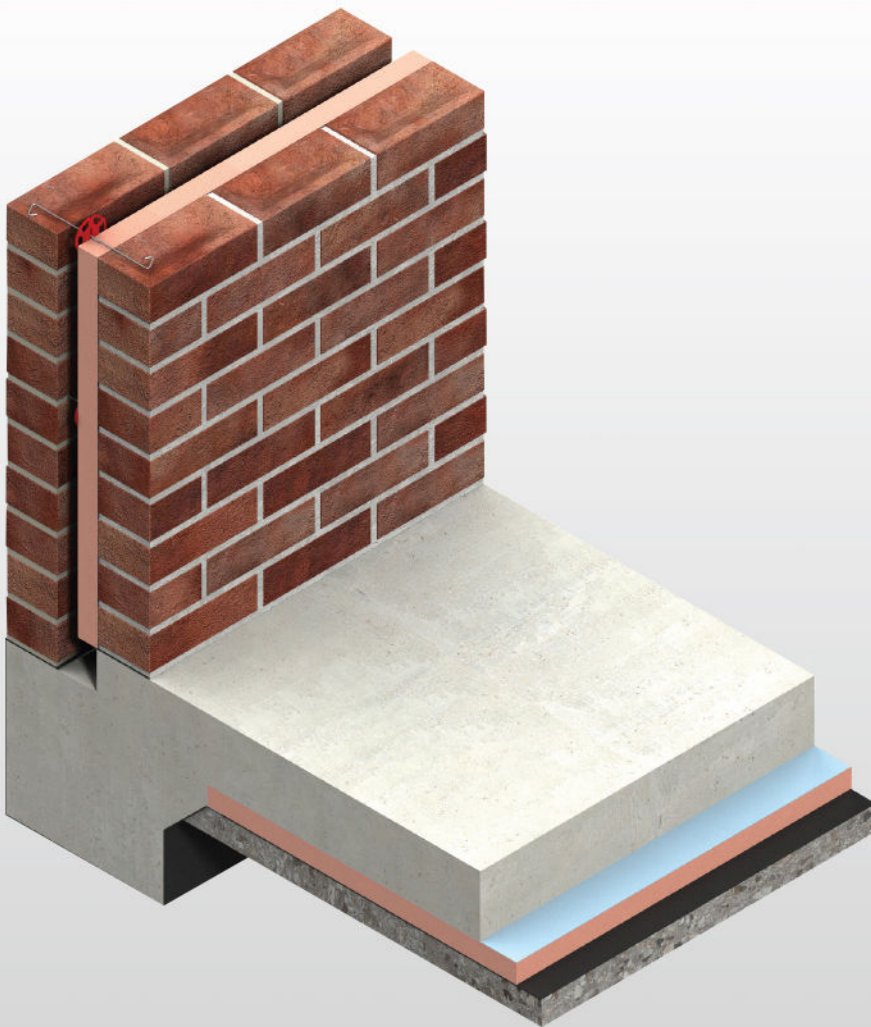




Kooltherm® K3 Floorboard

INSULATION FOR FLOORS



- High performance rigid thermoset phenolic insulation
- Fibre-free, closed cell insulation core
- Resistant to the passage of water vapour
- Easy to handle and install
- Ideal for new build and refurbishment
- No CFC or HCFC used in manufacture
- Has zero ODP and low GWP
- NCC and AS/NZS 4859.1:2018 compliant
- Made in Australia



Fibre-free
Core



*Low Energy –
Low Carbon Buildings*

Typical Construction and Total Construction R-values

Solid Residential Concrete Slab on Ground Floor - Insulation below the Floor Slab

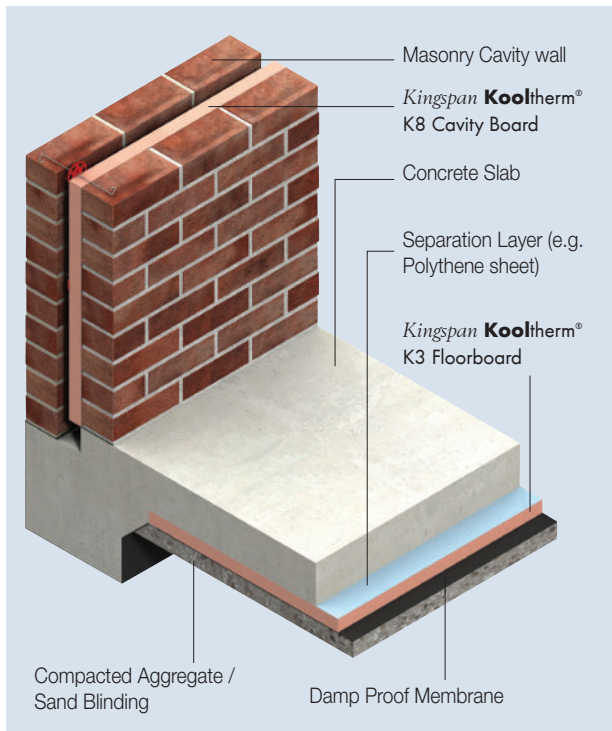


Figure 1

Thermal Performance

| Total R-values for various thicknesses of <i>Kingspan Kooltherm</i> ® K3 Floorboard | |
|--|--------------------|
| Product Thickness | Heat flow out |
| 25 mm | R _T 1.4 |
| 50 mm | R _T 2.6 |

Assumptions

The above thermal calculations are taken through the construction profile with 150 mm concrete slab and *Kingspan Kooltherm*® K3 Floorboard. The R-values shown are Total R-values for the building element as required by the Energy Provisions of the National Construction Code, calculated in accordance with AS/NZS 4859.2: 2018.

Kingspan Kooltherm® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1:2018

Product Details

Product Description

Kingspan Kooltherm® K3 Floorboard is a super high performance, fibre-free rigid thermoset closed cell phenolic insulation core, sandwiched between two layers of tissue based facing autohesively bonded to the insulation core during manufacture.



Kingspan Kooltherm® K3 is manufactured without the use of CFCs/HCFCs and has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).



Product Data

| | |
|-------------------------------|--|
| Declared Thermal Conductivity | 0.022 W/m.K at 23°C (Insulant thickness ≥ 45 mm) |
| | 0.023 W/m.K at 23°C (Insulant thickness 25 - 44 mm) |
| Product Dimensions | 2400 mm x 1200 mm (2.88 m ²) |
| Nominal Product Thickness | 25, 50 mm |

Product R-values

| Nominal Product Thickness | Declared Product R-value at 23°C |
|---------------------------|----------------------------------|
| 25 mm | R1.10 |
| 50 mm | R2.30 |

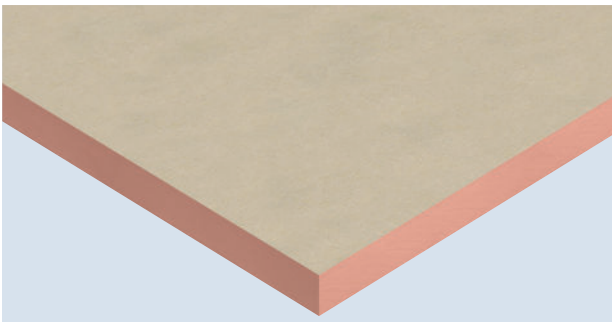


Figure 2 High performance *Kingspan Kooltherm*® K3 Floorboard

Specification Guide

Kingspan Kooltherm® K3 Floorboard

The floor insulation shall be *Kingspan Kooltherm*® K3 Floorboard ___ mm thick, with a tested smoke obscuration of not more than 100 m²/kg, comprising a CFC/HCFC-free and zero Ozone Depletion Potential (ODP) rigid thermoset phenolic insulation core with a tissue based facing on both sides, manufactured under a management system certified to ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 and ISO 50001:2018 by Kingspan Insulation Pty Ltd and shall be installed in accordance with the instructions issued by them.

A Project Specific Warranty provided by Kingspan Insulation must be submitted.

Compressive Loads

Un-reinforced floor screeds can be used in conjunction with *Kingspan Kooltherm*® K3 Floorboard in most applications. However, where floor loads are to be excessive, please contact our Technical Services Department on 1300 247 235 or email technical@kingspaninsulation.com.au.

Substrate

Kingspan Kooltherm® K3 Floorboard is not recommended for use in direct contact with subsoil and must be used over a DPM. Where vertical slab edge insulation is required, the DPM should always be placed on the external face of the *Kingspan Kooltherm*® K3 Floorboard.

Wheeled / Foot Traffic

Ensure boards are protected during installation from wheeled / foot traffic by using scaffold planks or other protective measures.

Standards and Approvals

Kingspan Kooltherm® K3 Floorboard is manufactured to the highest standards and certified under the following management systems:

| Standard | Management System |
|----------------|--------------------------------|
| ISO 9001:2015 | Quality Management |
| ISO 14001:2015 | Environmental Management |
| ISO 45001:2018 | Occupational Health and Safety |
| ISO 50001:2018 | Energy Management |

Product Testing

| Characteristic | Standard | Result |
|-------------------------|-----------|--|
| Compressive Stress | AS 2498.3 | Typically exceeds 120 kPa at 10% compression |
| Water Vapour Resistance | AS 2498.5 | > 35 MN-s/g |

Fire Performance

| Test | Test Method | Result |
|---|-------------|---|
| Ignitability, Flame spread, Heat release, Smoke release | AS 1530.3 | Spread of Flame Index: 0 Smoke Development ≤ 3 |

Durability

If correctly applied, *Kingspan Kooltherm*[®] products can be expected to have a long life of service.

Their durability depends on the supporting structure and the conditions of its use.

Kingspan Kooltherm[®] products are warranted for a period of 10 years for both residential and commercial installations.*

* Subject to the terms of the complete *Kingspan Kooltherm*[®] warranty document which is available upon request or downloadable from www.kingspaninsulation.com.au.

Environmental Data

| Aspect | Characteristic |
|---|---|
| Recyclability | Non-contaminated insulation site waste is recyclable, but there are currently no facilities in Australia to process returned material |
| Re-usability | Re-usable if removed with care (long term of service expected) |
| Water Use | No water used in Kingspan Insulation's manufacturing process |
| Blowing Agent Global Warming Potential (GWP) | Manufactured with a blowing agent that has low GWP |
| Blowing Agent Ozone Depletion Potential (ODP) | Manufactured with a CFC/HCFC-free blowing agent that has zero ODP |
| Packaging | Contains 0% recycled product Polythene wrap and EPS skids 100% recyclable |

Installation Instructions

1. The site should be prepared and foundations, where appropriate, built to damp proof course (DPC) level.
2. A thin sand blinding may be used to achieve a continuous level surface free from projections over rolled aggregate.
3. The damp proof membrane (minimum 300 micron / 1200 gauge polythene) should be laid with joints well lapped and folded, to prevent the passage of ground water, over well compacted aggregate, prior to laying *Kingspan Kooltherm® K3 Floorboard*.
4. The membrane should be brought up the surrounding foundation walls/slab until it is sufficiently above the height of the wall DPC so that it will connect with or form the DPC.
5. *Kingspan Kooltherm® K3 Floorboard* should not be placed under any direct point loads or foundations including slab thickening.
6. The insulation boards should always be loose-laid break-bonded, with joints lightly butted.
7. If two layers of *Kingspan Kooltherm® K3 Floorboard* are required, they should be horizontally offset relative to each other so that, as far as possible, the board joints in the two adjacent layers do not coincide with each other.
8. Insulation boards should be overlaid with a polythene sheet (not less than 125 micron / 500 gauge) as best practice, to prevent the wet concrete penetrating the joints between the boards, and to act as a vapour control layer. Ensure the polythene sheet has 150 mm overlaps, taped at the joints.
9. The subsequent installation of the concrete slab and screed or other flooring material is carried out in a manner similar to that for an un-insulated floor. The concrete slab and screed should be allowed to dry out prior to the installation of the floor finish.

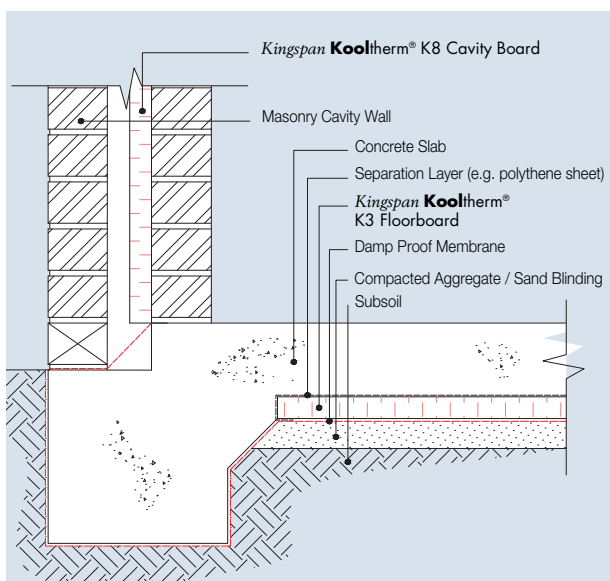


Figure 3 Side elevation - Cavity Wall on Ground Floor Slab with *Kingspan Kooltherm® K3 Floorboard*

General Requirements

Cutting

Cutting should be carried out either by using a fine toothed saw, or by scoring with a sharp knife, snapping the board over a straight edge and then cutting the facing on the other side. Ensure accurate trimming to achieve close-butting joints and continuity of insulation.

Packaging

According to quantity, the boards are supplied in packs, labelled and shrink-wrapped in polythene.

Handling and Storage

The polythene packaging of Kingspan Kooltherm® should not be considered adequate for long term outdoor protection. Ideally, boards should be stored inside a building. If, however, outside storage cannot be avoided, then the boards should be stacked clear of the ground and covered with a polythene sheet or weatherproof tarpaulin. Boards that have been allowed to get wet should not be used.

Resistance to Solvents

The insulation core is resistant to short-term contact with petrol and with most dilute acids, alkalis and mineral oils. However, it is recommended that any spills be cleaned off fully before the boards are installed. Ensure that safe methods of cleaning are used, as recommended by suppliers of the spilt liquid. The insulation core is not resistant to some solvent-based adhesive systems, particularly those containing methyl ethyl ketone. Adhesives containing such solvents should not be used in association with this product. Damaged boards or boards that have been in contact with harsh solvents or acids should not be used.

OH & S

Kingspan Insulation products are chemically inert and safe to use. A Product Safety Information sheet is available from Kingspan Insulation Pty Ltd.

Installation must be in accordance with AS 3999 *Bulk Thermal Insulation Installation* and AS 3000 *Electrical Installations* (Wiring Rules).

Contact Details



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Kingspan Insulation Pty. Ltd. reserves the right to amend product specifications without prior notice. The information, technical details and fixing instructions etc. included in this literature are given in good faith and apply to uses described. Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations. For other applications or conditions of use, Kingspan Insulation offers a Technical Advisory Service the advice of which should be sought for uses of Kingspan Insulation products that are not specifically described herein. Please check that your copy of the literature is current by contacting us or visiting www.kingspaninsulation.com.au



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