Stability**
Comment:		The systems can sustain and transmit wind loads to the substrate wall. See sections 7.1 to 7.12 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The systems are restricted by this Regulation. See sections 8.1 to 8.4 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Regulation:	**40**	**Target carbon dioxide emission rate**
Comment:		The systems can contribute to satisfying these Regulations. See sections 6.1 and 6.2 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: 3 *Delivery and site handling* (3.1 and 3.3) and 12 *Maintenance and repair* of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, Baumit EPS External Wall Insulation Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*(1), Part 6 *Superstructure (excluding roofs),* Chapter 6.9 *Curtain walling and cladding*.

(1) There is a general requirement in *NHBC Standards,* Chapter 6.9 for fire-retardant-treated EPS insulation in accordance with BS EN 13163 : 2012 to be used with this system.

Technical Specification

1 Description

1.1 Baumit EPS External Wall Insulation Systems comprise expanded polystyrene (EPS) insulation boards adhesively fixed to the external masonry wall (ensuring a minimum 40% coverage of adhesive), with supplementary mechanical fixings. The boards are faced with glass-fibre reinforced basecoat, primer and render finishes (Figure 1 and Table 1). After the insulation boards have been secured to the wall with adhesive and the required number of supplementary mechanical fixings), the basecoat is trowel-applied over the boards, followed by the reinforcing mesh, which is fully embedded within the basecoat. After the basecoat has fully cured, the primer and finishes are applied in accordance with the Certificate holder's installation instructions and this Certificate.

Table 1 System options

Components	Option 1	Option 2
Adhesive	Baumit OpenContact	Baumit StarContact White Baumit StarContact
Insulation	Baumit Standard White EPS 70E Baumit Grey EPS 70E	Baumit Standard White EPS 70E Baumit Grey EPS 70E
Basecoat	Baumit OpenContact	Baumit OpenContact Baumit StarContact White Baumit StarContact
Mesh	Standard Reinforcing Mesh	
Primer	Baumit UniPrimer Baumit Premium Primer	
Render finishes	Baumit SilikatTop Baumit SilikonTop Baumit PuraTop Baumit GranoporTop	

1.2 The systems comprise the following components:

Adhesive

- Baumit StarContact — a factory-prepared grey cementitious powder, with silica sand and limestone, dispersion powder and additives. Supplied as a powder requiring 6 litres of clean water per 25 kg bag, and applied to a thickness of 3 to 4 mm in two layers, with a coverage of 6 to 8 kg·m^{-2}
- Baumit StarContact White — factory-prepared cementitious powder, with silica sand and limestone, dispersion powder and additives, applied to a thickness of 5 to 6 mm. Supplied as a powder requiring 6.8 litres of clean water per 25 kg bag, with a coverage of 4 to 5 kg·m^{-2}

- Baumit OpenContact — factory-prepared grey cementitious powder, with silica sand, dispersion powder and additives, applied to a thickness of 5 to 6 mm. Supplied as a powder requiring 6.8 litres of clean water per 25 kg bag, with a coverage of 4 to 5 kg·m^{-2}

Insulation (1)

- Baumit Standard White EPS 70 (038) insulation boards — 1200 by 600 mm, with a range of thicknesses between 50(2) and 300 mm, with a nominal density of 15 kg·m^{-3}, a minimum compressive strength of 70 kPa, and a nominal tensile strength perpendicular to the face of 100 kPa. The boards are manufactured to comply with the requirements for EPS 70, Class E material to BS EN 13163 : 2012 and are classified as Euroclass E in accordance with BS EN 13501-1 : 2018.
- Baumit Grey EPS 70E (032) insulation boards — 1200 by 600 mm, with a range of thicknesses between 50(2) and 300 mm, with a nominal density of 17 kg·m^{-3}, a minimum compressive strength of 70 kPa, and a nominal tensile strength perpendicular to the face of 100 kPa. The boards are manufactured to comply with the requirements for EPS 70, Class E material to BS EN 13163 : 2012 and are classified as Euroclass E in accordance with BS EN 13501-1 : 2018.

(1) For declared thermal conductivity values (λ_D), see Table 2.

(2) Insulation thicknesses of 20, 30, and 40 are available which, along with 50 mm thickness, would generally be used in reveals.

Mechanical fixings (supplementary)

Mechanical fixings(1) — fixing anchors with various lengths to suit the substrate and insulation thickness, approved and supplied by the Certificate holder, and selected from:

- Fischer Termoz 8 U — polyamide anchor sleeve with galvanized or stainless-steel screws
- Fischer Termoz 8 N — polyamide anchor sleeve with galvanized steel or coated galvanized steel or stainless-steel screw
- Hilti Dämmstoffdübel SD-FV 8 — polyamide anchor sleeve with fibre-glass reinforced polyamide pins
- Hilti Dämmstoff-Befestigungselement XI-FV — polyethylene anchor sleeve with Delta-Tone coated steel pins
- Hilti SX FV — stainless steel anchor sleeve with polyethylene pins
- Ejot Ejotherm STR U and STR U 2G — polyethylene anchor sleeve with galvanized or stainless-steel screws

(1) Other fixings may be used provided it can be demonstrated that they have equal or higher pull-out resistance, plate diameter, plate stiffness and load resistance of anchor plate characteristics.

Basecoat

- Baumit StarContact — a factory-prepared cementitious powder, with silica sand and limestone, dispersion powder and additives. Supplied as a powder requiring 6.8 litres of clean water per 25 kg bag, and applied to a thickness of 3 to 4 mm in two layers at a coverage of 6 to 8 kg·m^{-2} · or, for use in high impact areas, using two coats for a minimum thickness of 6 mm.
- Baumit StarContact White — factory-prepared cementitious powder, with silica sand and limestone, dispersion powder and additives. Supplied as a powder requiring 6.8 litres of clean water per 25 kg bag, applied to a thickness of 3 to 4 mm at a coverage of 4 to 5 kg·m^{-2}
- Baumit OpenContact — factory-prepared cementitious powder, with silica sand, dispersion powder and additives. Supplied as a powder requiring 6.8 litres of clean water per 25 kg bag, applied to a thickness of minimum 3 mm at a coverage of 4 to 5 kg·m^{-2}

Reinforcement

- Standard Reinforcing Mesh — one-metre wide alkali- resisting glass-fibre mesh, with a nominal weight of 160 g·m^{-2} and a grid size of approximately 4.0 by 4.0 mm.

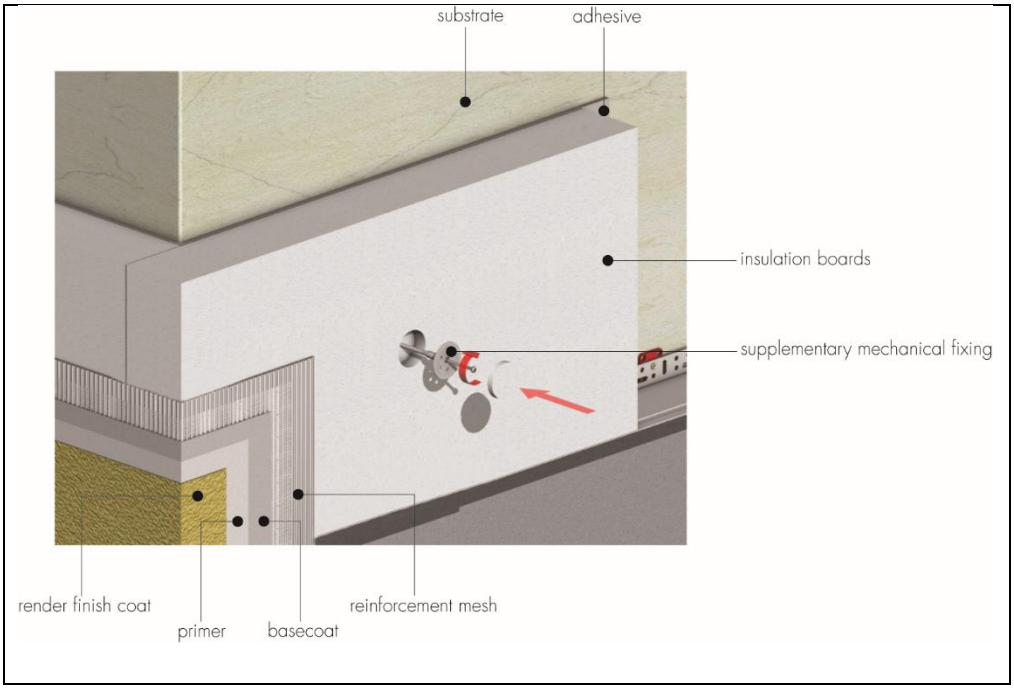
Primer

- Baumit UniPrimer — a ready-to-use acrylic primer, applied with an installed weight of between 0.20 and 0.25 kg·m^{-2} and a coverage of 0.15 l·m^{-2}
- Baumit Premium Primer — a ready-to-use acrylic-based liquid primer, applied with an installed nominal weight of 0.25 kg·m^{-2} and a coverage of 0.15 l·m^{-2}

Render finishes

- Baumit SilikatTop — a ready-to-use silicate render, available in 1.5, 2 and 3 mm particle sizes for a floated finish and 2 and 3 mm particle sizes for a ribbed finish, with a coverage of between 2.5 and 4.2 kg·m^{-2}
- Baumit SilikonTop — a ready-to-use silicone resin render, available in 1.5, 2 and 3 mm particle sizes for a floated finish and 2 and 3 mm particle sizes for a ribbed finish, with a coverage of between 2.5 and 4.2 kg·m^{-2}
- Baumit PuraTop — a ready-to-use organic resin render. Available in 1.5, 2 and 3 mm particle sizes, with a coverage of between 2.5 and 4.1 kg·m^{-2}.
- Baumit GranoporTop — a ready-to-use organic resin render. Available in 1.5, 2 and 3 mm particle sizes for a floated finish and 2 and 3 mm particle sizes for a ribbed finish, with a coverage of between 2.5 and 4.1 kg·m^{-2}.

Figure 1 Baumit EPS External Wall Insulation Systems



1.3 Ancillary materials also used with the systems:

- range of aluminium, PVC-U or stainless steel profiles, comprising:

  — base profile
  — edge profile
  — corner profile
  — render stop profile
  — movement joint and expansion joint
  — profile connectors and fixings.

1.4 Ancillary materials also used with the systems but outside the scope of this Certificate:

- fungicidal wash, water-based masonry cleaner and steriliser containing biocides
- expansion foam
- silicone sealant
- fire barriers.

2 Manufacture

2.1 The components of the systems are either manufactured by the Certificate holder or bought-in from suppliers, to an agreed specification.

2.2 As part of the assessment and ongoing surveillance of the quality of the system components, 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 Components are delivered to site in the packaging and quantities listed in Table 2. Each package carries the product identification and batch number.

Table 2 Component supply details

Component	Quantity and package
Insulation boards	Polythene shrink-wrapped
Baumit StarContact Baumit OpenContact Baumit StarContact White	25 kg bags
Standard reinforcing mesh	1 m x 50 m rolls
Baumit UniPrimer Baumit Premium Primer	25 kg tubs 20 kg tubs
Baumit SilikatTop Baumit SilikonTop Baumit PuraTop Baumit GranoporTop	25 kg tubs
Mechanical fixings	Boxed by manufacturer

3.2 The insulation boards must be stored on a firm, clean, level base, off the ground and indoors or under a waterproof cover until required for use. Care must be taken when handling to avoid damage. Boards that become damaged, soiled or wet should be discarded.

3.3 The insulation boards must be protected from prolonged exposure to sunlight, and contact with solvents and bitumen. The boards must not be exposed to open flame or other ignition sources.

3.4 The powder components should be stored in dry conditions, between 5 and 30^{o}C, off the ground and protected from moisture. Bags of unopened render will have a shelf-life of 12 months when stored correctly. Contaminated material must be discarded.

3.5 Primer and the render finishes should be stored in dry conditions, off the ground and protected from frost at all times. Damaged, wet or contaminated products should not be used and must be discarded.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Baumit EPS External Wall Insulation Systems.

Design Considerations

4 General

4.1 Baumit EPS External Wall Insulation Systems, when installed in accordance with this Certificate, are satisfactory for use in reducing the thermal transmittance (U value) of external masonry or concrete walls of new and existing buildings. It is essential that the detailing techniques specified in this Certificate are carried out to a high standard if the ingress of water into the insulation is to be avoided and the full thermal benefit obtained from treatment with the

systems (eg the insulation must be protected by an overhang, and window sills should be designed and installed so as to direct water away from the building).

4.2 For improved thermal/carbon-emissions performance of the structure, the designer should consider additional/alternative fabric and/or services measures.

4.3 The systems are for application to the outside of external walls of masonry, normal weight concrete, lightweight concrete, autoclaved concrete or no-fines concrete construction, on new or existing domestic and non-domestic buildings (with or without existing render) with height restrictions (see section 8 of this Certificate). Prior to installation of the systems, wall surfaces should comply with section 14 of this Certificate.

4.4 New walls subject to national Building Regulations should be constructed in accordance with the relevant recommendations of:

- BS EN 1992-1-1 : 2004 and its UK National Annex
- BS EN 1996-1-1 : 2005 and its UK National Annex
- BS EN 1996-2 : 2006 and its UK National Annex
- BS 8000-0 : 2014
- BS 8000-2.2 : 1990
- BS 8000-3 : 2001
- PD 6697 : 2019.

4.5 New walls not subject to regulatory requirements should also be built in accordance with the Standards identified in section 4.4 of this Certificate.

4.6 Movement joints should be incorporated into the systems in line with existing movement joints in the building structure and in accordance with the Certificate holder's recommendations for the specific installation.

4.7 The systems will improve the weather resistance of a wall and provide a decorative finish. However, for existing buildings, it should only be installed where there are no signs of dampness on the inner surface of the wall other than those caused solely by condensation.

4.8 The effect of the systems on the acoustic performance of a construction is outside the scope of this Certificate.

4.9 The fixing of sanitary pipework, plumbing, rainwater goods, satellite dishes, clothes lines, hanging baskets and similar items to the system is outside the scope of this Certificate (see section 4.10 of this Certificate).

4.10 External pipework and ducts should be removed before installation, and alterations made to underground drainage to accommodate repositioning of the pipework to the finished face of the systems. The Certificate holder can advise on suitable fixing methods, but these are outside the scope of this Certificate.

4.11 The designer should select a construction appropriate to the local wind-driven rain index, paying due regard to the design detailing, workmanship and materials to be used.

4.12 It is essential that these systems are installed and maintained in accordance with the conditions set out in this Certificate.

5 Practicability of installation

The systems should be installed only by specialised contractors who have successfully undergone training and registration by the Certificate holder (see section 15).

Note: The BBA operates a UKAS-accredited Approved Installer Scheme for external wall insulation (non-mandatory); details of approved installer companies are included on the BBA's website (www.bbacerts.co.uk).

6 Thermal performance

6.1 Calculations of thermal transmittance (U value) should be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2006, using the declared thermal conductivity (λ_D *value*) of the insulation material given in Table 3.

Table 3 Thermal conductivity of the insulation (λ_D values)

Insulation types	**Thickness (mm)**	**λ_D value ($W \cdot m^{-1} \cdot K^{-1}$)**
Standard White EPS 70	50 to 300	0.038
Grey EPS 70E		0.032

6.2 The U value of a completed wall will depend on the selected insulation type and thickness, fixing method and type and number of fixings, and the insulating value of the substrate masonry and its internal finish. Calculated U values for sample constructions in accordance with the Building Regulations are given in Table 4 and are based on the thermal conductivity values given in Table 3.

Table 4 Insulation thickness required to achieve design U values[1][2][3] given in the national Building Regulations

U value ($W \cdot m^{-2} \cdot K^{-1}$)	**Thickness of insulation[4] (mm)**			
	215 mm brickwork, λ = 0.56 $W \cdot m^{-1} \cdot K^{-1}$		**200 mm dense blockwork, λ = 1.75 $W \cdot m^{-1} \cdot K^{-1}$**	
	White EPS 70E (0.038)	**Grey EPS 70E (0.032)**	**White EPS 70 (0.038)**	**Grey EPS 70E (0.032)**
0.18	200	170	210	180
0.19	190	160	200	170
0.25	140	120	150	130
0.26	130	110	140	120
0.28	120	100	130	110
0.30	110	100	120	100
0.35	90	80	100	90

(1) Wall construction inclusive of 13 mm plaster (λ = 0.57 $W \cdot m^{-1} \cdot K^{-1}$), brickwork (protected) with 17.1% mortar or dense blockwork with 6.7% mortar (λ = 0.88 $W \cdot m^{-1} \cdot K^{-1}$). Declared thermal conductivity (λ_D) of insulation values is as shown in Table 3. An adhesive layer, 5 mm thick with λ = 0.43 $W \cdot m^{-1} \cdot K^{-1}$ covering 60% of the area is also included, together with an external render thickness of 5 mm with λ = 1 $W \cdot m^{-1} \cdot K^{-1}$.

(2) Calculations based on a system that included 4 polyamide fixings per square metre with a point thermal transmittance (X_p) of 0.003 $W \cdot K^{-1}$ per steel pin. Use of other types of fixings should be calculated in accordance with BS EN ISO 6946 : 2017. A gap correction (ΔU) of zero is assumed.

(3) Based upon an incremental insulation thickness of 10 mm.

(4) When applying the maximum available insulation thickness, these walls can achieve U values from 0.11 to 0.13 $W \cdot m^{-2} \cdot K^{-1}$ depending on insulation type and wall type.

6.3 Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration. Detailed guidance can be found in the documents supporting the national Building Regulations.

7 Strength and stability

General

7.1 The Certificate holder is ultimately responsible for the design of the system and it is the responsibility of the company installing the system to accurately follow the installation instructions (see also section 5 of this Certificate). The Certificate holder must also verify that a suitably experienced and qualified individual (with adequate professional indemnity) establishes that:

- the wind loads on the different zones of the building's elevation for the specific geographical location have been calculated correctly (see section 7.3)
- the system can adequately resist and safely transfer the calculated loads, accounting for all possible failure modes, to the substrate wall and supporting structure (see sections 7.3 to 7.6).

7.2 The substrate and supporting structure must be capable of transferring all additional loading due to the installation of the system, to the ground in a satisfactory manner. The adequacy of the substrate and supporting structure must be verified by the person or party responsible for the global stability of the building to which the system is applied. Any defects should be made good prior to the system being installed.

7.3 The wind loads on the walls should be calculated, taking into account all relevant factors such as location and topography, in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. All of the factors affecting wind load on each elevation and specific zone of the building must be considered. In accordance with BS EN 1990 : 2002 and its UK National Annex, a partial factor of 1.5 must be applied to the calculated characteristic wind load pressure values to establish the design wind load to be resisted by the system.

7.4 Installations correctly designed in accordance with this Certificate will safely accommodate the applied loads due to the self-weight of the system, wind and impact.

7.5 Positive wind load is transferred to the substrate wall directly via compression through the render and insulation system.

7.6 Negative wind load is transferred to the substrate wall via(1)(2):

- the bond between the insulation and render system (see section 7.7)
- the tensile strength of the insulation (see section 7.8)
- the bond between the adhesive and the insulation interface(3) (see section 7.9)
- the bond between the substrate and adhesive interface(3) (see section 7.10).

(1) For adhesively fixed systems with supplementary mechanical fixings, the contribution of the fixings is not considered when calculating resistance to wind load.
(2) Further guidance is given in BBA Guidance Note 1, available on the BBA website (www.bbacerts.co.uk).
(3) The percentage of adhesive coverage should be considered.

7.7 The characteristic bond resistance between the insulation and render interface derived from test results was 80 $kN \cdot m^{-2}$. The design resistance of the bond between the insulation and render (N_{RD1}) should be taken as the characteristic bond resistance divided by a partial factor of 9.

7.8 The characteristic tensile resistance of the insulation material may be taken as 100 $kN \cdot m^{-2}$ and should be divided by a partial factor of 2.5 to establish the ultimate design resistance of the insulation ($Rd_{t.ins}$).

7.9 The characteristic bond resistance between the adhesive and the insulation derived from test results was 80 $kN \cdot m^{-2}$(1). The design resistance of the bond between the adhesive and insulation (N_{RD2}) should be taken as this value divided by a partial factor of 9.

(1) The minimum bonded surface area (A_{min}) should not be less than 40%.

7.10 The characteristic bond resistance between the substrate and the adhesive derived from test results was 80 $kN \cdot m^{-2}$ (1)(2)(3). The design resistance of the bond between the substrate and the adhesive (N_{RD3}) should be taken as the characteristic resistance divided by a partial factor of 9.

(1) The bond between the substrate and the adhesive from the test should have a minimum failure resistance of 250 $kN \cdot m^{-2}$ after the adhesive has fully cured and in dry conditions, in accordance with ETAG 004 : 2013. The minimum failure resistance value is based on a minimum 28 day curing time of the test sample.
(2) The results from tests carried out on site for the bond (while the adhesive is curing) between the substrate and the adhesive should be at least equal to 80 $kN \cdot m^{-2}$.
(3) The minimum bonded surface area (A_{min}) should not be less than 40%.

7.11 The number and spacing of the supplementary fixings should be determined by the Certificate holder. Provided the substrate wall is suitable and the supplementary fixings are covered by an appropriate ETA, the fixings will initially transfer the weight of the insulation system to the substrate wall while the adhesive is curing. However, since the characteristic pull-out resistance values are dependent on the substrate type, the fixing must be selected to suit the specific loads and substrate(1).

(1) To qualify as suitable data, the age and condition of the substrate must be equivalent to that used to establish the values in the ETA. If this is not the case, site specific pull-out tests must be carried out.

7.12 The data derived from sections 7.7 to 7.10 must be assessed against the design wind load and the following expression must be satisfied:[(1)(2)].

For safe design:
$Rd \geq W_e$

$Rd_{b.ins/rend} = A_r * N_{RD1}$
$Rd_{t.ins}$ = characteristic tensile strength of insulation/2.5
$Rd_{b.adh/ins} = A_{min} * N_{RD2}$
$Rd_{b.sub/adh} = A_{min} * N_{RD3}$

Where:

Rd	is the design ultimate resistance ($kN \cdot m^{-2}$) taken as the minimum of $Rd_{b.ins/rend}$, $Rd_{t.ins}$, $Rd_{b.adh/ins}$ and $Rd_{b.sub/adh}$
W_e	is the maximum design wind load ($kN \cdot m^{-2}$)
$Rd_{b.ins/rend}$	is the bond design resistance between the insulation and render ($kN \cdot m^{-2}$)
A_r	is the reinforced basecoat bond area (based on % area covered)
N_{RD1}	is the design adhesive bond resistance between the insulation and render based on tests ($kN \cdot m^{-2}$)
$Rd_{b.adh/ins}$	is the bond design resistance between the insulation and adhesive ($kN \cdot m^{-2}$)
A_{min}	is the minimum bonded surface area (based on % area covered)
N_{RD2}	is the design bond resistance between the insulation and adhesive based on tests ($kN \cdot m^{-2}$)
$Rd_{b.sub/adh}$	is the design bond resistance between the substrate and adhesive ($kN \cdot m^{-2}$)
N_{RD3}	is the design bond resistance between the substrate and adhesive based on tests ($kN \cdot m^{-2}$).

(1) If the minimum design resistance (Rd) calculated in 7.7 to 7.10 is less than the design wind pressure, the bonded surface area (A_{min}) should be increased.
(2) If the minimum bonded surface area required to resist the design wind load is higher than 100%, the system would need to be mechanically fixed and therefore should not be installed: mechanically fixed system requirements have not been assessed with this Certificate.

Impact resistance

7.13 Hard body impact tests were carried out in accordance with ETAG 004 : 2013. The systems are suitable for use in the Categories up to and including those specified in Table 5 of this Certificate.

Table 5 Systems impact resistance

Insulation type:	Render systems	Use Category(1)	
		Single standard mesh	Double standard mesh
White and Grey EPS	Baumit StarContact (basecoat) + primer + finishing coats indicated below: Baumit SilikatTop Baumit SilikonTop Baumit GranoporTop	Category II	Category I
	Baumit StarContact White (basecoat) + primer + finishing coats indicated below: Baumit SilikatTop Baumit SilikonTop Baumit PuraTop Baumit GranoporTop	Category II	Category I
	Baumit OpenContact (basecoat) + primer + finishing coats indicated below: Baumit SilikatTop Baumit SilikonTop Baumit Pura Top	Category II	-

(1) The use Categories are defined as:

- Category I — a zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use
- Category II — a zone liable to impacts from thrown or kicked objects, but in public locations where the height of the system 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
- Category III — a zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects

8 Behaviour in relation to fire

8.1 The reaction to fire classification(1) for the systems is B-s1, d0 in accordance with BS EN 13501-1 : 2018.

(1) Technical Assessment Body TSÚS CR-21-003. Copies are available from the Certificate holder.

8.2 The fire classification applies to the full range of insulation thicknesses and finishes covered by this Certificate.

8.3 The insulation materials in isolation have a Class E reaction to fire classification in accordance with BS EN 13501-1 : 2018.

8.4 For all buildings in England and Wales and Northern Ireland, the systems are considered suitable for use on, or at any distance from the boundary, and are restricted for use in buildings up to 18 m in height.

8.5 In Scotland, the systems may be used on buildings more than 1 m from a boundary and, on houses, 1 m or less from a boundary. With minor exceptions, the panels should be included in calculations of unprotected area, except on houses where the external wall behind has the appropriate fire resistance.

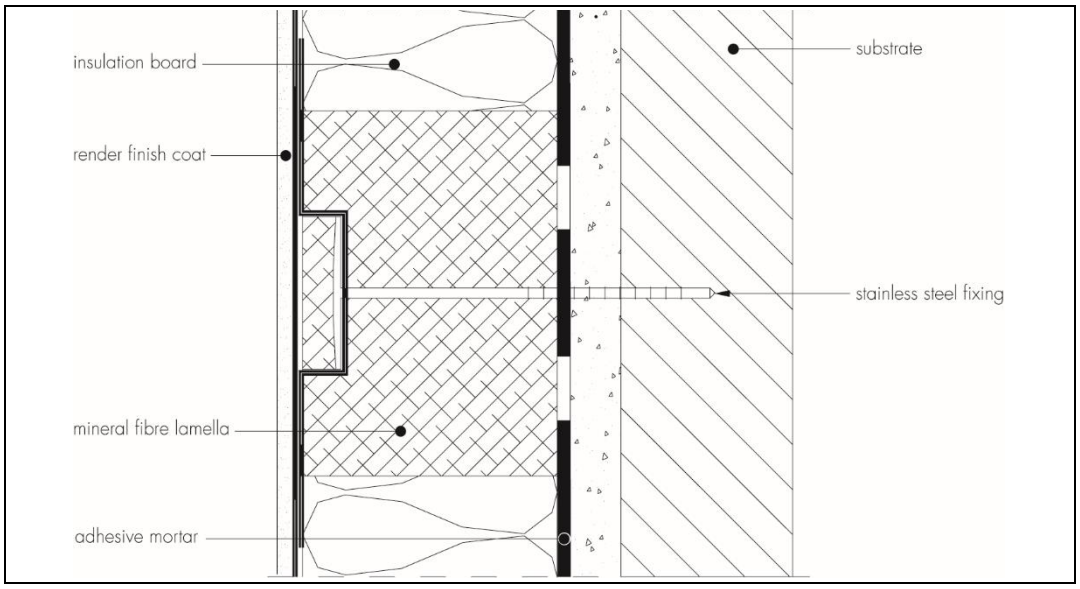
8.6 In Scotland, the systems should not be used on any building with a storey more than 11 m above the ground, or on any entertainment or assembly building with a total storey area more than 500 m^2, or on any hospital or residential care building with a total storey area more than 200 m^2.

8.7 For application to second storey walls and above, it is recommended that the designer includes at least one stainless steel fixing per square metre and fire barriers in line with compartment walls and floors as advised in BRE Report BR 135 : 2013 (see Figure 2 of this Certificate).

8.8 NHBC Standards require in all cases that a minimum of one non-combustible fixing through the reinforcement mesh, per square metre or per insulation board, whichever provides the greater number, should be provided, in addition to the other fixings.

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

Figure 2 Example fire barrier detail



9 Proximity of flues and appliances

Detailed guidance can be found in the documents supporting the national Building Regulations for the provisions that are applicable when the system is installed in close proximity to certain flue pipes and/or heat-producing appliances.

10 Water resistance

10.1 The systems will provide a degree of protection against rain ingress. However, care should be taken to ensure that substrate walls are adequately watertight prior to application of the systems. The systems must only be installed where there is no sign of dampness on the inner surface of the substrate other than those caused solely by condensation.

10.2 Designers and installers should take particular care in detailing around openings, penetrations and movement joints to minimise the risk of rain ingress.

10.3 The guidance given in BRE Report BR 262 : 2002 should be followed in connection with the weathertightness of solid wall constructions. The designer should select a construction appropriate to the local wind-driven rain index, paying due regard to the design detailing, workmanship and materials to be used.

10.4 At the top of walls, the systems should be protected by a coping, adequate overhang or other detail designed for use with these types of systems (see section 16).

11 Condensation

11.1 Designers must ensure that an appropriate condensation risk analysis has been carried out for all parts of construction, including openings and penetrations at junctions between the insulation systems and windows, to minimise the risk of condensation. The recommendations of BS 5250 : 2011 should be followed.

Surface condensation

11.2 Walls will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 0.7 $W \cdot m^{-2} \cdot K^{-1}$ at any point and the junctions with other elements and openings comply with section 6.3 of this Certificate.

11.3 Walls will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 1.2 $W \cdot m^{-2} \cdot K^{-1}$ at any point. Guidance may be obtained from BS 5250 : 2011, (section 8 and Annex G) and BRE Report BR 262 : 2002.

Interstitial condensation

11.4 Walls incorporating the systems will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2011, section 4 and Annexes D and G.

11.5 The water vapour resistance factor (μ) (for the insulation boards) and equivalent air layer thickness (s_d) (for the render systems) is shown in Table 6.

Table 6 Water vapour resistance factor and equivalent air layer thickness

Layer	Thickness (mm)	μ	S_d (m)
White EPS 70E/ Grey EPS 70E insulation	50 to 300	20 to 40[1]	–
Baumit StarContact basecoat (3-4 mm thick) + Baumit UniPrimer/ Baumit Premium Primer + finishes indicated below:			
Baumit SilikatTop	6	–	0.54[2]
Baumit SilikonTop	6	–	0.59[2]
Baumit PuraTop	6	–	0.66[2]
Baumit GranoporTop	6	–	0.47[2]
Baumit StarContact White basecoat (5-8 mm thick) + finishes indicated below:			
Baumit SilikatTop	6	–	0.50[2]
Baumit SilikonTop	6	–	0.55[2]
Baumit PuraTop	6	–	0.63[2]
Baumit GranoporTop	6	–	0.43[2]
Baumit OpenContact basecoat (3 mm thick) + Baumit UniPrimer/Baumit Premium Primer + finishes indicated below:			
Baumit SilikatTop	8	–	0.59[2]
Baumit SilikonTop	8	–	0.59[2]
Baumit GranoporTop	8	–	0.49[2]

(1) The value is taken from BS EN 12524 : 2000, Table 2. It is recommended that the lower figure is used when assessing the interstitial condensation risk.
(2) These values were obtained with 3 mm grain particle size.

12 Maintenance and repair

12.1 An initial inspection should be made within 12 months and regularly thereafter to include:

- visual inspection of the render for signs of damage. Cracks in the render exceeding 0.2 mm must be repaired
- examination of the sealant around openings and service entry points
- visual inspection of architectural details designed to shed water to confirm that they are performing properly
- visual inspection to ensure that water is not leaking from external downpipes or gutters; such leakage could penetrate the rendering
- necessary repairs effected immediately and the sealant joints at window and door frames replaced at regular intervals
- maintenance schedules, which should include the replacement and resealing of joints, for example between the insulation systems and window and door frame.

12.2 Damaged areas must be repaired using the appropriate components and procedures detailed in the Certificate holder's installation instructions and in accordance with BS EN 13914-1 : 2016.

13 Durability

13.1 The systems will remain effective for at least 30 years, provided any damage to the surface finish is repaired immediately, and regular maintenance is undertaken as described in section 12 of this Certificate.

13.2 Any render containing cement may be subject to lime bloom. The occurrence of this may be reduced by avoiding application in adverse weather conditions. The effect is transient and is less noticeable on lighter colours.

13.3 The render may become discoloured with time, the rate depending on the initial colour, the degree of exposure and atmospheric pollution, as well as the design and detailing of the wall. In common with traditional renders, discoloration by algae and lichens may occur in wet areas. The appearance may be restored by a suitable power wash or, if required, by over coating.

13.4 To maintain a high quality aesthetic appearance, it may be necessary to periodically overcoat the building using a suitable masonry coating (one covered by a valid BBA Certificate for this purpose) compatible with the decorative or finish coats. Care should be taken not to adversely affect the water vapour transmission or fire characteristics of the systems. The advice of the Certificate holder should be sought as to the suitability of a particular product.

Installation

14 Site survey and preliminary work

14.1 A pre-installation survey of the property must be carried out to determine suitability for treatment and the need for any necessary repairs to the building structure before application of the system. A specification is prepared for each elevation of the building indicating:

- the position of beads
- detailing around windows, doors and at eaves
- damp-proof course (dpc) level
- exact position of expansion joints, if required
- where required, additional corner mesh and reinforcement
- areas where flexible sealants must be used
- any alterations to external plumbing
- where required, the positions of fire barriers.

14.2 The survey should include tests conducted on the walls of the building by the Certificate holder or their approved installers to determine the bond strength between the adhesive and the substrate and be satisfied that the pull-out resistance of the proposed supplementary mechanical fixings from substrate is adequate. An assessment and recommendation should be made on the minimum bond strength and type and number of fixings required to withstand the building's expected wind loading based on calculations using the test site data in accordance with section 7 of this Certificate.

14.3 All modifications, such as alterations to external plumbing and necessary repairs to the building structure, must be completed before installation of the systems commences.

14.4 Surfaces should be sound, clean and free from loose material. The flatness of surfaces must be checked; this may be achieved using a straight-edge spanning the storey height. Any excessive irregularities, ie greater than 10 mm in one metre, must be made good prior to installation, to ensure that the insulation boards are installed with a smooth, in-plane finished surface.

14.5 Where surfaces are covered with an existing rendering, it is essential that the bond between the background and the render is adequate. All loose areas should be hacked off and reinstated.

14.6 On existing buildings, purpose-made window sills must be fitted to extend beyond the finished face of the systems. New buildings should incorporate suitably deep sills (see Figure 10).

14.7 In new buildings, internal wet work (eg screeding or plastering) should be completed and allowed to dry prior to the application of the systems.

15 Approved Installers

Application of the systems, within the context of this Certificate, is carried out by approved installers recommended or recognised by the Certificate holder. Such an installer is a company:

- employing operatives who have been trained and approved by the Certificate holder to install the systems
- which has undertaken to comply with the Certificate holder's application procedure, containing the requirements for each application team to include at least one member-operative trained by the Certificate holder
- subject to at least one inspection per annum by the Certificate holder to ensure suitable site practices are being employed. This may include unannounced site inspections.

16 Procedure

General

16.1 Installation of the systems should be carried out in accordance with the Certificate holder's current installation instructions and this Certificate.

16.2 Weather conditions should be monitored to ensure correct application and curing conditions. Application of coating materials must not be carried out at temperatures below 5°C or above 25°C, or if exposure to frost is likely, and the coating must be protected from rapid drying. Installation should not take place during rainfall or if rain is anticipated. In addition, cementitious-based renders must not be applied if the temperature will fall below 0°C within 72 hours of completion.

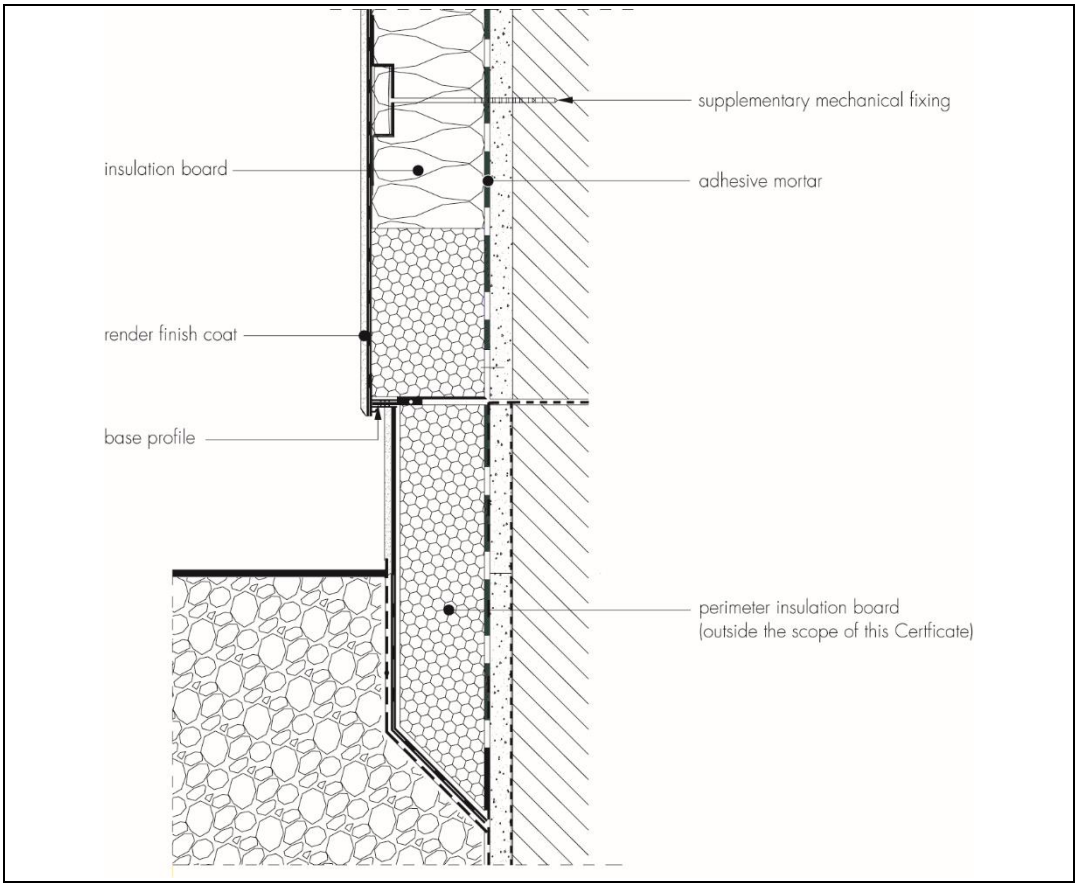
16.3 Where required, a fungicidal wash is applied to the entire surface of the external wall by brush, roller or spray.

16.4 All rendering should be in accordance with the relevant recommendations of BS EN 13914-1 : 2016.

Positioning and securing insulation boards

16.5 The base profile is secured to the external wall above the dpc using the profile fixings at approximately 300 mm centres (see Figure 3). Base rail connectors are inserted at all rail joints. Extension profiles are fixed to the front lip of the base rail or stop channel where appropriate. Stop profiles are positioned vertically, eg at party wall positions where the adjoining property does not require treatment.

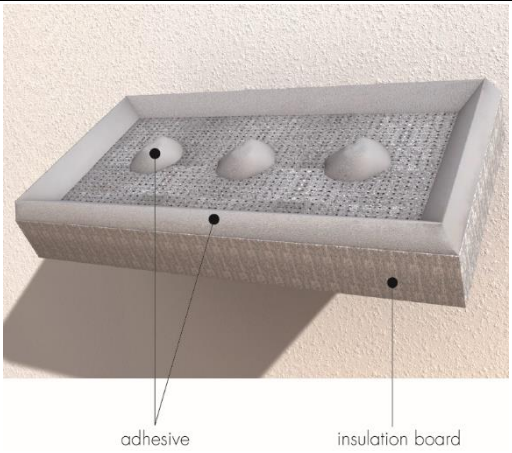
Figure 3 Typical section at base



16.6 The adhesive is prepared with the required amount of water (see section 1.2) and mixed with an electric paddle mixer or horizontal mixer until the desired consistency is achieved. After allowing the adhesive to rest for five minutes, it is stirred again. The adhesive is applied to the insulation boards using stainless steel tools or a mortar pump.

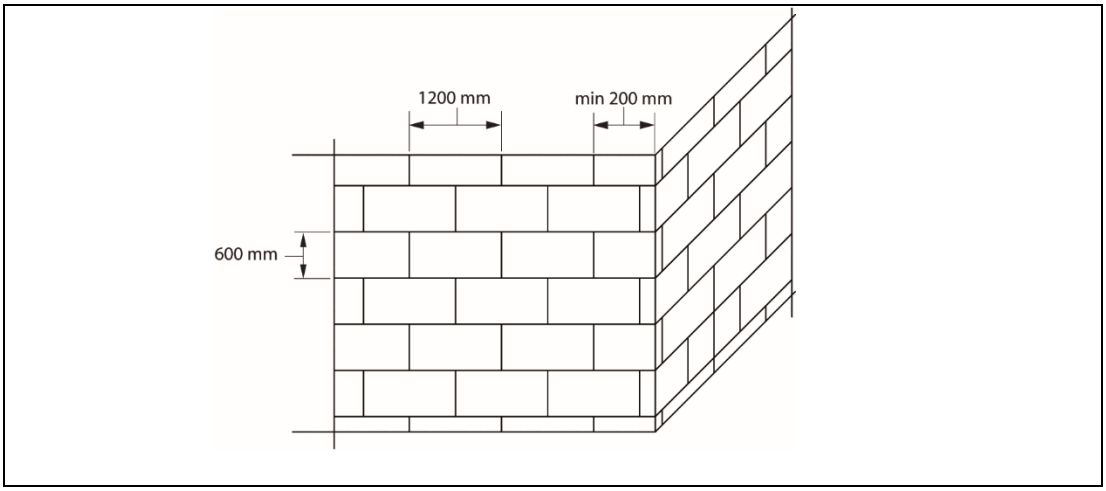
16.7 The insulation boards are bonded to the wall by applying the specified adhesive to the boards using the 'strip-point' method. A circumferential ribbon of adhesive, at least 30 mm wide, is applied to the insulation boards. Six to eight evenly distributed patches of adhesive, 80 to 120 mm in diameter, are applied to the boards so that an adhesive surface of at least 40% is achieved for EPS boards (see Figure 4). Alternatively, for even and smooth substrates , the whole board must be coated with adhesive using a notched trowel to produce a coat of 5 to 6 mm in thickness. The insulation board should be immediately placed on the substrate and pressed into place.

Figure 4 Insulation board adhesive pattern



16.8 The first run of insulation boards is placed on the base profile with adhesive applied. The boards must be pressed firmly against the wall and butted tightly together and aligned to achieve a level finish. Subsequent rows of boards are positioned so that the vertical board joints are staggered and overlapped at the building corners and so that the board joints do not occur within 200 mm of the corners of openings (see Figure 5).

Figure 5 Typical arrangement of insulation boards



16.9 Joints between boards greater than 2 mm should be filled with slivers of insulation board or low density polyurethane foam. Gaps greater than 10 mm should be closed by repositioning or, where appropriate, by cutting boards to fit. Any high spots or irregularities are removed by lightly planing with a rasp over the whole surface. Alignment should be checked as work proceeds.

16.10 While the adhesive is curing, supplementary mechanical fixings are applied through the insulation board into the substrate wall as described in section 16.11. The number of fixings should be increased as required (eg in the corner zones of the building), depending on the location of the building and wind load.

16.11 Holes are drilled into the substrate to the required depth, one fixing in the middle of the board, plus a fixing at each joint and a fixing in the middle along the top and the bottom edge of the board This represents three fixings per board, resulting in approximately four fixings per square metre. The supplementary mechanical fixings are inserted and tapped or screwed firmly into place, securing the boards to the substrate.

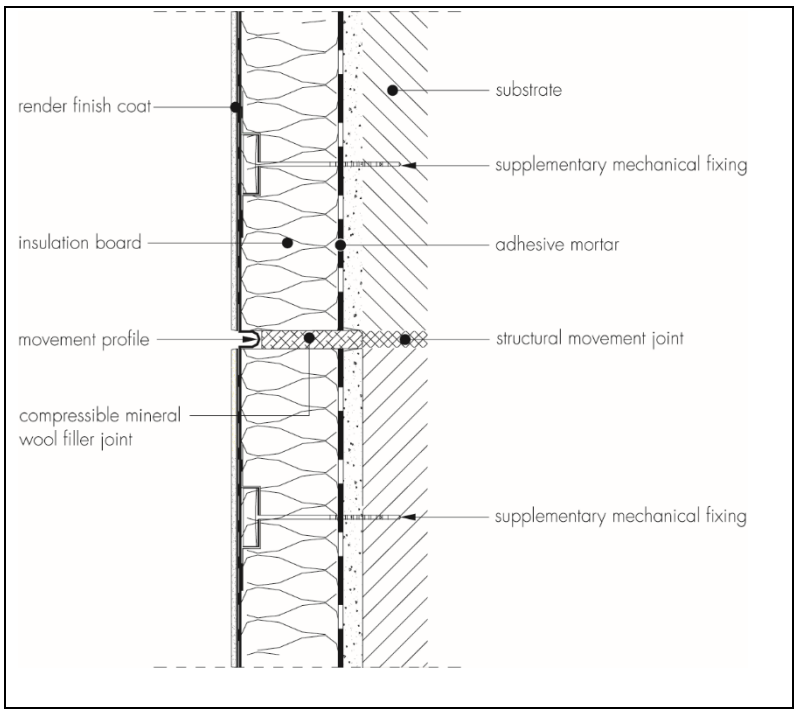
16.12 To fit around details such as doors and windows, insulation boards may be cut with a sharp knife or a fine-toothed saw. If required, purpose-made window sills are fitted. They are designed to prevent water ingress and incorporate drips to shed water clear of the systems.

16.13 Installation continues until the whole wall is completely covered including, where appropriate, the building soffits and eaves.

Movement joints

16.14 Movement joints are fixed vertically in agreed positions, depending upon the individual requirements of each job. Where a movement joint is incorporated into the substrate, an expansion joint must be provided in the insulation systems (see Figure 6).

Figure 6 Vertical movement joint



16.15 Window and door reveals should be insulated to minimise the effects of cold bridging. Where clearance is limited, strips of approved insulation should be installed to suit available margins and details.

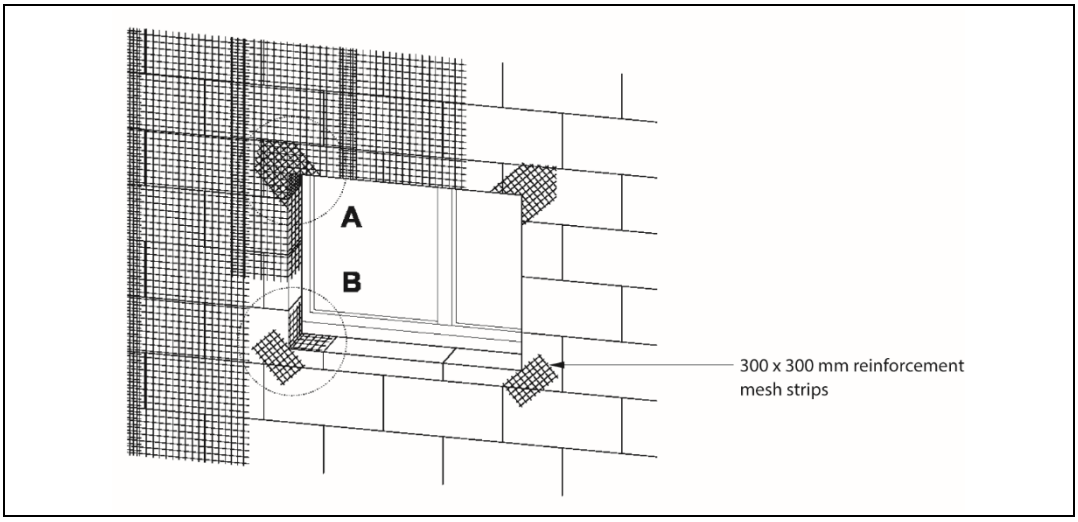
16.16 Prior to the reinforcement coat, expanding foam sealing tape is positioned and installed at all openings (eg windows and doors), overhanging eaves, gas and electric meter boxes, wall vents, or where the render abuts any other building material or surface.

16.17 Corner profiles are fixed to all building corners and to door and window heads and jambs using the basecoat renders.

Application of basecoat and reinforcement

16.18 The basecoat is prepared with the required amount of water (see section 1.2). Sections of the reinforcing mesh (approximate size 300 by 300 mm, see Figure 7) should be placed diagonally at the corners of windows, doorways and other similar openings prior to the installation of the entire wall with the reinforcing mesh.

Figure 7 Additional reinforcement at openings



16.19 Basecoat is applied over the insulation boards using a stainless steel trowel, and floated to an approximate thickness of 3 mm. The reinforcing mesh (with its concave surface to the wall) is immediately applied and embedded

into the basecoat by trowelling from the centre to the edge. An additional coat of basecoat is applied whilst the first coat is still wet, to ensure the mesh is free of wrinkles (see section 1.2 of this Certificate). In high impact areas, a second layer of reinforcing mesh is applied and embedded in the basecoat (after application and smoothing, the overall thickness should be a minimum of 6 mm).

16.20 The basecoat is applied progressively, working in one-metre sections in a vertical or horizontal direction. Overlapping at all mesh joints should not be less than 100 mm.

16.21 Once the whole wall is completed, the reinforced basecoat is left to dry thoroughly before the application of primer and the finish coat. The drying time will depend upon the conditions, but at least 48 hours should elapse before primer and finishing coats are applied.

16.22 Prior to the render coat, a bead of joint sealant is gun-applied at window and door frames, overhanging eaves, gas and electric meter boxes, wall vents, or where the render abuts any other building material or surface.

16.23 Where required (see section 8.7 of this Certificate), stainless steel fixings should be provided at the rate of one per square metre; the fixing design should take account of the extra duty required under fire conditions. These fixings are inserted approximately at the centre of each board.

Primer

16.24 The basecoat should be left to dry thoroughly before application of the primer – depending on conditions, the basecoat drying time should be at least 48 hours (see section 1.2 for typical installed weight).

Render finish

16.25 Once the primer has dried (after 24 hours), the chosen finish coat is applied to the thicknesses specified by the Certificate holder. The renders are applied using a stainless steel trowel and float and finished with a plastic float to create the required finish texture.

16.26 Continuous surfaces must be completed without a break, eg working to a wet edge. Care should be taken to prevent the basecoat, primer and finish coats from either drying too rapidly or freezing.

16.27 Care should be taken in the detailing of the system around openings and projections (see Figures 8, 9 and 10) to ensure adequate protection against water ingress and to limit the risk of water penetrating the systems.

16.28 It is imperative that weather conditions are suitable for the application and curing of the finishing coats. In wet weather, the finished walls should be protected to prevent wash-off. It is also advisable that protective covers remain in place until required.

Figure 8 Typical arrangement at external corner

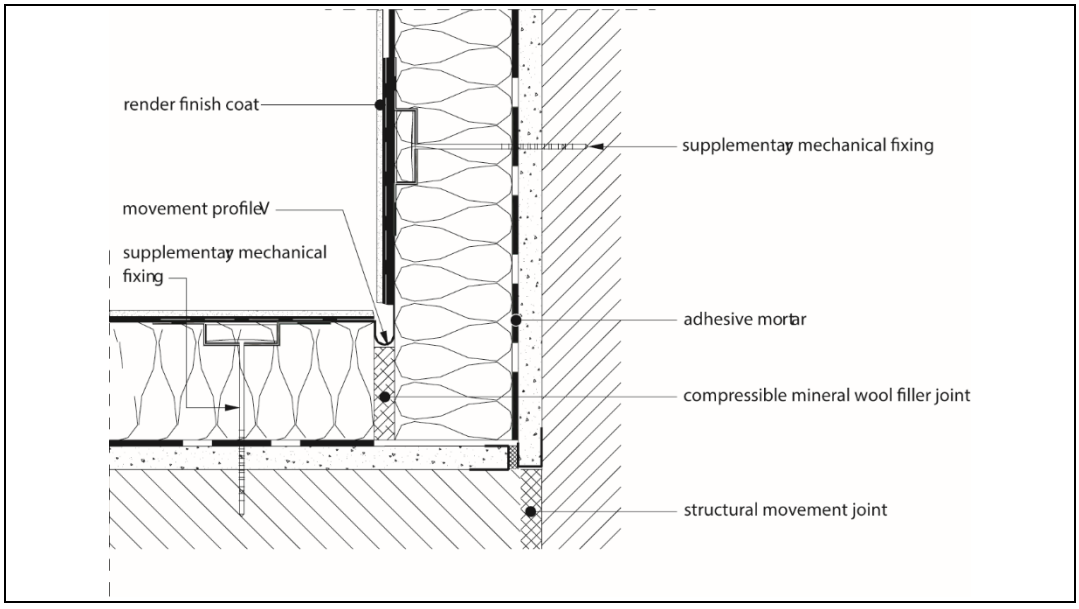


Figure 9 Typical detail at window reveal and window head

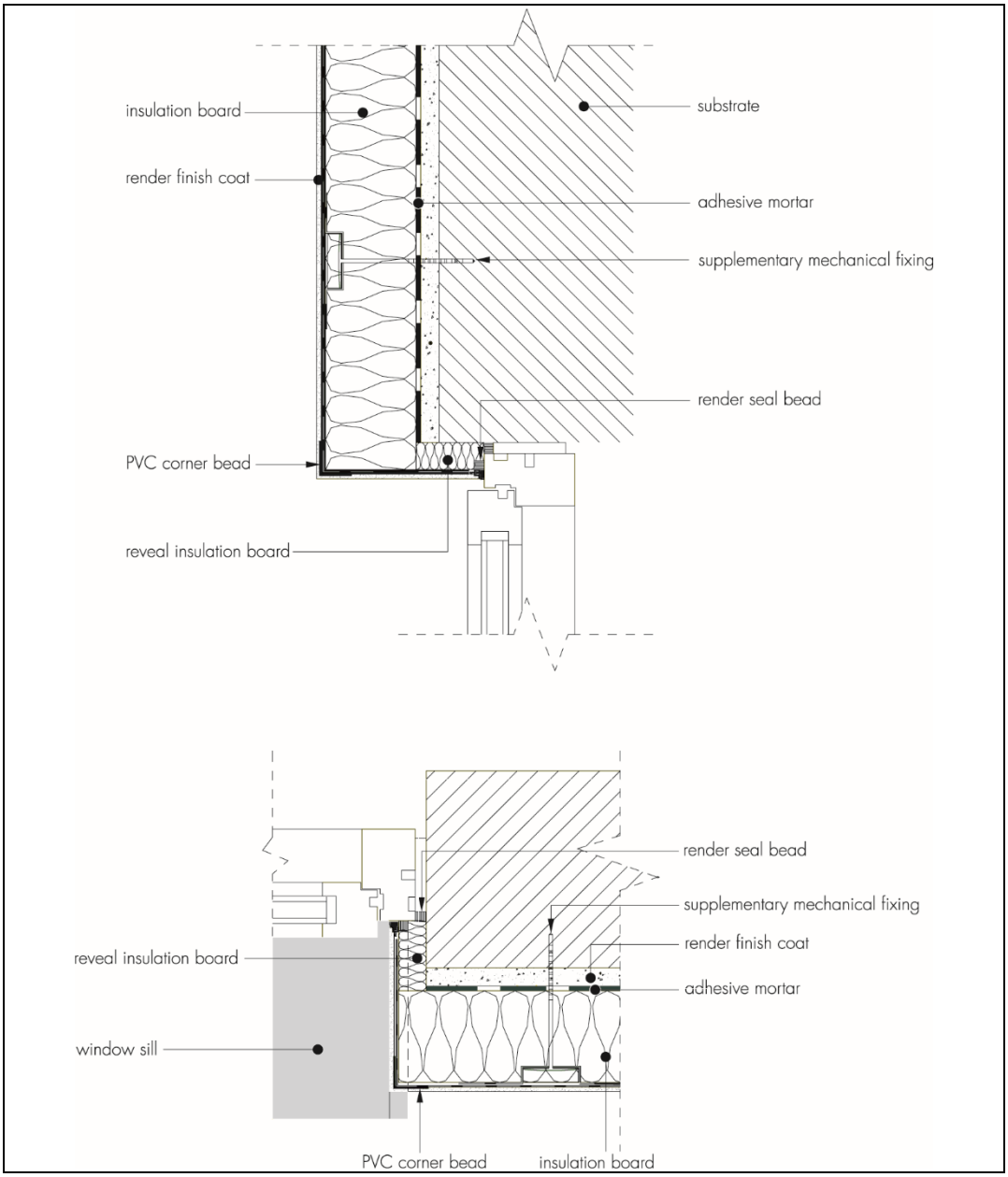
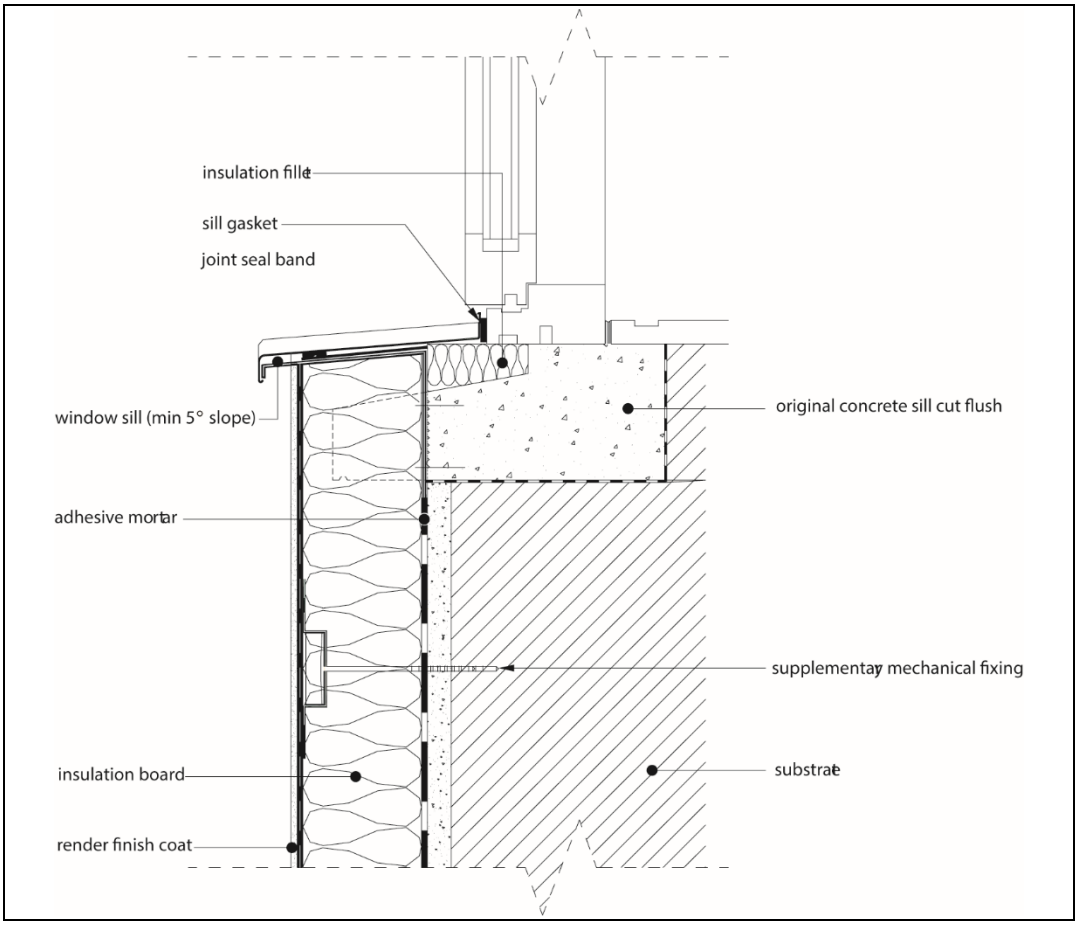
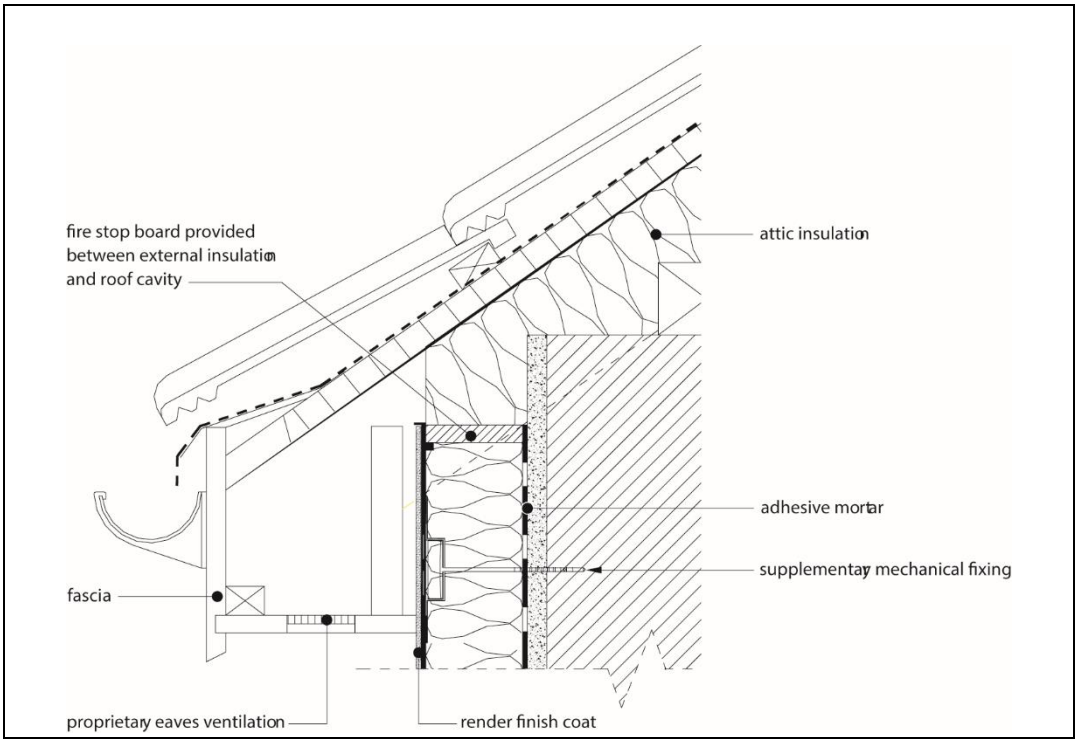


Figure 10 Typical sill detail



16.29 At the top of walls, parapet or roof eaves, etc. the systems should be protected by an adequate overhang (see Figure 11) or by an adequately-sealed purpose-made flashing.

Figure 11 Typical roof eaves detail



17 Tests

Results of tests were assessed to determine:

- reaction to fire classification in accordance with BS EN 13501-1 : 2018
- hygrothermal performance (heat/spray cycling)
- render/insulation bond strength
- resistance to hard body impact
- water vapour permeability
- water absorption.

18 Investigations

18.1 An examination was made of data relating to:

- durability
- adequacy of the fixings
- the risk of interstitial condensation
- thermal conductivity and example U values
- system wind load resistance.

18.2 The practicability of installation and the effectiveness of detailing techniques were examined.

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

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BS EN 1990 : 2002 + A1 : 2005 *Eurocode — Basis of structural design*
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BS EN 13914-1 : 2016 *Design, preparation and application of external rendering and internal plastering — External rendering*

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BRE Report BR 443 : 2006 *Conventions for U-value calculations*

ETAG 004 : 2013 *Guideline for European Technical Approval of External Thermal Insulation Composite Systems (ETICS) with Rendering*

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

19 Conditions

19.1 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.

19.2 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.

19.3 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.

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

19.5 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.

19.6 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.