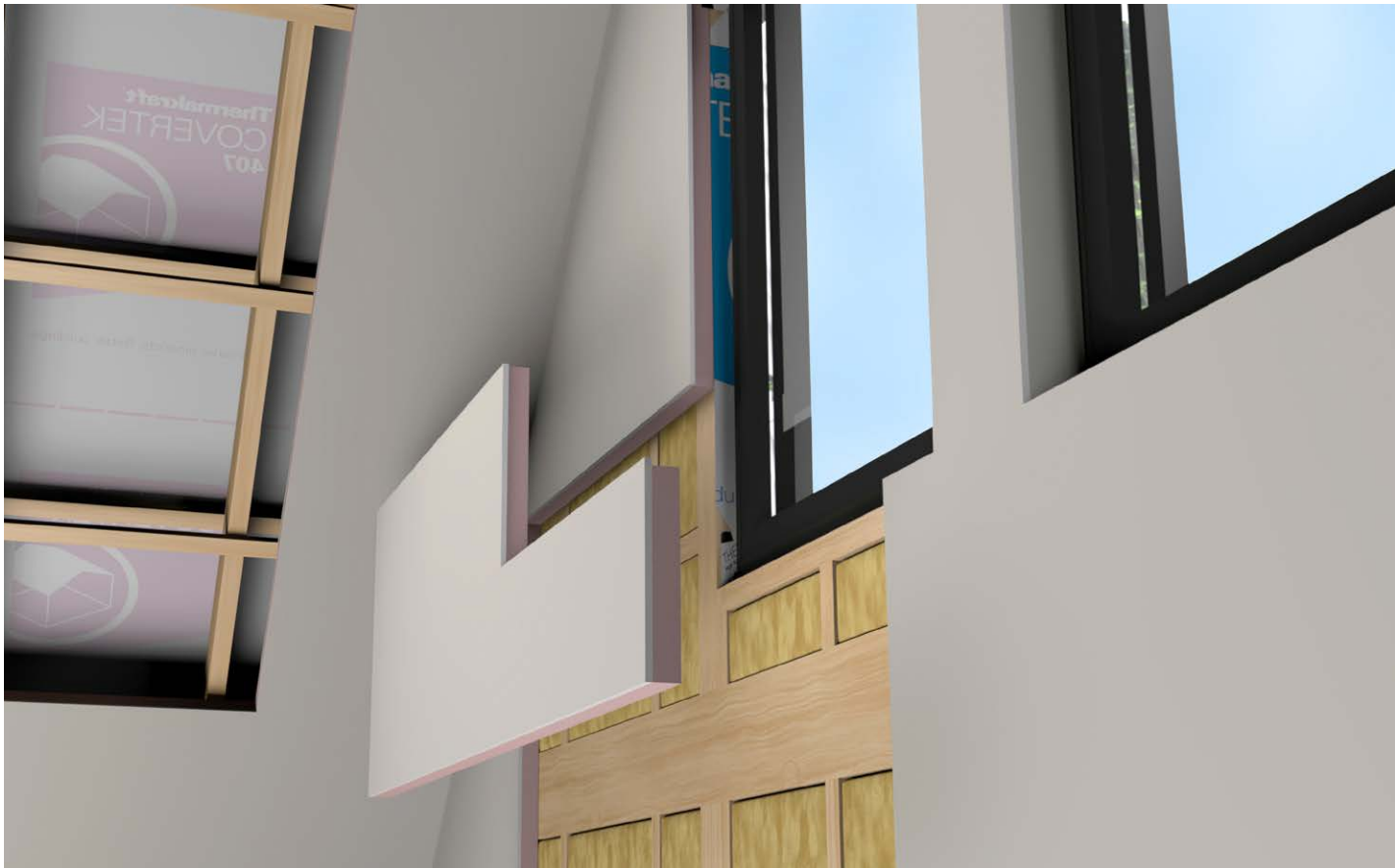


Product Data Sheet

Kooltherm[®] K17

Insulated Plasterboard

Insulated plasterboard



Kooltherm[®]


Kingspan[®]

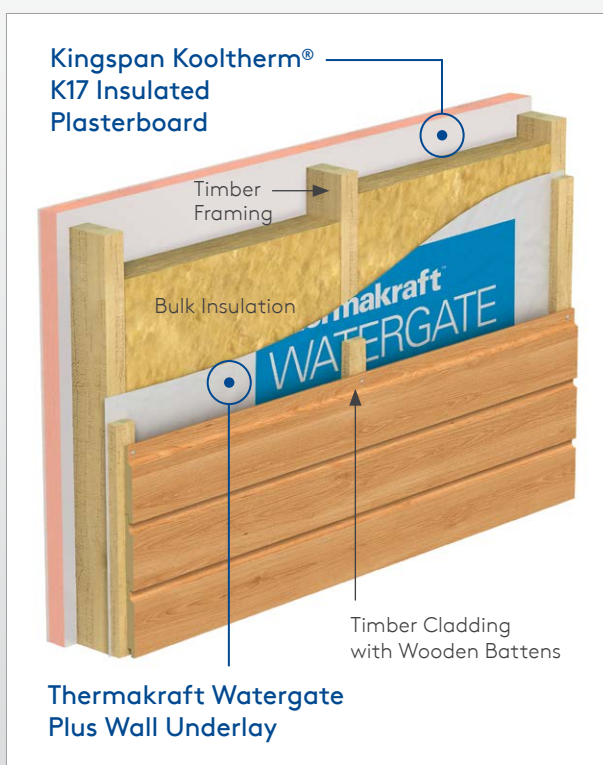
Kooltherm® K17 Insulated Plasterboard

Product Description

Kooltherm®

Kooltherm K17 Insulated Plasterboard is a super high performance, fibre-free rigid thermoset phenolic insulation, sandwiched between a front facing tapered edge gypsum based plasterboard, and a tissue based back facing autohesively bonded to the insulation core during manufacture.

Kooltherm K17 Insulated Plasterboard 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
- 3-in-1 insulation, dry-lining and vapour control
- Can be used as continuous insulation
- Group 1-S for interior lining applications
- 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

Figure 1. Kooltherm K17 Insulated Plasterboard lining on a traditional timber framed wall with R2.8 Bulk Insulation. Bracing components are not included in the figure.



Kooltherm® K17 Insulated Plasterboard

Product Performance Data

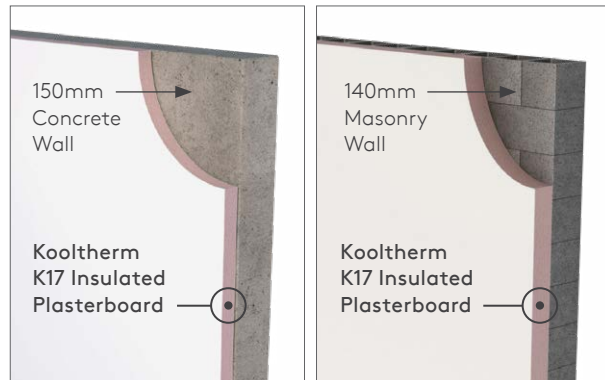


Figure 2.
Dry lining construction with concrete and masonry walls.

Product Data		
Thermal Conductivity (λ -value) at 15°C	Insulant	0.022 W/mK (Insulant Thickness \geq 45 mm) 0.023 W/mK (Insulant Thickness 25 - 44 mm)
	Plasterboard	0.17 W/mK (Plasterboard Thickness 10 mm)
Product Dimensions	2400 mm x 1200 mm (2.88 m ²)	
Product Thickness including Plasterboard	35, 40, 50, 60, 70, 80, 90 mm	
Plasterboard Thickness	10 mm	

Special product lengths are available. Please contact us for more information.

Product R-value

Product Thickness (inc. Plasterboard)	Product R-value
35 mm	R1.15
40 mm	R1.35
50 mm	R1.80
60 mm	R2.35
70 mm	R2.80
80 mm	R3.25
90 mm	R3.70

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

Scope of Use

Kooltherm K17 is a thin profiled Insulated dry-lining plasterboard. It is an ideal internal wall insulation solution for new build and retrofit projects and offers a slim profile, thus saving floor space of the building envelope while providing thermal comfort.

- Suitable for commercial and residential projects
- Suitable for buildings that cannot be insulated on the outside or where external appearance cannot be changed
- Suitable for lining concrete and masonry walls.

Product Performance

Construction R-Values for various thicknesses of Kooltherm K17 Insulated Plasterboard used behind timber frame (See Figure 1)

Product Thickness	Heat Flow In		Heat Flow Out	
	R2.8 Bulk Ins.	R1.8 Bulk Ins.	R2.8 Bulk Ins.	R1.8 Bulk Ins.
35mm	3.1	2.8	3.2	2.9
40mm	3.3	3.0	3.4	3.1
50mm	3.7	3.4	3.8	3.6
60mm	4.3	3.9	4.4	4.1

Wall system is based on 90mm thick timber @ 30% framing, R2.8 or R1.8 bulk insulation, Watagate Plus wall underlay, Kooltherm in various listed thicknesses, 20mm cavity and 19mm thick wooden weatherboard.

Construction R-Values for various product thicknesses of Kooltherm K17 Insulated Plasterboard used with concrete and masonry wall (See Figure 2)

Product Thickness	Heat Flow In	Heat Flow Out
35mm	1.30	1.40
40mm	1.50	1.60
50mm	1.90	2.00
60mm	2.50	2.60
70mm	2.90	3.00
80mm	3.30	3.50
90mm	3.80	3.90

The R-values shown are the 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 4859.2 2018 & NZS 4214.

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

General

- Group 1-S for interior lining applications
- NZBC and AS/NZS 4859.1:2018 compliant
- Kooltherm K17 Insulated Plasterboard 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 K17 Insulated Plasterboard

The wall dry-lining insulation shall be Group 1-S, Kingspan Kooltherm K17 Insulated Plasterboard [...] mm thick, with a tested SMOGRA_{RC} of not more than 10 m²/s² x 1000, Average Smoke Product Rate less than 5 m²/s, comprising a CFC/HCFC-free and zero Ozone Depletion Potential (ODP) rigid thermoset phenolic insulation core with 10 mm plasterboard facing bonded to its front surface and a tissue based facing on its reverse surface, 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.

Kooltherm® K17 Insulated Plasterboard

Product Performance Data

Limitations

- Cannot be permanently exposed to weather elements
- Not suitable where there is a risk of moisture penetration
- Not a component for structural bracing.

Compliance

Kooltherm K17 Insulated Plasterboard meets the performance requirements of NZBC Clause B1 Structure (B1.3.1, B1.3.2, B1.3.3(a, j), B1.3.4), Clauses B2 Durability (B2.3.1 (c) 15 years, Clause C3 Spread of Fire (C3.4 (a)), 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 K17 Insulated Plasterboard's phenolic insulation core 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 100 kPa at 10% compression
Water Vapour Resistance	AS 2498.5-1993 Method 5	> 35 MN.s/g For the purpose of calculation of condensation risk, the resistivity of the plasterboard component of the product should be taken as 50 MN.s/g.m.

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*
NZBC Group Number in accordance with Clause C3.4	ISO 9705	Group 1-S Average Smoke Production Rate less than 5 m ² /s

* Applies only to the Kooltherm phenolic insulation core used in the manufacture of this composite insulated plasterboard product.

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

