

Insulation
New Zealand

Product Data Sheet

Kooltherm[®] K5

External Wall Board

External Insulation for Masonry Walls and Polymer Modified Renders



Kooltherm[®]


Kingspan[®]

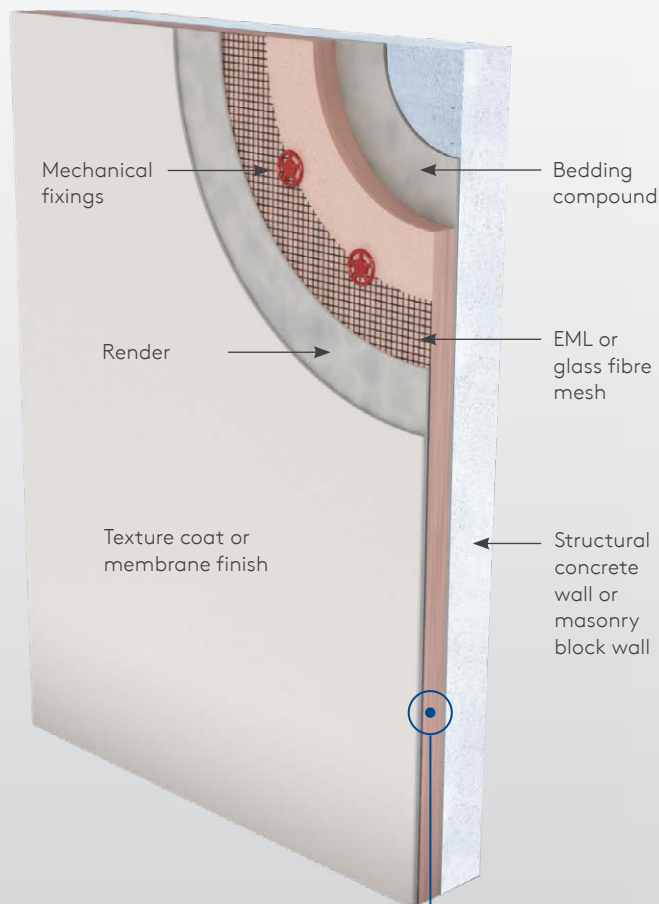
Kooltherm® K5 External Wall Board

Product Description

Kooltherm®

Kooltherm K5 is an external wall insulation board for masonry walls, suitable for use behind traditional and lightweight modified polymer renders. The boards can be retrofitted externally to existing properties without disturbing the occupants as all work is done from the outside.

Kooltherm K5 External Wall Board is manufactured without the use of CFCs/HCFCs and has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).



- High performance rigid thermoset phenolic insulation
- Fibre-free, closed cell insulation core
- Suitable for use behind traditional and lightweight polymer modified renders
- Transforms and upgrades the appearance of existing buildings
- 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
- NZBC and AS/NZS 4859.1:2018 compliant

Kingspan Kooltherm®
K5 External Wall Board

Figure 1. Insulated Render System on Concrete and Masonry Block Wall



Kooltherm® K5 External Wall Board

Product Performance Data

| Product Data | |
|--|---|
| Thermal Conductivity (λ -value) at 15°C | 0.022 W/mK (Insulant thickness \geq 45mm) |
| Product Dimensions | 2400mm x 1200mm (2.88m ²) |
| Product Thickness | 50, 80mm (Other thicknesses available upon enquiry. Minimum order quantities apply) |

Product R-value

| Product Thickness | Product R-value |
|-------------------|-----------------|
| 50 mm | R2.30 |
| 80 mm | R3.65 |

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

Scope of Use

Kooltherm K5 External Wall Board is a high performance, fibre-free rigid thermoset phenolic insulation core, sandwiched between two layers of tissue based facing autohesively bonded to the insulation core during manufacture.

- Suitable for use behind traditional lightweight polymer modified renders.
- Suitable for transforming and upgrading the appearance of existing buildings - ideal for new build and refurbishment.

Product Performance

| Construction R-values for various thicknesses of Kingspan Kooltherm® K5 External Wall Board. Concrete Wall (150mm) and Masonry Block Wall (140mm) Construction (See Figure 1.) | | |
|--|--------------|---------------|
| Product Thickness | Heat flow in | Heat flow out |
| 50 mm | 2.5 | 2.6 |
| 80 mm | 3.8 | 4.0 |

The R-values shown are construction R-values for the building element as required by the Energy Efficiency requirements of the New Zealand Building Code, calculated in accordance with AS/NZS 4859.1:2018 & NZS 4214.

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

| Construction R-values for various thicknesses of Kingspan Kooltherm® K5 External Wall Board Render System on Metal Framed Wall (See Figure 2.) | | |
|--|--------------|---------------|
| Product Thickness | Heat flow in | Heat flow out |
| 50 mm | 2.8 | 2.9 |
| 80 mm | 4.1 | 4.3 |

| On Wooden Framed Wall (see Figure 2.) | | |
|---------------------------------------|--------------|---------------|
| Product Thickness | Heat flow in | Heat flow out |
| 50 mm | 2.8 | 3.0 |
| 80 mm | 4.1 | 4.3 |

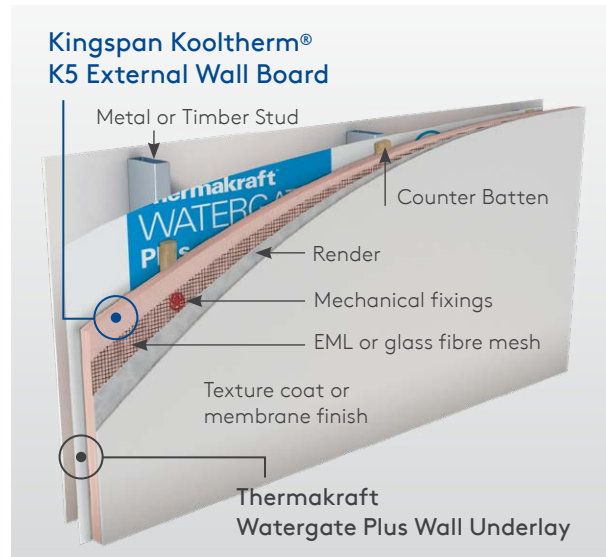


Figure 2. Insulated Render System on Steel-framed or Timber-framed Wall

General

- NZBC and AS/NZS 4859.1:2018 compliant
- Kooltherm K5 External Wall Board is not subject to a warning or ban under section 26 of the Building Act 2004
- Resistant to the passage of water vapour
- Fibre-free, closed cell insulation core
- Ideal for new build and refurbishment
- Rodent, mould and fungi resistant
- Product made in Australia.

Specification Guide

Kooltherm K5 External Wall Board

The external wall insulation shall be Kingspan Kooltherm K5 External Wall Board [...] mm thick, 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 Limited and shall be installed in accordance with the instructions issued by them.

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

Limitations

- Cannot be permanently exposed to weather elements.
- Not a component for structural bracing.
- The chosen render system must be pre-trialled and tested to ensure compatibility with the Kooltherm K5 External Wall Board. It is recommended that polymer modified renders be used for flexibility and adhesion, and that total render coating be at least 6 mm thick for system integrity.

Kooltherm® K5 External Wall Board

Product Performance Data

Compliance

Kooltherm K5 External Wall Board 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.

Standards and Approvals

Kooltherm K5 External Wall Board 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 | Health and Safety Management |
| ISO 50001:2018 | Energy Management |

Product Testing

| Characteristic | Standard | Result |
|-------------------------------|-----------------------------|--|
| Compressive Stress (Insulant) | AS 2498.3 | Typically exceeds 120 kPa at 10% compression |
| Water Vapour Resistance | ASTM E96 – Desiccant Method | > 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 \leq 3 |
| Flame Propagation (AS 1366) | AS 2122.1 | Complies |

Durability

If correctly installed, Kingspan Kooltherm products can be expected to have a long life of service. Their durability depends on the supporting structure and the conditions of 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 |
|---|---|
| Recyclability | Non-contaminated insulation site waste is recyclable, but there are currently no facilities in New Zealand 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 |



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

