IRISH AGRÉMENT BOARD
CERTIFICATE NO. 06/0096
KORE Insulation,
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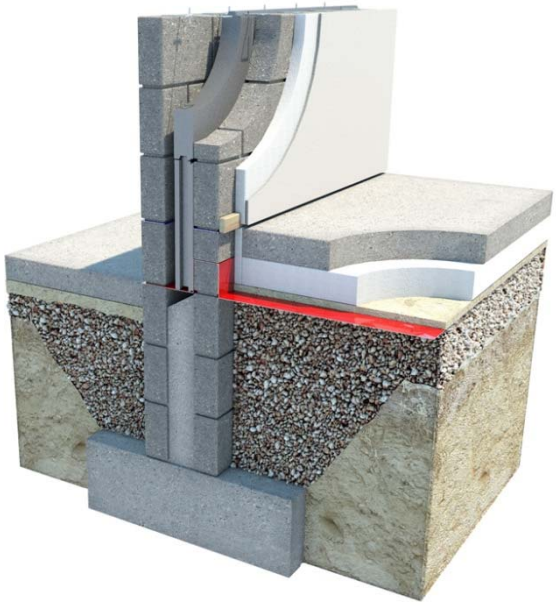
KORE Key & KORE Thermal Board Cavity Wall Insulation Systems

Isolant en polystyrene
Kerndämmung

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 2017**.



PRODUCT DESCRIPTION:
This Certificate relates to the KORE Key and KORE Thermal Board Cavity Wall Insulation Systems as follows:

- KORE Key Partial Fill Cavity Wall Insulation System consists of rigid polystyrene boards cut from moulded blocks of expanded polystyrene (EPS) manufactured in accordance with IS EN 13163:2012+A1:2015 *Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification*. The boards are tongued and grooved, preventing thermal bridging, to form an interlocking partial fill cavity wall insulation system. A unique mortar lock is designed to prevent thermal looping during the heating and cooling of the wall. The KORE Key Partial Fill Cavity Wall Insulation System is fixed to the inner leaf of the cavity wall.
- KORE Thermal Board Dry Lining System is a composite panel consisting of rigid EPS board bonded to 9.5 or 12.5mm plasterboard.

The two products can be used in combination to meet the requirements of the Building Regulations 1997 to 2017.

This Certificate certifies compliance with the requirements of the Building Regulations 1997 to 2017.

This Certificate replaces NSAI Agrément Certificate 98/0096.

USE:
KORE Key Partial Fill Cavity Wall Insulation System is used for the thermal insulation of masonry walls up to 25m in height, subject to the separate conditions applying to walls up to 12m and walls over 12m in height contained in Section 3.6 of this Certificate. It can also facilitate the control of surface and interstitial condensation in walls.

KORE Thermal Board Dry Lining System is used for the thermal insulation of new or existing solid wall masonry walls of dwellings or buildings of similar occupancy type and conditions. It can also facilitate the control of surface and interstitial condensation in walls.

MANUFACTURE AND MARKETING:
The products are manufactured and marketed by:

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Kilnaleck,
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1.1 ASSESSMENT

In the opinion of NSAI Agrément, KORE Key and KORE Thermal Board Cavity Wall Insulation Systems if used in accordance with this Certificate can meet the requirements of the Building Regulations 1997 to 2017, as indicated in Section 1.2 of this Irish Agrément Certificate.

1.2 BUILDING REGULATIONS 1997 to 2017

REQUIREMENTS:

Part D – Materials and Workmanship

D3 – KORE Key and KORE Thermal Board Cavity Wall Insulation Systems, as certified in this Certificate, are comprised of 'proper materials' fit for their intended use (see Part 4 of this Certificate).

D1 – KORE Key and KORE Thermal Board Cavity Wall Insulation Systems, as certified in this Certificate, meet the requirements of the building regulations for workmanship.

Part B – Fire Safety

Part B Vol 2 – Fire Safety

B2 & B7 – Internal Fire Spread (Linings)

The plasterboard side of KORE Thermal Board Dry Lining System is considered to be Class 0. It may therefore be used on the internal surfaces of buildings of every purpose group.

B3 & B8 – Internal Fire Spread (Structure)

KORE Thermal Board Dry Lining System when fixed with mortar dabs, or on battens, or in contact with the wall, will not require the installation of cavity barriers and may be used in buildings of any purpose group. When installed with a residual cavity between the board and the wall, cavity barriers must be provided, and the system may be used in buildings of any purpose group.

Part C – Site Preparation and Resistance to Moisture

C4 – Resistance to Weather and Ground Moisture

The KORE Key and KORE Thermal Board Cavity Wall Insulation Systems can meet the requirements when installed as Section 2.4 of this Certificate in walls constructed in compliance with the conditions indicated in Section 3 of this Certificate.

The KORE Key Partial Fill Cavity Wall Insulation System boards do not absorb water by capillary action and may be used in exposures indicated in Section 3 of this Certificate.

Part J – Heat Producing Appliances

J3 – Protection of Building

In the opinion of NSAI Agrément, the KORE Key and KORE Thermal Board Cavity Wall Insulation Systems, if used in accordance with this Certificate, can meet the requirements of Part J of the Building Regulations 1997 to 2017.

Part L – Conservation of Fuel and Energy

L1 – Conservation of Fuel and Energy

Based on the measured thermal conductivity of KORE Key and KORE Thermal Board Cavity Wall Insulation Systems referred to in this Certificate, the current 'U-value' requirements can be achieved (see Section 4 of this Certificate).

2.1 PRODUCT DESCRIPTION

KORE Key Partial Fill Cavity Wall Insulation System

KORE Key Partial Fill Cavity Wall Insulation System consists of rigid polystyrene boards cut from moulded blocks of EPS manufactured to IS EN 13163:2012+A1:2015. The boards are tongued and grooved to form an interlocking partial fill cavity wall insulation system.

The product is fixed to the inner leaf of the cavity wall with stainless steel wall ties complying with IS EN 845-1:2013+A1:2016 *Specification for ancillary components for masonry – Part 1: Wall ties, tension straps, hangers and brackets*. Other NSAI Agrément approved wall ties may also be used with the system. The boards do not contain CFC or HCFC gases and have zero Ozone Depletion Potential (ODP).

KORE Thermal Board Dry Lining System

KORE Thermal Board Dry Lining System is a composite panel consisting of a rigid EPS board core bonded to plasterboard. The plasterboard is either 9.5 or 12.5mm thick and manufactured to IS EN 520:2005+A1:2009 *Gypsum plasterboards – Definitions, requirements and test methods* using EPS boards manufactured to IS EN 13163:2012+A1:2015. The boards do not contain CFC or HCFC gases and have zero ODP.

Table 1 shows the product range of the KORE Key and KORE Thermal Board Cavity Wall Insulation Systems.

KORE Key	
Length	1200mm
Width	450mm
Thickness	60, 70 and 110mm
Grade	EPS80 and 150
KORE Key Silver	
Length	1200m
Width	450mm
Thickness	65 and 95mm
Grade	EPS80 and 150
KORE Thermal Board	
Length	2400mm
Width	1200mm
Thickness	19, 25, 35, 40, 50 and 100mm
Grade	EPS80 and 150

Other sizes available on request

Table 1: Product Range

2.2 MANUFACTURE

KORE Key Partial Fill Cavity Wall Insulation System boards are manufactured from polystyrene granules from external suppliers. The granules are expanded into blocks of EPS without the use of additional gases and cut to size from the block. They are tongued and grooved on the edges to form an interlocking partial fill cavity wall insulation system.

KORE Thermal Board Dry Lining System boards are manufactured in the same manner. The cut boards are faced with 9.5 or 12.5mm plasterboard, giving a durable surface to accept traditional finishing techniques.

2.2.1 Quality Control

Quality control checks are carried out on the incoming raw materials, during production and on the finished product. These checks include board dimensions, density, dimensional stability, compressive strength and thermal conductivity.

2.3 DELIVERY, STORAGE AND MARKING

Every pack shows the manufacturer's name, NSAI Agrément identification mark and NSAI Agrément Certificate number.

Boards should be protected in transit and in storage from damage caused by ropes and tie straps. Boards should be protected from prolonged exposure to UV light and should be stored under cover or protected with polyethylene. KORE Thermal Board boards must be stored inside and stacked on a level base with supports every 450mm. Care must be taken to avoid contact with solvents and with materials containing volatile organic components such as coal tar and timbers newly treated with creosote etc.

The boards must not be exposed to a naked flame or other ignition sources.

2.4 INSTALLATION

2.4.1 KORE Key Partial Fill Cavity Wall Insulation System

The walls are constructed in the conventional manner, leading with either inner or outer leaf. However it is recommended that the inner leaf be constructed ahead of the outer leaf, because the KORE boards are fastened to the cavity face of the inner leaf. This ensures maximum thermal performance. However, no masonry leaf should be more than 1m in height above the other during construction.

A section of the inner leaf is built with the first row of wall ties at not greater than 750mm horizontal centres, where the insulation is to begin. It is recommended that the wall ties are not placed directly on the DPC. The first run of insulation boards must commence below DPC level to provide edge insulation for the floor as required by TGD to Part L of the Building Regulations 1997 to 2017, having regard to the level of mortar fill below DPC level. Ensure that any radon barrier is not damaged.

Wall tie spacings should not exceed 750mm horizontally and 450mm vertically, and must conform with structural design requirements. At unbonded jambs to all openings in cavity walls, provide wall ties at 225mm vertical centres, located within 150mm of the opening. Table 2 shows the recommended spacing of wall ties.

Cavity Width (mm)	Horizontal Spacing (mm)	Vertical Spacing (mm)	No. of Wall Ties per m^2
76 – 110	750	450	3.0
111 – 150	450	450	4.9

Table 2: Maximum Wall Tie Spacing

Successive sections of wall incorporating stainless steel wall ties and clips are constructed and KORE Key Partial Fill Cavity Wall Insulation System boards are installed as work proceeds up to the required height. The stainless steel wall ties and unique KORE Key mortar lock meets the inner leaf at every second course. After raising each section of the inner leaf, before installation of the KORE Key system, excess mortar should be removed and mortar droppings cleaned from the exposed edges of the installed boards. Use of a cavity batten or similar is recommended to protect board edges and maintain a clear cavity and prevent mortar build up at the base of the wall. Boards should be fitted together with the tongue upwards and the exposed edges protected at the end of each workday. Damp penetration across the cavity must be prevented with good practice.

On-site trimming of boards where necessary to maintain continuity of insulation around doors, windows or other opes and to coincide with block or brick courses, can be readily executed using a builder's knife.

To prevent damp penetrating across the cavity, it is important to ensure the following:

- Mortar filling of cavity at wall base is not too high.
- The DPC should not project into cavity at ground floor level as it can lead to catching mortar droppings, resulting in bridging the cavity.
- Avoid sloping wall ties, due to difference in level between the outer and inner leaf of the cavity wall.
- Keep cavities and wall ties clean, free from mortar droppings. This is achieved with the use of cavity batten and daily cleaning of wall ties.
- The KORE Key boards are tied to the inner leaf properly, i.e. as specified in this Certificate and the manufacturer's instructions.
- Once the KORE Key Partial Fill Cavity Wall Insulation System is installed in the cavity wall, ensure that there are no gaps in the insulation, as this will reduce the risk of cold bridging.
- Avoid the build-up of mortar on trays/lintels and overheads.

2.4.2 KORE Thermal Board Dry Lining System

KORE Thermal Board Dry Lining System is for installation on the internal surface of walls and ceilings of new or existing buildings. The fixing method depends on the substrate.

Installation should be in accordance with good dry lining practice and the manufacturer's instructions. All installations require careful planning and setting out.

Before fixing the product, sufficient time must be allowed to disperse the solvents contained in wood preservatives and damp proofing treatments where applied.

Secondary Mechanical Fixings

All boards which are not primarily supported using mechanical fixing must be further secured using a minimum of 2 no. mechanical fixing nails of an approved type being not less than 6mm diameter and penetrating at least 30mm into the masonry.

Fire Stopping

Fire stopping unless otherwise provided is achieved by applying a 50mm drywall adhesive ribbon or a pre-treated timber batten fixed to the top and bottom of the panel.

Plaster Dab Bonding

This method which uses drywall adhesive is for application to brick, block or concrete walls, using 75x50mm plaster daps at the top, bottom and centre of each board. Ribbons of adhesive 50mm wide may also be applied to the back of the boards and laid parallel to the longest edge, in accordance with the manufacturer's instructions. A continuous fillet of drywall adhesive should be used around the perimeter of the wall to ensure an unvented air gap.

Timber Battens
Preservative treated timber battens at 60mm centres are mechanically fixed to the wall using traditional techniques and the boards are then fixed to the battens using galvanised clout headed plaster nails or protected screws.

Metal Furring
Metal furrings are applied to walls in a defined pattern using multi-purpose adhesive and aligned while the adhesive is still workable. When the adhesive has set the boards are fixed to the furrings using drywall screws, driven with a power screwdriver. Jointing and finishing are carried out in the usual manner.

Adhesive Bonding
Boards may also be directly applied by adhesive using thin wall adhesive on good plaster or fair faced concrete walls where no irregularity exists, in accordance with the manufacturer's instructions.

Mechanical Fixings
Boards may also be fixed directly to masonry walls, using approved mechanical fasteners, in accordance with manufacturer's instructions – a minimum of 6 fixings should be used.

Tapered edged boards are jointed and finished in accordance with standard dry lining procedure offering a surface suitable for paper hanging and paint finishes.

3.1 KORE Key and KORE Thermal Board Cavity Wall Insulation Systems when installed in accordance with this Certificate, are effective in reducing the 'U' value of new external masonry walls, using clay or calcium silicate bricks, concrete blocks, or natural and reconstituted stone blocks. It is essential that such walls are designed and constructed to prevent moisture penetration, having due regard to the prevailing Driving Rain Index.

3.2 Buildings subject to the relevant requirements of the Building Regulations 1997 to 2017 should be constructed in accordance with IS EN 1991-1-1:2005+A1:2012 *Eurocode 6 – Design of masonry structures – Part 1-1: General rules for reinforced and unreinforced masonry structures (including Irish National Annex)*. The relevant recommendations of IS EN 1991-1-1:2005+A1:2012 should be followed where the wall incorporates stone or cast stone.

3.3 As with all cavity wall insulation, the construction detailing should comply with good practice.

3.4 Where a nominal residual cavity width of 40mm is maintained, KORE Key Partial Fill Cavity Wall Insulation System is suitable for use in any exposure conditions in buildings up to 12m in height. In buildings over 12m and up to 25m in height, the exposure factor must not exceed 122, calculated in accordance with BS 5618:1985 *Code of practice for thermal insulation of cavity walls* and using the Irish Map of Driving Rain Index.

3.5 Data obtained by NSAI Agrément confirms that a masonry wall incorporating KORE Key Partial Fill Cavity Wall Insulation System, built to the requirements of IS EN 1991-1-1:2005+A1:2012 will not transmit water to the inner leaf.

3.6 Data obtained by NSAI Agrément also demonstrates that the KORE Key Partial Fill Cavity Wall Insulation System boards do not absorb water by capillary action. When the product is used in situations where it bridges the DPC in walls, dampness from the ground will not pass through.

3.7 A minimum cavity width of 40mm should be maintained where possible. Where, for structural reasons, the cavity width is reduced by the intrusion of ring beams or other structural elements, a minimum width of 25mm of cavity should be maintained, and the manufacturer's advice on fixing and weatherproofing should be sought. Raked or recessed mortar joints should be avoided in high exposure areas.

3.8 With dry lining installations forming a void of 20mm or more, services can be incorporated behind the dry lining, making the chasing of the wall unnecessary. When using adhesive systems, or where the services have a greater depth than the void, the wall should be chased rather than the insulation. Care must be taken to ensure that electric cables do not make contact with the insulation.

3.9 The installation of dry lining systems requires careful detailing around doors and windows to achieve a satisfactory surface for finishing. Every effect should be made to minimise the risk of thermal bridging.

3.10 When bonding is by adhesives, it is essential that a satisfactory bond be achieved between the walling material and the adhesive. Backgrounds of high suction will behave differently to those of low suction. The Certificate holder's advice should be sought in case of difficulty.

4.1 BEHAVIOUR IN FIRE

The KORE Key Partial Fill Cavity Wall Insulation System may be used in buildings of any purpose group in a wall in which the cavity intercommunicates with another such cavity, and may be unlimited in extent in respect of the provision of barriers produced the walls comply with Diagram 17 of TGD to Part B of the Building Regulations 1997 to 2017 as follows:

a) The masonry wall consists of two leaves, each being not less than 75mm thick and constructed of non-combustible materials;
b) The cavity does not exceed 110mm in width and is closed by a cavity barrier at the top of the wall and at the top of any opening through any leaf of the wall; and
c) There is no combustible material exposed or situated within the cavity other than:
   (i) Timber lintels, window or door frames or the end faces of joists.
   (ii) Pipes, ducts or cables.
   (iii) Closers, flashings, DPCs or wall ties.
   (iv) Thermal insulating material.
   (v) Meter boxes which require an opening in the outer leaf of not greater than 800 x 500mm and do not penetrate the inner leaf except through a sleeve of not more than 80 x 80mm, which is fire stopped where it passes through the inner leaf.

KORE Key Partial Fill Cavity Wall Insulation boards are combustible and must be protected from naked flames and other ignition sources during and after installation.

In an unventilated cavity, the amount of air will be insufficient to support combustion and flame spread will be minimal.

Toxicity – Negligible when used in a cavity wall situation.

As KORE Key and KORE Thermal Board Cavity Wall Insulation System boards are manufactured without the use of CFCs or HCFCs, there is no release of such gas on burning.

The plasterboard used in the KORE Thermal Board Dry Lining System is deemed to be Class 0 in accordance with the Building Regulations 1997 to 2017. The insulation component of the board should be isolated from possible sources of combustion.

KORE Thermal Board Dry Lining System boards, when installed with a purposely designed residual cavity between the board and the wall, will require the provision of cavity barriers and may be used in buildings of any purpose group provided:

a) Cavity barriers in walls are provided at maximum distances apart of 10m unless a Class 1 material is exposed to the cavity when a spacing of 20m may be adopted.
b) Every such cavity shall be closed by a cavity barrier around the whole perimeter of the wall or ceiling element and around the perimeter of any opening through such an element.
c) Cavity barriers in spaces between a roof and ceiling are provided at maximum distances apart of 20m for any class of surface exposed to the cavity.
d) Where any wall or ceiling containing a cavity meets another such element, the cavities shall be closed.
e) Direction on the provision and spacing of cavity barriers is given in Tables 3.3 and 2.2 of TGD to Part B of the Building Regulations 1997 to 2017.

4.1.1 J3 Protection of Building

Combustible wall insulation material shall generally be separated by solid non-combustible material not less than 200mm thick from any heating appliance or from any flue pipe or opening to a heating appliance. Particular details are given in TGD to Part J of the Building Regulations 1997 to 2017. It should also be separated by 40mm from the external surface of a masonry chimney. For chimneys covered by IS EN 1859:2009+A1:2013 *Chimneys – Metal chimneys – Test methods*, separation between the insulation and the external surface of the chimney shall be determined in accordance with TGD to Part J of the Building Regulations 1997 to 2017.

4.2 WATER PENETRATION

The KORE Key Partial Fill Cavity Wall Insulation System, when used in accordance with this Certificate, presents no significant risk of water penetration.

Capillary action – The closed cell structure does not allow water uptake by capillary action.

4.3 WATER VAPOUR PENETRATION AND CONDENSATION RISK

The KORE Key Partial Fill Cavity Wall Insulation System has a water vapour diffusion resistivity factor 'μ' of 30 to 70. It has a significant resistance to the passage of water vapour when used in conventional masonry cavity wall construction. This obviates the risk of surface condensation and presents no significant risk of damage from interstitial condensation.

KORE Thermal Board Dry Lining System has a water vapour diffusion resistivity factor 'μ' of 20 to 40 for EPS80 and 30 to 70 for EPS150 and is therefore unlikely to be affected by surface or interstitial condensation, provided all joints between boards are filled and taped in accordance with standard dry lining practice. Interstitial condensation analysis for average winter environmental conditions for both hollow blockwork and cavity wall constructions indicate no condensation risk. When insulating buildings the recommendations of BS 5250:2011+A1:2016 *Code of practice for control of condensation in buildings* should be followed to minimise the risk of condensation within the building elements and structures.

4.4 THERMAL INSULATION

Calculations of the thermal transmittance (U-value) of specific constructions should be carried out in accordance with IS EN ISO 6946:2007 *Building components and building elements – Thermal resistance and thermal transmittance – Calculation method*, using a manufacturer's declared thermal conductivity value as outlined in Table 3 of this Certificate. The U-value of a construction will depend on the materials used and the design. Examples of U-value calculations are given in Table 4 of this Certificate.

A full listing of U-value calculations is available from the Certificate holder on request. End users should seek guidance from the Certificate holder on U-values that can be achieved.

The product can contribute to maintaining continuity of thermal insulation at junctions between elements and around openings. Guidance in this respect, and on limiting heat loss by air infiltration, can be found in the DoHPLG publication *Limiting Thermal Bridging & Air Infiltration – Acceptable Construction Details*.

4.5 LIMITING THERMAL BRIDGING

The Thermal Board thermal transmittance ψ (Psi) describes the heat loss associated with junctions and around openings. The certificate holder has carried out ψ-value calculations for a wide range of thermally bridged junctions for new build. A full listing of ψ-value calculations, along with AutoCAD building details on which calculations are based, are available from the Certificate holder on request.

For window jambs, door reveals and all building junctions, when shown to be equivalent or better than junctions detailed in the DoHPLG publication *Limiting Thermal Bridging & Air Infiltration – Acceptable Construction Details*, then it is acceptable to use the Thermal Board thermal transmittance values outlined in Table D1 of TGD to Part L of the Building Regulations 1997 to 2017. When all bridged junctions comply with the requirements of Table D1, the improved 'y' factor of 0.08 can be entered into the Dwelling Energy Assessment Procedure (DEAP) Building Energy Rating (BER) calculation.

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 the BRE IP1/06 *Assessing the effects of thermal bridging at junctions and around openings* and BRE Report BR 497 *Conventions for calculation Thermal Board thermal transmittance and temperature factors*, in accordance with Appendix D of TGD to Part L of the Building Regulations 1997 to 2017.

4.6 DURABILITY

KORE Key and KORE Thermal Board Cavity Wall Insulation System boards are rot proof and durable.

4.7 MATERIALS IN CONTACT WITH ELECTRICAL WIRING

Electrical installations should be in accordance with the ETCI publication ET 207 (current version) *Guide to the National Rules for Electrical Installations as Applicable to Domestic Installations*. It is recommended that cables should not be buried in the insulation and carried in a conduit. In relation to recessed spotlights and other luminaries, ET 207 requires they be not less than the minimum distances from combustible materials as specified in the ETCI National Rules of the Electro Technical Council of Ireland ET 101 (current version). For extra low voltage (ELV) it is recommended that only surface mounted ELV lighting be permitted in conjunction with KORE Thermal Board Dry Lining System.

4.8 RESISTANCE TO SOLVENTS, FUNGI AND RODENTS

KORE Key and KORE Thermal Board Cavity Wall Insulation System boards do not promote infestation, as there is no food value in the materials used. They also resist attack by mould and microbial growth. The insulation is not resistant to some solvent-based adhesive systems, particularly those containing methyl ethyl keytone. Adhesives containing such solvents should not be used in association with the boards. Boards which have been in contract with harsh solvents, petrol, mineral oil or acids or boards that have been damaged in any other way should not be used.

4.9 WALL MOUNTED FIXINGS

The recommendations of the manufacturer should be followed. Any object fixed to the wall, other than lightweight items, should be fixed through the lining board into the wall behind, using proprietary fixings.

4.10 MAINTENANCE

Damaged boards can be easily replaced and no maintenance of the insulation will be required provided that the plasterboard layer remains intact.

4.11 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING:

- Density
- Water vapour transmission
- Long term water absorption by diffusion
- Dimensional accuracy
- Compressive stress
- Dimensional stability
- Thermal conductivity
- Thermal resistance
- Efficiency of the construction process

4.12 OTHER INVESTIGATIONS

(i) Existing data on product properties in relation to 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) Site visits were conducted to assess the practicability of installation and the history of performance in use of the product.

(iv) A condensation risk analysis was performed.

4.13 CE MARKING

The manufacturer has taken responsibility of CE marking the KORE Key and KORE Thermal Board Cavity Wall Insulation Systems in accordance with harmonised European Standard EN 13163:2012+A1:2015. An asterisk (*) appearing in this Certificate indicates that data shown is an essential characteristic of the product and declared in the manufacturers Declaration of Performance (DoP). Reference should be made to the latest version of the manufacturer's DoP for current information on any essential characteristics declared by the manufacturer.

KORE Key EPS70 White			
Essential Characteristics	**Performance**	**Test Standard**	**Harmonised Standard**
Thermal Conductivity*	0.037W/mK	EN 12667	EN 13163:2012
Reaction to Fire*	Class E	EN 15715	
Length*	L3	EN 822	
Width*	W3	EN 822	
Thickness*	T2	EN 823	
Compressive Strength*	CS(10)70	EN 826	
Bending Strength*	BS115	EN 12089	
Dimensional Stability*	DS(N)5	EN 1603	
Flatness*	P(5)	EN 825	
Squareness*	S(5)	EN 824	
Long Term Water Absorption by Partial Immersion*	WL(P)i 0.2kg/m^2	EN 12087	
Long Term Water Absorption by Total Immersion*	WL(T)i 5%	EN 12087	
KORE Key EPS70 Silver			
Essential Characteristics	**Performance**	**Test Standard**	**Harmonised Standard**
Thermal Conductivity*	0.031W/mK	EN 12667	EN 13163:2012
Reaction to Fire*	Class E	EN 15715	
Length*	L3	EN 822	
Width*	W3	EN 822	
Thickness*	T2	EN 823	
Compressive Strength*	CS(10)70	EN 826	
Bending Strength*	BS115	EN 12089	
Dimensional Stability*	DS(N)5	EN 1603	
Flatness*	P(5)	EN 825	
Squareness*	S(5)	EN 824	
Long Term Water Absorption by Partial Immersion*	WL(P)i 0.2kg/m^2	EN 12087	
Long Term Water Absorption by Total Immersion*	WL(T)i 5%	EN 12087	
KORE Key EPS100 White			
Essential Characteristics	**Performance**	**Test Standard**	**Harmonised Standard**
Thermal Conductivity*	0.036W/mK	EN 12667	EN 13163:2012
Reaction to Fire*	Class E	EN 15715	
Length*	L3	EN 822	
Width*	W3	EN 822	
Thickness*	T2	EN 823	
Compressive Strength*	CS(10)100	EN 826	
Bending Strength*	BS150	EN 12089	
Dimensional Stability*	DS(N)5	EN 1603	
Flatness*	P(5)	EN 825	
Squareness*	S(5)	EN 824	
Long Term Water Absorption by Partial Immersion*	WL(P)i 0.2kg/m^2	EN 12087	
Long Term Water Absorption by Total Immersion*	WL(T)i 4.5%	EN 12087	
KORE Key EPS100 Silver			
Essential Characteristics	**Performance**	**Test Standard**	**Harmonised Standard**
Thermal Conductivity*	0.031W/mK	EN 12667	EN 13163:2012
Reaction to Fire*	Class E	EN 15715	
Length*	L3	EN 822	
Width*	W3	EN 822	
Thickness*	T2	EN 823	
Compressive Strength*	CS(10)100	EN 826	
Bending Strength*	BS150	EN 12089	
Dimensional Stability*	DS(N)5	EN 1603	
Flatness*	P(5)	EN 825	
Squareness*	S(5)	EN 824	
Long Term Water Absorption by Partial Immersion*	WL(P)i 0.2kg/m^2	EN 12087	
Long Term Water Absorption by Total Immersion*	WL(T)i 4.5%	EN 12087	

Table 3: Product Characteristics

Cavity Wall Construction – Block Inner and Outer Leaf, Thermal Plasterboard and Skim Internal Finish			
KORE Key EPS70 Silver (mm)	KORE Thermal Board EPS70 Silver		
	25mm	38mm	50mm
	U-value (W/m^2K)		
110	0.20	0.18	0.17
150	0.16	0.15	0.14
Cavity Wall Construction – Block Inner and Brick Outer Leaf, Thermal Plasterboard and Skim Internal Finish			
KORE Key EPS70 Silver (mm)	KORE Thermal Board EPS70 Silver		
	25mm	38mm	50mm
	U-value (W/m^2K)		
110	0.20	0.18	0.17
150	0.16	0.15	0.14

Table 4: Typical U-values (W/m^2K)

Part Five / Conditions of Certification 5

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 2017 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 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.

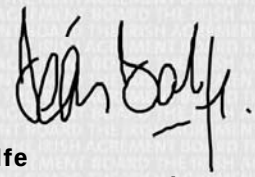
5.7 Where reference is made in this Certificate to any Act of the Oireachtas, Regulation made thereunder, Statutory Instrument, Code of Practice, National Standards, manufacturer's instructions, or similar publication, it shall be construed as reference to such publication in the form in which it is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

NSAI Agrément

This Certificate No. **06/0096** is accordingly granted by the NSAI to **KORE Insulation** on behalf of NSAI Agrément.

Date of Issue: **February 1998**

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
March 2004: Update for CE Marking and Part L of the Building Regulations 1997 to 2006.
June 2006: Inclusion of grey carbon enhanced product.
9th January 2018: References to Building Regulations and standards updated, product specifications updated to reflect manufacturer's DoP.
22nd December 2020: General revision.