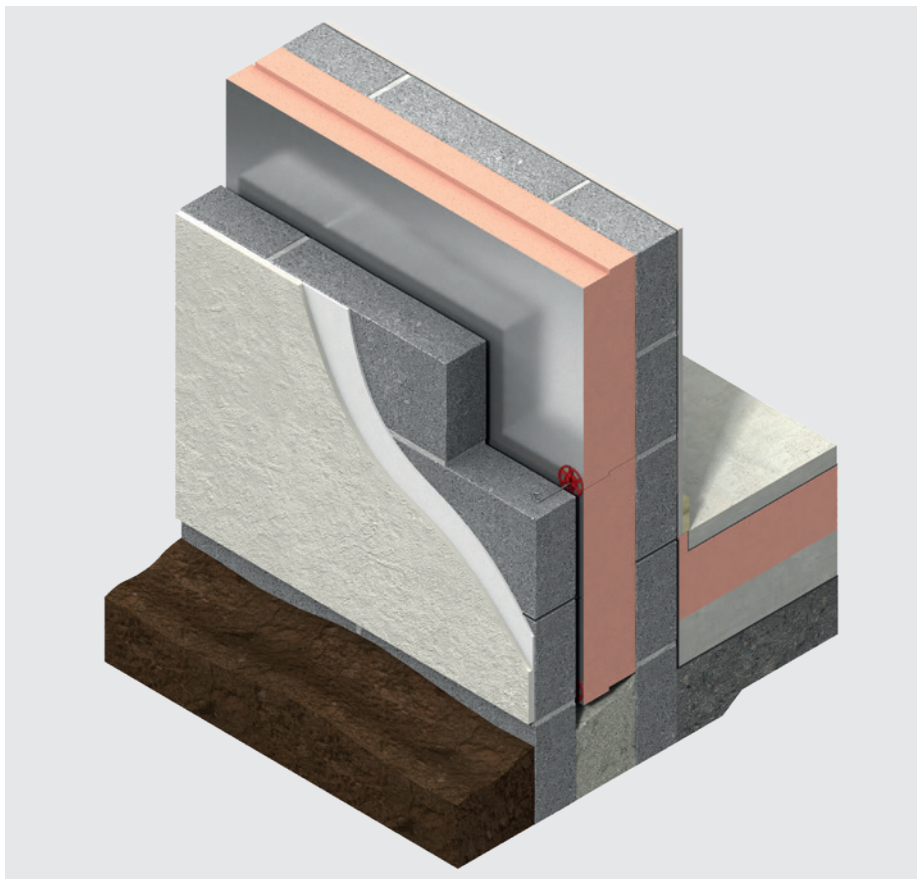


Insulation



# Kooltherm® K8 Plus Cavity Board

Partial Fill Cavity Wall Insulation



- Premium performance rigid thermoset phenolic insulation - thermal conductivities as low as 0.020 W/mK
- 20 mm clear cavity is maintained - resists moisture penetration
- Engineered jointing to resist water ingress
- Achieves Euroclass B-s1,d0
- 0.13 W/m<sup>2</sup>.K U-value achieved in standard 150 mm cavity
- Low emissivity durable scrim reinforced foil facings significantly increase the thermal resistance of the cavity
- Unaffected by air infiltration
- Easy to handle and install
- Non-deleterious material
- Manufactured with a blowing agent that has zero ODP and low GWP

Fibre-free  
Core

  
Kingspan®

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# Typical Constructions and U-values

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## Assumptions

The U-values in the tables that follow have been calculated, using the conventions set out in BR 443 (Conventions for U-value calculations). They are valid for the constructions shown in the details immediately above each table.

Unless stated otherwise the internal wall finish is taken to be a 13 mm lightweight plaster.

These U-values are valid for constructions with a 20 mm minimum clear residual cavity between the outer surface of the insulation and the inner face of the outer masonry leaf.

NB When calculating U-values to BS EN ISO 6946: 2017 / I.S. EN ISO 6946: 2007, the type of wall tie used may change the thickness of insulation required. For cavity widths  $\leq 150$  mm, calculations assume a stainless steel flexible tie with 4.9 ties per  $m^2$  and a cross-sectional area of 8.55  $mm^2$ .

NB For the purposes of these calculations the standard of workmanship has been assumed good, and therefore the correction factor for air gaps has been ignored.

NB The figures quoted are for guidance only. A detailed U-value calculation and a condensation risk analysis should be completed for each project.

NB If your construction is different from those specified, and / or to gain a comprehensive U-value calculation along with a condensation risk analysis of your project, please consult the Kingspan Insulation Technical Service Department for assistance (see rear cover).

# Typical Constructions and U-values

## Internal Finish - 13 mm Lightweight Plaster Finish

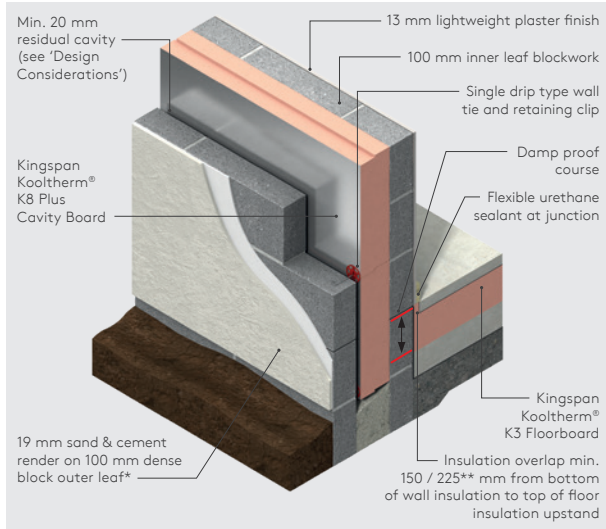


Figure 1

U-values (W/m <sup>2</sup> K) for Various Thicknesses of Kingspan Kooltherm® K8 Plus Cavity Board	
Insulant Thickness (mm)	100 mm Inner Leaf of Dense Blockwork (1.13 W/mK)
90	0.18
130	0.13

\* Calculations assume dense block outer leaf of  $\lambda$ -value (1.13 W/mK).

\*\* 150 mm applies to Northern Ireland and 225 mm to the Republic of Ireland.

## Internal Finish - Kingspan Kooltherm® K17 Insulated Plasterboard

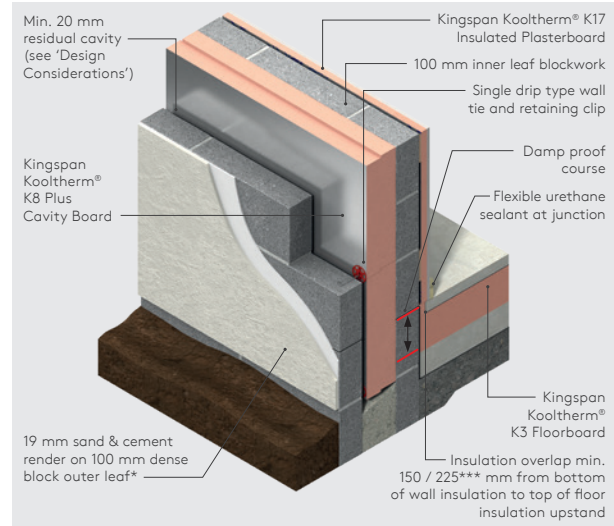


Figure 2

U-values (W/m <sup>2</sup> K) for Various Thicknesses of Kingspan Kooltherm® K8 Plus Cavity Board together with Kingspan Kooltherm® K17 Insulated Plasterboard**	
Insulant Thickness (mm)	100 mm Inner Leaf of Dense Blockwork (1.13 W/mK)
37.5 mm Kingspan Kooltherm® K18 Insulated Plasterboard**	
90	0.15
130	0.12
52.5 mm Kingspan Kooltherm® K18 Insulated Plasterboard**	
130	0.11

\* Calculations assume dense block outer leaf of  $\lambda$ -value (1.13 W/mK).

\*\* Product thickness = insulant thickness + 12.5 mm plasterboard.

\*\*\* 150 mm applies to Northern Ireland and 225 mm to the Republic of Ireland.

# Typical Constructions and U-values

## Internal Finish - 13 mm Lightweight Plaster

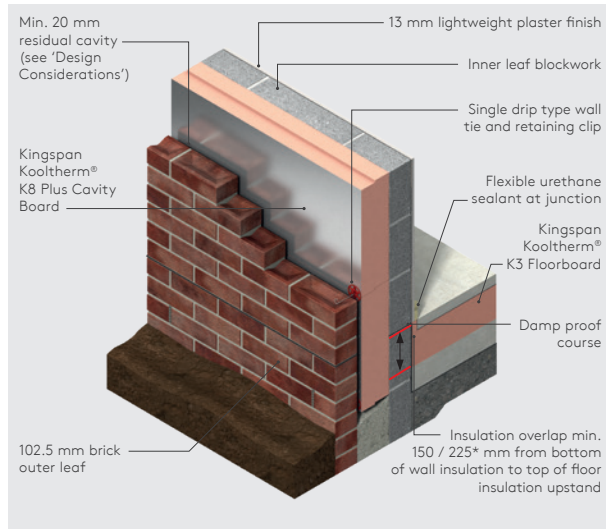


Figure 3

U-values (W/m <sup>2</sup> K) for Various Thicknesses of Kingspan Kooltherm® K8 Plus Cavity Board	
Insulant Thickness (mm)	100 mm Inner Leaf Fair Face Dense Blockwork (1.13 W/mK)
90	0.18
130	0.13

\* 150 mm applies to Northern Ireland and 225 mm to the Republic of Ireland.

## Internal Finish - Kingspan Kooltherm® K17 Insulated Plasterboard

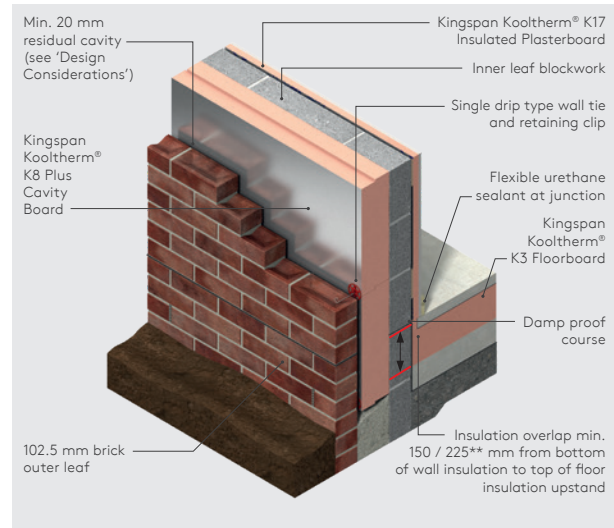


Figure 4

U-values (W/m <sup>2</sup> K) for Various Thicknesses of Kingspan Kooltherm® K8 Plus Cavity Board together with Kingspan Kooltherm® K17 Insulated Plasterboard*	
Insulant Thickness (mm)	100 mm Inner Leaf Fair Face Dense Blockwork (1.13 W/mK)
<b>37.5 mm Kingspan Kooltherm® K18 Insulated Plasterboard</b>	
90	0.15
130	0.12
<b>52.5 mm Kingspan Kooltherm® K18 Insulated Plasterboard</b>	
130	0.11

\* Product thickness = insulant thickness + 12.5 mm plasterboard.

\*\* 150 mm applies to Northern Ireland and 225 mm to the Republic of Ireland.

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# Typical Constructions and U-values

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## Heat Loss and Linear Thermal Bridging

### Basic Principles

Linear thermal bridging describes the additional heat losses or gains that occur at junctions between elements e.g. where a cavity wall meets the ground or intermediate floor, or at junctions around openings in the building fabric where the thermal insulation layer is discontinuous e.g. sills, jambs and lintels.

Interruptions within the insulation layer by materials with poorer insulating properties can result in a thermal bridge, which in turn can lead to problems of internal surface condensation and mould growth, especially if there is a drop in surface temperature.

The heat flow at these junctions and opening locations, over and above that through the adjoining plane elements, is the linear thermal transmittance of the thermal bridge: measured in W/mK; referred to as a 'psi-value'; and expressed as a ' $\psi$ -value'.

The lower the  $\psi$ -value, the better the performance.  $\psi$ -values are taken into account in the calculation methodologies e.g. the Building Energy Rating (BER) that are used to assess the operational CO<sub>2</sub> emissions and, where applicable, the fabric energy efficiency of buildings.

$\psi$ -values can comprise either, or a combination of, approved, calculated or assumed values.

Approved details, such as the Accredited Construction Details (Northern Ireland) and Acceptable Construction Details (Republic of Ireland), collectively referred to here as ACDs, can uplift performance to provide a clear starting point towards achieving compliance, but they are limited in scope and applicability. The greatest opportunity for mitigating the impact of linear thermal bridges can come from following accurately 'modelled' details that take into account the following design considerations.

## Reducing Linear Thermal Bridging

Detailing at junctions to minimise the effects of thermal bridging and the associated risk of condensation or mould growth is important and there are some simple design considerations that can be adopted to help mitigate the risks and to reduce heat losses.

- Care is required to ensure continuation of insulation wherever possible for best thermal performance. Where this is not possible, insulation layers should be overlapped and ideally, insulation material introduced between. In a standard cavity wall-to-ground floor junction the main linear thermal bridge is the inner leaf of masonry. This linear thermal bridge can be reduced by increasing the distance that the heat has to travel through the inner leaf of masonry. This can be achieved by means of overlapping the partial fill cavity wall insulation and the floor insulation. The key factor is the distance between the bottom of the cavity wall insulation and the top of the floor insulation (including any perimeter insulation upstand).
- In order to minimise cold bridging at the edge of ground floors, the distance between the top surface of the floor insulation or perimeter insulation upstand, and the bottom of the wall insulation must be a minimum of 150 / 225\* mm for a concrete floor (see Figures 1 & 3) and 200 mm for a suspended timber floor. The further appropriate wall insulation extends past the floor insulation, the better the thermal performance of the junction between the wall and the floor.  
\* 150 mm applies to the Northern Ireland and 225 mm to the Republic of Ireland.
- Perimeter upstand insulation is extremely important for minimising heat losses from the junction with external walls. This helps to increase the path of heat flow and therefore helps reduce losses through the junction. Omitting this, or using a poorer performance insulation for this purpose, can increase these losses.
- Using better thermal performance 'lightweight' aggregate blockwork on the inner leaf in adjacency to the junction with the floor can also assist with assuring lower heat losses from the junction.
- An internal lining of insulation on the warm side of the construction such as Kingspan Kooltherm® K17 or K18 Insulated Plasterboard, can also help to reduce heat losses.
- Prevention of thermal bridging should be considered when designing sills, jambs and lintels. An insulated cavity closer e.g. Kingspan Kooltherm® Cavity Closer is available from Kingspan Insulation. Please refer to the literature for these products for further information. This literature is available from the Kingspan Insulation Marketing Department or via the Kingspan Insulation website (see rear cover for details).

# Typical Constructions and U-values

- Heat-loss from junctions around window or door openings can be further reduced by insulating the reveal. The key factor is the thermal resistance (R-value) of the insulation layer. Reveals should be designed to accommodate 32.5 mm (min.) of Kingspan Kooltherm® K17 Insulated Plasterboard.
- For junctions between the external walls and roof constructions, continuity and overlap of insulation layers is the key to minimising heat losses from the junctions. Refer to Kingspan Kooltherm® K7 Pitched Roof Board literature for further design considerations.

To aid in limiting thermal bridging and uncontrolled air-leakage via junctions in cavity wall constructions, Kingspan Insulation has had a number of the junctions incorporating Kingspan Kooltherm® K8 Plus Cavity Board modelled and  $\psi$ -values calculated for them - many of which are significantly better than the approved  $\psi$ -values given in the ACDs that comprise partial fill cavity wall constructions.

ACD Reference	Description	Psi-value**
KPJ 1.02b	Ground Floor - Insulation below slab plus lightweight blockwork	0.100
KPJ 1.06.1	Masonry Solid Separating Wall*	0.037
KPJ 1.06.2	Cavity Separating Wall*	0.042
KPJ 1.10	Eaves - Ventilated attic	0.048
KPJ 1.13.1	Eaves - Insulation between and under rafters - Ventilated rafter void - Pitched ceiling	0.169
KPJ 1.13.2	Eaves - Insulation between and under rafters - Ventilated rafter void - Pitched ceiling	0.011
KPJ 1.15	Ventilated roof - Attic floor level	0.097
KPJ 1.17	Gable - Insulation between and under rafters	0.068
KPJ 1.22	Ope - Perforated steel lintel (Keystone Hi-Therm Lintel)	0.027
KPJ 1.23.2	Ope - Prestressed concrete lintel - Kingspan Kooltherm® Cavity Closer	-0.002
KPJ 1.25	Ope - Jamb with Kingspan Kooltherm® Cavity Closer	-0.002
KPJ 1.26	Ope - Concrete forward sill - Kingspan Kooltherm® Cavity Closer	0.020
KPJ 1.27.1	Wall - External corner	0.044
KPJ 1.27.2	Wall - Inverted corner	-0.066
KPJ G01.2	Ceiling - Party wall junction*	0.257
KPJ G05.1	Ground Floor - Party wall junction*	0.124

\* Use half of Psi-value for each semi-D / Terrace Unit.

\*\* All details achieve a FRsi value of greater than 0.75.

**Table 1 - Kingspan Performance Junctions: NSAI Accredited Thermal Modelled Details**

For further advice on details to reduce linear thermal bridging please visit our Architects Area for full details:  
<https://www.kingspan.com/irl/en-ie/product-groups/insulation-boards/architect-area>

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# Design Considerations

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## Specification Clause

Kingspan Kooltherm® K8 Plus Cavity Board should be described in specifications as:-

The cavity wall insulation shall be Kingspan Kooltherm® K8 Plus Cavity Board\_\_\_\_\_ mm thick: comprising a premium performance fibre-free rigid thermoset phenolic insulation core faced on both sides with a low emissivity durable scrim reinforced composite foil facing and with engineered ship lapped edges on the horizontal sides and square edge on the vertical sides. The product shall be manufactured: with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP); under a management system certified to ISO 9001: 2015, ISO 14001: 2015, BS OHSAS 18001: 2007 and ISO 50001: 2011; by Kingspan Insulation Limited; and installed in accordance with the instructions issued by them.

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## Design Standards

BS EN 845-1: 2013 + A1: 2016 (Specification for ancillary components of masonry. Wall ties, tension straps, hangers and brackets), BS EN 1996-1-1: 2005 + A1: 2012 (Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures), BS EN 1996-2: 2006 (Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry), BS EN 1996-3: 2006 (Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures) and PD 6697: 2010 (Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2) should be consulted regarding the construction of insulated cavity walls.

## Residual Cavity Width

Kingspan Kooltherm® K8 Plus has been tested to BS 4315-2: 1970 (Methods of test for resistance to air penetration. Permeable walling constructions (water penetration)) to achieve reduced residual cavity of minimum 20 mm. A greater residual cavity width may be required dependent on the exposure zone and the type of external finish. For further advice please contact the Kingspan Insulation Technical Service Department (see rear cover for details).

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## Wall Ties

Wall ties should have a retaining clip for securing the insulant to the masonry inner leaf and be of a single offset drip type. Ideally they should be BBA / NSAI approved and conform to BS EN 845-1: 2013 + A1: 2016 (Specification for ancillary components of masonry. Wall ties, tension straps, hangers and brackets), BS EN 1996-1-1: 2005 + A1: 2012 (Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures), BS EN 1996-2: 2006 (Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry), BS EN 1996-3: 2006 (Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures) and PD 6697: 2010 (Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2).

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## Lightning Protection

Building designers should give consideration to the requirements of BS EN 62305: 2011 (Protection against lightning).

# Sitework

## Fixing Details

- Kingspan Kooltherm® K8 Plus Cavity Board is normally held in position by the wall ties used to tie the two skins of masonry together.
- Wall ties should include a retaining disc / clip and be of the single drip type with the offset drip placed centrally within the 20mm clear cavity, ensuring the drip is installed facing downward.
- For a solid concrete ground floor the first row of wall ties are installed in the inner leaf at 600 mm horizontal centres a minimum of one course of blockwork below the damp proof course of 225 mm below the top surface of the ground floor perimeter insulation upstand (see 'Linear Thermal Bridging at Wall to Floor Junctions' above), whichever is the lower.
- For a suspended timber floor the first row of wall ties are installed in the inner leaf at 600 mm horizontal centres a minimum of 200 mm below the top surface of the ground floor perimeter insulation upstand (see 'Linear Thermal Bridging at Wall to Floor Junctions' above).
- Continue constructing the inner leaf up to the next wall tie course (450 mm above the first - usually 2 block courses).
- The next course of wall ties is positioned at the usual 750 mm horizontal centres.
- The next course of internal and external blockwork is installed to secure the ties ensuring cavity and ties remain free of excess mortar.
- The first row of insulation boards should now be installed between the two blockwork leaves ensuring each insulation board is retained tight against the inner leaf and joints are lightly butted.
- The Kingspan Kooltherm® K8 Plus Cavity Board should be fitted with the high shoulder of the ship-lapped joint installed against the inner leaf to help prevent moisture from tracking across the cavity. See figure 5 below.

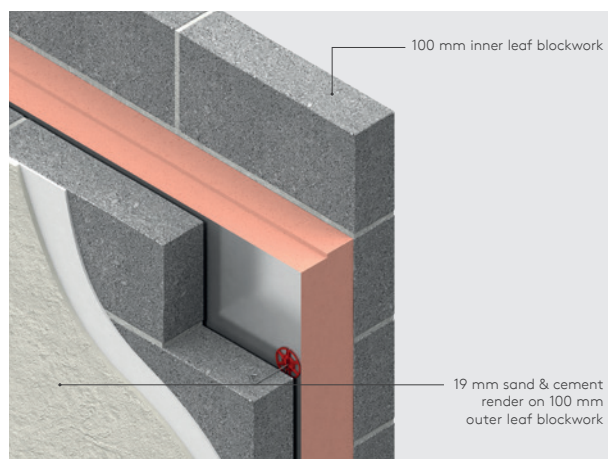


Figure 5

- Each board should be secured at a minimum of three points. Additional ties may also be required to satisfy the structural requirements of BS EN 845-1: 2013 + A1: 2016, BS EN 1996-1-1: 2005 + A1: 2012, BS EN 1996-2: 2006, BS EN 1996-3: 2006, PD 6697: 2010 and / or to ensure adequate retention of boards or cut pieces.
- When forming any window or door opens a strip of Kingspan Kooltherm® insulation, minimum in 30 mm Northern Ireland or 50 mm Republic of Ireland, should be used together with a strip of DPC around the perimeter of any opens.
- When insulating a gable, insulation boards should be continued 250 mm beyond the height of the top storey ceiling and a cavity tray installed above the insulation.
- Alternatively an insulated Kingspan Kooltherm® Cavity Closer is available from Kingspan Insulation which provides superior thermal performance and improved Psi values while also being quicker and easier to install.

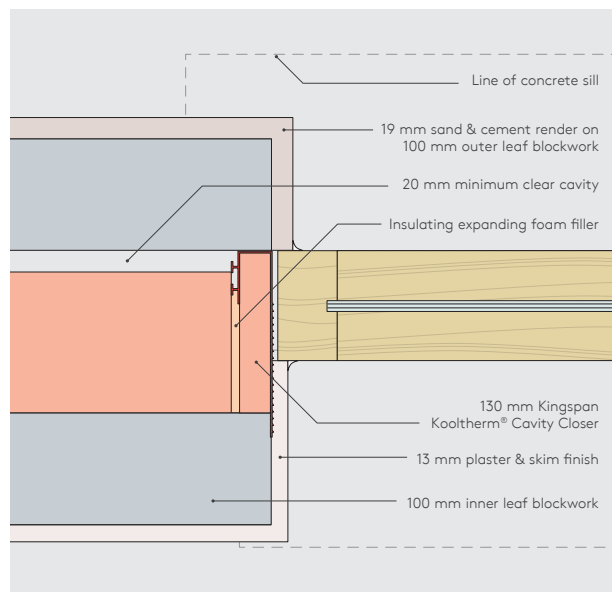


Figure 6 - Typical Kingspan Kooltherm® K8 Plus Jamb Detail

- The Kingspan Kooltherm® K8 Plus Cavity Board due to its unique design does not require any vertical DPC at internal or external corners and has no requirement to tape the vertical or horizontal joints between boards.



# Sitework

- When forming an external or internal corner the Kingspan Kooltherm® K8 Plus Cavity Board can either be mitred or butt jointed together as outlined in Figures 7 & 8 below.



Figure 7 - Staggered Board Joint Option



Figure 8 - Mitred Board Joint Option

## Excess Mortar

- After raising each section of inner leaf, before installation of the insulation board, excess mortar should be removed and mortar droppings cleaned from exposed edges of the installed insulation boards.
- Use of a cavity batten or cavity board is recommended to protect board edges and maintain a clear cavity (see Figures 9 & 10).

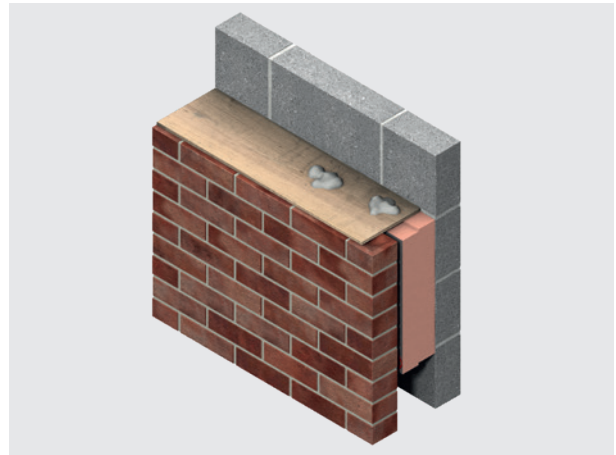


Figure 9 - Use of a Cavity Board to Protect the Cavity and Insulation Board Top Edge

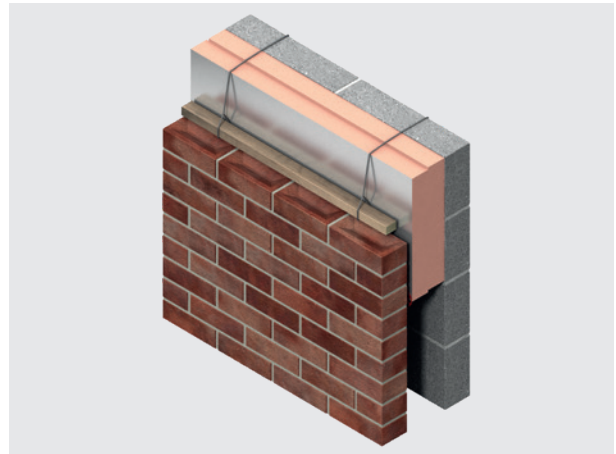


Figure 10 - Use of a Cavity Batten to Protect the Cavity

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# Sitework

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## General

### Cutting

- Cutting should be carried out by first scoring the foil facing with a sharp knife. The board may then be cut with a short fine tooth saw before snapping the board over a straight edged while then cutting the foil facing on the other side.
- Ensure accurate trimming to achieve close butting joints and continuity of insulation.

### Daily Working Practice

- At the completion of each day's work, or whenever work is interrupted for extended periods of time, board edges and joints should be protected from inclement weather.

### Availability

- Kingspan Kooltherm® K8 Plus is available through specialist insulation distributors and selected builders' merchants throughout Northern Ireland and Ireland.

### Packaging and Storage

- The polyethylene packaging of Kingspan Insulation products, which is recyclable, should not be considered adequate for outdoor protection.
- Ideally, boards should be stored inside a building. If, however, outside 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.

### Health and Safety

- Kingspan Insulation products are chemically inert and safe to use.
- A Safety Information Data Sheet for this product is available from the Kingspan Insulation website [www.kingspaninsulation.ie/safety](http://www.kingspaninsulation.ie/safety).

Please note that the reflective surfaces on this product are designed to enhance its thermal performance. As such, they will reflect light as well as heat, including ultraviolet light. Therefore, if this product is being installed during very 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 the bare skin with a UV block sun cream.

The reflective facings used on this product can be slippery when wet. Therefore, it is recommended that any excess material should be contained to avoid a slip hazard.

Warning - do not stand on or otherwise support your weight on this product unless it is fully supported by a load bearing surface.

# Product Details

## The Facings

Kingspan Kooltherm® K8 Plus Cavity Board is faced with a low emissivity durable scrim reinforced composite foil facing on both sides, autohesively bonded to the insulation core during manufacture. This reflective, low emissivity surface improves the thermal resistance of any unventilated cavity adjacent to the board.

## The Core

The core of Kingspan Kooltherm® K8 Plus Cavity Board is a premium performance fibre-free rigid thermoset phenolic insulant manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP)



## Standards & Approvals

Kingspan Kooltherm® K8 Plus Cavity Board is manufactured to the highest standards under a management system certified to ISO 9001: 2015 (Quality Management System), ISO 14001: 2015 (Environmental Management System), BS OHSAS 18001: 2007 (Occupational Health and Safety Management Systems) and ISO 50001: 2011 (Energy Management System).

## Standard Dimensions

Kingspan Kooltherm® K8 Plus is available in the following standard size(s):

Nominal Dimension		Availability
Length	(m)	1.2
Width	(m)	0.45
Insulant Thickness	(mm)	90 mm
		130 mm

## Compressive Strength

The compressive strength of Kingspan Kooltherm® K8 Cavity Board typically exceeds 100 kPa when tested to BS / I.S. EN 826: 2013 (Thermal insulating products for building applications. Determination of compression behaviour).

## Durability

If correctly installed, Kingspan Kooltherm® K8 Cavity Board can have an indefinite life. Its durability depends on the supporting structure and the conditions of its use.

## Resistance to Solvents, Fungi & Rodents

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.

The insulation core and facings used in the manufacture of Kingspan Kooltherm® K8 Plus Cavity Board resist attack by mould and microbial growth and do not provide any food value to vermin.

## Fire Performance

Kingspan Kooltherm® K8 Plus achieves Euroclass B-s1,d0.

Kingspan Kooltherm® K8 Plus Cavity Board will not prejudice the fire resistance properties of a wall in which it is installed. It is unlikely to become ignited within the cavity. If fire does penetrate into an unventilated cavity, the amount of air present will be insufficient to support combustion, and flame spread will be minimal.

Further details of the fire performance of Kingspan Insulation products may be obtained from the Kingspan Insulation Technical Service Department (see rear cover).

## Thermal Properties

The  $\lambda$ -values and R-values detailed below are quoted in accordance with BS EN 13166: 2012 + A2: 2016 (Thermal insulation products for buildings. Factory made phenolic foam (PF) products. Specification).

### Thermal Conductivity

The boards achieve a thermal conductivity ( $\lambda$ -value) of: 0.020 W/mK (insulant thickness  $\geq$  45 mm).

### Thermal Resistance

Thermal resistance (R-value) varies with thickness and is calculated by dividing the thickness of the board (expressed in metres) by its thermal conductivity. The resulting number is rounded down to the nearest 0.05 ( $\text{m}^2\text{K}/\text{W}$ ).

Insulant Thickness (mm)	Thermal Resistance ( $\text{m}^2\text{K}/\text{W}$ )
90	4.50
130	6.50

NB Refer to local distributor or Kingspan Insulation price list for current stock and non-stock sizes.

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# Kingspan Insulation

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## Company Details

Kingspan Insulation Ltd is part of the Kingspan Group plc., one of Europe's leading construction product manufacturers. The Kingspan Group was formed in the late 1960s and is a publicly quoted group of companies headquartered in Kingscourt, County Cavan, Ireland.

Kingspan Insulation Ltd is a market leading manufacturer of premium and high performance rigid insulation products and insulated systems for building fabric and building services applications.

## Products & Applications

Kingspan Insulation Ltd has a vast product range. Kingspan Insulation Ltd products are suitable for both new build and refurbishment in a variety of applications within both domestic and non-domestic buildings. The available insulation solutions are listed below.

- Pitched Roofs
- Flat Roofs
- Green Roofs
- Cavity Walls
- Solid Walls
- Timber and Steel Framing
- Insulated Cladding Systems
- Insulated Render Systems
- Floors
- Soffits
- Ductwork

### Further Solutions:

- Insulated Dry-Lining
- Tapered Roofing Systems
- Cavity Closers
- The Kingspan KoolDuct® System
- Kingspan Nilvent®
- Kingspan TEK® Building System

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# Kingspan Insulation

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## Insulation Product Benefits

### Kingspan Kooltherm® K8 Plus Cavity Board

- Premium performance rigid thermoset phenolic insulation – thermal conductivities as low as 0.020 W/mK.
- U-value of 0.13 W/m<sup>2</sup>.K achieved in a standard 150 mm cavity construction.
- 20 mm clear cavity is maintained – resists moisture penetration.
- Tested in application to BS 4315-2 (Water Penetration).
- Engineered shiplap joints to resist water ingress.
- Achieves Euroclass B-s1,d0.
- Simplicity of Kooltherm® K8 Plus system and details allows for greater productivity, efficiency and reduced labour costs.
- Low emissivity foil facing increases the thermal resistance of the cavity.
- Manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).
- Accredited NSAI Psi values improving the thermal performance of junctions and enhancing the overall BER.
- Available with Kingspan Premium Service.

### Kingspan OPTIM-R® Vacuum Insulation Panel (VIP) Products

- With a declared value thermal conductivity of 0.007 W/mK, these products provide an insulating performance that is up to five times better than commonly used insulation materials.
- Provides high levels of thermal efficiency with minimal thickness.
- Over 90% (by weight) recyclable.

### Kingspan Kooltherm® and Kooltherm® 100 Products

- With a thermal conductivity of 0.018–0.023 W/mK these are the most thermally efficient insulation products commonly used.
- The thinnest commonly used insulation products for any specific U-value.
- Manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

### Kingspan QuadCore®

- With a thermal conductivity of 0.021 W/mK this is amongst one of the more thermally efficient insulation products commonly used.
- Offering excellent thermal and fire performance, enhanced environmental credentials and backed by an extended warranty.
- Manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

### Kingspan Therma™ Products

- With a thermal conductivity of 0.022-0.028 W/mK these are amongst the more thermally efficient insulation products commonly used.
- Manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

### Kingspan GreenGuard® Products

- Rigid extruded polystyrene insulation (XPS) has the necessary compressive strength to make it the product of choice for specialist applications such as heavy duty flooring, car park decks and inverted roofing.
- Manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

### All Products

- Unaffected by air infiltration – a problem that can be experienced with mineral fibre and which can reduce thermal performance.
- Safe and easy to install.
- If installed correctly, can provide reliable long term thermal performance over the lifetime of the building.
- Each product achieves the required fire performance for its intended application.

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# Kingspan Insulation

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## Customer Service

For quotations, order placement and details of despatches please contact the Kingspan Insulation Customer Service Department on the numbers below:

Ireland T: +353 (0) 42 979 5000  
F: +353 (0) 42 975 4299  
E: email: [info@kingspaninsulation.ie](mailto:info@kingspaninsulation.ie)

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## Kingspan CPD Service

We offer a number of free CPD seminars for architects and specifiers covering a wide range of industry topics. We can discuss any specific projects and the best solution for you and your client.

<https://www.kingspan.com/irl/cpds>

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## Kingspan Premium Service



Kingspan is renowned for our customer service and providing unrivalled dedicated support to our customer base. We pioneered and developed our Premium Service to take that a step further offering bespoke technical support for all projects where our Premium Performance Kooltherm insulation has been specified in at least two building elements.



<https://www.kingspan.com/irl/premium>

## Literature & Samples

Kingspan Insulation produces a comprehensive range of technical literature for specifiers, contractors, stockists and end users. The literature contains clear user friendly advice on typical design; design considerations; thermal properties; sitework and product data.

For copies please contact the Kingspan Insulation Marketing Department, or visit the Kingspan Insulation website, using the details below:

Ireland T: +353 (0) 42 979 5000  
F: +353 (0) 42 975 4299  
E: email: [info@kingspaninsulation.ie](mailto:info@kingspaninsulation.ie)  
[www.kingspaninsulation.ie/literature](http://www.kingspaninsulation.ie/literature)

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## Technical Advice / Design

Kingspan Insulation supports all of its products with a comprehensive Technical Advisory Service. Calculations can be carried out to provide U-values, condensation / dew point risk, required insulation thicknesses etc...

The Kingspan Insulation Technical Service Department can also give general application advice and advice on design detailing and fixing etc... Site surveys are also undertaken as appropriate.

Please contact the Kingspan Insulation Technical Service Department on the numbers below:

Ireland T: +353 (0) 42 975 4297  
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E: email: [technical@kingspaninsulation.ie](mailto:technical@kingspaninsulation.ie)

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## General Enquiries

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# Notes

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# Contact Details

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