IRISH AGRÉMENT BOARD
CERTIFICATE NO. 04/0097
KORE Insulation,
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KORE Floor Insulation System

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 Floor Insulation System consisting of rigid polystyrene boards cut from moulded blocks of expanded polystyrene (EPS) manufactured in accordance with IS EN 13163:2012+A1:2016 *Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification*.

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

This Certificate replaced IAB Certificate 98/0097.

USE:

The product is used for thermal insulation in ground supported and suspended floors and may be installed:

1. Below a concrete floor slab;
2. Below a cement based screed on a concrete slab with a hardcore base;
3. Above a suspended concrete floor (e.g. block and beam) with a cement based screed;
4. Between the joists of a suspended timber floor.

MANUFACTURE AND MARKETING:

The products are manufactured and marketed by:

KORE Insulation,
Kilnaleck,
Co. Cavan.
T: +353 (0)49 4336998
F: +353 (0)49 4336823
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W: www.kore-system.com

1.1 ASSESSMENT

In the opinion of NSAI Agrément, the KORE Floor Insulation System 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 – The KORE Floor Insulation System, as certified in this Certificate, is comprised of 'proper materials' fit for their intended use (see Part 4 of this Certificate).

D1 – The KORE Floor Insulation System, as certified in this Certificate, meets the requirements of the building regulations for workmanship.

Part A - Structure

A1 – Loading

The KORE Floor Insulation System has adequate strength and stiffness to accept floor loads (see Section 3.2 of this Certificate).

Part B – Fire Safety

B3 – Internal Fire Spread (Structure)

Part B Vol 2 – Fire Safety

B8 – Internal Fire Spread (Linings)

The KORE Floor Insulation System shall 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.

Part C – Site Preparation and Resistance to Moisture

C4 – Resistance to Weather and Ground Moisture

The KORE Floor Insulation System meets the requirements, when installed as indicated in Section 2.4, in floors constructed in compliance with the conditions indicated in Part 3 of this Certificate.

Part F – Ventilation

F1 – Means of Ventilation

The KORE Floor Insulation System, as certified, can be incorporated into structures that meet the requirements of this Regulation.

Part J – Heat Producing Appliances

J3 – Protection of Building

In the opinion of NSAI Agrément, the KORE Floor Insulation System, 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

The KORE Floor Insulation System can contribute to complying with the requirements of this Regulation. The manufacturer's declared thermal conductivity ($\lambda_{90/90}$) of the EPS board is:

- 0.037W/mK for KORE Floor EPS70 White
- 0.036W/mK for KORE Floor EPS100 White
- 0.035W/mK for KORE Floor EPS150 White
- 0.033W/mK for KORE Floor EPS200 White
- 0.032W/mK for KORE Floor EPS300 White
- 0.031W/mK for KORE Floor EPS70 Silver
- 0.031W/mKK for KORE Floor EPS100 Silver

2.1 PRODUCT DESCRIPTION

The KORE Floor Insulation System consists of rigid polystyrene boards cut from moulded blocks of EPS manufactured in accordance with IS EN 13163:2012+A1:2016. Boards are either standard white EPS (KORE Floor EPS70, 100, 150, 200 and 300 White) or graphite enhanced EPS (KORE Floor EPS70 and 100 Silver). The boards are plain edge boards and should be laid closely butting. The system is an efficient layer to reduce thermal transmittance of ground supported and suspended concrete floors. The KORE Floor Insulation System can also be used in suspended timber floors between the joists providing a high level of thermal insulation in floors. The system is tested to ensure compliance with the requirements for compressive strength, water vapour transmission, thermal conductivity, thermal resistance and dimensional stability.

The KORE Floor Insulation System is placed below the slab or between the slab and the screed. It can also be used between the joists of a suspended timber floor. Vertical upstands of insulation should be used to separate the screed/slab from the wall to reduce thermal bridging at the wall/floor junction. The KORE Floor Insulation System does not contain CFCs or HCFC gases and has zero Ozone Depletion Potential.

Table 1 shows the KORE Floor Insulation System product range.

Length	1200, 1800 and 2400mm
Width	600 and 1200mm
Thickness	50 – 300mm
Grade	EPS70, 100, 150, 200 and 300

Table 1: Product Range

2.2 MANUFACTURE

The KORE Floor 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 plan edged on all four sides.

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, compressive strength and thermal conductivity.

2.3 DELIVERY, STORAGE AND MARKING

The KORE Floor Insulation System is delivered to site polythene wrapped. Each pack carries a label bearing the CE marking together with the product description, product characteristics, manufacturer's name, NSAI Agrément identification mark and NSAI Agrément Certificate number for the system. Installation instructions and details outlining the steps necessary to ensure proper installation are included in each pack. Handling and storage arrangements must comply with the recommendations of Paragraph 8 and 9 of BS 6203:2003 *Guide to fire characteristics and fire performance of expanded polystyrene materials (EPS and XPS) used in building applications*.

Boards must be protected from prolonged exposure to sunlight, and should be stored under cover in their original wrapping, not in contact with ground moisture and raised above ground level. Care must be taken to avoid contact with solvents and with materials containing volatile organic components such as coal tar and newly treated timber. The boards must not be exposed to a naked flame or other ignition source.

2.4 INSTALLATION

Laying below the floor slab

Where the KORE Floor Insulation System is used below the floor slab, lay the hardcore in layers (min 150-225mm). Each layer should be well-compacted with the surface blinded with quarry dust or sand to provide a suitable surface for laying a DPM (damp proof membrane).

A DPM, e.g. 1200 gauge polythene, or a radon barrier, subject to site conditions, should be laid over the blinding with joints taped to prevent the passage of ground moisture. The DPM should be carried up the wall until it meets and seals with the DPC (damp proof course).

The KORE Floor Insulation System should be laid with closely butted joints, laid staggered with a break-bonded pattern and fitted tightly at the edges and around any service penetrations. Vertical upstands of insulation with a minimum thermal resistance of 1.0m^{2}K/W should be placed at the floor perimeter to minimise thermal bridging if required.

Care should be taken to avoid damage to the insulation or DPM and radon barriers as the slab is being poured and operatives should make use of barrow runs and walkways whilst installation progresses.

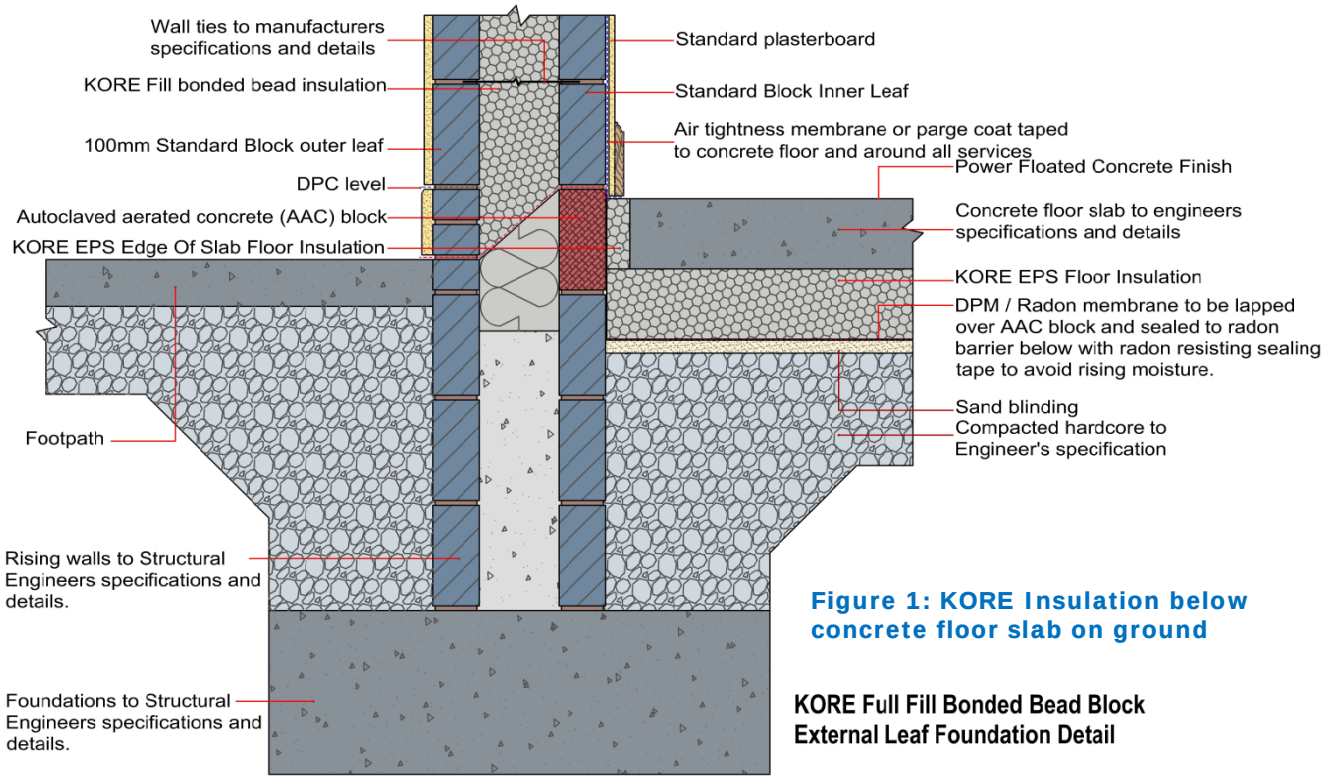


Figure 1: KORE Insulation below concrete floor slab on ground

KORE Full Fill Bonded Bead Block External Leaf Foundation Detail

Laying below the floor screed

Where the KORE Floor Insulation System is used below the floor screed, the same procedure should be followed ensuring that the floor slab onto which the insulation is being laid is level.

The concrete floor over which the insulation is to be laid should be left as long as possible to maximise drying out in accordance with the relevant recommendations of BS 8203:2017 *Code of practice for installation of resilient floor coverings*.

The minimum thickness of sand and cement screed is 65mm for domestic construction and 75mm for most other buildings. Thinner cement based liquid proprietary screeds that comply with IS EN 13813:2002 *Screed material and floor screeds – Screed material – Properties and requirements*, may be laid in accordance with manufacturer's instructions.

Laying on precast block and beam and hollow core slab floors

All surfaces should be level to accept the KORE Floor Insulation System prior to laying of the floor. Any irregularities should be removed. Lay a DPM carefully to ensure that it is correctly positioned and turned up to meet the seal with the DPC.

The KORE Floor Insulation System should be laid with joints tightly butted and staggered joints. During construction the boards must be protected from damage by moisture sources, water spillage, plaster droppings etc. Use scaffold boards to prevent wheelbarrow and other traffic damage to the boards. The KORE Floor Insulation System boards should be overlaid with 500 gauge polythene sheet to prevent the wet screed from penetrating the joints between the insulation boards.

As in the case with solid ground floors, attention should be given to detailing to avoid thermal bridging.

Laying between the joists of a suspended timber floor

KORE Floor Insulation System should be cut to fit between the timber joists and supported by carriers. These may be nails part-driven into the side of the joists at selected level, timber battens or proprietary saddle clips.

Where services need to be accommodated below the floor, KORE Floor Insulation System can be lowered to provide an insulated duct.

Install flooring grade chipboard, ply or softwood timber flooring directly onto the joists, fixing in the normal manner.

Ensure that the void below the insulated suspended floor is well ventilated and that sleeper walls do not restrict the airflow.

Cutting

On-site trimming of boards where necessary to maintain continuity of insulation around opes is easily executed using a fine tooth saw or builder's knife.

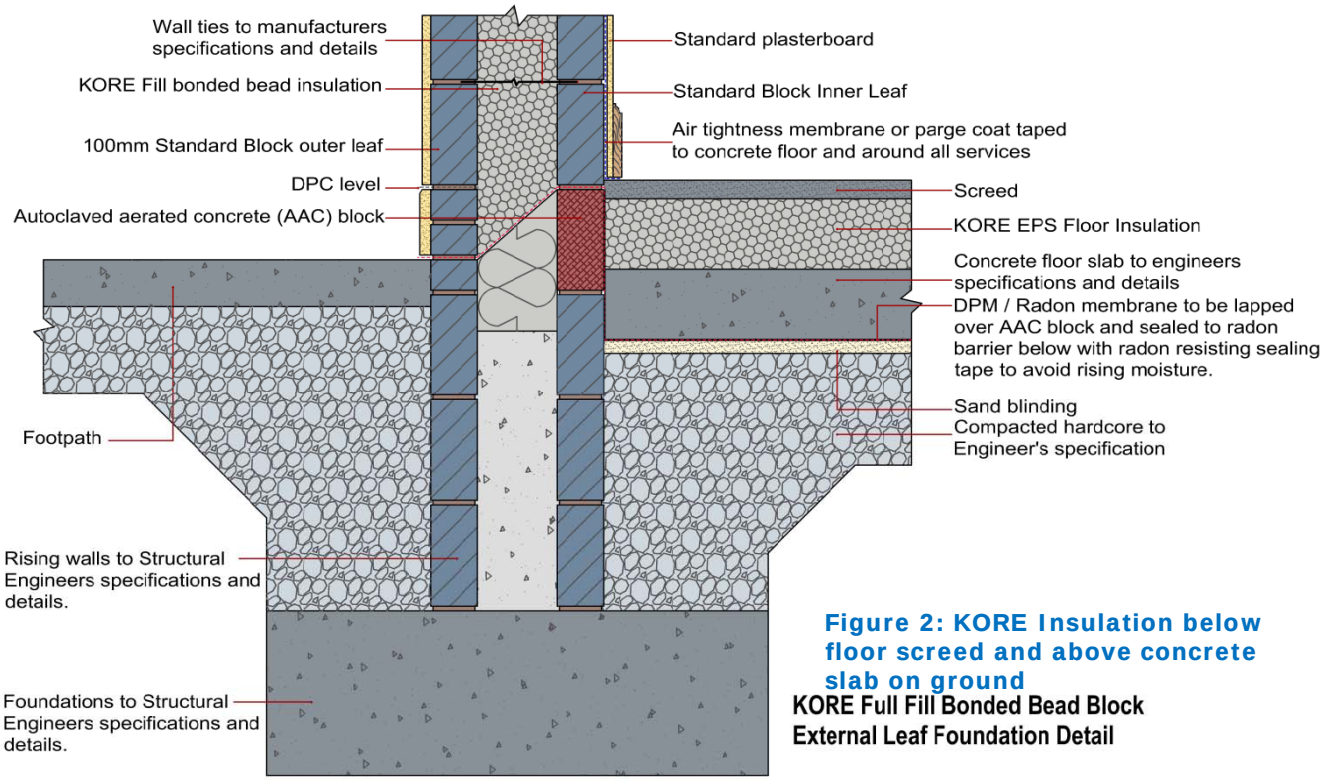
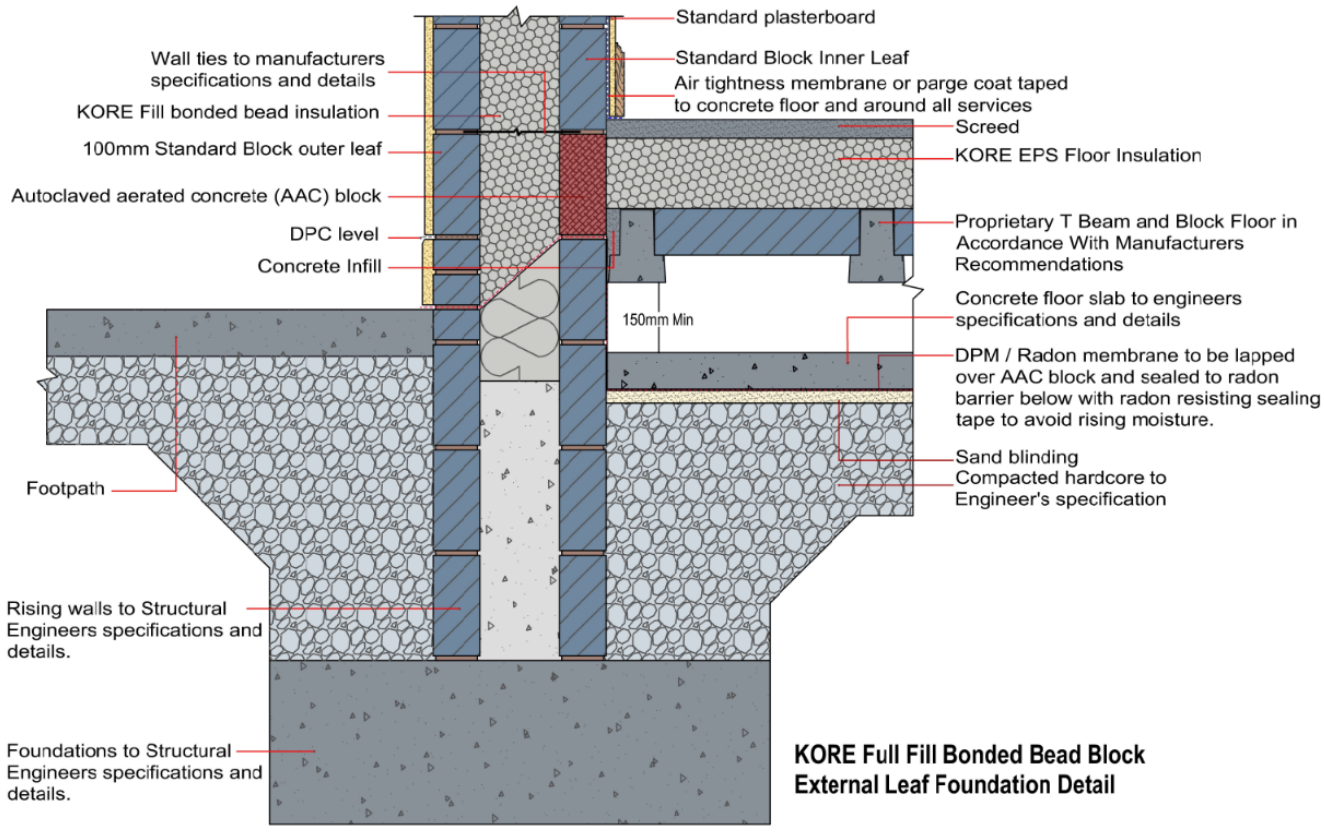
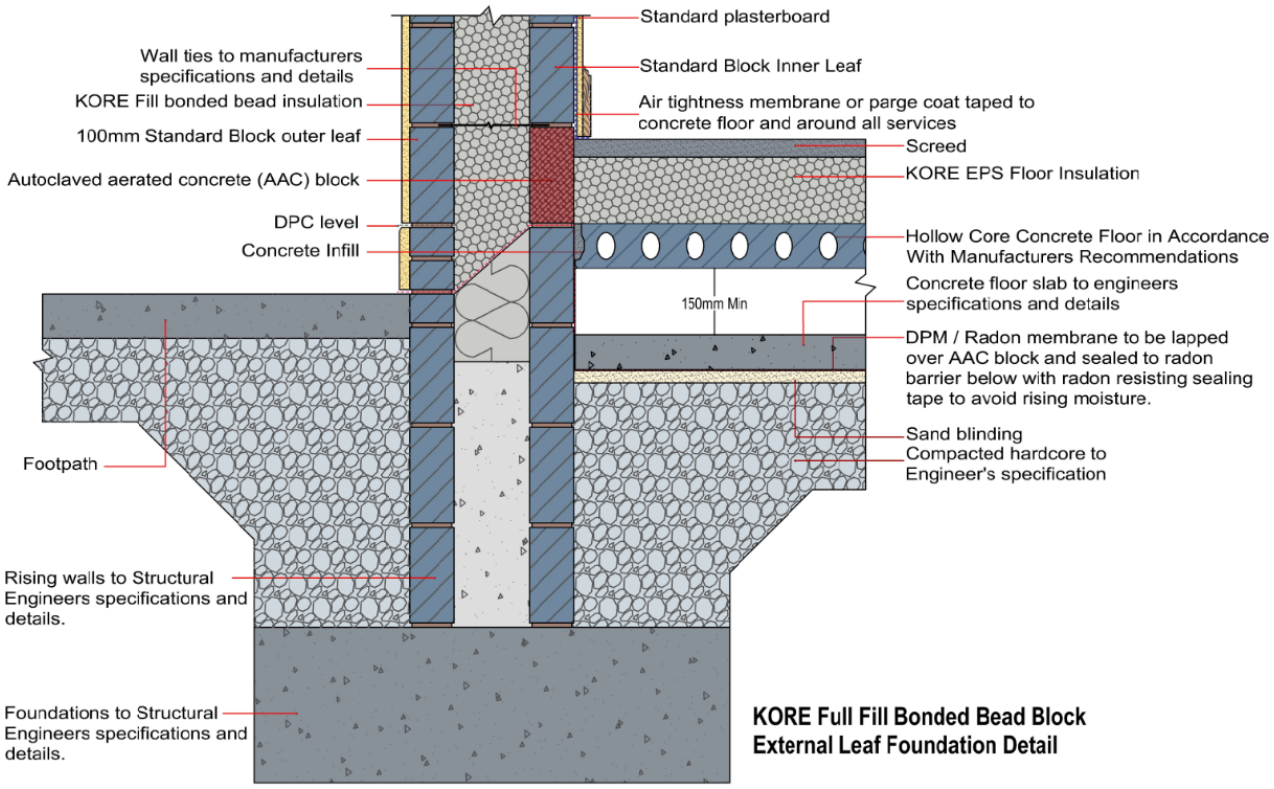


Figure 2: KORE Insulation below floor screed and above concrete slab on ground





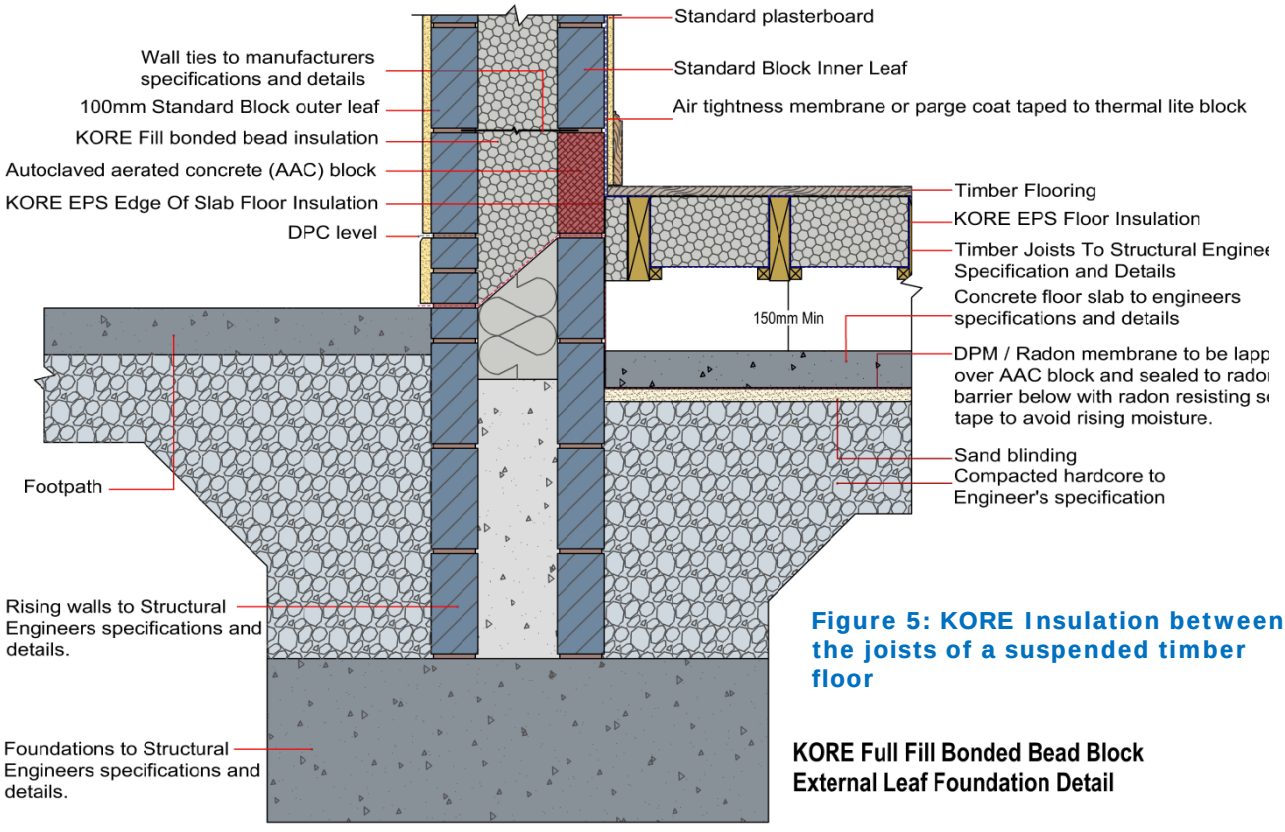


Figure 5: KORE Insulation between the joists of a suspended timber floor

Figure 4: KORE Insulation above hollow core slab

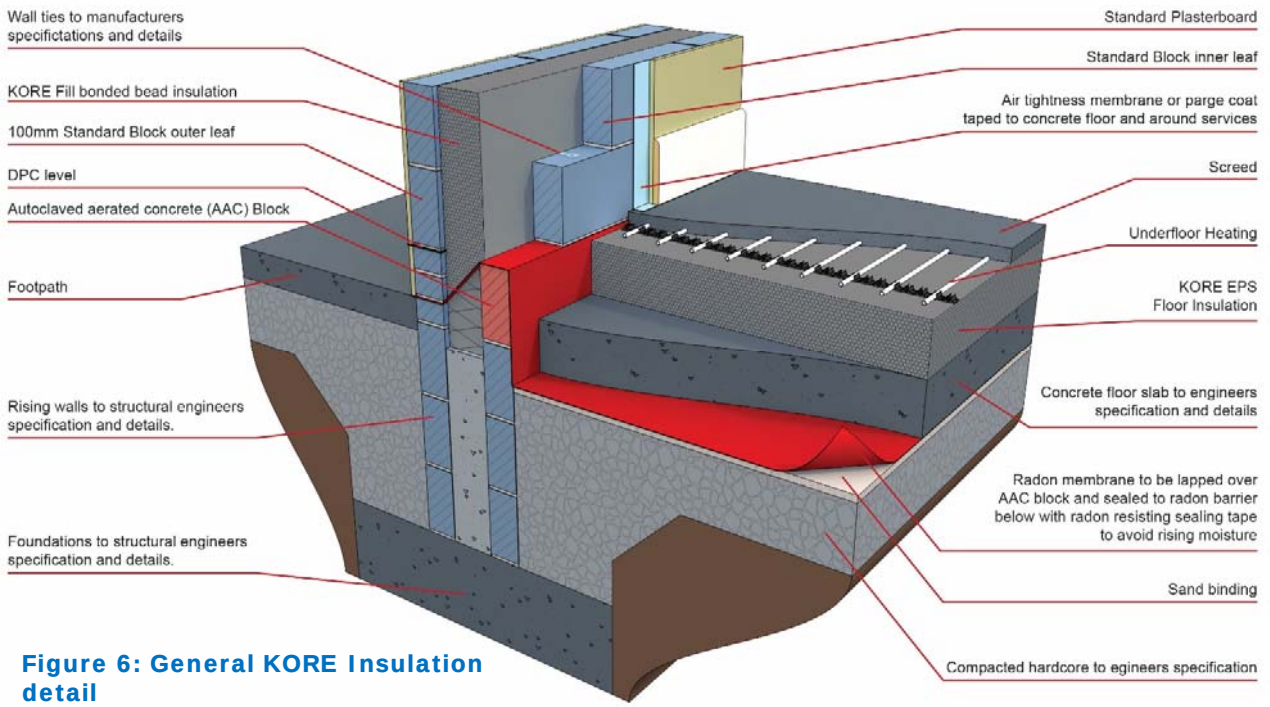


Figure 6: General KORE Insulation detail

Part Three / Design Data 3

3.1 GENERAL

The KORE Floor Insulation System, when installed in accordance with this Certificate, is effective in reducing the U-value (thermal transmittance) of new and existing floor constructions.

Ground supported floors incorporating the KORE Floor Insulation System must include a suitable DPM laid in accordance with BS CP 102:1973 *Code of practice for the protection of buildings against water from the ground* (as read with AMD 1511, AMD 2196 and AMD 2470).

Suspended concrete ground floors incorporating KORE Floor Insulation System must include suitable ventilation.

The overlay to KORE Floor Insulation System should be:

1. A cement based floor,
2. A concrete slab, or
3. Timber, OSB or particleboard.

3.2 FLOOR LOADING

The design loadings for self-contained single family dwelling units as defined in IS EN 1991-1-1:2002+NA:2013 *Eurocode 1 – Actions on structures – General actions – Densities, self-weight, imposed loads for buildings* are:

- Uniformly distributed load 1.5-2.0kN/m^2
- Concentrated load 2.0-3.0kN

Timber suspended floors and concrete suspended floors (pre-cast or in-situ) must be designed by a suitably qualified professional like a structural engineer or equivalent. The KORE Floor Insulation System can be incorporated into these suspended flooring options.

The KORE Floor Insulation System covered with chipboard, OSB or similar material or a screed can support these design loadings without undue deflection.

Where the KORE Floor Insulation System is used under a concrete slab, resistance to concentrated and distribute loads is a function of the slab specification.

3.3 UNDERFLOOR SERVICES
The maximum continuous working temperature of EPS is 80°C. Where underfloor heating systems are to be used, the advice of the Certificate holder should be sought.

3.4 WATERPROOFING
If an overlay of chipboard, OSB or similar material is to be used in bathrooms or kitchens, a continuous waterproof finish (e.g. vinyl) must be provided to protect it. Additional guidance on design and installation is available on www.kore-system.com and from the Certificate holder.

Part Four / Technical Investigations 4

4.1 BEHAVIOUR IN FIRE
In the event of a fire, the boards will be contained within the floor by an overlay until the overlay itself is destroyed. Therefore it is considered that the systems will not contribute to the developmental stages of a fire or present a smoke or toxic hazard. KORE Floor board are combustible and must be protected from naked flames and other ignition sources during and after installation.

The boards when in proximity to a constructional hearth must be protected by 250mm of solid concrete as detailed in Diagram 14 of TGD to Part J of the Building Regulations 1997 to 2017.

Toxicity – Negligible when used in ground floor construction.

As the KORE Floor Insulation System is manufactured without the use of CFCs or HCFCs, there is no release of such gas on burning.

4.2 STRENGTH
The KORE Floor Insulation System when installed in accordance with the manufacturer's instructions and this Certificate, will resist the loads likely to be met during installation and in service.

4.3 RESISTANCE TO MOISTURE
The KORE Floor Insulation System will not allow moisture to cross the floor construction provided it is installed in accordance with this Certificate (see Section 2.4). Also the KORE Floor Insulation System incorporates a closed cell structure which does not allow water uptake by capillary action.

4.4 WATER VAPOUR PENETRATION AND CONDENSATION RISK
The KORE Floor Insulation System has a water vapour diffusion resistivity factor 'μ' of 20 to 40, as outlined in Table 2. It has a significant resistance to the passage of water vapour.

4.5 THERMAL INSULATION
Calculations of the thermal transmittance (U-value) of specific constructions should be carried out in accordance with IS EN ISO 13370:2017 *Thermal performance of buildings – Heat transfer via the ground – Calculation methods*, using a manufacturer's declared thermal conductivity value as outlined in Table 2 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 3, 4 and 5 of this Certificate.

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

Airtightness details must be considered and best practice adopted between the floor and wall structure such as an airtightness membrane, liquid airtightness membrane or parge coat bonded to concrete floor and around services (see Figures 1 to 5).

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 DHPCLG publication *Limiting Thermal Bridging & Air Infiltration – Acceptable Construction Details*.

4.6 LIMITING THERMAL BRIDGING

The linear 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 DoHPCLG publication *Limiting Thermal Bridging & Air Infiltration – Acceptable Construction Details*, then it is acceptable to use the linear thermal transmittance values outlined in Tables D1 to D6 of TGD to Part L of the Building Regulations 1997 to 2017. When all bridged junctions comply with the requirements of Tables D1 to D6, 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 linear thermal transmittance and temperature factors*, in accordance with Appendix D of TGD to Part L of the Building Regulations 1997 to 2017.

4.7 ELECTRICAL & PLUMBING SERVICES

The positioning and future access to all plumbing and electrical cabling services should be carefully considered during the design phase of the construction. On request, the Certificate holder's representatives may attend the site to provide advice regarding correct installation with regard to electrical and plumbing services.

Electrical installation should meet the requirements of ETCI publication ET207 *Guide to the National Rules for Electrical Installations as Applicable to Domestic Installations*. KORE Floor Insulation System shall not be placed in direct contact with electrical cables or hot water pipes (max temp 80°C).

4.8 DURABILITY AND MAINTENANCE

The KORE Floor Insulation System boards are rot-proof and durable. As floor insulation, the boards are judged to be stable and will remain effective as an insulation system for the life of the building, once installed in accordance with this Certificate and the manufacturer's instructions.

As the product is confined and protected under the floor, it will remain durable without the necessity for maintenance.

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

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

4.10 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.

4.11 CE MARKING

The manufacturer has taken responsibility of CE marking the KORE Floor Insulation System in accordance with harmonised European Standard EN 13163:2012+A1:2016. 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.

NSAI Agrément

Table 2: KORE Floor Product Characteristics									
Essential Characteristics	**EPS70 White**	**EPS70 Silver**	**EPS100 White**	**EPS100 Silver**	**EPS150 White**	**EPS200 White**	**EPS300 White**	**Test Standard**	**Harmonised Standard**
Thermal Conductivity*	0.037W /mK	0.031W /mK	0.036W/ mK	0.031W/ mK	0.035W/ mK	0.033W/ mK	0.032W/ mK	EN 12667	EN 13163: 2012 +A2:2016
Reaction to Fire*	Class E	Class E	Class E	Class E	Class E	Class E	Class E	EN 13501-1	
Length*	L3	L3	L3	L3	L3	L3	L2	EN 822	
Width*	W3	W3	W3	W3	W3	W3	W2	EN 822	
Thickness*	T2	T2	T2	T2	T2	T2	T2	EN 823	
Compressive Strength*	CS(10)70	CS(10)70	CS(10)100	CS(10)100	CS(10)150	CS(10)200	CS(10)300	EN 826	
Bending Strength*	BS115	BS115	BS150	BS150	BS200	BS250	BS450	EN 12089	
Dimensional Stability*	DS(N)5	DS(N)5	DS(N)5	DS(N)5	DS(N)5	DS(N)5	DS(N)5	EN 1603	
Flatness*	P(5) ≤0.72 m^2 P(15) >0.72 m^2	P(5) ≤0.72 m^2 P(15) >0.72 m^2	P(5) ≤0.72m^2 P(15) >0.72m^2	P(5) ≤0.72m^2 P(15) >0.72m^2	P(5) ≤0.72m^2 P(15) >0.72m^2	P(5) ≤0.72m^2 P(15) >0.72m^2	P(10)	EN 825	
Squareness*	S(5)	S(5)	S(5)	S(5)	S(5)	S(5)	S(2)	EN 824	
Long Term Water Absorption by Partial Immersion*	WL(P)I 0.2kg/ m^2	WL(P)I 0.2kg/ m^2	WL(P)I 0.2kg/m^2	WL(P)I 0.2kg/ m^2	WL(P)I 0.2kg/m^2	WL(P)I 0.2kg/m^2	WL(P)I 0.1kg/m^2	EN 12087	
Long Term Water Absorption by Total Immersion*	WL(T)I 5%	WL(T)I 5%	WL(T)I 4.5%	WL(T)I 4.5%	WL(T)I 4.5%	WL(T)I 5%	WL(T)I 4%	EN 12087	
Long-Term Compressive Creep Behaviour	≤2%	≤2%	≤2%	≤2%	≤2%	≤2%	≤2%	EN 13163 Annex F	
Shear Behaviour	55kPa	55kPa	75kPa	75kPa	100kPa	125pKa	225kPa	EN 13163 Annex F	
Water Vapour Diffusion Factor	20 to 40	20 to 40	30 to 70	30 to 70	30 to 70	40 to 100	40 to 100	EN 13163 Annex F	

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Table 3: Ground Floor Construction Typical U-values (W/m²K)						
KORE Floor EPS70 Silver & EPS100 Silver						
	Perimeter/Area (m²)					
Insulation Thickness	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
100mm	0.17	0.19	0.21	0.22	0.22	0.23
125mm	0.15	0.17	0.18	0.18	0.19	0.19
150mm	0.13	0.15	0.15	0.16	0.16	0.17
175mm	0.12	0.13	0.14	0.14	0.14	0.15
200mm	0.11	0.12	0.12	0.13	0.13	0.13
210mm	0.11	0.11	0.12	0.12	0.13	0.13
220mm	0.10	0.11	0.12	0.12	0.12	0.12
230mm	0.10	0.11	0.11	0.11	0.12	0.12
240mm	0.10	0.10	0.11	0.11	0.11	0.11
250mm	0.09	0.10	0.10	0.11	0.11	0.11
260mm	0.09	0.10	0.10	0.10	0.10	0.11
270mm	0.09	0.09	0.10	0.10	0.10	0.10
280mm	0.09	0.09	0.09	0.10	0.10	0.10
290mm	0.08	0.09	0.09	0.09	0.09	0.10
300mm	0.08	0.09	0.09	0.09	0.09	0.09

KORE Floor EPS70 White						
	Perimeter/Area (m²)					
Insulation Thickness	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
100mm	0.19	0.21	0.23	0.24	0.25	0.26
125mm	0.17	0.19	0.20	0.21	0.22	0.22
150mm	0.15	0.17	0.18	0.18	0.19	0.19
175mm	0.13	0.15	0.16	0.16	0.17	0.17
200mm	0.12	0.14	0.14	0.15	0.15	0.15
210mm	0.12	0.13	0.14	0.14	0.15	0.15
220mm	0.12	0.13	0.13	0.14	0.14	0.14
230mm	0.11	0.12	0.13	0.13	0.14	0.14
240mm	0.11	0.12	0.12	0.13	0.13	0.13
250mm	0.11	0.11	0.12	0.12	0.12	0.13
260mm	0.10	0.11	0.12	0.12	0.12	0.12
270mm	0.10	0.11	0.11	0.12	0.12	0.12
280mm	0.10	0.11	0.11	0.11	0.11	0.12
290mm	0.09	0.10	0.11	0.11	0.11	0.11
300mm	0.09	0.10	0.10	0.11	0.11	0.11

KORE Floor EPS100 White						
	Perimeter/Area (m²)					
Insulation Thickness	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
100mm	0.19	0.21	0.23	0.24	0.25	0.25
125mm	0.16	0.18	0.20	0.21	0.21	0.22
150mm	0.15	0.16	0.17	0.18	0.18	0.19
175mm	0.13	0.15	0.15	0.16	0.16	0.17
200mm	0.12	0.13	0.14	0.14	0.15	0.15
210mm	0.12	0.13	0.14	0.14	0.14	0.14
220mm	0.11	0.12	0.13	0.13	0.14	0.14
230mm	0.11	0.12	0.13	0.13	0.13	0.13
240mm	0.11	0.12	0.12	0.12	0.13	0.13
250mm	0.10	0.11	0.12	0.12	0.12	0.12
260mm	0.10	0.11	0.11	0.12	0.12	0.12
270mm	0.10	0.11	0.11	0.11	0.12	0.12
280mm	0.10	0.10	0.11	0.11	0.11	0.11
300mm	0.09	0.10	0.10	0.10	0.10	0.11

Note: U-values shown in red are not compliant with current Part L and are shown for indicative purposes only

Calculations assume a Slab on Ground construction with insulation below a 75mm screed and 150mm concrete slab (2% steel). If the construction type differs from Slab on Ground, the calculations are not valid. Please contact the Certificate holder for other calculations. Bespoke calculations are available from the Certificate holder.

NSAI Agrément

Table 4: Ground Floor Construction Typical U-values (W/m²K)						
KORE Floor EPS70 Silver & EPS100 Silver						
	Perimeter/Area (m²)					
Insulation Thickness	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
100mm	0.17	0.19	0.21	0.22	0.22	0.23
125mm	0.15	0.17	0.18	0.18	0.19	0.20
150mm	0.13	0.15	0.16	0.16	0.17	0.17
175mm	0.12	0.13	0.14	0.14	0.15	0.15
200mm	0.11	0.12	0.12	0.13	0.13	0.13
210mm	0.11	0.11	0.12	0.12	0.13	0.13
220mm	0.10	0.11	0.12	0.12	0.12	0.12
230mm	0.10	0.11	0.11	0.11	0.12	0.12
240mm	0.10	0.10	0.11	0.11	0.11	0.11
250mm	0.09	0.10	0.10	0.11	0.11	0.11
260mm	0.09	0.10	0.10	0.10	0.10	0.11
270mm	0.09	0.09	0.10	0.10	0.10	0.10
280mm	0.09	0.09	0.09	0.10	0.10	0.10
290mm	0.08	0.09	0.09	0.09	0.09	0.10
300mm	0.08	0.09	0.09	0.09	0.09	0.09

KORE Floor EPS70 White						
	Perimeter/Area (m²)					
Insulation Thickness	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
100mm	0.19	0.22	0.23	0.25	0.26	0.26
125mm	0.17	0.19	0.20	0.21	0.22	0.22
150mm	0.15	0.17	0.18	0.19	0.19	0.20
175mm	0.13	0.15	0.16	0.16	0.17	0.17
200mm	0.12	0.14	0.14	0.15	0.15	0.15
210mm	0.12	0.13	0.14	0.14	0.15	0.15
220mm	0.12	0.13	0.13	0.14	0.14	0.14
230mm	0.11	0.12	0.13	0.13	0.14	0.14
240mm	0.11	0.12	0.12	0.13	0.13	0.13
250mm	0.11	0.11	0.12	0.12	0.13	0.13
260mm	0.10	0.11	0.12	0.12	0.12	0.12
270mm	0.10	0.11	0.11	0.12	0.12	0.12
280mm	0.10	0.11	0.11	0.11	0.11	0.12
290mm	0.09	0.10	0.11	0.11	0.11	0.11
300mm	0.09	0.10	0.10	0.11	0.11	0.11

KORE Floor EPS100 White						
	Perimeter/Area (m²)					
Insulation Thickness	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
100mm	0.19	0.21	0.23	0.24	0.25	0.26
125mm	0.16	0.18	0.20	0.21	0.21	0.22
150mm	0.15	0.16	0.17	0.18	0.19	0.19
175mm	0.13	0.15	0.16	0.16	0.17	0.17
200mm	0.12	0.13	0.14	0.15	0.15	0.15
210mm	0.12	0.13	0.14	0.14	0.14	0.14
220mm	0.11	0.12	0.13	0.13	0.14	0.14
230mm	0.11	0.12	0.13	0.13	0.13	0.13
240mm	0.11	0.12	0.12	0.12	0.13	0.13
250mm	0.10	0.11	0.12	0.12	0.12	0.12
260mm	0.10	0.11	0.11	0.12	0.12	0.12
270mm	0.10	0.11	0.11	0.11	0.12	0.12
280mm	0.10	0.10	0.11	0.11	0.11	0.11
300mm	0.09	0.10	0.10	0.10	0.11	0.11

Note: U-values shown in red are not compliant with current Part L and are shown for indicative purposes only

Calculations assume a Slab on Ground construction with insulation below a 150mm concrete slab (2% steel). If the construction type differs from Slab on Ground, the calculations are not valid. Please contact the Certificate holder for other calculations. Bespoke calculations are available from the Certificate holder.

Table 5: Ground Floor Construction Typical U-values (W/m²K)						
KORE Floor EPS150 White						
	Perimeter/Area (m²)					
Insulation Thickness	0.2	0.3	0.4	0.5	0.6	0.7
100mm	0.18	0.21	0.22	0.24	0.25	0.25
150mm	0.14	0.16	0.17	0.18	0.18	0.19
200mm	0.12	0.13	0.14	0.14	0.14	0.15
250mm	0.10	0.11	0.11	0.12	0.12	0.12
300mm	0.09	0.09	0.10	0.10	0.10	0.10

KORE Floor EPS200 White						
	Perimeter/Area (m²)					
Insulation Thickness	0.2	0.3	0.4	0.5	0.6	0.7
100mm	0.18	0.20	0.22	0.23	0.24	0.24
150mm	0.14	0.15	0.16	0.17	0.17	0.18
200mm	0.11	0.12	0.13	0.13	0.14	0.14
250mm	0.10	0.10	0.11	0.11	0.11	0.12
300mm	0.08	0.09	0.09	0.10	0.10	0.10

KORE Floor EPS300 White						
	Perimeter/Area (m²)					
Insulation Thickness	0.2	0.3	0.4	0.5	0.6	0.7
100mm	0.17	0.20	0.21	0.22	0.23	0.24
150mm	0.13	0.15	0.16	0.17	0.17	0.17
200mm	0.11	0.12	0.13	0.13	0.13	0.14
250mm	0.09	0.10	0.11	0.11	0.11	0.11
300mm	0.08	0.09	0.09	0.09	0.09	0.10

Note: U-values shown in red are not compliant with current Part L and are shown for indicative purposes only

Calculations assume a Slab on Ground construction with insulation below a 150mm concrete slab (2% steel). If the construction type differs from Slab on Ground, the calculations are not valid. Please contact the Certificate holder for other calculations. Bespoke calculations are available from the Certificate holder.

Table 6: KORE Floor Thermal Resistance (m²K/W)						
	Material Grade					
Insulation Thickness	EPS70 & EPS100 Silver	EPS70 White	EPS100 White	EPS150 White	EPS200 White	EPS300 White
50mm	1.60	1.35	1.35	1.40	1.50	1.55
100mm	3.20	2.70	2.75	2.85	3.00	3.10
150mm	4.80	4.05	4.15	4.25	4.50	4.65
200mm	6.45	5.40	5.55	5.70	6.05	6.25
250mm	8.05	6.75	6.90	7.10	7.55	7.80
300mm	9.65	8.10	8.30	8.55	9.05	9.35

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 latest revision 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.

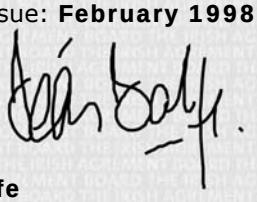
5.7 Where reference is made in this Certificate to any Act of the Oireachtas, Regulation made thereunder, Statutory Instrument, Code of Practice, National Standards, manufacturer's instructions, or similar publication, it shall be construed as reference to such publication in the form in which it is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

NSAI Agrément

This Certificate No. **04/0097** 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 2002.
9th January 2018: References to Building Regulations and standards updated, name of product changed, product specifications updated to reflect manufacturer's DoP.
22nd December 2020: General revision.

Bibliography

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