NSAI Agrément

IRISH AGRÉMENT BOARD
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Ceresit Ceretherm External Wall Insulation Systems

Système d'isolation pour murs extérieurs
Wärmedämmung für Außen-wand

NSAI Agrément (Irish Agrément Board) is designated by Government to issue European Technical Approvals.

NSAI Agrément Certificates establish proof that the certified products are **'proper materials'** suitable for their intended use under Irish site conditions, and in accordance with the **Building Regulations 1997 to 2011**.

PRODUCT DESCRIPTION:
This Certificate relates to the following Ceresit-Ceretherm External Wall Insulation Systems:

- Ceresit Ceretherm Classic (Detail Sheet 1)
- Ceresit Ceretherm Popular (Detail Sheet 2)
- Ceresit Ceretherm Premium (Detail Sheet 3)
- Ceresit Ceretherm Express (Detail Sheet 4)
- Ceresit Ceretherm 60 (Detail Sheet 5)
- Ceresit Ceretherm Visage (Detail Sheet 6)
- Ceresit Ceretherm Ceramic (Detail Sheet 7)
- Ceresit Ceretherm Impactum (Detail Sheet 8)

These ETIC systems are each comprised of:

- Surface preparation of masonry or concrete substrate;
- Full system beads and render-only beads;
- Insulation board (standard white EPS, carbon-enhanced grey EPS, mineral wool, phenolic);
- Cement-based undercoat incorporating an alkali resistant fibreglass mesh;
- Acrylic decorative finish coat;
- Decorative finish, including brick slips (see Detail Sheet 7);
- Mechanical fixings;
- Weather-tight joints;
- Movement joints;
- Provision for limiting cold bridging at external wall/floor junctions in compliance with Acceptable Construction Details published by the DoEHLG;
- Provision for fire stopping at external compartment walls and floors.

Henkel Polska is responsible for the design, manufacture and supply of all components to approved specifications. Henkel Polska has appointed Building Systems Insulation Ltd and Kilsaran Build as their distribution partners in Ireland.

The system is designed by Henkel Polska and Kilsaran Build on a project specific basis in accordance with an approved design process.

The installation of the system is carried out by installers who have been trained by Henkel Polska or Henkel Polska approved representative, and are approved by Henkel Polska or Henkel Polska approved representative and NSAI Agrément to install the system. Applicators must adhere to strict installation guidelines as specified by Henkel Polska and Kilsaran Build.

This Certificate certifies compliance with the requirements of the Building Regulations 1997 to 2011.

USE:
This Certificate and Detail Sheets 1 to 4 cover the systems for use as external insulation of:

(a) Existing concrete or masonry dwellings;
(b) New concrete or masonry commercial or industrial buildings, which are designed in accordance with the Building Regulations 1997 to 2011.

These systems are suitable for use up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Detail Sheet 5 covers the system for use as external insulation on new concrete and masonry residential buildings, up to a maximum of 15 storeys (45 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

The systems have not been assessed for use with timber frame or steel frame construction.

In an Irish context, Category I 'Impact Resistance' includes a wall at ground level readily accessible to the public and vulnerable to hard body impacts but not subjected to abnormally rough use. Category II excludes any wall at ground level adjacent to a public footpath, but includes one with its own private, walled-in garden. Category III does not include any wall at ground level. Table 2 in each Detail Sheet shows the impact resistance classifications achieved by various build-ups of the Ceresit Ceretherm ETIC Systems.

MANUFACTURE, DESIGN AND MARKETING:
The product is designed and manufactured by:

Henkel Polska Sp. z o.o.,
Domaniewska 41,
02 672 Warszawa,
Poland.

Project specific design, technical support, sales and applicator approval are performed by:

Kilsaran Build,
Brownstown,
Kilcullen,
Co. Kildare.
W: www.kilsaran.ie/build

1.1 ASSESSMENT

The external insulation systems included in this Certificate, which have been tested in accordance with the requirements of ETAG 004 (ref ETA 06/0260, 08/0308, 08/0309, 11/0395), have been assessed against the specific requirements of the Irish Building Regulations, including method of installation, approval and training of installers, and maintenance requirements of the installed system.

In the opinion of NSAI Agrément, the Ceresit Ceretherm ETIC Systems, when installed by Kilsaran Build recommended contractors, in accordance with this Certificate and Kilsaran Build specific design, can meet the requirements of the Building Regulations 1997 to 2011, as indicated in Section 1.2 of this Agrément Certificate.

1.2 BUILDING REGULATIONS 1997 to 2011

REQUIREMENTS:

Part D – Materials and Workmanship

D3 – Proper Materials

The Ceresit Ceretherm ETIC Systems, as certified in this Certificate, are comprised of 'proper materials' fit for their intended use (see Part 4 of this Certificate).

D1 – Materials & Workmanship

The Ceresit Ceretherm ETIC Systems, as certified in this Certificate, meet the requirements for workmanship.

Part A - Structure

A1 – Loading

The Ceresit Ceretherm ETIC Systems once appropriately detailed, designed and constructed have adequate strength and stability to meet the requirements of this Regulation (see Part 3 of this Certificate).

A2 – Ground Movement

The Ceresit Ceretherm ETIC Systems can be incorporated into structures that meet this requirement (see Parts 3 and 4 of this Certificate).

Part B – Fire Safety

B4 – External Fire Spread

The Ceresit Ceretherm ETIC Systems can be incorporated into structures that meet this requirement (see Parts 3 and 4 of this Certificate).

Part C – Site Preparation and Resistance to Moisture

C4 – Resistance to Weather and Ground Moisture

External walls above DPC level have adequate weather resistance in all exposures to prevent the passage of moisture from the external atmosphere into the building as specified in Part 3 of this Certificate.

Part F – Ventilation

F2 – Condensation in Roofs

The systems as certified can be incorporated into structures that will meet the requirements of this Regulation (see Parts 3 and 4 of this Certificate).

Part J – Heat Producing Appliances

J3 – Protection of Building

When the Ceresit Ceretherm ETIC Systems are used in accordance with Section 4.1 of this Certificate, wall lining, insulation and separation distances meet this requirement.

Part L – Conservation of Fuel and Energy

L1 – Conservation of Fuel and Energy

The walls of the Ceresit Ceretherm ETIC Systems can be readily designed to incorporate the required thickness of insulation to meet the Elemental Heat Loss method calculations for walls as recommended in Part L of the Building Regulations 1997 to 2011 (see Part 4 of this Certificate).

2.1 PRODUCT DESCRIPTION

Each of the Ceresit Ceretherm ETIC Systems is given a detailed description in the relevant Detail Sheet.

The substrate on which the Ceresit Ceretherm ETIC Systems will be used should have a reaction to fire class A1 or A2-s1 d0 in accordance with I.S. EN 13501-1.

2.2 MANUFACTURE, SUPPLY AND INSTALLATION

Henkel Polska is responsible for the design and manufacture of all components to approved specifications. Henkel Polska has appointed Building Systems Insulation Ltd and Kilsaran Build as distribution partners in Ireland, with responsibility for:

- Project specific design in accordance with approved design process;
- Preliminary project assessment incorporating wind load calculations (where necessary), U-value calculations, condensation risk analysis, impact resistance, substrate suitability and pull-out testing of fixings;
- Training, monitoring and review of licensed applicators in accordance with approved training and assessment procedures;
- Product supply and documentation control;
- Technical support and installation supervision;
- Sales and marketing.

The installation of the Ceresit Ceretherm ETIC Systems is carried out by Kilsaran Build trained and approved installers in accordance with Kilsaran Build project specific designs and method statements. Installers must also be approved and registered by NSAI Agrément under the NSAI Agrément External Thermal Insulating Composite Systems (ETICS) Approval Scheme (see Section 2.4.1 of this Certificate).

2.2.1 Quality Control

The Certificate holder operates a quality management system and a quality plan is in place for system manufacture, design and installation.

2.3 DELIVERY, STORAGE AND MARKING

The insulation is delivered to site in packs. Each pack is marked with the manufacturer's details, product identification marks and batch numbers. See Table 1 of each Detail Sheet for the designation code that must be included on the insulation identification label. Each container for other components, e.g. renders, adhesives etc, bears the manufacturer's and the product's identification and batch number.

Insulation should be stored on a firm, clean, dry and level base, which is off the ground. The insulation should be protected from prolonged exposure to sunlight by storing opened packs under cover in dry conditions or by re-covering with opaque polythene sheeting. Mineral fibre board and phenolic board must be protected from moisture prior to and during installation. It may be necessary to remove and replace any unsuitable/wet material. Care should be taken when handling the insulation boards to avoid damage and contact with solvents or bitumen products. The boards must not be exposed to ignition sources.

Meshcloth, primers, renders, paints texture synthetic finish coatings and sealants should be stored in accordance with the manufacturer's instructions, in dry conditions, at the required storage temperatures. They should be used within the stated pot life.

2.4 INSTALLATION

2.4.1 Approved Installers

Installation shall be carried out by Kilsaran Build trained applicators who:

1) Are required to meet the requirements of an initial site installation check by NSAI Agrément prior to approval and are subject to the NSAI Agrément ETICS Approval Scheme.
2) Are approved by Kilsaran Build and NSAI Agrément to install the product.
3) Have undertaken to comply with the Kilsaran Build installation procedure, requirements of this Certificate, and the Kilsaran Build Code of Practice for approved contractors.
4) Are employing Supervisors and Operatives who have been issued with appropriate identity cards by Kilsaran Build. Each team must consist of at least one ETICS Operative and ETICS Supervisor (can be the same person).
5) Are subject to supervision by Kilsaran Build, including unannounced site inspections by both the Certificate holder and NSAI Agrément, in accordance with the NSAI Agrément ETICS Approval Scheme.
6) Are subject to periodic surveillance by the system manufacturer – site visits and office records.

2.4.2 General

Kilsaran Build prepare a site package for each project, including wind loading and U-value

calculations, requirements for materials handling and storage, method statements for installation, building details, fixing requirements, provision for impact resistance, maintenance requirements etc. This document forms part of the contract documentation for circulation to the home owner and the installer. Installers will be expected to adhere to the specification. Deviations must be approved by a Kilsaran Build technical representative. Kilsaran Build technical representatives will visit each site on a regular basis to ensure that work is carried out in accordance with the project specific site package, including the Certificate holder's installation manual. Certificates of Compliance, Kilsaran Build guarantee and home owners manual will be issued on successful completion and sign-off of completed projects.

Mineral fibre board and lamella, and phenolic board must be protected from moisture prior to and during installation. It may be necessary to remove and replace any unsuitable/wet material.

External works that leave the external appearance of the building inconsistent with neighbouring buildings may require planning permission. The status of this requirement should be checked with the local planning authority as required.

2.4.3 Site Survey and Preliminary Work

A comprehensive pre-installation site survey of the property shall be carried out by a suitably qualified Kilsaran Build technical representative or Kilsaran Build and NSAI Agrément approved contractor and all key information is recorded on the site survey form. The Kilsaran Build pre-installation survey is also used to price the project and identify all the relevant factors/technical information which needs to be considered in the design of the external cladding system and important information to be included in the site specific pack. This pack would typically include wind load calculations and a fixing specification summary sheet, thermal bridging evaluation, condensation risk analysis, elemental wall U-value calculation, and a full set of project specific building details. The survey will also establish the suitability of the substrate, and the Kilsaran Build technical representative will determine if pullout resistance testing is required and what substrate preparation is required.

The substrate must be free of water repellents, dust, dirt, efflorescence and other harmful contaminants or materials that may interfere with the adhesive bond. Remove projecting mortar or concrete parts mechanically as required.

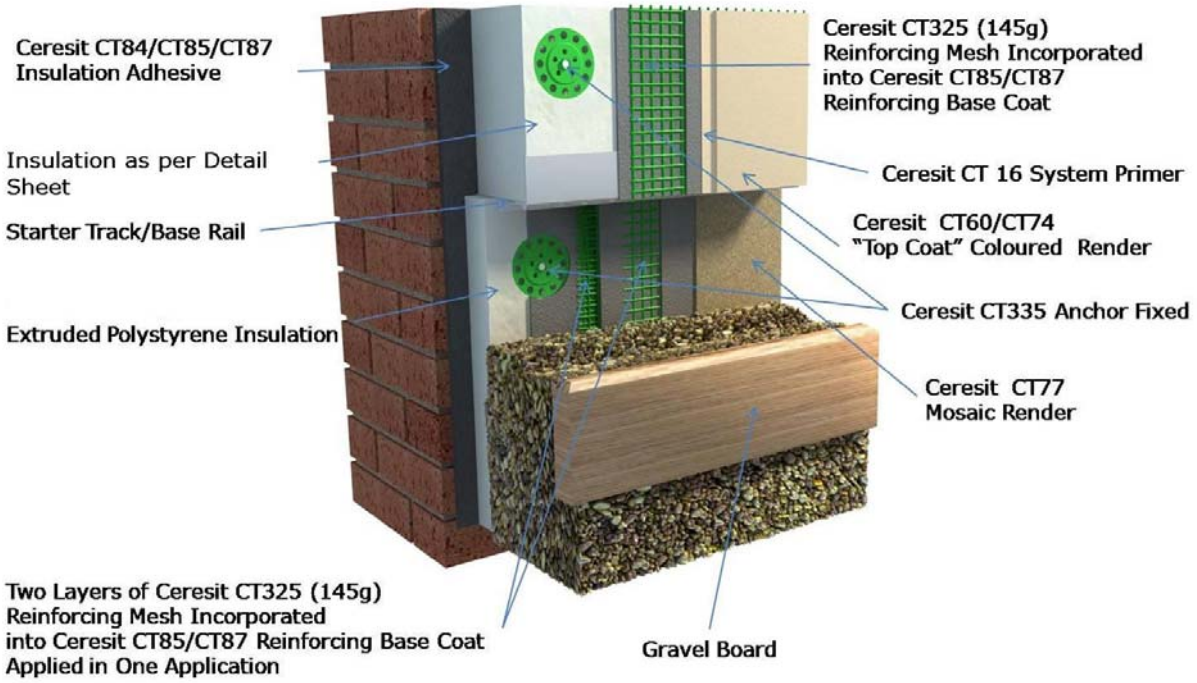
Where discrepancies exist preventing installation of the system in accordance with this Certificate and the Certificate holder's instructions, these discrepancies must be discussed with the Certificate holder and a solution implemented with the approval of the Certificate holder.

2.4.4 Procedure

- Following award of contract, the site specific pack is prepared by Kilsaran Build based on the information recorded by the installer in the site survey form.
- Prepare substrate in accordance with the project specific site package. This will include brushing down of walls, washing with clean water and treatment with a fungicidal wash as required. Ensure the substrate is sound by checking the substrate surface for loose render by tapping with a hammer and listening for a hollow sound. Any loose render must be removed and replaced before installation can commence.
- An adhesion test (pull-off test) should be carried out if in doubt to the quality of the substrate surface.
- At window and door frame reveals, the plaster reveals should only be removed if a minimum clearance of 30mm cannot be achieved between the reveal and the window/door frame. This clearance must allow for opening sections of window and door frames. This is to allow the application of insulation around the reveals and heads of the windows and doors to significantly reduce thermal bridging.
- Existing concrete sills may be insulated over, however best practice is to cut back the concrete sill to minimise the effects of cold bridging at this junction.
- Weather conditions must be monitored to ensure correct application and curing conditions. Renders (adhesives, base coats, primers, finish coats) must not be applied if the temperature is below 5°C or above 25°C at the time of applications. In addition, cementitious-based renders must not be applied if the temperature will be below 0°C at any time during 72 hours after application; cement-free, synthetic-resin and silicone-resin plasters must not be applied if the temperature will be below 5°C at any time during 72 hours after application; silicate plasters must not be applied if the temperature will be below 8°C at any time during 72 hours after application. When CT 240 or CT 280 additives are used with the finish coats, application can take place at temperatures above 0°C where the finished elevations are conditioned with protective sheeting and the temperature will not be below 0°C at any time during 72 hours after application.
- Until fully cured, the coatings must be protected from rapid drying, precipitation, direct sunlight and strong wind.
- Refer to the site package for guidance on modifications of down pipes, soil and vent pipes, pipe extensions etc.

- Where possible all pipe work should be relocated as required to accommodate the insulation. Where pipe work cannot be relocated and is to be housed in the depth of the system, access for maintenance must be maintained through the use of removable covers or alternative design to be approved by the Certificate holder.
- Base beads and all full system beads are fixed as specified. Insulation and render only beads are fixed as specified in the site package.
- The starter track is mechanically fixed to the substrate level with the DPC line. This provides a horizontal line for the installation of insulation panels as well as providing reinforcement to the lower edge of the system.
- XPS or HD EPS boards are then fixed to the wall below the starter track to provide the necessary resistance to impact and capillary action. To minimise the effects of cold bridging, the XPS should extend below ground level where possible. Where this is not possible the first run of XPS insulation boards is positioned at ground level with starter track at base of boards a minimum of 10mm off ground. All HD EPS below ground level must be fully encapsulated by the basecoat.
- In areas where frost heave is likely to occur, plinth insulation must be kept 10mm above ground level.
- The insulation boards are bonded to the wall by applying the specified adhesive (see Table 1 of each Detail Sheet) to the boards using the "strip-point" method. A circumferential ribbon of adhesive at least 30mm wide in diameter is applied to the insulation boards. 6 – 8 evenly distributed patches of adhesive 80 – 120mm in diameter are then applied to the boards so that an adhesive surface of at least 40% is achieved (60% after application and pressing). Alternatively, for even and smooth substrates, the whole panel can be coated with adhesive using a notched trowel to produce a coat 2 – 5mm in thickness. The insulation board should be immediately placed on the substrate and pressed into place.
- Subsequent rows of insulation boards are installed on top of the starter track and positioned so that the vertical board joints are staggered and overlapped at the building corners.
- To avoid thermal bridging, ensure a tight adhesive free joint connection between adjacent insulation boards. A foam filler approved by the Certificate holder may be used for filling gaps up to 5mm.
- At façade openings, e.g. windows and doors, insulation boards must be continued around the corner. Insulation boards must overlap at these locations and can be cut to size to facilitate this. Any projecting EPS boards should be levelled out using a rubbing board with local trimming as required on mineral wool boards.
- Window and door reveals should, where practicable, be insulated to minimise the effects of cold bridging in accordance with the recommendations of the Acceptable Construction Details Document published by the DoECLG, Detail 2.21, to achieve an R-value of $0.6m^2K/W$. Where clearance is limited, strips of approved insulation should be installed to suit available margins and details recorded as detailed in Section 4.5 of this Certificate.
- To minimise the effects of cold bridging in all other junctions over and above windows and doors, designers should consider the recommendations of the Acceptable Construction Details Document (published by the DoECLG), Section 2 – External Wall Insulation. Where clearance is limited, strips of approved insulation (with better thermal resistance values) should be installed to suit available margins and details recorded as outlined in Section 4.5 of this Certificate.
- Details of mechanical fixings (including their arrangement in the insulation boards) are specified in the project specific design based on pullout test results, substrate type and wind loading data. A minimum number of 4 mechanical fixings per board shall be installed unless otherwise specified in the project specific design.
- Purpose-made powder coated aluminium window sills with PVC stop-ends are installed in accordance with the Certificate holder's instructions. They are designed to prevent water ingress and incorporate drips to shed water clear of the system.
- Kilsaran Build also supply insulated oversills which are installed in accordance with the Certificate holder's instructions, as per Figure 10.
- Lamella fire stops are installed in accordance with the Certificate holder's instructions as defined in Section 4.2 of this Certificate, at locations defined in the project specific site package.
- For EPS insulation, any high spots or irregularities should be removed by lightly planning with a rasp to ensure the application of an even thickness of base coat. After sufficient stabilisation of the installed insulation (normally 2 days, during which time the insulation should be protected from exposure to extreme weather conditions to prevent degradation), the insulated wall is ready for the application of the base and finish coats.
- EPS boards exposed to UV light for extended periods prior to the application of the render coatings are subject to breakdown and should be rasped down as required in preparation for rendering.

- Movement joints shall be provided in accordance with the project specific site package.
- At all locations where there is a risk of insulant exposure, e.g. window reveals, eaves or stepped gables, the system must be protected, e.g. by an adequate overhang or by purpose-made sub-sills, seals or flashings.
- Building corners, door and window heads and jambs are formed using angle beads bonded to the insulation in accordance with the Certificate holder's instructions.
- To minimise the thermal bridge effect during the installation of railings, exterior lighting, shutter guide rails, canopies, aerials, satellite dishes etc, the Certificate holder offers a range of anchoring options. These anchors must be installed in accordance with the Certificate holder's instruction, as defined in the project specific site package, during the installation of the insulation boards.
- Where the external insulation meets intersecting walls etc and the abutting structure cannot be cut back, the edge of the insulation where it meets the wall should be protected using PVC universal stop-trim, followed by the application of a low modular silicone sealant between the top coat and the abutting structure.
- Prior to application of base coat and finish coat, all necessary protective measures such as taping off of existing window frames and covering of glass should be in place.
- In sunny weather, work should commence on the shady side of the building and be continued following the sun to prevent the rendering drying out too rapidly.
- Base coat is prepared as described in Table 1 of each Detail Sheet and is trowel applied to the surface of dry insulation boards at approximately 2/3 of the final base coat thickness. Base coats requiring the addition of water should be mixed mechanically using a drill and mixer.
- Apply the base coat to the insulation boards to the width of the mesh. The reinforcing mesh must be pressed into the base coat with a 100mm overlap. The mesh should always be embedded in such a way that in the case of thin-layered reinforcement the mesh is in the middle of the base coat layer, and in the case of thick-layered reinforcement it is in the upper third of the base coat layer. The mesh can be laid either vertically or horizontally.
- An additional diagonal reinforcement must be applied around the façade openings. This involves embedding diagonal strips of mesh in the reinforcing mesh.
- The primer and/or finish coat must not be applied until after the base coat has dried out fully (3 days approximately).
- Primers (see Table 1 of each Detail Sheet for approved list of primers and their compatibility with finishing coats) shall be applied in accordance with the Certificate holder's instructions and allowed to dry fully prior to the application of the finishing coat.
- Render primers prevent penetration of impurities from the adhesive into the render, protects and reinforces the substrate, and increases the bond strength between the render and the substrate.
- Finishing coats are applied in accordance with the Certificate holder's instructions.
- Where dry dash is being applied, the CT136 dash receiver coat is applied to the correct minimum thickness. While the render is still soft, selected clean aggregate is thrown or sprayed onto the surface. On completion, the surface must be checked to ensure an even coverage of dash has been achieved. Where necessary, the aggregate should be lightly tamped to ensure that a good bond is achieved.
- All rendering should follow best practice guidelines, e.g. BS 8000-10:1995 *Workmanship on building sites – Code of practice for plastering and rendering* and IS EN 13914-1:2005 *Design, preparation and application of external rendering and internal plastering – External rendering*.
- On completion of the installation, external fittings, rainwater goods etc. are fixed through the system into the substrate in accordance with the Certificate holder's instructions.
- When obstructions abut external walls such as a boundary wall, best practice would be to cut back the boundary wall to allow for the continuation of the external insulation system, or in the case of unheated lean-to buildings the external insulation system should continue around the lean-to.
- All necessary post-application inspections should be performed and the homeowner's manual completed and handed over to the homeowner accordingly.



Note: Some Recommendations May Require Two Layers of Ceresit CT325 Reinforcing Mesh To Be Used Up To 2 Metres Above The Starter Track/Base Rail – Contact IRSL for Specific Details

Figure 1: Insulation of Building Plinth

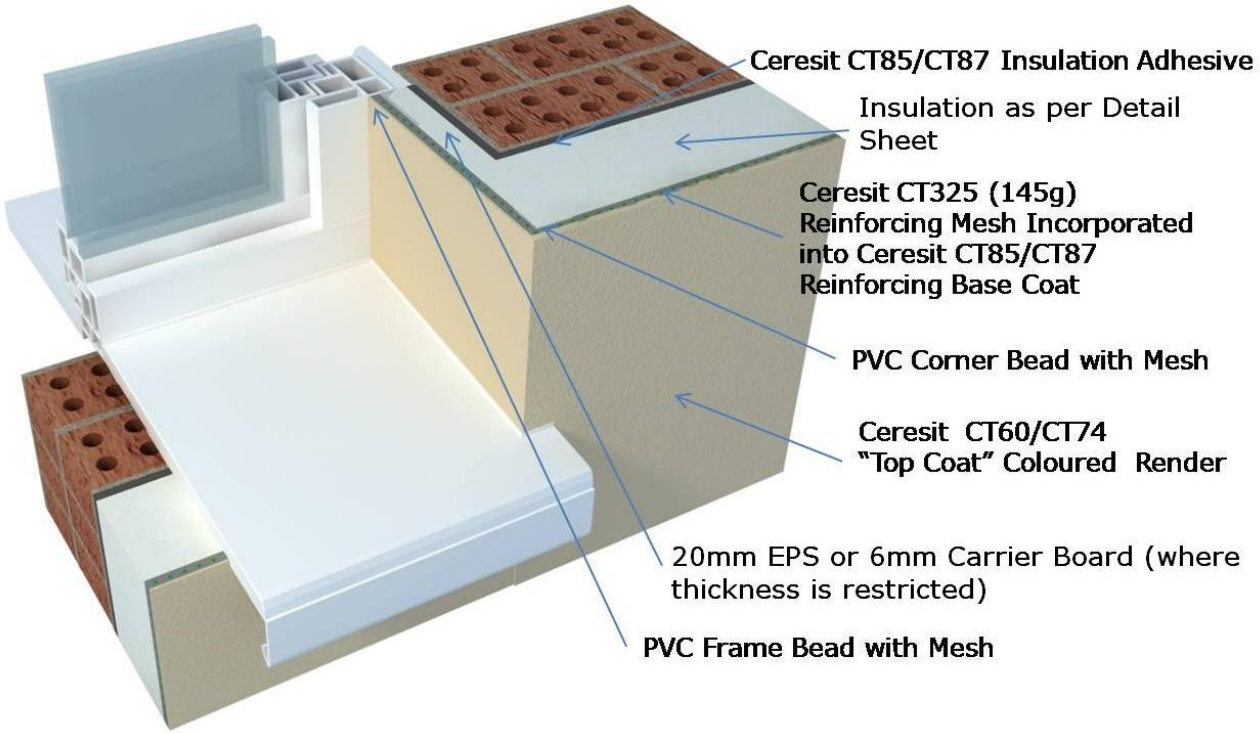


Figure 2: Insulation of Window / Door Frame

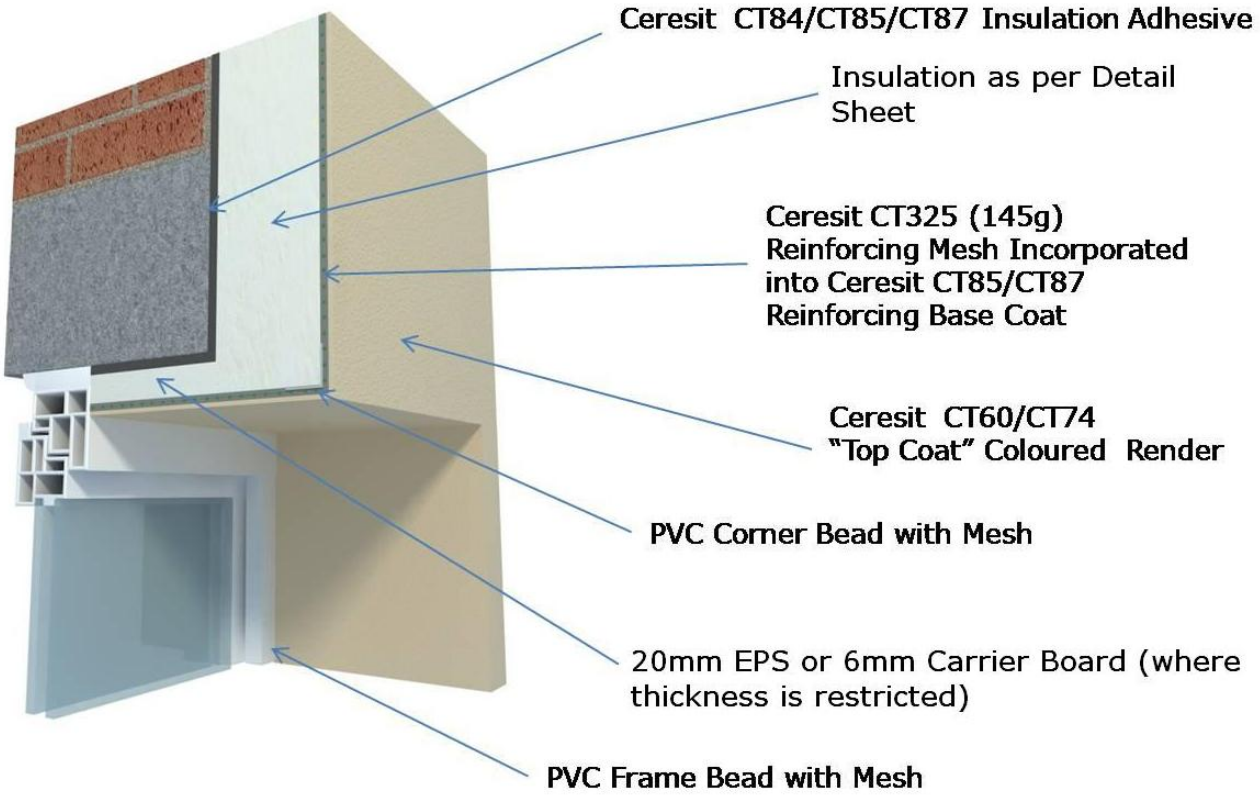
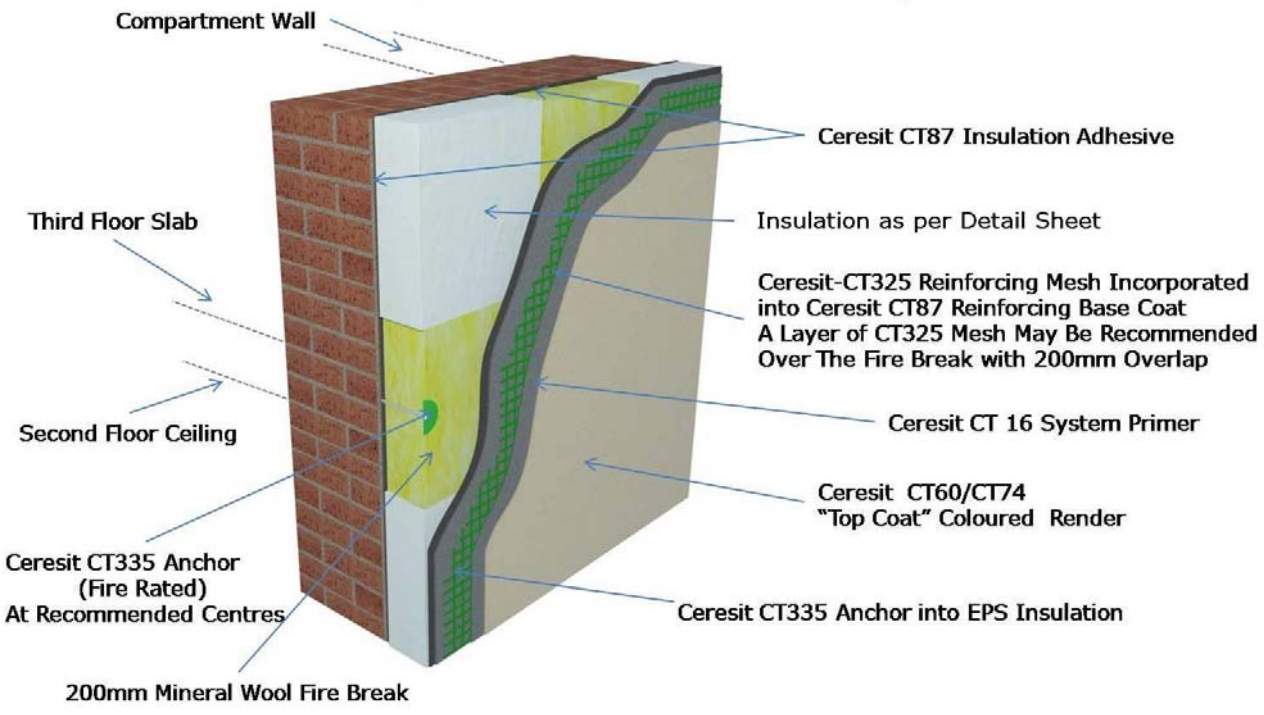


Figure 3: Insulation of Window / Door Head



Note: Specific Project Recommendations Must be Issued for This Detail – Contact IRSL

Figure 4: Horizontal & Vertical Fire Breaks at Compartment Wall, Floor & Ceiling Junctions (Above Second Floor Level)

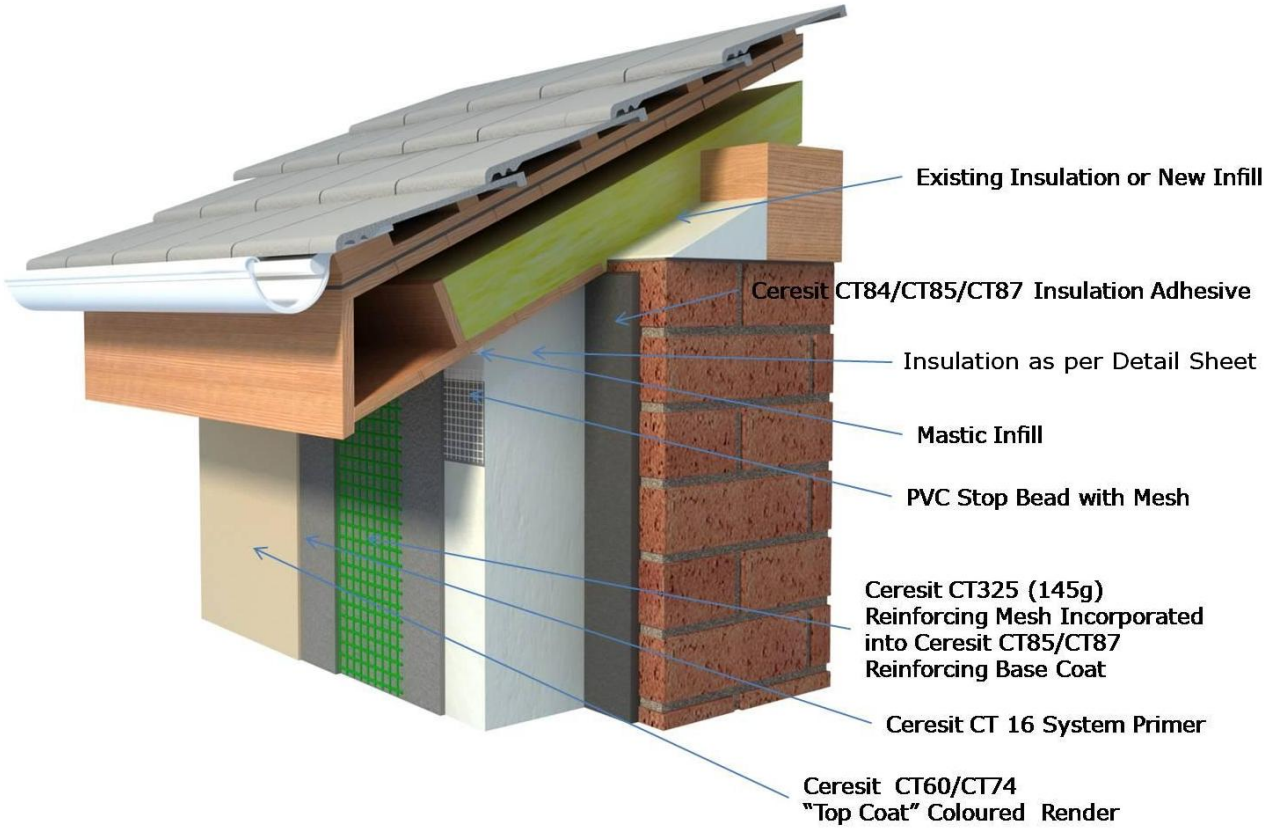
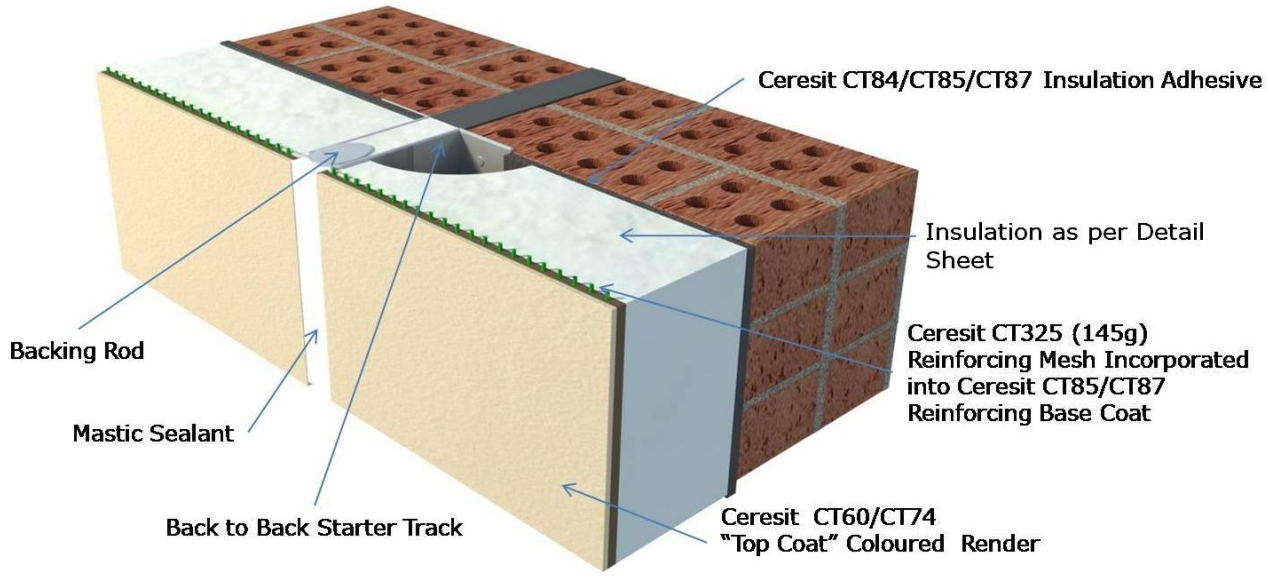


Figure 5: Connection with Eaves



Note: Standard V and E Movement Joint Profiles Are Also Available.

Figure 6: Movement Joint

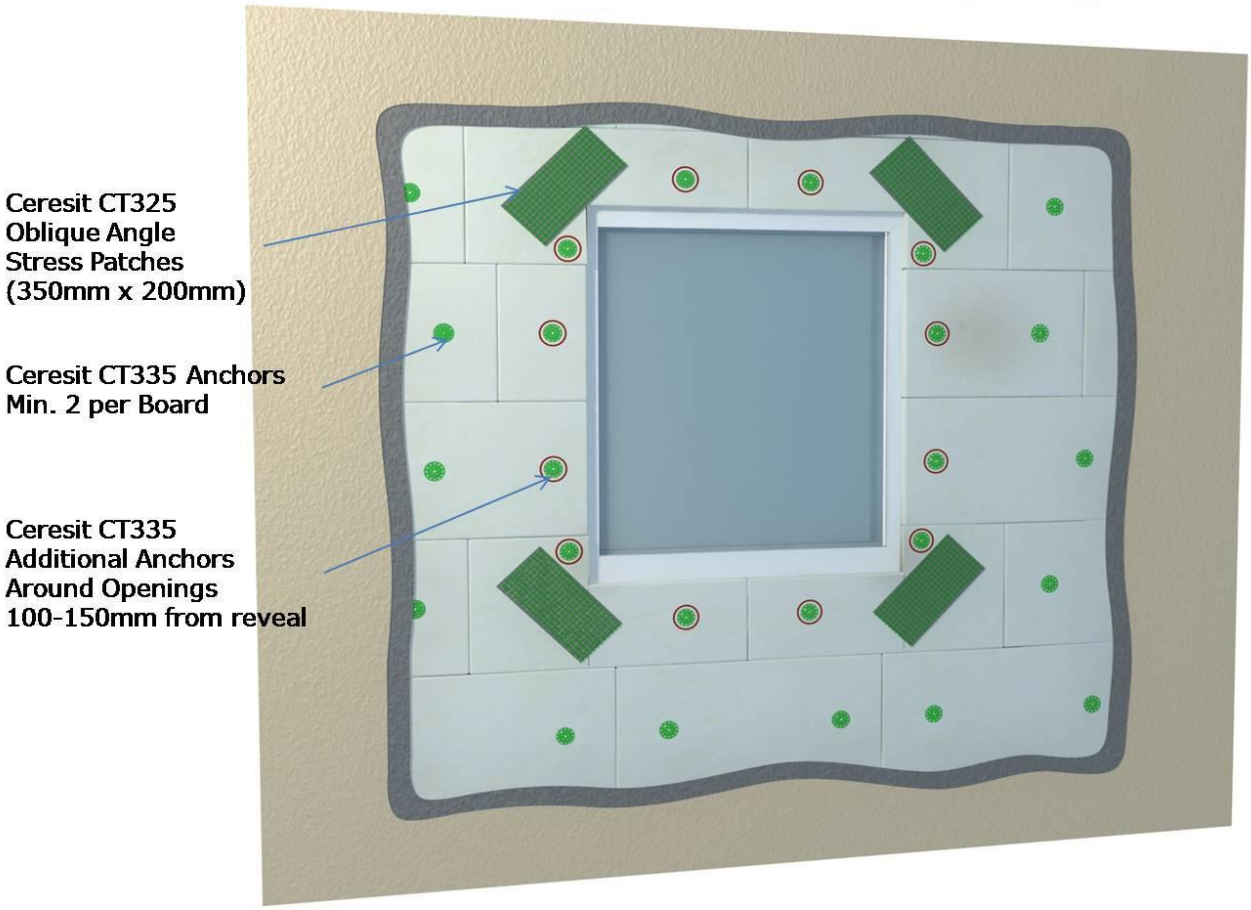


Figure 7: Additional Reinforcing at Corners of Window / Door

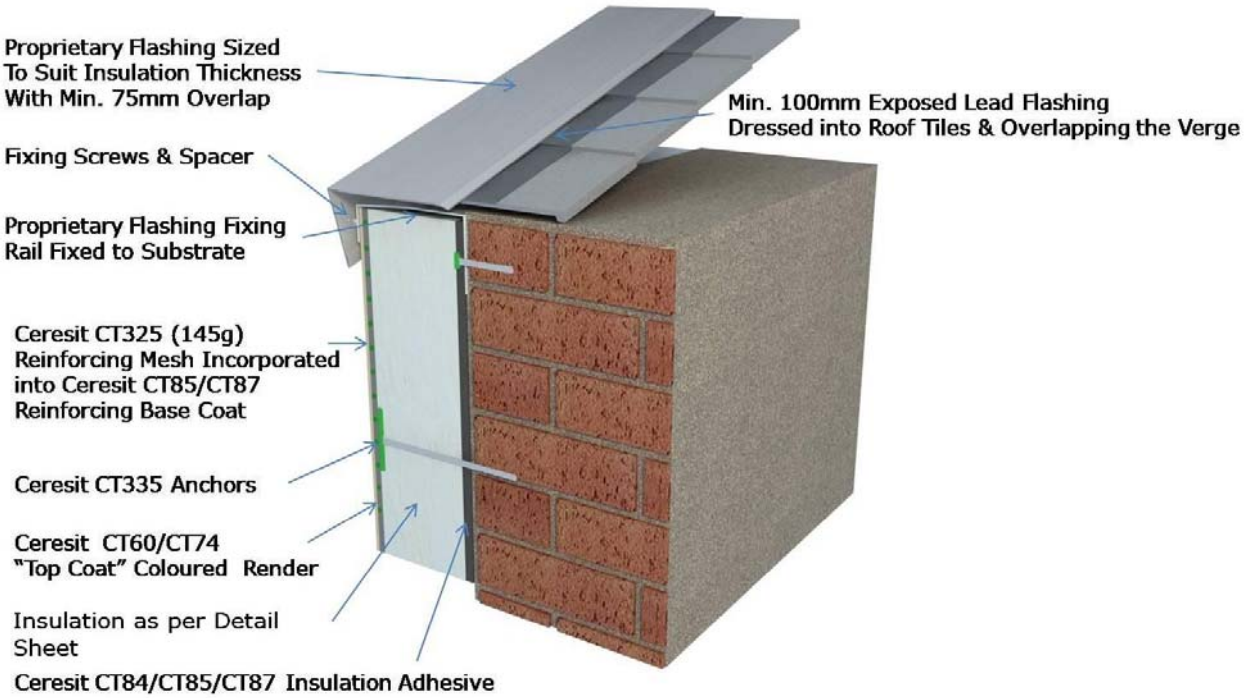
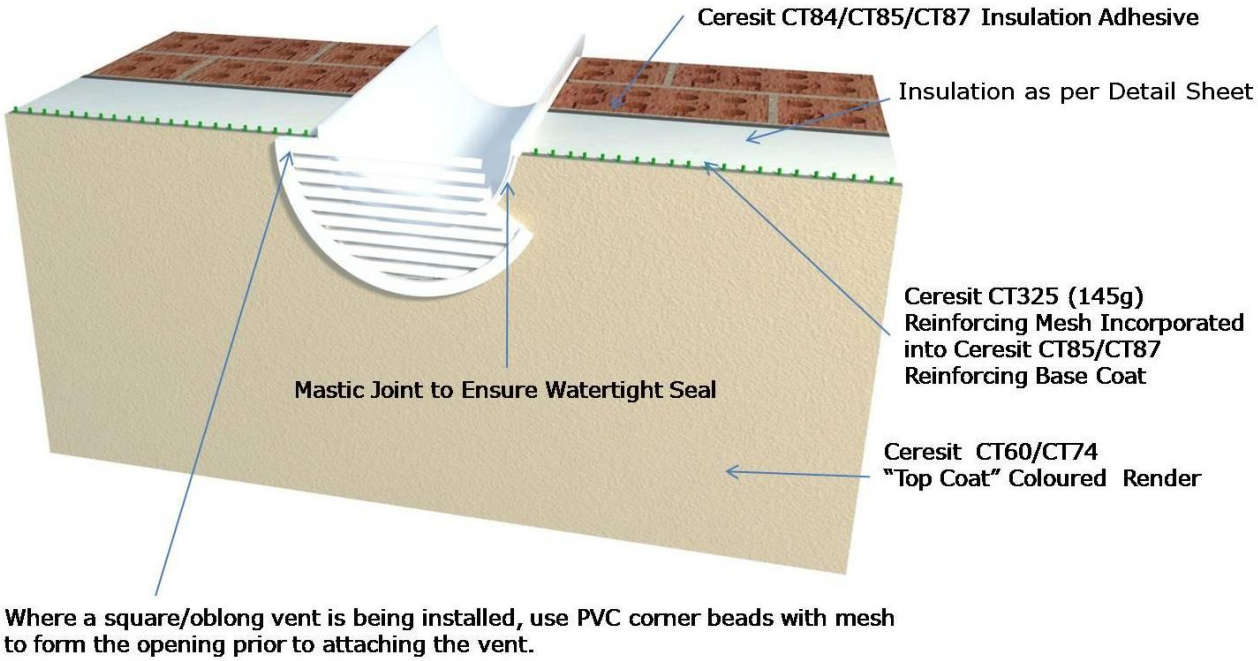


Figure 8: Verge Trim Detail



Note: Ensure that a minimum of 200mm of Mineral Wool is used around a boiler or other flue.

Figure 9: Connection with Vent

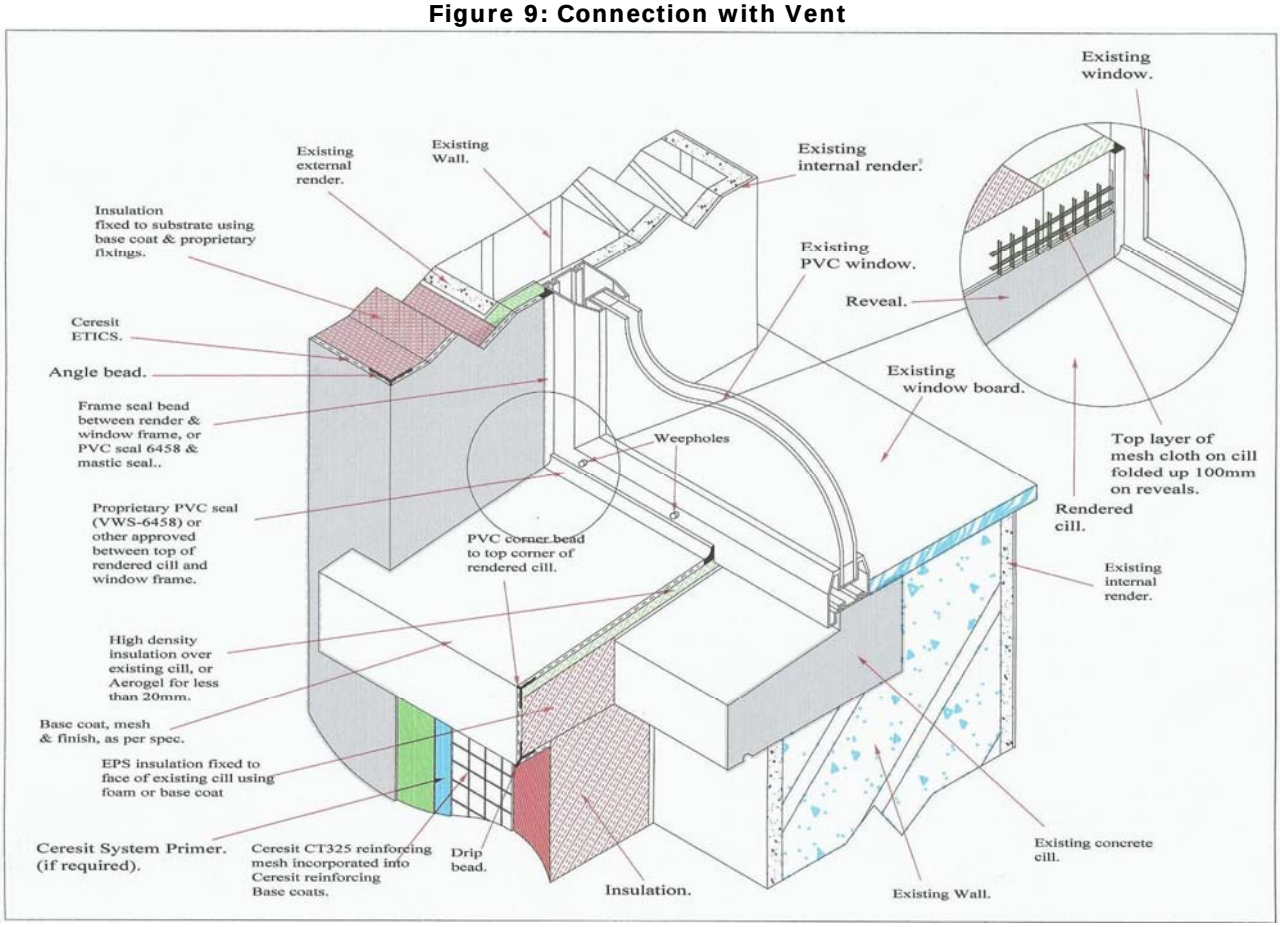


Figure 10: Insulated Window Sill

3. GENERAL

The system is designed by Kilsaran Build on a project specific basis. Where the external insulation system is being applied to improve the thermal performance of an existing building, Build will assess the building and advise on how to maximise the benefits of the external insulation system for that building. The design will include for:

a) The completion and recording of a site survey. For existing buildings, U-value calculations, condensation risk analysis, pull-out resistance etc. should be based on the existing structure.
b) Evaluation and preparation of substrate.
c) Minimising risk of condensation in accordance with the recommendations of BS 5250:2002 *Code of practice for control of condensation in buildings*. This includes the use of approved detailing as shown in Figures 1 to 6 incorporating the requirements of the Acceptable Construction Details published by the DoECLG.
d) Thermal insulation provision to Part L of the Building Regulations 1997 to 2011.
e) Resistance to impact and abrasion.
f) Resistance to thermal stresses.
g) Resistance to wind loading.
h) Design of fixings to withstand design wind loadings, using a safety factor of 3 (three) for mechanical fixings and a safety factor of 9 (nine) for adhesive. In addition, fixings around window and door openings shall be at a maximum of 300mm centres in each board or section of board so as to provide positive and robust restraint over the life of the system.
i) Design for fire resistance, fire spread and fire stopping, as defined in Section 4.2 and 4.3 of this Certificate.
j) Design of a water management system to prevent ingress of water at movement joints, windows, doors, openings for services etc. Particular attention is required to ensure that window and sill design are coordinated to achieve a fully integrated design.
k) Movement joints.
l) A site specific maintenance programme for inclusion in the home owner's documentation.
m) Durability requirements.

Detailing and construction must be to a high standard to prevent the ingress of water and to achieve the design thermal performance.

Window details should be designed such that, where possible, they can be removed and replaced from within the building. Consideration should be given to maximising improvement of thermal insulation at window reveals, door openings etc.

Adequate provision should be made at design and installation stage for the release of trapped moisture e.g. above window heads.

When designed and installed in accordance with this Certificate, the system will satisfy the requirements of Part L of the Building Regulations 1997 to 2011. The design shall include for the elimination/minimising of cold bridging at window and door reveals, eaves and at ground floor level in compliance with Acceptable Construction Details published by the DoECLG.

The system is intended to improve the weather resistance of the external walls. Seals to windows and doors shall be provided in accordance with the project specific site plan. Where the aluminium window sills are face fixed to the window frame, a compressible gasket must be used to create a weathertight seal between frame and sill.

Care should be taken to ensure that any ventilation or drainage openings are not obstructed.

In areas where electric cables can come into contact with EPS, in accordance with good practice all PVC sheathed cables should be run through ducting or be re-routed.

Domestic gas installations must not be adversely affected by the fitting of external insulation. If the external insulation has an impact on the gas service line/meter location, then the gas supplier must be contacted so that a suitable solution can be achieved. If altering a gas installation, a Registered Gas Installer (RGI) must be employed.

The durability of the render systems is influenced by the colour of the render used. Further information is available by contacting the Certificate holder.

Insulation Characteristics		Required Values
Reaction to fire EN 13501-1		Class E with a maximum density 20.0kg/m^3
Thermal resistance (m^2.K)/W		Defined in the CE marking in reference to EN 13163
Thickness (mm) EN 823		± 1 (class T2)
Length (mm) EN 822		± 2 (class L2)
Width (mm) EN 822		± 2 (class W2)
Squareness (mm/m) EN 824		± 5 (class S1) or ± 2 (class S2)
Flatness (mm/m) EN 825		± 10 (class P3 or ± 5 (class P4)
Surface condition		Cut surface (homogeneous and without "skin")
Dimensional stability	Laboratory conditions EN 1603	DS(N)2
	Specified temperature and humidity EN 1604	DS(70,-)1 or DS(70,-)2
Water absorption (partial immersion) (kg/m^2) EN 1609		≤ 1.0
Water vapour diffusion resistance factor (μ) EN 12086		20 to 60
Tensile strength perpendicular to the faces in dry conditions (kPa) EN 1607		≥ 80 (TR 80) or ≥ 100 (TR 100) or ≥ 150 (TR 150)
Bending strength (kPa) EN 12089		≥ 75
Shear strength (MPa) EN 12090		$0.02 \leq f_{\tau k} \leq 0.10$
Shear modulus of elasticity (MPa) EN 12090		$1.0 \leq G_m \leq 3.0$

Table 1: Standard EPS Characteristics

Insulation Characteristics		MW lamella	MW panels
Reaction to fire EN 13501-1		Class A with a maximum density 150kg/m^3	
Thermal resistance (m^2.K)/W		Defined in the CE marking in reference to EN 13162	
Thickness (mm) EN 823		MW-EN 13162-T5	MW-EN 13162-T4 MW-EN 13162-T5
Dimensional stability	Specified temperature and humidity EN 1604	MW-EN 13162-DS(TH)	
Short term water absorption (partial immersion) (kg/m^2) EN 1609		MW-EN 13162-WS	
Long term water absorption (partial immersion) (kg/m^2) EN 12087		MW-EN 13162-WL(P)	
Water vapour diffusion resistance factor (μ) EN 12086		1	
Tensile strength perpendicular to the faces in dry conditions EN 1607		MW-EN 13162-TR100	MW-EN 13162-TR15
Tensile strength perpendicular to the faces in wet conditions (kPa) ETAG 004		≥ 50 (for TR100)	≥ 14
Compressive stress or compressive strength EN 826		MW-EN 13162-CS(10)40	MW-EN-13162-CS(10)40 MW-EN 13162-CS(10/Y)40
Shear strength (MPa) EN 12090		≥ 0.02	
Shear modulus of elasticity (MPa) EN 12090		≥ 1.0	

Table 2: Standard MW Characteristics

Mesh Type	Characteristics
CERESIT CT 325 – Standard mesh	Mesh size of about 4.0 x 4.0mm; Mass per unit area 165g/m^2
CERESIT CT 327 – Reinforced mesh	Mesh size of about 8.9 x 6.6mm; Mass per unit area 335g/m^2
VERTEX R 117 A 101	Mesh size of about 3.5 x 4.5mm; Mass per unit area 147g/m^2
VERTEX R 131 A 101	Mesh size of about 3.5 x 3.5mm; Mass per unit area 160g/m^2
ST 2924-100/7 KM	Mesh size of about 3.9 x 4.0mm; Mass per unit area 158g/m^2
ST 112-100/7 KM	Mesh size of about 3.2 x 3.8mm; Mass per unit area 174g/m^2
OMFA 117-S	Mesh size of about 4.0 x 5.0mm; Mass per unit area 145g/m^2
OMFA 122	Mesh size of about 4.0 x 4.0mm; Mass per unit area 165g/m^2
SKLOTEX R 4x4/165	Mesh size of about 4.0 x 4.0mm; Mass per unit area 165g/m^2
SKLOTEX R 5x5/145	Mesh size of about 5.0 x 5.0mm; Mass per unit area 145g/m^2
SSA-1363 SM (150)	Mesh size of about 4.0 x 4.0mm; Mass per unit area 150g/m^2
SSA-1363 SM (160)	Mesh size of about 4.0 x 4.0mm; Mass per unit area 160g/m^2

Table 3: Standard Mesh Characteristics

4.1 STRENGTH AND STABILITY

4.1.1 Wind Loading

The Ceresit Ceretherm ETIC Systems can be designed to withstand the wind pressures (including suction) and thermal stresses in accordance with the Building Regulations 1997 to 2011. The design for wind loading on buildings greater than two stories should be checked by a chartered engineer in accordance with Eurocode 1 I.S. EN 1991-1-4:2005 *Actions on structures – General actions – Wind actions*. A general factor of safety of 1.5 is applied to design wind loads.

4.1.2 Impact Resistance

a) The Ceresit Ceretherm ETIC Systems have been classified as defined in Table 2 of each Detail Sheet to be suitable for use as defined in ETAG 004 Cl. 6.1.3.3 Table 8 as follows:
Category I: A zone readily accessible at ground level to the public and vulnerable to hard impacts but not subject to abnormally rough use. There are no restrictions on the use of Category I systems.
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 II excludes use on a wall at ground level adjacent to a public footpath, but includes use on properties with their own private walled-in garden.
Category III: A zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects. Category III is taken to exclude the use on any wall at ground level.
Note: The above classifications do not include acts of vandalism.

b) The design should include for preventing damage from impact by motor vehicles or other machinery. Preventive measures such as provision of protective barriers or kerbs should be considered.

4.2 BEHAVIOUR IN RELATION TO FIRE

The reaction to fire classification according to IS EN 13501-1:2007 *Fire classification of construction products and building elements – Classification using data from reaction to fire tests* was B-s1,d0 for the full system including insulation board, adhesive, base coat, finishing coats and decorative coats.

Systems that achieve a Class B Reaction to Fire Classification are suitable for use up to a maximum of six storeys (18 metres) in height on purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4(b) as defined in TGD to Part B of the Building Regulations 1997 to 2011.

The mineral wool board is classed as non-combustible as per Table A8 d) of TGD to Part B of the Building Regulations 1997 to 2011.

With regard to fire stopping of cavities and limitations on use of combustible materials, walls must comply with Sections B3.2, B3.3 and B4 of TGD to Part B of the Building Regulations 1997 to 2011.

The fixing design should take account of the extra duty required under fire conditions.

Vertical and horizontal lamella fire barriers shall be provided at each compartment floor and wall, with fixings provided at 400mm vertical centres and 400mm horizontal centres respectively, including the second floor level of a three-storey single occupancy house. Firebreaks should be adhesively bonded to the substrate (i.e. ribbons or dabs of adhesive is not acceptable) and mechanically fixed with fixings at 400mm centres. The fire barrier shall be of non-combustible material (i.e. insulation slab of minimum density 120kg/m^3), be at least 200mm high, continuous and unbroken for the full perimeter of the building and for the full thickness of the insulation. Glass wool is not suitable for use as a firestop.

4.3 PROXIMITY OF HEAT PRODUCING APPLIANCES

Combustible material must be separated from a brick or blockwork chimney by at least 200mm from a flue, or 40mm from the outer surface of the brick or blockwork chimney, in accordance with Clause 2.15 of TGD to Part J of the Building Regulations 1997 to 2011. Metal fixings in contact with combustible materials should be at least 50mm from a flue.

4.4 THERMAL INSULATION

Assessments were carried out to verify that the requirements of Part L of the Building Regulations 1997 to 2011 can be achieved using the Ceresit Ceretherm ETIC Systems. The manufacturers' declared thermal conductivity values ($\lambda_{90/90}$), when tested in accordance with IS EN 12667:2001 *Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Products of high and medium thermal resistance* are

0.038W/mK for the standard white EPS board, 0.031W/mK for the carbon-enhanced EPS board, 0.036W/mK for the mineral wool board, and 0/022W/mK for the phenolic board. These have not been assessed by NSAI Agrément.

Calculation of U-values will be required on individual projects to confirm a U-value of 0.27W/m^{2}K has been achieved, based on the wall construction and the insulation used. The thermal conductivity (λ) value of the insulation to be used in all U-value calculations must be the $\lambda_{90/90}$ value.

When the system is to be applied to a masonry cavity wall construction, consideration should be given to the treatment of the ventilated cavity. In order to maximise the impact of the external insulation system on the U-value of the wall, the cavity must be filled or sealed to ensure no airflow occurs should be considered.

4.5 LIMITING THERMAL BRIDGING

The linear thermal transmittance 'ψ' (Psi) describes the heat loss associated with junctions and around openings. Window and door reveal design used on the Ceresit Ceretherm ETIC Systems have been assessed and when detailed in accordance with this Certificate can meet the requirements of Table D1 of TGD to Part L of the Building Regulations 1997 to 2011. When **all** bridged junctions within a building comply with the requirements of Table D1 of TGD to Part L, the improved 'y' factor of 0.08 can be entered into the DEAP building energy rating (BER) calculation.

Alternatively if **all** junctions can be shown to be equivalent or better than the Acceptable Construction Details published by the DoECLG, then the improved 'y' factor of 0.08 can be used, i.e. R value = 0.6m^{2}K/W for window/door reveals.

Where either of the above options are shown to be valid, or when the required values cannot be achieved, all relevant details should be recorded on the 'Certificate of Compliance' for that project for use in future BER calculations.

'ψ' values for other junctions outside the scope of this Certificate should be assessed in accordance with BRE IP1/06 *Assessing the effects of thermal bridging at junctions and around openings* and BRE BR 497 *Conventions for calculating linear thermal transmittance and temperature factors* in accordance with Appendix D of TGD to Part L of the Building Regulations 1997 to 2011.

4.6 CONDENSATION RISK

Areas where there is a significant risk of condensation due to high levels of humidity should be identified during the initial site survey. A condensation risk analysis will be carried out by Kilsaran Build in accordance with BS 5250:2002 and the design modified as appropriate to reduce the risk of surface condensation to acceptable levels.

4.6.1 Internal Surface Condensation

When improving the thermal performance of the external envelope of a building through external wall insulation, designers need to consider the impact of these improvements on other untouched elements of the building. As discussed in Section 4.5 of this Certificate, thermally bridged sections of the envelope such as window jambs, sills and eaves will experience a lower level of increased thermal performance. The degree of improvement to these junctions can be limited due to physical restrictions on site i.e. footpaths, soffit boards or hinges for windows.

When bridged junctions meet the requirements of Appendix D Table D1 of TGD to Part L of the Building Regulations 1997 to 2011, the coldest internal surface temperature will satisfy the requirements of Section D2, namely that the temperature factor shall be equal to or greater than 0.75. As a result, best practice will have to be adopted in order to limit the risk of internal surface condensation which can result in dampness and mould growth.

When site limiting factors give rise to substandard levels of insulation at bridged junctions, guidance should be sought from the Certificate holder as to acceptable minimum requirements.

4.6.2 Interstitial Condensation

An interstitial condensation risk analysis will be carried out by Kilsaran Build in accordance with BS 5250:2002 and the design modified as appropriate to reduce the risk of surface condensation to acceptable levels.

4.6.3 Ventilation

When installing the external insulation system, the works to be undertaken must not compromise the existing ventilation provisions in the home. When these existing ventilation provisions do not meet the requirements of Part F of the Building Regulations, the homeowner should be informed and remedial action should be taken before the external insulation system is installed.

4.7 MAINTENANCE

Adequate provision should be made in the initial design phase for access and maintenance over the life of the system.

The system shall be inspected and maintained in accordance with the Certificate holder's instructions, as detailed in the Repair and Maintenance Method Statement, which is incorporated into the Home Owner's Manual.

Necessary repairs should be carried out in accordance with the Certificate holder's instructions. Repairs to plumbing etc. should also be carried out as required to prevent deterioration or damage, and to protect the integrity of the system.

Synthetic finishes may be subject to aesthetic deterioration due to exposure to UV light. They should be re-painted every 18 to 20 years to maintain appearance. Care should be taken to ensure that the synthetic finish used is compatible with the original system and that the water vapour transmission or fire characteristics are not adversely affected.

Sealants shall be subject to regular inspection (at least annually). They should be replaced as required and fully replaced every 18 to 20 years to maintain performance.

4.8 WEATHERTIGHTNESS

When designed and detailed in accordance with this Certificate, the system will prevent moisture from the ground coming in contact with the insulation.

The external render has adequate resistance to water penetration when applied in accordance with the Certificate holder's instructions.

Joint designs, sealant specifications and recommendations for detailing at windows and doors were assessed and are considered adequate to ensure that water penetration will not occur, assuming that regular maintenance is carried out in accordance with the Certificate holder's instructions.

Recommendations for detailing at windows and doors have been assessed and are considered adequate to ensure that water penetration will not occur, assuming that regular maintenance is carried out in accordance with the Certificate holder's instruction.

4.9 DURABILITY

4.9.1 Design Life

An assessment of the life of the system was carried out. This included an assessment of:

- Design and installation controls;
- Proposed building heights;
- Render thickness and specification;
- Material specifications, including insulant, mesh, beading and fixings specifications;
- Joint design;
- Construction details;
- Maintenance requirements.

The assessment indicates that the system should remain effective for at least 30 years, providing that it is designed, installed and maintained in accordance with this Certificate. Any damage to the surface finish shall be repaired immediately and regular maintenance shall be undertaken as outlined in Section 4.7 of this Certificate.

4.9.2 Aesthetic Performance

As with traditional renders, the aesthetic performance of the systems, e.g. due to discolouration, soiling, staining, algal growth or lime bloom, is dependent on a range of factors such as:

- Type, colour and texture of surface finish;
- Water retaining properties of the finish;
- Architectural form and detailing;
- Building orientation/elevation;
- Local climate/atmospheric pollution.

Adequate consideration should be given at the design stage to all of the above to ensure that the level of maintenance necessary to preserve the aesthetics of the building is acceptable.

4.10 PRACTICABILITY

The practicability of construction and the adequacy of site supervision arrangements were assessed and considered adequate. The project specific designs and method statements for application, inspection and repair were reviewed and found to be satisfactory.

4.11 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING

- Structural strength and stability.
- Behaviour in relation to fire.
- Impact resistance.
- Pull-out resistance of fixings.
- Thermal resistance.
- Condensation risk.
- Site erection controls.
- Durability of components.
- Dimensional stability of insulants.

4.12 OTHER INVESTIGATIONS

(i) Existing data on product properties in relation for fire, toxicity, environmental impact and the effect on mechanical strength/stability and durability were assessed.

(ii) The manufacturing process was examined including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

(iii) Special building details (e.g. ground level, window and door openings and movement joints) were assessed and approved for use in conjunction with this Certificate.

(iv) Site visits were conducted to assess the practicability of installation the history of performance in use of the product.

5.1 National Standards Authority of Ireland ("NSAI") following consultation with NSAI Agrément has assessed the performance and method of installation of the product/process and the quality of the materials used in its manufacture and certifies the product/process to be fit for the use for which it is certified provided that it is manufactured, installed, used and maintained in accordance with the descriptions and specifications set out in this Certificate and in accordance with the manufacturer's instructions and usual trade practice. This Certificate shall remain valid for five years from date of issue so long as:

(a) the specification of the product is unchanged.

(b) the Building Regulations 1997 to 2011 and any other regulation or standard applicable to the product/process, its use or installation remains unchanged.

(c) the product continues to be assessed for the quality of its manufacture and marking by NSAI.

(d) no new information becomes available which in the opinion of the NSAI, would preclude the granting of the Certificate.

(e) the product or process continues to be manufactured, installed, used and maintained in accordance with the description, specifications and safety recommendations set out in this certificate.

(f) the registration and/or surveillance fees due to NSAI Agrément are paid.

5.2 The NSAI Agrément mark and certification number may only be used on or in relation to product/processes in respect of which a valid Certificate exists. If the Certificate becomes invalid the Certificate holder must not use the NSAI Agrément mark and certification number and must remove them from the products already marked.

5.3 In granting Certification, the NSAI makes no representation as to;

(a) the absence or presence of patent rights subsisting in the product/process; or

(b) the legal right of the Certificate holder to market, install or maintain the product/process; or

(c) whether individual products have been manufactured or installed by the Certificate holder in accordance with the descriptions and specifications set out in this Certificate.

5.4 This Certificate does not comprise installation instructions and does not replace the manufacturer's directions or any professional or trade advice relating to use and installation which may be appropriate.

5.5 Any recommendations contained in this Certificate relating to the safe use of the certified product/process are preconditions to the validity of the Certificate. However the NSAI does not certify that the manufacture or installation of the certified product or process in accordance with the descriptions and specifications set out in this Certificate will satisfy the requirements of the Safety, Health and Welfare at Work Act 2005, or of any other current or future common law duty of care owed by the manufacturer or by the Certificate holder.

5.6 The NSAI is not responsible to any person or body for loss or damage including personal injury arising as a direct or indirect result of the use of this product or process.

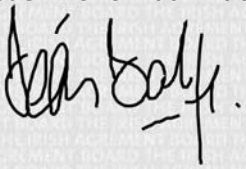
5.7 Where reference is made in this Certificate to any Act of the Oireachtas, Regulation made thereunder, Statutory Instrument, Code of Practice, National Standards, manufacturer's instructions, or similar publication, it shall be construed as reference to such publication in the form in which it is in force at the date of this Certification.

NSAI Agrément

This Certificate No. **09/0340** is accordingly granted by the NSAI to **Henkel Polska Sp. z o.o.** on behalf of NSAI Agrément.

Date of Issue: **November 2009**

Signed



Seán Balfe
Director of NSAI Agrément

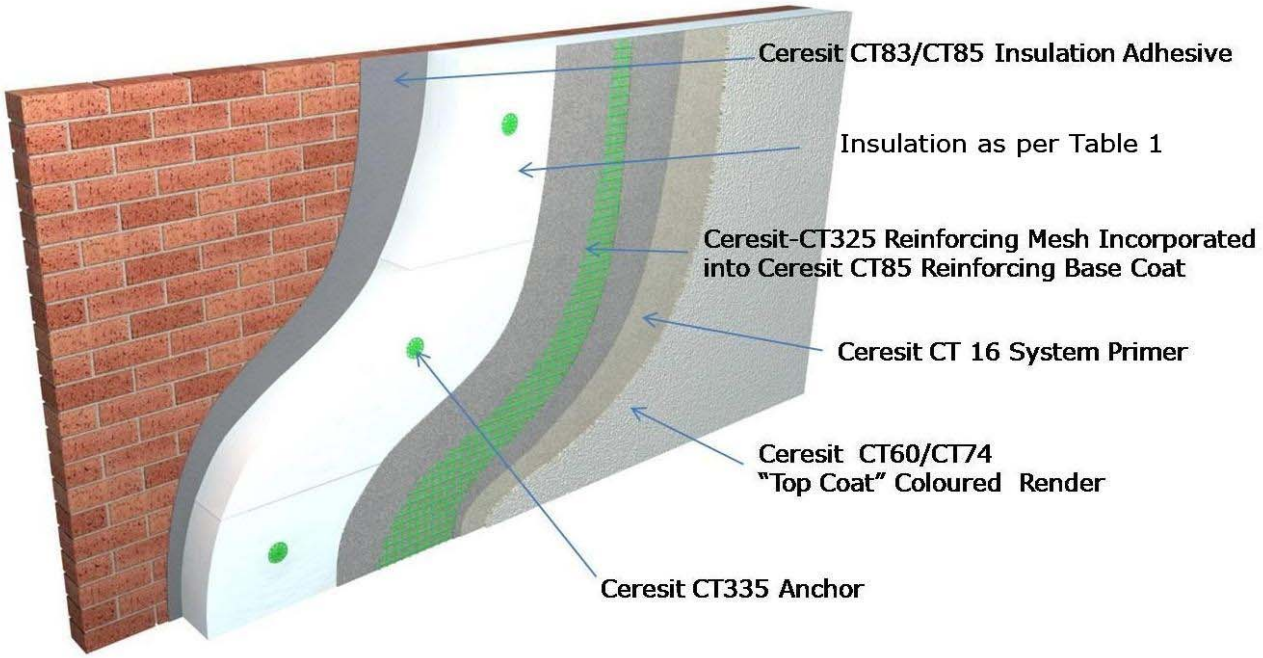
Readers may check that the status of this Certificate has not changed by contacting NSAI Agrément, NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland. Telephone: (01) 807 3800. Fax: (01) 807 3842. www.nsai.ie

Revisions: April 2012, June 2013

- Addition of detail sheet for 60 year design life.
- Addition of insulated oversill and new systems

NSAI Agrément

Ceresit Ceretherm Classic



PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Classic, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Classic, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

2.1 PRODUCT DESCRIPTION

The Ceresit Ceresit Classic system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 6 to 8mm.

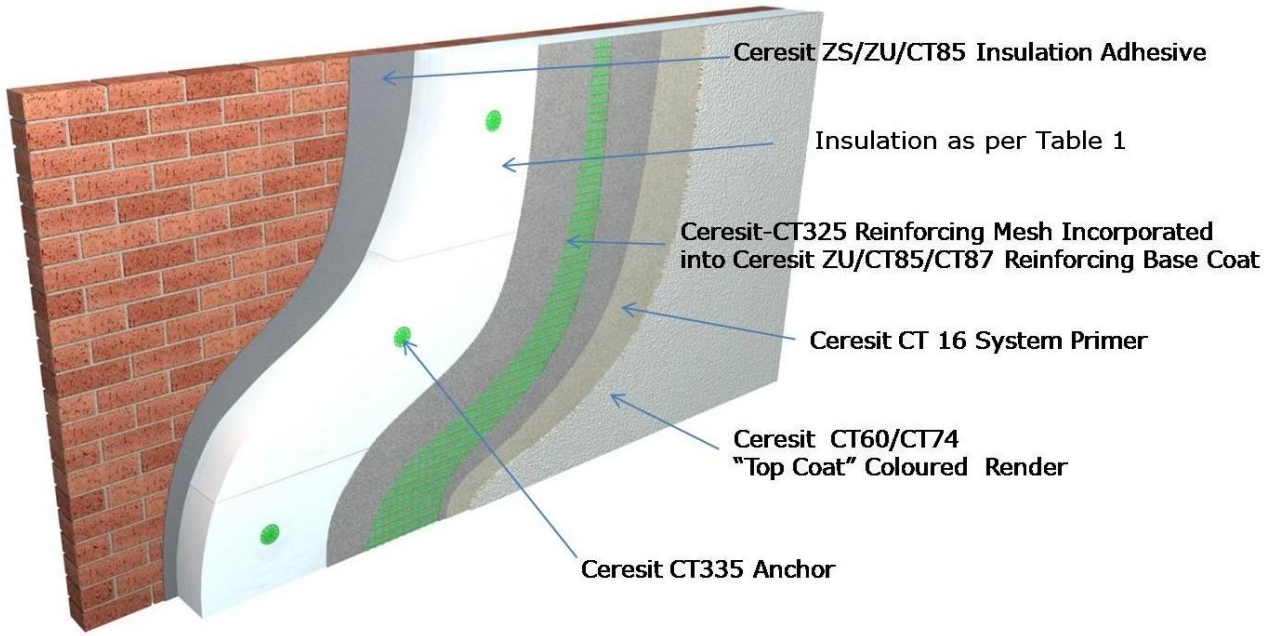
	Components	Thickness (mm)
Adhesives	**CT 85**	-
Insulation materials with associated methods of fixing	**Insulation product:** EPS – See Table 1 of Certificate 09/0340 MW – See Table 2 of Certificate 09/0340 K5 EWB Grade: CFC/HCFC-free to IS EN 13155:2001 Density 40kg/m^3; Minimum compressive strength 150kN/m^2 **Supplementary adhesive:** **CT 83, CT 85** **Anchors:** **CT 335** and anchors with ETA according to ETAG014 approved by Certificate holder	50 to 200 - -
Base coat	**CT 85**	4.0
Glass fibre mesh	See Table 3 of Certificate 09/0340	-
Key coat / Primer	**CT 15** (for silicate finishes) **CT 16**	- -
Finishing coats	**Dry mortars – mineral binder:** **CT 35** (particle size 2.5, 3.5 mm) **CT 36** (particle size 2.0 mm) **CT 137** (particle size 1.5, 2.0, 2.5 mm) **CT 138** (one coat mineral render, applied at 8-10mm, scraped back to 6-8mm) **Ready to use pastes – acrylic binder:** **CT 60** (particle size 1.5, 2.5 mm) **CT 63** (particle size 3.0 mm) **CT 64** (particle size 2.0 mm) **Ready to use pastes – silicate binder:** **CT 72** (particle size 1.5, 2.5 mm) **CT 73** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone binder:** **CT 74** (particle size 1.5, 2.5 mm) **CT 75** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone-silicate binder:** **CT 174** (particle size 1.5, 2.5 mm) **CT 175** (particle size 2.0, 3.0 mm) **Ready to use pastes – mosaic plaster:** **CT 77** (particle size 1.4, 2.0 mm) **Dash receiver:** **CT 136** (for use with 6mm approved dry dash stones)	Regulated by particle size
Accelerating additives	**CT 240** (for use with CT 60, CT 63, Ct 64, CT 174, CT 175, CT 74, CT 75, CT 72, CT 73, CT 15, CT 16, CT 42, CT 44, CT 48, CT 49, CT 54) **CT 280** (for use with CT 83, CT 85)	
Decorative coats (Paints)	**CT 42, CT 44, CT 48, CT 49, CT 54**	

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 85 with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 16 + Ceresit CT 74/CT 15	Category II
Ceresit CT 16 + Ceresit CT 137/CT 15	Category III
Ceresit CT 16 + Ceresit CT 60/CT 63/CT 64	Category II
Ceresit CT 16 + Ceresit CT 174	Category II
Ceresit CT 15 + Ceresit CT 72/CT 73	Category II

Table 2: Impact Resistance

Ceresit Ceretherm Popular



PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Popular, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Popular, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

2.1 PRODUCT DESCRIPTION

The Ceresit Ceretherm Popular system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 6 to 8mm.

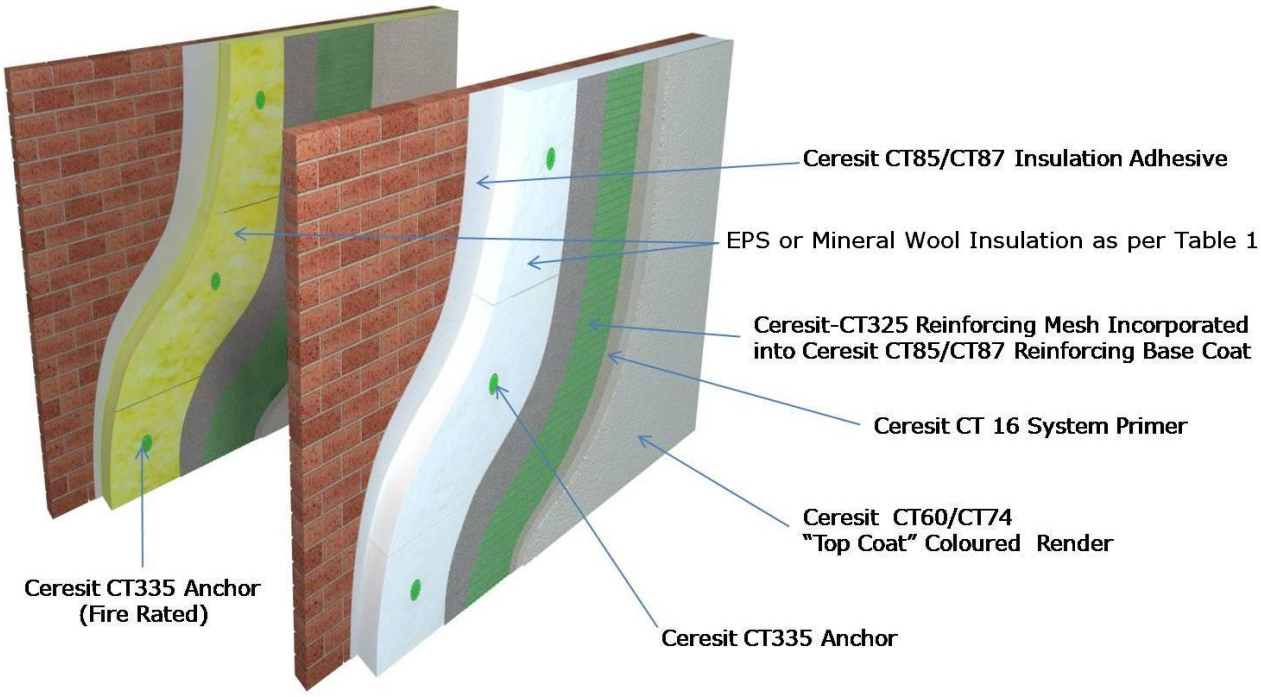
	Components	Thickness (mm)
Adhesives	**CERESIT ZS** **CERESIT ZU**	- -
Insulation	EPS – See Table 1 of Certificate 09/0340	20 to 250
Anchors	**CT 335** And anchors with ETA according to ETAG014 approved by Certificate holder	-
Base coat	**Ceresit ZU**	4.0
Glass fibre meshes	See Table 3 of Certificate 09/0340	-
Key coat / Primer	**CT 15** (for silicate finishes) **CT 16**	-
Finishing coats	**Dry mortars – mineral binder:** **CT 35** (particle size 2.5, 3.5 mm) **CT 36** (particle size 2.0 mm) **CT 137** (particle size 1.5, 2.5 mm) **CT 138** (one coat mineral render, applied at 8-10mm, scraped back to 6-8mm) **Ready to use pastes – acrylic binder:** **CT 60** (particle size 1.5, 2.5 mm) **CT 63** (particle size 3.0 mm) **CT 64** (particle size 2.0 mm) **Ready to use pastes – silicate binder:** **CT 72** (particle size 1.5, 2.5 mm) **CT 73** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone binder:** **CT 74** (particle size 1.5, 2.5 mm) **CT 75** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone-silicate binder:** **CT 174** (particle size 1.5, 2.5 mm) **CT 175** (particle size 2.0, 3.0 mm) **Ready to use pastes – mosaic plaster:** **CT 77** (particle size 1.4, 2.0 mm) **Dash receiver:** **CT 136** (for use with 6mm approved dry dash stones)	Regulated by particle size
Accelerating additives	**CT 240** (for use with CT 60, CT 63, Ct 64, CT 174, CT 175, CT 74, CT 75, CT 72, CT 73, CT 15, CT 16, CT 42, CT 44, CT 48, CT 49, CT 54) **CT 280** (for use with ZS, ZU)	
Decorative coats (Paints)	**CT 42, CT 44, CT 48, CT 49, CT 54**	-

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat ZU with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 35, Ceresit CT 36, Ceresit CT 137	Category III
Ceresit CT 60, Ceresit CT 63, Ceresit CT 64	Category II
Ceresit CT 72, Ceresit CT 73	Category II
Ceresit CT 74, Ceresit CT 75	Category II
Ceresit CT 174, Ceresit CT 175	Category II

Table 2: Impact Resistance

Ceresit Ceretherm Premium



PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Premium, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Premium, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

2.1 PRODUCT DESCRIPTION

The Ceresit Ceretherm Premium system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 6 to 8mm.

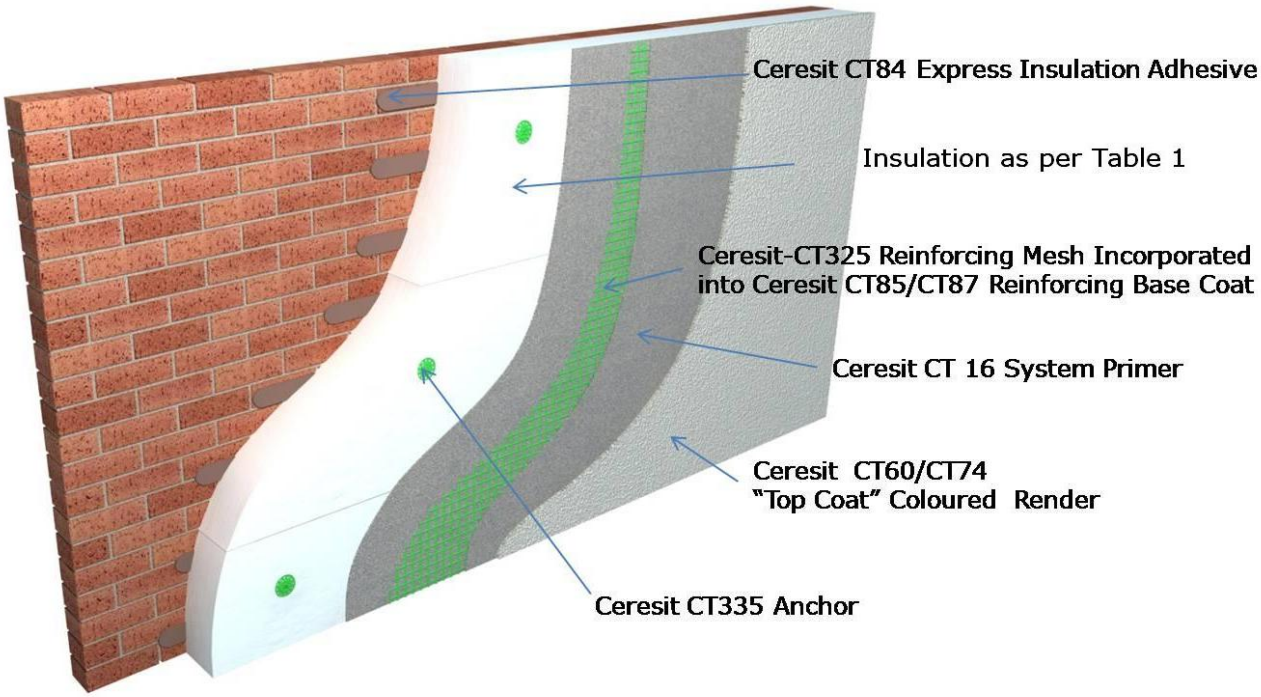
	Components	Thickness (mm)
Adhesives	**CT 87**	-
Insulation	EPS – See Table 1 of Certificate 09/0340 MW – See Table 2 of Certificate 09/0340	20 to 250
Anchors	**CT 335** And anchors with ETA according to ETAG014 approved by Certificate holder	-
Base coat	**CT 87**	4.0
Glass fibre meshes	See Table 3 of Certificate 09/0340	-
Key coat / Primer	**CT 15 (for silicate finishes)** **CT 16**	-
Finishing coats	**Dry mortars – mineral binder:** **CT 35** (particle size 2.5, 3.5 mm) **CT 36** (particle size 2.0 mm) **CT 137** (particle size 1.5, 2.5 mm) **CT 138** (one coat mineral render, applied at 8-10mm, scraped back to 6-8mm) **Ready to use pastes – acrylic binder (for use with EPS only):** **CT 60** (particle size 1.5, 2.5 mm) **CT 63** (particle size 3.0 mm) **CT 64** (particle size 2.0 mm) **Ready to use pastes – silicate binder:** **CT 72** (particle size 1.5, 2.5 mm) **CT 73** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone binder:** **CT 74** (particle size 1.5, 2.5 mm) **CT 75** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone-silicate binder:** **CT 174** (particle size 1.5, 2.5 mm) **CT 175** (particle size 2.0, 3.0 mm) **Ready to use pastes – mosaic plaster:** **CT 77** (particle size 1.4, 2.0 mm) **Dash receiver:** **CT 136** (for use with 6mm approved dry dash stones)	Regulated by particle size
Accelerating additives	**CT 240** (for use with CT 60, CT 63, Ct 64, CT 174, CT 175, CT 74, CT 75, CT 72, CT 73, CT 15, CT 16, CT 42, CT 44, CT 48, CT 49, CT 54) **CT 280** (for use with CT 87)	
Decorative coats (Paints)	**CT 42 (for use with EPS only), CT 44 (for use with EPS only), CT 48, CT 49, CT 54**	-

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 87 with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 35, Ceresit CT 36, Ceresit CT 137	Category III
Ceresit CT 60, Ceresit CT 63, Ceresit CT 64	Category II
Ceresit CT 72, Ceresit CT 73	Category II
Ceresit CT 74, Ceresit CT 75	Category II
Ceresit CT 174, Ceresit CT 175	Category II

Table 2: Impact Resistance

Ceresit Ceretherm Express



PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Express, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Express, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

2.1 PRODUCT DESCRIPTION

The Ceresit Ceretherm Express system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 6 to 8mm.

	Components	Thickness (mm)
Adhesives	**CT 84 Express**	-
Insulation	EPS – See Table 1 of Certificate 09/0340	20 to 250
Anchors	**CT 335** And anchors with ETA according to ETAG014 approved by Certificate holder	-
Base coat	**CT 85** **CT 87**	4.0
Glass fibre meshes	See Table 3 of Certificate 09/0340	-
Key coat / Primer	**CT 15 (for silicate finishes)** **CT 16**	-
Finishing coats	**Dry mortars – mineral binder:** **CT 35** (particle size 2.5, 3.5 mm) **CT 36** (particle size 2.0 mm) **CT 137** (particle size 1.5, 2.5 mm) **CT 138** (one coat mineral render, applied at 8-10mm, scraped back to 6-8mm) **Ready to use pastes – acrylic binder:** **CT 60** (particle size 1.5, 2.5 mm) **CT 63** (particle size 3.0 mm) **CT 64** (particle size 2.0 mm) **Ready to use pastes – silicate binder:** **CT 72** (particle size 1.5, 2.5 mm) **CT 73** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone binder:** **CT 74** (particle size 1.5, 2.5 mm) **CT 75** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone-silicate binder:** **CT 174** (particle size 1.5, 2.5 mm) **CT 175** (particle size 2.0, 3.0 mm) **Ready to use pastes – mosaic plaster:** **CT 77** (particle size 1.4, 2.0 mm) **Dash receiver:** **CT 136** (for use with 6mm approved dry dash stones)	Regulated by particle size
Accelerating additives	**CT 240** (for use with CT 60, CT 63, Ct 64, CT 174, CT 175, CT 74, CT 75, CT 72, CT 73, CT 15, CT 16, CT 42, CT 44, CT 48, CT 49, CT 54) **CT 280** (for use with CT 85, CT 87)	
Decorative coats (Paints)	**CT 42, CT 44, CT 48, CT 49, CT 54**	-

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 85 with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 35, Ceresit CT 36, Ceresit CT 137	Category III
Ceresit CT 60, Ceresit CT 63, Ceresit CT 64	Category II
Ceresit CT 72, Ceresit CT 73	Category II
Ceresit CT 74, Ceresit CT 75	Category II
Ceresit CT 174, Ceresit CT 175	Category II
Ceresit CT 77	Category I

Table 2: Impact Resistance

Ceresit Ceretherm 60

PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm 60, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation on new concrete and masonry residential buildings, up to a maximum of 15 storeys (45 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm 60, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

Part Two / Technical Specification and Control Data 2

2.1 PRODUCT DESCRIPTION
The Ceresit Ceresit Classic system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 8 to 10mm. The base coat can be applied in either two coats of 3mm each or one layer of 6mm with a double layer of mesh.

Fixings are specified on a project specific basis, based on pullout strength tests and loading calculations. Where non-stainless steel fixings are used, they must be completely protected in an integral plastic plug and end cap.

	Components	Thickness (mm)
Adhesives	**CT 85** **CT 87**	-
Insulation	EPS – See Table 1 of Certificate 09/0340 MW – See Table 2 of Certificate 09/0340	20 to 250
Anchors	**CT 335** And anchors with ETA according to ETAG014 approved by Certificate holder	-
Base coat	**CT 85** **CT 87**	6.0
Glass fibre mesh	See Table 3 of Certificate 09/0340	-
Key coat / Primer	**CT 15 (for silicate finishes)** **CT 16**	- -
Finishing coats	**Dry mortars – mineral binder:** **CT 35** (particle size 2.5, 3.5 mm) **CT 36** (particle size 2.0 mm) **CT 137** (particle size 1.5, 2.0, 2.5 mm) **CT 138** (one coat mineral render, applied at 8-10mm, scraped back to 6-8mm) **Ready to use pastes – acrylic binder:** **CT 60** (particle size 1.5, 2.5 mm) **CT 63** (particle size 3.0 mm) **CT 64** (particle size 2.0 mm) **Ready to use pastes – silicate binder:** **CT 72** (particle size 1.5, 2.5 mm) **CT 73** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone binder:** **CT 74** (particle size 1.5, 2.5 mm) **CT 75** (particle size 2.0, 3.0 mm) **Ready to use pastes – silicone-silicate binder:** **CT 174** (particle size 1.5, 2.5 mm) **CT 175** (particle size 2.0, 3.0 mm) **Ready to use pastes – mosaic plaster:** **CT 77** (particle size 1.4, 2.0 mm) **Dash receiver:** **CT 136** (for use with 6mm approved dry dash stones)	Regulated by particle size
Accelerating additives	**CT 240** (for use with CT 60, CT 63, Ct 64, CT 174, CT 175, CT 74, CT 75, CT 72, CT 73, CT 15, CT 16, CT 42, CT 44, CT 48, CT 49, CT 54) **CT 280** (for use with CT 85, CT 87)	
Decorative coats (Paints)	**CT 42, CT 44, CT 48, CT 49, CT 54**	

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 85 with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 16 + Ceresit CT 74/CT 15	Category II
Ceresit CT 16 + Ceresit CT 137/CT 15	Category III
Ceresit CT 16 + Ceresit CT 60/CT 63/CT 64	Category II
Ceresit CT 16 + Ceresit CT 174	Category II
Ceresit CT 15 + Ceresit CT 72/CT 15	Category II
Rendering system: Base coat CT 87 with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 35, Cerest CT 36, Ceresit CT 137	Category III
Ceresit CT 60, Ceresit CT 63, Ceresit CT 64	Category II
Ceresit CT 72, Ceresit CT 73	Category II
Ceresit CT 74, Ceresit CT 75	Category II
Ceresit CT 174, Ceresit CT 175	Category II

Table 2: Impact Resistance

Part Three / Design Data

3. GENERAL
This matter is dealt with in NSAI Agrément Certificate 09/0340.

Part Four / Technical Investigations 4

4.1 STRENGTH AND STABILITY
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.2 BEHAVIOUR IN RELATION TO FIRE
This matter is dealt with in Section 4.2 of NSAI Agrément Certificate 09/0340.

4.3 PROXIMITY OF HEAT PRODUCING APPLIANCES
This matter is dealt with in Section 4.3 of NSAI Agrément Certificate 09/0340.

4.4 THERMAL INSULATION
This matter is dealt with in Section 4.4 of NSAI Agrément Certificate 09/0340.

4.5 LIMITING THERMAL BRIDGING
This matter is dealt with in Section 4.5 of NSAI Agrément Certificate 09/0340.

4.6 CONDENSATION RISK
This matter is dealt with in Section 4.6 of NSAI Agrément Certificate 09/0340.

4.7 MAINTENANCE
This matter is dealt with in Section 4.7 of NSAI Agrément Certificate 09/0340.

4.8 WEATHERTIGHTNESS
This matter is dealt with in Section 4.8 of NSAI Agrément Certificate 09/0340.

4.9 DURABILITY
4.9.1 Design Life
An assessment of the life of the system was carried out. This included an assessment of:

- Design and installation controls;
- Proposed building heights;
- Render thickness and specification;
- Material specifications, including insulant, mesh, beading and fixing specifications;
- Joint design;
- Construction details;
- Maintenance requirements;
- Accelerated aging test data.

The assessment indicates that the system should remain effective for at least 60 years, providing that it is designed, installed and maintained in accordance with this Certificate. Any damage to the surface finish shall be repaired immediately and regular maintenance shall be undertaken as outlined in Section 4.7 of NSAI Agrément Certificate 09/0340. Beadings and nosings shall be as shown in building details. The use of exposed plastic beads/nosings for weathering purposes is not permitted.

4.9.2 Aesthetic Performance
This matter is dealt with in Section 4.9.2 of NSAI Agrément Certificate 09/0340.

4.10 PRACTICABILITY
This matter is dealt with in Section 4.10 of NSAI Agrément Certificate 09/0340.

4.11 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING
This matter is dealt with in Section 4.11 of NSAI Agrément Certificate 09/0340.

4.12 OTHER INVESTIGATIONS
This matter is dealt with in Section 4.12 of NSAI Agrément Certificate 09/0340.

Ceresit Ceretherm Visage

PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Visage, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Visage, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

Part Two / Technical Specification and Control Data 2

2.1 PRODUCT DESCRIPTION
The Ceresit Ceretherm Visage system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 6 to 8mm.

	Components	Thickness (mm)
Adhesives	**CT 83**	-
Insulation	EPS – See Table 1 of Certificate 09/0340	20 to 250
Anchors	**CT 335** And anchors with ETA according to ETAG014 approved by Certificate holder	-
Base coat	**CT 85**	4.0
Glass fibre meshes	See Table 3 of Certificate 09/0340	-
Key coat / Primer	**CT 16**	-
Finishing coats	**CT 60 – Visage Acrylic Plaster** Thin layered, ready to use paste. Composition: water, acryl-copolymer binder, sand, mineral fillers, additives. Particle size: 0.5mm. **CT 710 – Visage Natural Stone Plaster** Thin layered, ready to use paste. Composition: water, acryl-copolymer binder, sand, mineral fillers, additives. Particle size: 0.1 to 2.0mm. **CT 720 – Visage Wood Plaster** Thin layered, cement based powder requiring addition of 0.21 l/kg of water. Composition: sand, cement, mineral fillers, additives. Particle size: 1.0mm **CT 730 – Visage Luminous Plaster** Thin layered, ready to use paste. Composition: water, acryl-copolymer binder, sand, mineral fillers, additives. Particle size: 0.5 to 1.0mm	About 2.0 1.0 to 2.0 Regulated by particle size 1.0
Accelerating additives	**CT 240** (for use with CT 60) **CT 280** (for use with CT 83, CT 85)	
Decorative coats (Paints)	**CT 721 – Visage Wood Colour Impregnate** Ready to use liquid. To be used obligatory with CT 720. Composition: silicone resin, pigments, additives. **CT 740 – Visage Metallic Paint** Ready to use liquid. To be used optionally with CT 60. Composition: acryl-copolymer binder, pigments, additives. **CT 750 – Visage Opal Lack** Ready to use liquid. To be used optionally with CT 60. Composition: acryl-copolymer binder, pigments, additives.	-

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 85 (with key coat CT 16) with finish coat indicated hereafter:	**Single standard mesh**
Ceresit CT 60	Category II
Ceresit CT 60 + Ceresit CT 740	Category II
Ceresit CT 60 + Ceresit CT 750	Category II
Ceresit CT 710	Category II
Ceresit CT 720 + Ceresit CT 721	Category III
Ceresit CT 730	Category II

Table 2: Impact Resistance

Part Three / Design Data 3

3. GENERAL
This matter is dealt with in NSAI Agrément Certificate 09/0340.

Part Four / Technical Investigations 4

4.1 STRENGTH AND STABILITY
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.2 BEHAVIOUR IN RELATION TO FIRE
See Table 3 for details of the fire classifications achieved.

Systems that achieved a Class B Reaction to Fire Classification are suitable for use up to a maximum of six storeys (18 metres) in height on purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4(b) as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Systems that achieved a Class C Reaction to Fire Classification are suitable for use up to a maximum of 10m high on purpose groups 1(a), 1(b) and 1(c) as defined in TGD to Part B of the Building Regulations 1997 to 2011. These systems may also not be used on a wall which is less than 1m away from a boundary. Reference should be made to Section 4.1 and 4.2 of TGD to Part B of the Building Regulations 1997 to 2011.

4.3 PROXIMITY OF HEAT PRODUCING APPLIANCES
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.4 THERMAL INSULATION
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.5 LIMITING THERMAL BRIDGING
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.6 CONDENSATION RISK
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.7 MAINTENANCE
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.8 WEATHERTIGHTNESS
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.9 DURABILITY
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.10 PRACTICABILITY
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.11 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

4.12 OTHER INVESTIGATIONS
This matter is dealt with in Section 4.1 of NSAI Agrément Certificate 09/0340.

Configuration	Maximum declared organic content	Declared flame retardant content	Reaction to fire class according to EN 13501-1
• Base coat: CT 85 • Finishing coats: CT 710 or CT 730 (with key coat CT 16) • Decorative coats: CT 740 or CT 750	≤ 2.3% ≤ 15.0% ≤ 30.0%	0%	**C – s2,d0**
• Base coat: CT 85 • Finishing coats: CT 60 (with key coat CT 16) • Decorative coats: CT 740 or CT 750	≤ 2.3% ≤ 12.5% ≤ 30.0%	0%	**B – s2,d0**
• Base coat: CT 85 • Finishing coats: CT 720 (with key coat CT 16) • Decorative coats: CT 721	≤ 2.3% ≤ 1.4% ≤ 20.0%	0%	**B – s2,d0**

Table 3: Reaction to Fire

Ceresit Ceretherm Ceramic

PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Ceramic, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Ceramic, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

Part Two / Technical Specification and Control Data 2

2.1 PRODUCT DESCRIPTION
The Ceresit Ceretherm Ceramic system is summarised in Table 1. The minimum overall thickness of base coat and adhesive layer is 6 to 8mm.

2.2 INSTALLATION
The substrate is prepared, insulation boards, reinforcement mesh and basecoat are installed per Section 2.4 of Certificate 09/0340.

Mechanical fixings used for the insulation boards are fixed through the layer of reinforcement mesh. Fixing heads should be slightly pressed in. The complete fixings should be concealed within the CT 85 adhesive mortar layer.

CM 17 or CM 18 adhesive mortar should be applied on the reinforced layer and on the brick slips, so as to have the full surface of the slips covered with mortar, upon pressing. Thickness of the CM 17 or CM 18 mortar layer should depend on the type and dimensions of the slips, but not less than 4mm. Joints should have the width of minimum 6mm and maximum 20mm. The brick slip surface separated by expansion joints should not exceed $9m^2$. Expansion joints should be filled with CS 29 polyurethane sealant compliant with the requirements of I.S. EN ISO 11600:2003.

	Components	Thickness (mm)
Adhesives	**CT 83, CT 85**	-
Insulation	EPS – See Table 1 of Certificate 09/0340	20 to 250
Anchors	**CT 335** And anchors with ETA according to ETAG014 approved by Certificate holder	-
Base coat	**CT 85**	4.0
Glass fibre meshes	See Table 3 of Certificate 09/0340	-
Adhesive mortar	**CM 17, CM 18** Adhesive mortar compliant with EN 12004 for fixing of brick slips, supplied in a dry mix requiring the addition of 0.34 – 0.16 l/kg of CM 17 and 0.45 0 0.5 l/kg of CM 18.	-
Brick slips	**Ceramic façade tiles** Pressed or drawn tiles per EN 14411 of the following groups: • Bla, Blb (frost resistant) – for pressed tiles; • Al (frost resistant) for drawn tiles, of the following characteristics: - Absorbability of not more than 6%; - Frost resistant; - Tile dimensions not exceeding 0.09m^2; - Tile weight not exceeding 40kg/m^2 of insulated area. **Natural stone façade tiles** Cladding tiles per EN 1469, area not exceeding 0.19m^2 and surface weight not exceeding 40kg/m^2 of insulated area.	-
Mortar joints	**CT 32** Compliant with EN 998-2, used for filling of joints between ceramic tiles and natural stone cladding tiles, supplied in a dry mix requiring the addition of 0.10 – 0.15 l/kg of CT 32. **CE 43** Compliant with EN 13888, used for filling of joints between ceramic tiles, supplied in a dry mix requiring the addition of 0.10 – 0.28l/kg of CE 43.	-
Accelerating additives	**CT 280** (for use with CT 83, CT 85)	

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 85 with cladding indicated hereafter:	**Single standard mesh**
Ceramic facade tile	Category I
Natural stone facade tile	Category I

Table 2: Impact Resistance

Ceresit Ceretherm Impactum

PRODUCT DESCRIPTION
This Detail Sheet relates to Ceresit Ceretherm Impactum, as defined in NSAI Agrément Certificate 09/0340.

USE:
The system is for use as external insulation for refurbishment/retrofit of existing masonry or concrete buildings, up to a maximum of six storeys (18 metres) in height in purpose groups 1(a), 1(b), 1(c), 2(a), 2(b), 3, 4(a) and 4 as defined in TGD to Part B of the Building Regulations 1997 to 2011.

Part One / Certification 1

1.1 ASSESSMENT
In the opinion of NSAI Agrément, Ceresit Ceretherm Impactum, if used in accordance with this Detail Sheet, meets the requirements of the Building Regulations 1997 - 2011 as indicated in Section 1.2 of Certificate 09/0340.

1.2 BUILDING REGULATIONS 1997 to 2011
This matter is dealt with in NSAI Agrément Certificate 09/0340.

Part Two / Technical Specification and Control Data 2

2.1 PRODUCT DESCRIPTION
The Ceresit Ceretherm Impactum system is summarised in Table 1. The minimum overall thickness of base coat and decorative finish coat is 6 to 8mm.

	Components	Thickness (mm)
Adhesives	**CT 81** **CT 82** **CT 83** **CT 80** **CT 85**	-
Insulation materials with associated methods of fixing	**Insulation product:** EPS – See Table 1 of Certificate 09/0340 **Anchors:** **CT 335** and anchors with ETA according to ETAG014 approved by Certificate holder	50 to 200 -
Base coat	**CT 100**	3.0 to 4.0
Glass fibre mesh	See Table 3 of Certificate 09/0340	-
Finishing coats	**Ready to use pastes – acrylic binder:** **CT 60** (particle size 1.5 mm) **Ready to use pastes – silicate binder:** **CT 72** (particle size 1.5 mm) **Ready to use pastes – silicone binder:** **CT 74** (particle size 1.5 mm) **Ready to use pastes – silicone-silicate binder:** **CT 174** (particle size 1.5 mm) **Ready to use pastes – polymer dispersion** **CT 79** (particle size 1.5mm) **Ready to use pastes – mosaic plaster:** **CT 77** (particle size 0.8 to 1.2 mm or 1.4 to 2.0 mm)	Regulated by particle size
Accelerating additives	**CT 240** (for use with CT 60, CT 174, CT 74, CT 72, CT 42, CT 44, CT 48, CT 49, CT 54) **CT 280** (for use with CT 83, CT 85)	
Decorative coats (Paints)	**CT 42, CT 44, CT 48, CT 49, CT 54**	

Table 1: Definition of the Construction Product (Kit)

Rendering system: Base coat CT 100 with finish coat indicated hereafter:	**Single standard mesh (CT 325)**
Ceresit CT 60 1.5mm	Category II
Ceresit CT 72 1.5mm	Category II
Ceresit CT 74 1.5mm	Category II
Ceresit CT 79 1.5mm	Category II
Ceresit CT 174 1.5mm	Category II
Ceresit CT 77 0.8 to 1.2mm	Category II
Ceresit CT 77 1.4 to 2.0mm	Category II
Rendering system: Base coat CT 100 with finish coat indicated hereafter:	**Double standard mesh (CT 325)**
Ceresit CT 60 1.5mm	Category I
Ceresit CT 72 1.5mm	Category I
Ceresit CT 74 1.5mm	Category I
Ceresit CT 79 1.5mm	Category I
Ceresit CT 174 1.5mm	Category I
Ceresit CT 77 0.8 to 1.2mm	Category I
Ceresit CT 77 1.4 to 2.0mm	Category I
Rendering system: Base coat CT 100 with finish coat indicated hereafter:	**Standard mesh (CT 325) + Reinforced mesh (CT 327)**
Ceresit CT 60 1.5mm	Category I
Ceresit CT 72 1.5mm	Category I
Ceresit CT 74 1.5mm	Category I
Ceresit CT 79 1.5mm	Category I
Ceresit CT 174 1.5mm	Category I
Ceresit CT 77 0.8 to 1.2mm	Category I
Ceresit CT 77 1.4 to 2.0mm	Category I

Table 2: Impact Resistance