



**NSAI**  
Agrément

**IRISH AGRÉMENT BOARD  
CERTIFICATE NO. 05/0028**

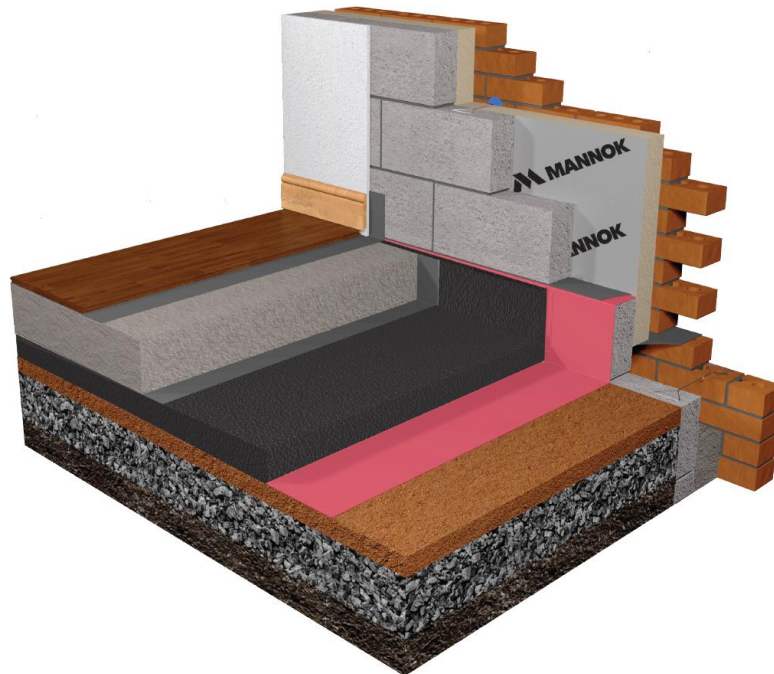
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## Mannok EPS Insulation

**Isolant en polystyrene expansé pour planchers des-de-chaussées  
Fußboden - Warmedämmung**

**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 Technical Guidance Document (TGD) Part D of the second schedule the **Building Regulations 1997 to 2023** hereby referred to as the Building Regulations.



### PRODUCT DESCRIPTION:

This Certificate relates to Mannok EPS Insulation.

The Mannok EPS Insulation System consists of plain edge boards cut from high performance, fire retardant, expanded polystyrene (EPS) board manufactured to comply with IS EN 13163:2012+A1:2016 *Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products - Specification*.

In the opinion of NSAI Agrément, Mannok EPS insulation as described in this Certificate complies with the requirements of the Building Regulations.

### 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:

Mannok EPS Insulation,  
(A Division of Mannok Cement Limited)  
Rathcronan,  
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**1.1 ASSESSMENT**

In the opinion of NSAI Agrément, Mannok EPS Insulation if used in accordance with this Certificate can meet the requirements of the Building Regulations.

**1.2 BUILDING REGULATIONS****REQUIREMENTS:*****Part D – Materials and Workmanship***

**D3** – Mannok EPS Insulation, as certified in this Certificate, are comprised of ‘proper materials’ fit for their intended use (see Part 4 of this Certificate).

**D1** – Mannok EPS Insulation, as certified in this Certificate, meet the requirements of the building regulations for workmanship.

***Part A – Structure*****A1 – Loading**

Mannok EPS Insulation have 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)**

Mannok EPS Insulation 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**

Mannok EPS Insulation meet 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 Mannok EPS Insulation, 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 Mannok EPS Insulation, if used in accordance with this Certificate, can meet the requirements of Part J of the Building Regulations.

***Part L – Conservation of Fuel and Energy*****L1 – Conservation of Fuel and Energy**

The Mannok EPS Insulation can contribute to complying with the requirements of this Regulation. The manufacturer’s declared thermal conductivity ( $\lambda_{90/90}$ ) of the EPS board is 0.038W/mK for EPS 70, 0.036W/mK for EPS 100, 0.035W/mK for EPS 150, 0.034W/mK for EPS 200 and 0.031W/mK EPS Pearl 70 and 100.

### 2.1 PRODUCT DESCRIPTION

Mannok EPS Insulation consists of rigid grey polystyrene boards cut from moulded blocks of fire retardant (FRA) EPS manufactured in accordance with IS EN 13163:2012+A1:2016. The boards are plain edge and shall be laid closely butting.

Mannok EPS Insulation consists of rigid white polystyrene boards cut from moulded blocks of EPS manufactured in accordance with IS EN 13163:2012+A1:2016. Mannok EPS Insulation is also available in FRA grades. The boards are plain edge and shall be laid closely butting.

The boards do not contain CFC or HCFC gases and have zero Ozone Depletion Potential (ODP).

The product range is given in Table 1.

<b>Length</b>	1200, 1800 and 2400mm
<b>Width</b>	600 and 1200mm
<b>Thickness</b>	25 to 175mm
<b>Grade</b>	EPS Pearl 70 and 100, EPS70, 100, 150 and 200

**Table 1: Product Range**

### 2.2 MANUFACTURE

Mannok EPS Insulation boards are manufactured from polystyrene granules, obtained from external suppliers. The granules are expanded under a steam/pentane process to form blocks of EPS. The blocks are cured prior to being cut into plain edge boards of the required dimensions.

Quality control checks include board dimensions, density, dimensional checks, compressive strength, bending strength and thermal conductivity in accordance with IS EN 13163:2012+A1:2016.

### 2.3 DELIVERY, STORAGE AND MARKING

Mannok EPS Insulation boards are supplied in packs 600mm in height. 'EPS' packs are shrink wrapped in clear polyethylene and 'EPS Pearl' packs are shrink wrapped in white polyethylene for delivery to site.

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.

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 timber newly treated with creosote.

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

### 2.4 INSTALLATION

#### Laying below the floor slab

Where Mannok EPS Insulation are 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).

Mannok EPS Insulation 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 25mm thick should be placed at the floor perimeter, party walls and internal rising walls to minimise thermal bridging.

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.

#### Laying below the floor screed

Where Mannok EPS Insulation are 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.

Electrical conduits, gas and water pipes, or other services should, where possible, be accommodated by ducting, or by forming channels within the slab. If any cold water pipes have to be placed within the insulation, they must be securely fixed to the concrete slab. There must not be any direct contact between insulation and hot pipes.

If a liquid DPM is applied to the slab, it should be of a type compatible with the insulation and should be allowed to dry completely before laying the insulation.

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 8203:2001 +A1:2009 *Code of practice for installation of resilient floor coverings*.

A properly compacted screed of at least 65mm for domestic construction and 75mm for most other buildings, is laid in accordance with the architect's/engineer's specifications and the relevant clauses of BS 8204-1:2003+A1:2009 *Screeds, bases and in situ floorings – Concrete bases and cementitious levelling screeds to receive floorings – Code of practice*.

#### **Particleboard overlay**

Before laying insulation, preservative treated battens are fixed at doorways and to support partitions. Insulation boards are cut to size, if necessary, and laid with closely butted joints.

A vapour check consisting of 1000 gauge polyethylene is laid over them. The polyethylene sheet has 150mm overlaps taped at the joints and turned up at the walls.

Appropriate 19mm thick tongued and groove particleboard IS EN 312:2010 *Particleboard – Specifications* is laid with staggered cross joints, leaving a 10mm to 12mm gap at all abutments, between walls and particleboard.

Joints are glued and temporary wedges are used around the perimeter until the glue has set. The floor is then held in position by the skirting board. Where there are long lengths of uninterrupted floor, e.g. corridors, expansion gaps (2mm/run) may be used at intervals, instead of large gaps at each end. Expansion joints should be supported on battens.

The recommendations of IS EN 312:2010 for the protection of particleboard from water spillage in bathrooms and kitchens must be followed, i.e. it should be protected by continuous flexible vinyl flooring turned up at abutments.

#### **Laying on precast block and beam floor**

The floor surface should be smooth and flat – any irregularities should be removed. Lay a DPM to ensure that it is correctly positioned and turned up to meet the seal with the DPC.

Mannok EPS Insulation should be laid with 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.

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

All surfaces should be level to accept the Mannok EPS Insulation. Uneven surfaces should be levelled prior to the laying of the floor.

#### **Suspended timber floor**

Mannok EPS Insulation 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, Mannok EPS Insulation can be lowered to provide an insulated duct.

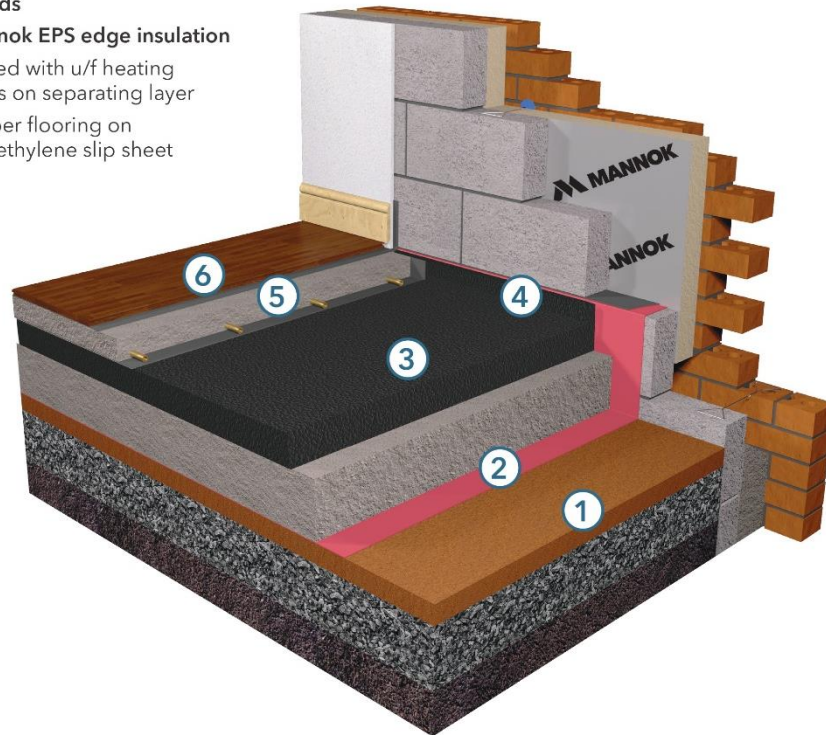
Install flooring grade particleboard, ply or softwood timber flooring directly onto the joists, fixing in the normal manner.

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

#### **Cutting**

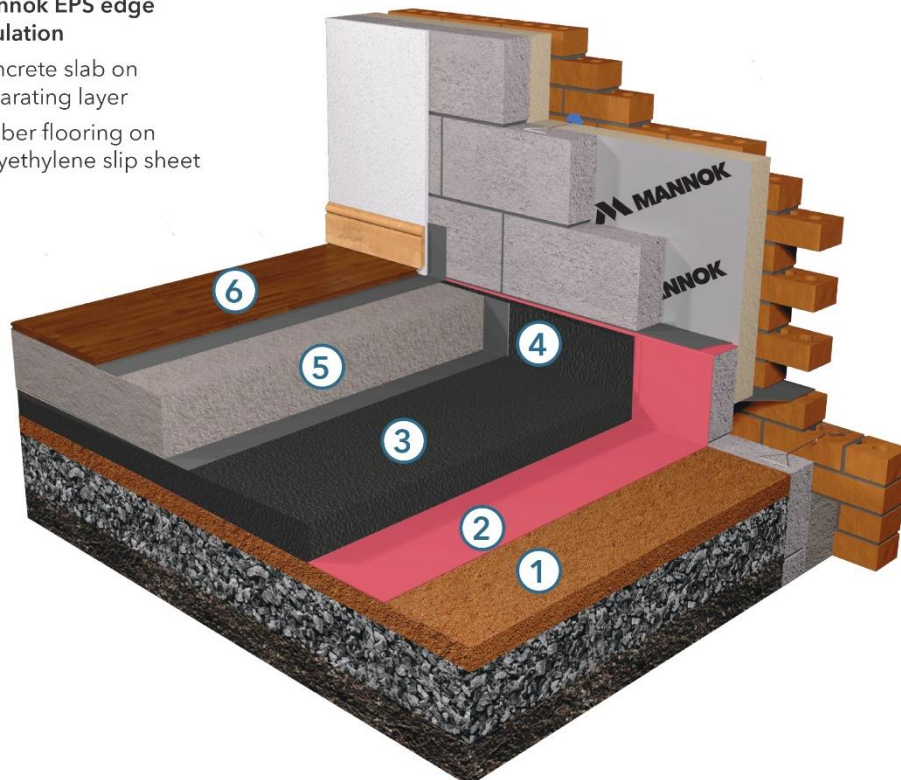
On-site trimming of boards where necessary to maintain continuity of insulation around opens is easily executed using a fine tooth saw or builder's knife.

- 1 Sand blinding and hardcore
- 2 Concrete slab on radon barrier / DPM
- 3 **Mannok EPS Pearl floor insulation boards**
- 4 **Mannok EPS edge insulation**
- 5 Screed with u/f heating pipes on separating layer
- 6 Timber flooring on polyethylene slip sheet



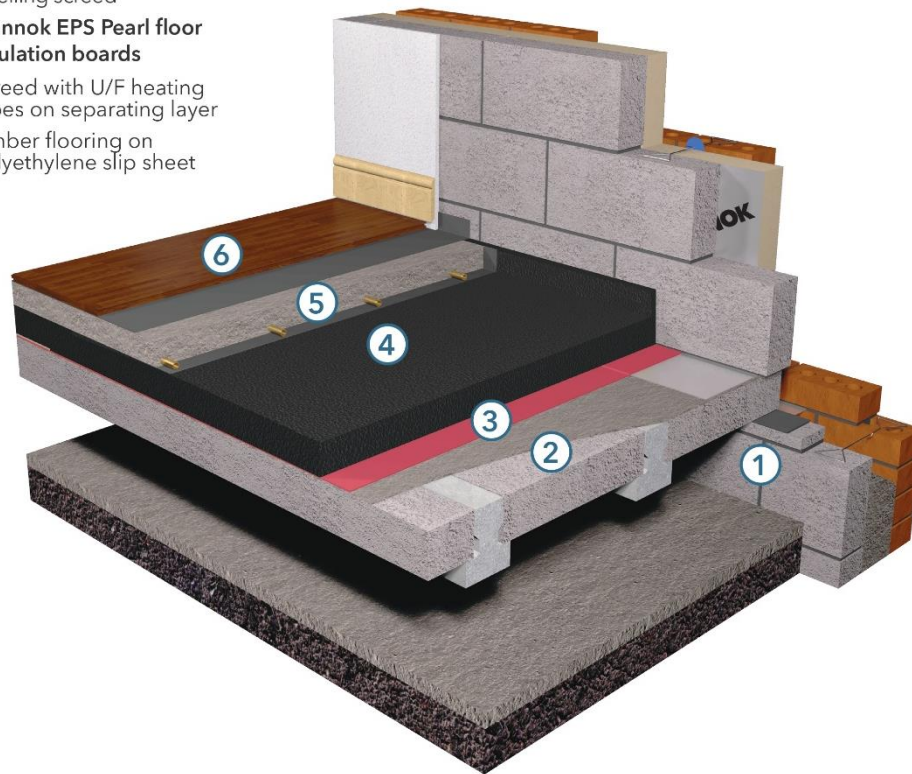
**Figure 1: Typical concrete floor construction with screed overlay**

- 1 Sand blinding and hardcore
- 2 Radon barrier / DPM
- 3 **Mannok EPS Pearl floor insulation boards**
- 4 **Mannok EPS edge insulation**
- 5 Concrete slab on separating layer
- 6 Timber flooring on polyethylene slip sheet



**Figure 2: Typical concrete floor construction with insulation beneath slab**

- 1 Slip block
- 2 Beam and block floor
- 3 Radon barrier / DPM on levelling screed
- 4 **Mannok EPS Pearl floor insulation boards**
- 5 Screed with U/F heating pipes on separating layer
- 6 Timber flooring on polyethylene slip sheet



**Figure 3: Typical suspended floor construction – block and beam**

### 3.1 GENERAL

Mannok EPS Insulation, when installed in accordance with this Certificate, are effective in reducing the U-value (thermal transmittance) of new and existing floor constructions.

Ground supported floors incorporating the Mannok EPS Insulation 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 Mannok EPS Insulation must include suitable ventilation.

The overlay to Mannok EPS Insulation 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<sup>2</sup>
- Concentrated load 2.0-3.0kN

Mannok EPS Insulation covered with the relevant grade of timber, particle board, OSB or similar material or a screed can support these design loadings without undue deflection.

Where Mannok EPS Insulation are 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.

#### 4.1 BEHAVIOUR IN FIRE

**Combustibility** – 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. Mannok EPS Insulation is combustible and must be protected from naked flames and other ignition sources during and after installation.

Electrical cables running within the boards should be enclosed within a suitable conduit.

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.

**Toxicity** – Negligible when used in ground floor construction.

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

#### 4.2 STRENGTH

Mannok EPS Insulation 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

Mannok EPS Insulation will not allow moisture to cross the floor construction provided they are installed in accordance with this Certificate (see Section 2.4).

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

#### 4.4 WATER VAPOUR PENETRATION AND CONDENSATION RISK

The Mannok EPS Insulation have significant resistance to the passage of water vapour, when used in ground floor construction with a suitable DPM. This obviates the risk of surface condensation and presents no significant risk of damage from interstitial condensation.

#### 4.5 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. The U-value

of a construction will depend on the materials used and the design. Examples of U-value calculations are given in Table 2 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 DHLGH publication *Limiting Thermal Bridging & Air Infiltration – Acceptable Construction Details*.

#### 4.6 LIMITING THERMAL BRIDGING

The linear thermal transmittance  $\psi$  (Psi) describes the heat loss associated with junctions and around openings. The certificate holder has carried out  $\psi$ -value calculations for a wide range of thermally bridged junctions for new build. A full listing of  $\psi$ -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 DHLGH publication *Limiting Thermal Bridging & Air Infiltration – Acceptable Construction Details*, then it is acceptable to use the linear thermal transmittance values outlined in Table D1 of TGD to Part L of the Building Regulations. 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.

$\psi$ -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.



#### **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*. Mannok EPS Insulation shall not be placed in direct contact with electrical cables or hot water pipes (max temp 80°C).

#### **4.8 DURABILITY**

Mannok EPS Insulation System boards are rot-proof, dimensionally stable 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.

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

- Density
- Water vapour resistance
- Long term water absorption
- Dimensional accuracy
- Compressive stress
- Bending strength
- Dimensional stability
- Thermal conductivity

#### **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 Mannok EPS Insulation 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.

<b>Slab Ground Supported Floor</b>						
		<b>Perimeter/Area (m<sup>2</sup>)</b>				
<b>Insulation</b>	<b>Thickness</b>	<b>0.2</b>	<b>0.4</b>	<b>0.6</b>	<b>0.8</b>	<b>1.0</b>
EPS 70	75	0.20	-	-	-	-
	100	0.17	0.22	0.25	-	-
	150	0.14	0.17	0.19	0.20	0.20
	175	0.13	0.15	0.17	0.17	0.18
EPS 100	75	0.19	0.25	-	-	-
	100	0.17	0.21	0.23	0.25	-
	150	0.13	0.16	0.18	0.19	0.19
	175	0.12	0.15	0.16	0.17	0.17
EPS 150	75	0.19	0.25	-	-	-
	100	0.17	0.21	0.23	0.25	-
	150	0.13	0.16	0.18	0.18	0.19
	175	0.12	0.14	0.16	0.16	0.17
EPS 200	75	0.19	0.25	-	-	-
	100	0.16	0.21	0.23	0.24	0.25
	150	0.13	0.16	0.17	0.18	0.18
	175	0.12	0.14	0.15	0.16	0.16
EPS Pearl	75	0.18	0.23	-	-	-
	100	0.16	0.19	0.21	0.23	0.24
	150	0.13	0.15	0.16	0.17	0.17
	175	0.11	0.13	0.14	0.15	0.15
<b>Suspended Beam And Block Floor</b>						
		<b>Perimeter/Area (m<sup>2</sup>)</b>				
<b>Insulation</b>	<b>Thickness</b>	<b>0.2</b>	<b>0.4</b>	<b>0.6</b>	<b>0.8</b>	<b>1.0</b>
EPS 70	75	0.20	0.25	-	-	-
	100	0.18	0.22	0.23	0.24	0.25
	150	0.15	0.18	0.19	0.19	0.19
	175	0.14	0.16	0.17	0.17	0.17
EPS 100	75	0.20	0.24	-	-	-
	100	0.17	0.21	0.23	0.24	0.24
	150	0.15	0.17	0.18	0.18	0.19
	175	0.13	0.15	0.16	0.16	0.17
EPS 150	75	0.20	0.24	-	-	-
	100	0.17	0.21	0.22	0.23	0.24
	150	0.15	0.17	0.17	0.18	0.18
	175	0.13	0.15	0.16	0.16	0.16
EPS 200	75	0.19	0.24	-	-	-
	100	0.17	0.20	0.22	0.23	0.23
	150	0.14	0.16	0.17	0.18	0.18
	175	0.13	0.14	0.15	0.16	0.16
EPS Pearl	75	0.20	0.24	-	-	-
	100	0.17	0.20	0.21	0.22	0.23
	150	0.13	0.15	0.16	0.16	0.17
	175	0.12	0.15	0.14	0.14	0.15

**Table 2: Ground Floor Construction Typical U-values (W/m<sup>2</sup>K)**

EPS Grade	Pearl 100	Pearl 70	70	100	150	200
Length* and Width* (mm)	1200 x 600 2400 x 1200	1200 x 600 2400 x 1200	1200 x 600 2400 x 1200	1200 x 600 2400 x 1200	1200 x 600 2400 x 1200	1200 x 1200 2400 x 1200
Thickness* (mm)	25 to 175	25 to 175	25 to 175	25 to 175	25 to 175	25 to 175
Nominal Density* (kg/m <sup>3</sup> )	20	15	15	20	25	30
Edge Detail	Square	Square	Square	Square	Square	Square
Compressive Strength at 10% Deformation* (kPa)	100	70	70	100	150	200
Bending Strength* (kPa)	150	115	115	150	200	250
Dimensional Stability*	DS(N)5	DS(N)5	DS(N)5	DS(N)5	DS(N)5	DS(N)5
Water Vapour Diffusion Factor*	30 – 70	20 – 40	20 – 40	30 – 70	40 – 100	40 – 100
Water Vapour Permeability*	0.010 – 0.024	0.019 – 0.06	0.018 – 0.036	0.010 – 0.024	0.007 – 0.018	0.007 – 0.018
Long Term Water Absorption* -Total immersion -Partial immersion	WL(T) 05 <1%	WL(T) 05 <1%	WL(T) 05 <1%	WL(T) 05 <1%	WL(T) 05 <1%	WL(T) 05 <1%
Fire Classification*	E	E	E	E	E	E

**Table 3: Product Characteristics**

**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 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. **05/0028** is accordingly granted by the NSAI to **Mannok** on behalf of NSAI Agrément.

Date of Issue: **February 2005**

**Signed**



**Kevin D. Mullaney**  
**Director of Certification, NSAI**

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.n sai.ie](http://www.n sai.ie)

**Revisions: 10<sup>th</sup> January 2018**

- References to Building Regulations and standards updated, product specifications updated to reflect manufacturer's DoP.
- **16<sup>th</sup> December 2020:** General revision.
- **26<sup>th</sup> November 2021:** Product Name Change.
- **31<sup>st</sup> July 2024:** General Revision