

Installation Guide

Kooltherm[®] K17

Insulated Plasterboard

Insulated plasterboard



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).

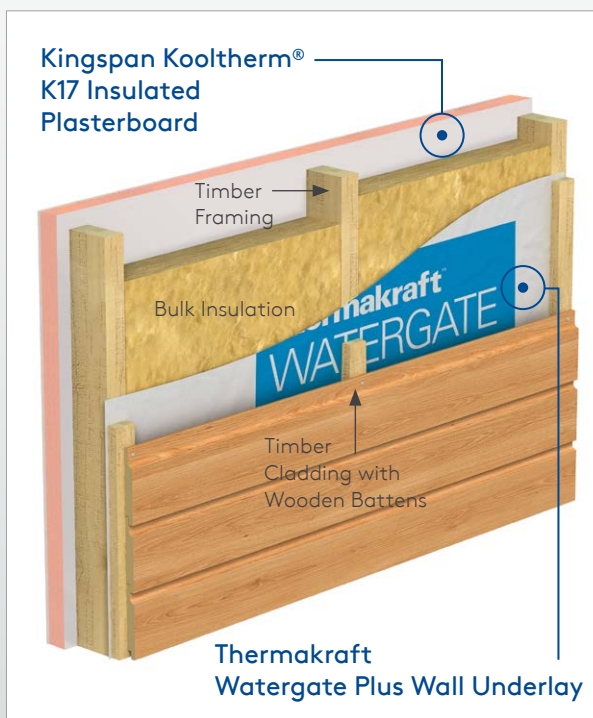


Figure 1.
Kooltherm K17 Insulated Plasterboard
lining on a timber framed wall.

- High performance rigid thermoset phenolic insulation
- Fibre-free, closed cell insulation core
- 3-in-1 insulation, dry-lining and vapour control
- Also available in a range of other selected lining materials
- Allows quick response heating and cooling
- 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



Kooltherm® K17 Insulated Plasterboard Installation Instructions

Timber Framing – Wall Application

Figure 1.

Kooltherm K17 Insulated Plasterboard should be cut approximately 5 mm short of the floor to ceiling height. Each sheet of Kooltherm K17 should lap timber framing studs/noggins by 19 mm (min.) at sheet joints. Where joints between sheets of insulated plasterboard are unsupported by the timber framing studs, timber noggins should be installed.

Each sheet of insulated plasterboard should be lightly butted, with fixings located no less than 10 mm from the bound edges of the sheet.

Sheets of Kooltherm K17 should be located centrally over the timber studs and fixed using either screws at 300 mm centres or large headed galvanised clout nails at 150 mm centres, unless otherwise stated by specifier. Each sheet of insulated plasterboard should be lightly butted.

When installing sheets onto timber, fixings should be long enough to allow minimum 25 mm penetration of the timber frame. Fixings should not penetrate through the studs. Fixings should be driven straight, with the heads embedded just below the surface of the plasterboard. Care should be taken not to overdrive nails / screws.

NOTE: Kooltherm K17 Insulated Plasterboard is NOT a component for structural bracing.



Figure 2. Kooltherm K17 Insulated Plasterboard lining on a timber framed ceiling.

Steel Framing – Wall Application

Figure 2.

Because metal framing systems are proprietary, sitework guidance should be sought from the framing system manufacturer. However, in the absence of any other guidance, the instructions laid out below may be followed.

Kooltherm K17 Insulated Plasterboard should be cut approximately 5 mm short of the floor to ceiling height.

Kooltherm K17 should be located centrally over the metal lining channels and fixed using self-tapping screws at 300 mm centres. Each sheet of insulated plasterboard should be lightly butted.

Fixings should be located no less than 10 mm from bound edges of the sheet and be long enough to allow minimum 10 mm penetration of the metal. Fixings should be driven straight, with the heads embedded just below the surface of the plasterboard. Care should be taken not to overdrive screws.

NOTE: Kooltherm K17 Insulated Plasterboard is NOT a component for structural bracing.

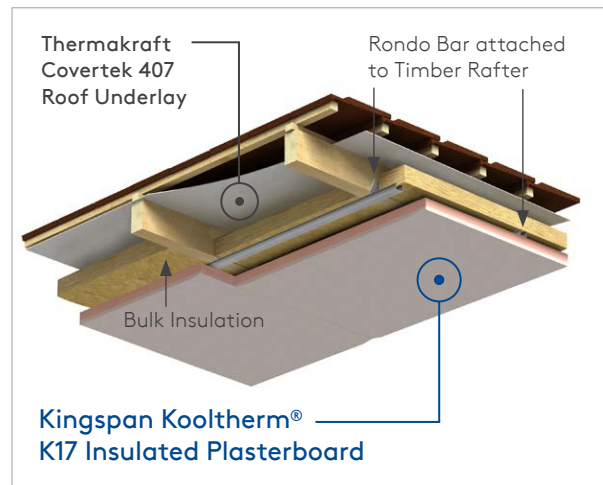


Figure 3. Kooltherm K17 Insulated Plasterboard lining on a timber framed ceiling.

Timber or Steel Framing – Ceiling Application

Figure 3.

Sheets of Kooltherm K17 should be fixed using appropriate screws at 300 mm centres, unless otherwise stated by the specifier. Each sheet of insulated plasterboard should be lightly butted.

Fixings should be driven straight, with the heads embedded just below the surface of the plasterboard. Care should be taken not to overdrive screws.

Kooltherm® K17 Insulated Plasterboard Installation Instructions

Dry Wall Plasterboard

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 the construction adhesive bonding method. The particular system employed will depend on the construction or design of the wall to which 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.

Construction Adhesive Bonding

This application is for brick, block, concrete masonry cavity walls or for retrofitting over existing plasterboard 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.
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. Appropriate mechanical fixings are recommended to complement the adhesive bond. Apply two per board after the adhesive has set, positioned 15 mm in from the board edge and at mid height with a nominal 25 mm embedment into the wall. (Refer to fixing manufacturer instructions for more information).
7. For boards 3 metres and longer, four fixings should be used.
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.



Figure 4. Kooltherm K17 Insulated Plasterboard adheres directly to concrete wall surface.



Figure 5. Kooltherm K17 Insulated Plasterboard adheres directly to masonry block wall surface.

Kooltherm® K17 Insulated Plasterboard Installation Instructions

Mechanical Fixing

This method is for application to brick, block or concrete masonry cavity walls which are free from moisture penetration and an adhesive bond is not suitable or heavy surface linings such as tiles are to be applied.

1. Ensure the wall is true and free from projections which may prevent the board from sitting flat.
2. Pre-drill into the wall substrate using a masonry bit.
3. Insert a masonry anchor with a minimum of 25 mm embedment into the structure.
4. Fixings should be driven straight, with the heads embedded just below the surface of the plasterboard. Care should be taken not to overdrive screws.
6. Screws should be fixed at 600 mm max. horizontal centres and 300 mm max. vertical centres.

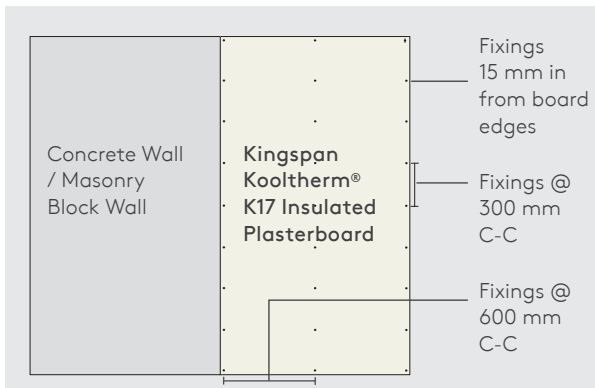


Figure 6. Installation details for mechanical fixing.

Corner & Skirting Details

For internal and external corners, sheets should be cut and rebated to allow a plasterboard / plasterboard joint at the angle. Ensure sheets are lightly butted and air gaps minimised to reduce the risk of cold bridging. (See Figures 6 & 7).

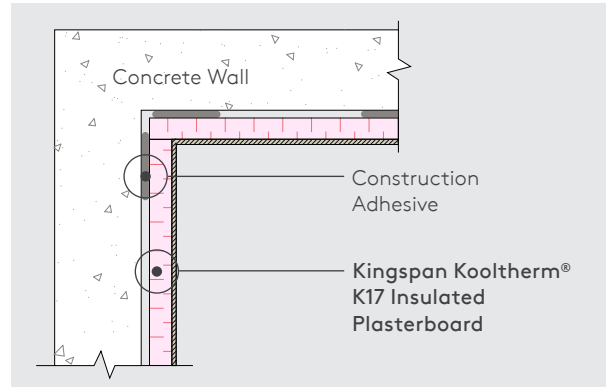


Figure 7. Internal corner detail.

A 5 mm packer should be used at the base of the wall to provide a level surface from which to build up the boards. Replace with a flexible urethane / acoustic sealant prior to skirting being fitted (see Figure 8).

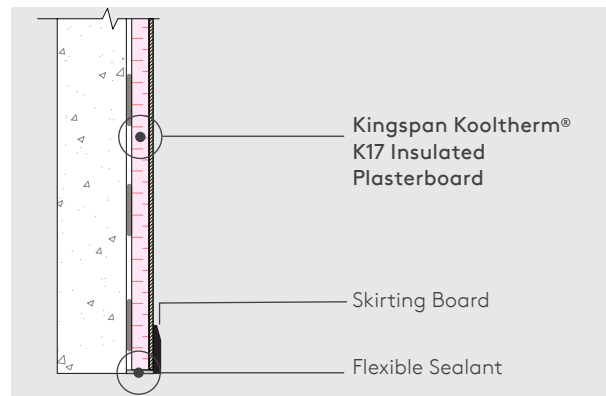


Figure 8. Packer and skirting detail.

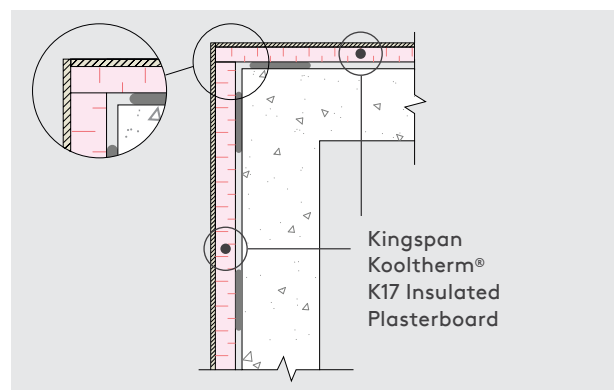


Figure 9. Insulated reveal and external corner.

Kooltherm® K17 Insulated Plasterboard Installation Instructions

Window / Door Reveals & Soffit Details

A thinner sheet of Kooltherm K17 Insulated Plasterboard at reveals may be necessary to account for opening frames. Where adhesives are employed at openings, strips of insulated plasterboard should be temporarily supported.

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. Sheets being cut should be adequately supported to prevent breakage.

When using a fine toothed saw, ensure edges are supported to avoid excessive vibration

When multiple cuts on a board are required, such as around windows, consider segmenting the board into smaller sections to prevent excessive movement of the board (see Figure 10).

Board Orientation

The Kooltherm K17 Insulated Plasterboard can be laid in a horizontal or vertical orientation to best suit the room configuration.

Services

Where electrical and plumbing services are not surface mounted or chased into the structure, carefully recess the back of the insulation to accommodate the services.

To ensure an appropriate rate of heat dissipation from cables, the current-carrying capacity of any electrical services partially surrounded by thermal insulation should be determined in accordance with AS/NZS 3008.1 series.

Ensure excess insulation is not removed to minimise thermal weaknesses.

Packaging

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

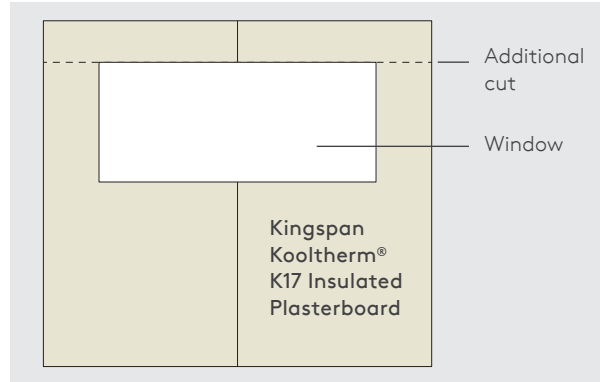


Figure 10. Installation Details for cutting

Kooltherm[®] K17 Insulated Plasterboard

Installation Instructions

Occupational Health & Safety

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 AS 3999 Bulk Thermal Insulation Installation and AS 3000 Electrical Installations (Wiring Rules).

Handling and Storage

Storage

The packaging of Kooltherm K17 Insulated Plasterboard 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.



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

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