

Insulation



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Kooltherm® K17 Insulated Plasterboard

INSULATED DRY-LINING PLASTERBOARD FOR
PLASTER DA UB / ADHESIVE BONDING



- Super high performance rigid thermoset phenolic insulation
- Fibre-free insulation core
- 3-in-1 insulation, dry-lining and vapour control
- Group 1 BCA fire classification
- Allows quick response heating and cooling
- Resistant to the passage of water vapour
- Easy to handle and install
- Ideal for new build and refurbishment
- Manufactured with a CFC/HCFC-free blowing agent that has zero ODP and low GWP
- Compliant with AS/NZS 4859.1
- CodeMark-certified for BCA compliance



Low Energy –
Low Carbon Buildings

Typical Constructions and Total R-values

Plaster Daub / Adhesive Bonding to Concrete Wall (150 mm)



Figure 1

Plaster Daub / Adhesive Bonding to Masonry Block Wall (140 mm)

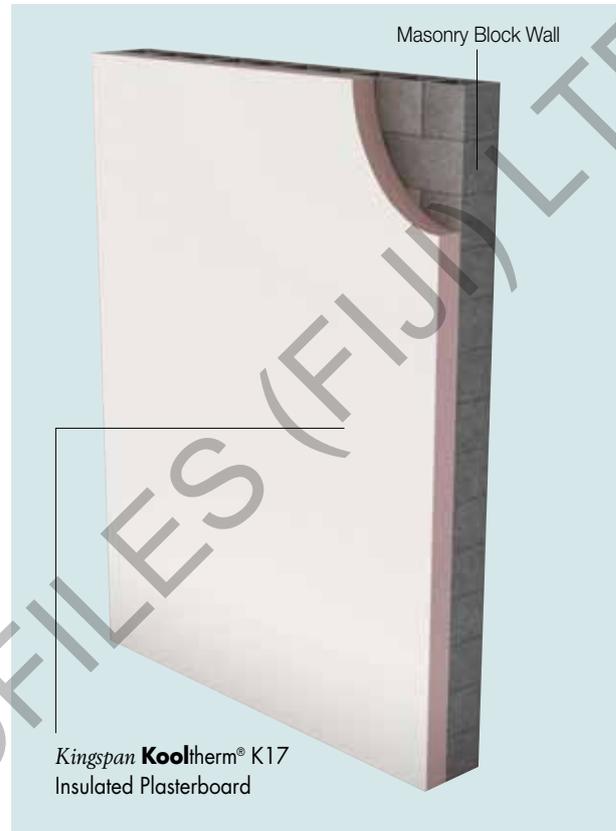


Figure 2

Total R-values for various thicknesses of Kingspan Kooltherm® K17 Insulated Plasterboard		
Product Thickness (inc. Plasterboard)	Heat flow in	Heat flow out
35 mm	R _t 1.5	R _t 1.5
40 mm	R _t 1.8	R _t 1.7
50 mm	R _t 2.2	R _t 2.2
60 mm	R _t 2.8	R _t 2.8
70 mm	R _t 3.3	R _t 3.3
80 mm	R _t 3.8	R _t 3.8
90 mm	R _t 4.3	R _t 4.3

Total R-values for various thicknesses of Kingspan Kooltherm® K17 Insulated Plasterboard		
Product Thickness (inc. Plasterboard)	Heat flow in	Heat flow out
35 mm	R _t 1.6	R _t 1.5
40 mm	R _t 1.8	R _t 1.8
50 mm	R _t 2.3	R _t 2.3
60 mm	R _t 2.9	R _t 2.9
70 mm	R _t 3.4	R _t 3.4
80 mm	R _t 3.9	R _t 3.9
90 mm	R _t 4.4	R _t 4.4

Assumptions

The R-values shown are Total R-values for the building element as required by the Energy Provisions of the Building Code of Australia. Kingspan Kooltherm® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1.

The contribution of the product Total R-values depends on installation and environmental conditions.

Product Details

Product Description

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



Kingspan 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).



Product Data		
Thermal Conductivity (λ -value)	Insulant	0.020 W/m·K (Insulant thickness \geq 45 mm) 0.021 W/m·K (Insulant thickness 25 - 44 mm)
	Plasterboard	0.17 W/m·K (Plasterboard thickness 10 mm)
	Product Dimensions	2400 mm x 1200 mm (2.88 m ²)
Product Thickness (inc. Plasterboard)		35, 40, 50, 60, 70, 80, 90 mm
Plasterboard Thickness		10 mm

Product R-value

Product Thickness (inc. Plasterboard)	Product R-value
35 mm	R1.3
40 mm	R1.5
50 mm	R2.0
60 mm	R2.6
70 mm	R3.1
80 mm	R3.6
90 mm	R4.1

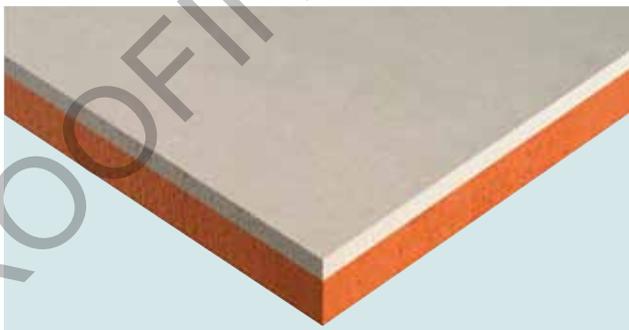


Figure 3 Super high performance **Kingspan Kooltherm® K17 Insulated Plasterboard**

Specification Guide

Kingspan Kooltherm® K17 Insulated Plasterboard

The wall dry-lining insulation shall be **Kingspan Kooltherm® K17 Insulated Plasterboard** _____ mm thick, 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 BS / I.S. EN ISO 9001:2008, BS / I.S. EN ISO 14001:2004 and BS / I.S. OHSAS 18001:2007 by Kingspan Insulation Limited and shall be installed in accordance with the instructions issued by them.

* Applies only to the **Kingspan Kooltherm® K10** insulation board used in the manufacture of this composite insulated plasterboard product.

Standards and Approvals

Kingspan Kooltherm® K10 insulation board used for **Kingspan Kooltherm® K17 Insulated Plasterboard** is manufactured to the highest standards and certified under the following management systems:

Standard	Management System
BS / I.S. EN ISO 9001:2008	Quality Management
BS / I.S. EN ISO 14001:2004	Environmental Management
BS / I.S. OHSAS 18001:2007	Health and Safety Management

Product Testing

Characteristic	Standard	Result
Compressive Strength	BS / I.S. EN 826:1996	Typically exceeds 100 kPa at 10% compression
Water Vapour Resistivity	BS EN 12086:1997 / I.S. EN 12086:1998	> 100 MN-s/g-m
		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	0/0/0-1*
Group Classification	AS/NZS 3837	Group 1**
Fire Propagation Surface Spread of Flame	BS 476 Part 6 BS 476 Part 7	Class 0***

* Applies only to the **Kingspan Kooltherm® K10** insulation board used in the manufacture of this composite insulated plasterboard product.

** Applies to compliant plasterboard facing.

*** Applies only to the **Kingspan Kooltherm®** insulation core.

Installation Instructions

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.

Limitations

Kingspan Kooltherm® K17 Insulated Plasterboard has a gypsum plasterboard face. It should, therefore, not be used to isolate dampness nor be used in continuously damp or humid conditions.

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 GFC/HCFC-free blowing agent that has zero ODP
Packaging	Contains 0% recycled product Polythene wrap and EPS skids 100% recyclable

Dry Wall Plasterboard

Kingspan Kooltherm® K17 Insulated Plasterboard can be applied utilising a variety of traditional or modern dry-lining techniques, to dry and structurally sound walls. These include traditional plaster daub bonding and construction adhesive bonding methods. The particular system employed will depend on the construction or design of the wall to which **Kingspan Kooltherm**® K17 Insulated Plasterboard is to be fixed. If an acceptable adhesive bond cannot be achieved due to the wall surface, consideration should be given to a mechanically fixed option. The tapered edge to the plasterboard enables a flat seamless surface equal to traditional plaster finishes after the correct jointing procedures as per plasterboard manufacturer's recommendation have been completed.

Traditional Plaster Daub Bonding

This method is for applications to brick, block or concrete masonry cavity walls which are free from moisture penetration.

1. Ensure that the wall surface to be bonded to is free from oil, grease, paint, release agent, or any contaminate that may affect the bond of the adhesive to the wall.
2. Mix the plaster adhesive to a slightly wetter consistency by adding approximately 10% more water than normal.
3. Set out a continuous fillet of gypsum adhesive around perimeter wall and ceiling junctions, and around any openings in order to provide a seal.
4. Apply daubs of the gypsum adhesive to the wall. The number, size and lay-out of the daubs will depend on the chosen gypsum adhesive manufacturer's recommendations.
5. Locate boards against the adhesive daubs and tap back to align with predetermined guidelines on the floor and ceiling.
6. Provide temporary mechanical support to the **Kingspan Kooltherm**® K17 Insulated Plasterboard for at least 24 hours.
7. Mechanical fixings are recommended to complement the plaster daub bond. Apply at a rate of 2 per board after the plaster daubs have set, positioned 15 mm in from the board edge and at mid height with a nominal 25 mm embedment into the solid wall (excluding plaster daub thickness). (Refer to fixing manufacturer instructions for more information).
8. It is recommended that mechanical fixings are positioned in the tapered edge of the boards so that they are covered when the board is finished, (e.g. joints taped and skim coating) at mid height. Boards should be fitted tight to the ceiling/joists.

Construction Adhesive Bonding

This method is for application to brick, block or concrete masonry cavity walls which are free from moisture penetration.

1. Ensure that the wall surface to be bonded to is free from oil, grease, paint, release agent, or any contaminate that may affect the bond of the adhesive to the wall.
2. Gun apply a continuous blob of construction adhesive around perimeter wall and ceiling junctions, and around any openings, such as windows and doors, in order to provide a seal.

Installation Instructions (continued)

3. Gun apply blobs of construction adhesive to the wall or the back of the board approximately 25 mm in diameter (single squeeze), at 300 mm centres in both directions or to specific adhesive manufacturer's instructions. Ensure that the blobs adjacent to a board joint are approximately 25 mm in from the edge to avoid bridging the joint.
4. Tap the board back firmly using a straightedge, ensuring that the vertical edge is plumb.
5. Continue dry lining in the same manner.
6. Apply fixings and temporary mechanical support in the same manner as Traditional Plaster Daub Bonding.

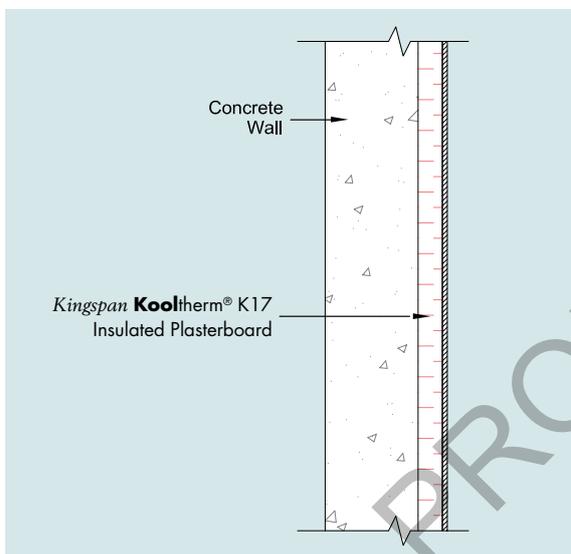


Figure 4 Side elevation - Concrete wall with Kingspan Kooltherm® K17 Insulated Plasterboard

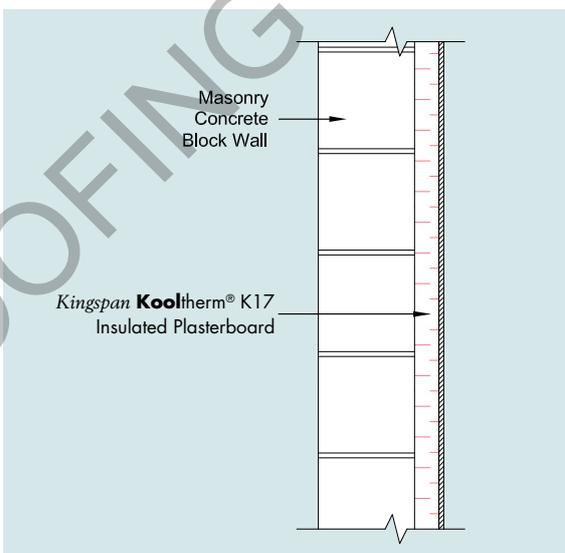


Figure 5 Side elevation - Masonry block wall with Kingspan Kooltherm® K17 Insulated Plasterboard

General

Cutting

Cutting should be carried out either by using a fine toothed saw, or by using a sharp knife to cut through the insulation and paper backing of the plasterboard, then snapping the board face down over a straight edge and cutting the paper facing of the plasterboard 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.

OH & S

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

Please note that the reflective surfaces on this product are designed to enhance their thermal performance. As such, they will reflect light as well as heat, including ultraviolet light. Therefore, if these boards are being installed during bright or sunny weather, it is advisable to wear UV protective sunglasses or goggles and if the skin is exposed for a significant period of time, to protect bare skin with a UV block sun cream.

Contact Details

General Enquiries

Tel: 1300 247 235

Email: info@kingspaninsulation.com.au

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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