

Product Data Sheet

Kooltherm® K3 Floorboard

Floor Insulation



Kooltherm®


Kingspan®

Kooltherm® K3 Floorboard

Product Description

Kooltherm®

Kingspan Kooltherm K3 Floorboard is a 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 Floorboard is manufactured with a blowing agent with zero ODP and low GWP.

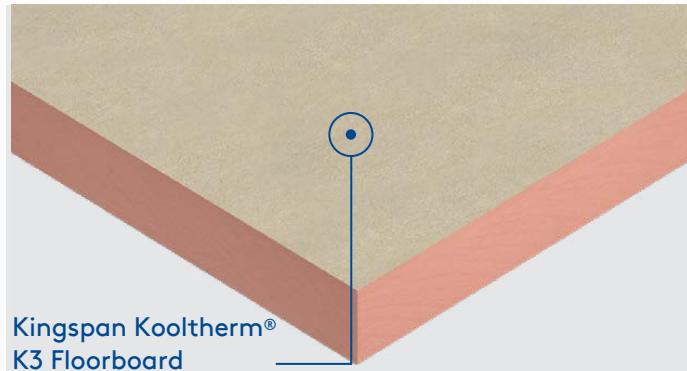


Figure 1. Kooltherm®K3Floorboard.

- Rigid thermoset phenolic insulation
- Fibre-free, closed cell insulation core
- Manufactured with a blowing agent that has zero ODP and low GWP
- Ideal for new builds
- NO CFC or HCFC used in manufacture NZBC and AS/NZS 4859.1:2018 compliant

Fibre-free
Core

Kooltherm® K3 Floorboard

Product Performance Data

Product Data

Declared Thermal Conductivity (λ -value) AS/NZS 4859.1:2018 /	0.022 W/m.K at 15°C (Insulant Thickness \geq 45 mm) 0.023 W/m.K at 15°C (Insulant Thickness 25 - 44 mm)
Product Dimensions	2400 mm x 1200 mm (2.88 m ²)
Nominal Product Thickness	30, 40, 50, 60, 70, 80, 90 mm

Product R-value

Nominal Product Thickness	Declared Product R-value at 15°C
30 mm	R1.30
40 mm	R1.75
50 mm	R2.35
60 mm	R2.80
70 mm	R3.30
80 mm	R3.75
90 mm	R4.20

Declared Product R-values at 15°C as per AS/NZS 4859.1:2018.

Kingspan Kooltherm® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1:2018. Please contact Kingspan Insulation Technical Services on 0800 806 595 or email technical@kingspaninsulation.co.nz for further guidance.

Scope of Use

Kingspan Kooltherm® K3 Floorboard is a 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 Floorboard is manufactured with a blowing agent with zero ODP and low GWP.

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

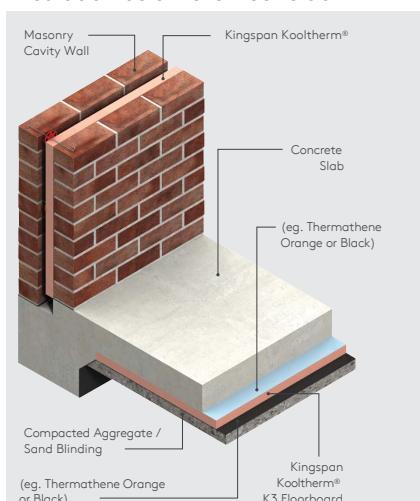


Figure 2. Solid residential concrete slab on ground floor with Kooltherm® K3 Floorboard below the floor slab.

Residential Concrete Slab and Hydronic Underfloor Heating on Ground Floor - Insulation above the Floor Slab

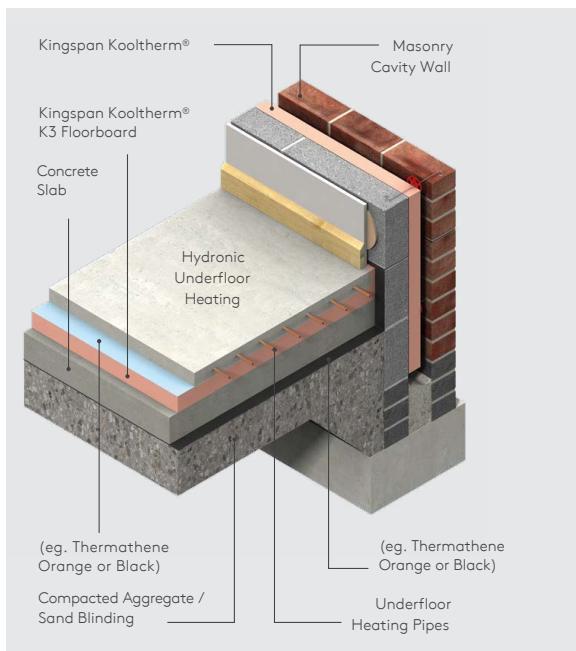


Figure 3. Residential concrete slab with hydronic underfloor heating on ground floor with Kooltherm® K3 Floorboard over the floor slab.

Kooltherm K3 Floorboard is suitable for light duty concrete slab floors - see product compression performance details.

General

- NZBC and AS/NZS 4859.1:2018 compliant
- Kooltherm K3 Floorboard is not subject to a warning or ban under section 26 of the Building Act 2004 when used as per the product scope
- Fibre-free, closed cell insulation core
- Ideal for new build.
- Rodent, mould and fungi resistant
- Product made in Australia.

Specification Guide

Kingspan Kooltherm® K3 Floorboard.
The floor insulation under the concrete slab shall be Kingspan Kooltherm® K3 Floorboard ____ mm thick, comprising a 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.

Kooltherm® K3 Floorboard

Product Performance Data

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 0800 806 595 or email technical@kingspaninsulation.co.nz

Substrate

Kingspan Kooltherm® K3 Floorboard is not recommended for use in direct contact with subsoil and must be used over a Damp Proof Membrane (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.

Limitations

- Must be used with DPM above and below the Kooltherm K3 product and laps and joints fully taped
- Cannot be permanently exposed to weather elements.
- Not a component for structural bracing.

Compliance

Kooltherm K3 Floorboard meets the performance requirements of NZBC Clause B1 Structure (B1.3.1, B1.3.2, B1.3.3(a), B1.3.4), Clauses B2 Durability (B2.3.1 (a 50 years), Clause E3 Internal Moisture (contributes to E3.3.1), Clause F2 Hazardous Building Materials (F2.3.1), and Clause H1 Energy Efficiency (contributes to H1.3.1 and H1.3.2E) by testing and comparison with acceptable solutions H1/AS1 and H1/AS2 and verification methods H1/VM1 and H1/VM2 providing:

- It is not damaged, dented or fractured.
- It is installed in accordance with installation instructions.
- It is installed by or under guidance of Licensed Building Practitioners or follow K3 Floorboard manufacturer's installation instruction.

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 37301:2021	Compliance Management System

Product Testing

Characteristic	Standard	Result
Compressive Stress (Insulant)	AS 2498.3:1993	Typically exceeds 100 kPa at 10% compression

Fire Performance

Test	Test Method	Result
Early Fire Hazard Properties. (Ignitability, Flame spread, Heat release, Smoke release)	AS 1530.3:1999	Spread of Flame Index: 0 Smoke Development \leq 3
Flame Propagation (AS 1366.2:1992)	AS 2122.1:1993	Complies

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.co.nz

Environmental Data

Aspect	Characteristic
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	Manufactured with a blowing agent that has zero ODP and low GWP
CFC/HCFC	Product CFC/HCFC Free

Kooltherm® K3 Floorboard 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 (Thermathene Orange is 300 micron. Thermathene Black is 250 micron. Orange to go under K3, Black to go over K3) should be laid with joints lapped, folded and taped well, to prevent the passage of ground water over well compacted aggregate, prior to laying Kingspan Kooltherm® K3 Floorboard.
4. Termination of DPM is as design requirements. As a best practice, the DPM 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 DPM (not less than 250 micron as best practice, to prevent the wet concrete penetrating the joints between the boards, and to act as a vapour control layer. Ensure the DPM 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.

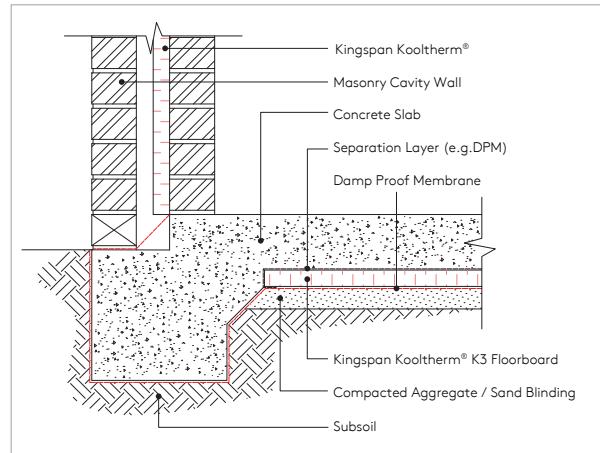


Figure 4. Side elevation - Cavity Wall on Ground Floor Slab with Kingspan Kooltherm® K3 Floorboard

Kooltherm® K3 Floorboard

Other Information

General

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

Storage

The packaging of Kingspan Kooltherm® should not be considered adequate for long term outdoor protection. Ideally boards should be stored inside a building. If, however, outdoor storage cannot be avoided then the boards should be stacked clear of the ground and covered with an opaque 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.

Safety Information

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

Installation must be in accordance with NZS 4246:2016 Bulk Thermal Insulation Installation and AS/NZS 3000:2018 Electrical Installations (Wiring Rules).



Product Warranty

Standard Kingspan Insulation Warranty applies. Refer to Kingspan Insulation Warranty statement for further details. This is available online at kingspaninsulation.co.nz; or call us on 0800 806 595; or email info@kingspaninsulation.co.nz

Kingspan Insulation NZ Limited (NZBN 9429045930393), reserves the right to amend product specifications without prior notice. The information contained in Kingspan's literature is given in good faith and based on good building practice but are not an exhaustive statement of all relevant information and are subject to any conditions contained in the Warranty. Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations. All product dimensions and performance claims are subject to any variation caused by normal manufacturing process and tolerances.

Furthermore, as the successful performance of the relevant system depends on numerous factors outside the control of Kingspan (for example quality of workmanship and design), Kingspan shall not be liable for the recommendations in that literature and the performance of the Product. 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.co.nz E&OE

