

Insulation
Ireland

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K-Roc® Partial Fill Cavity Wall Slab

Partial fill cavity wall insulation



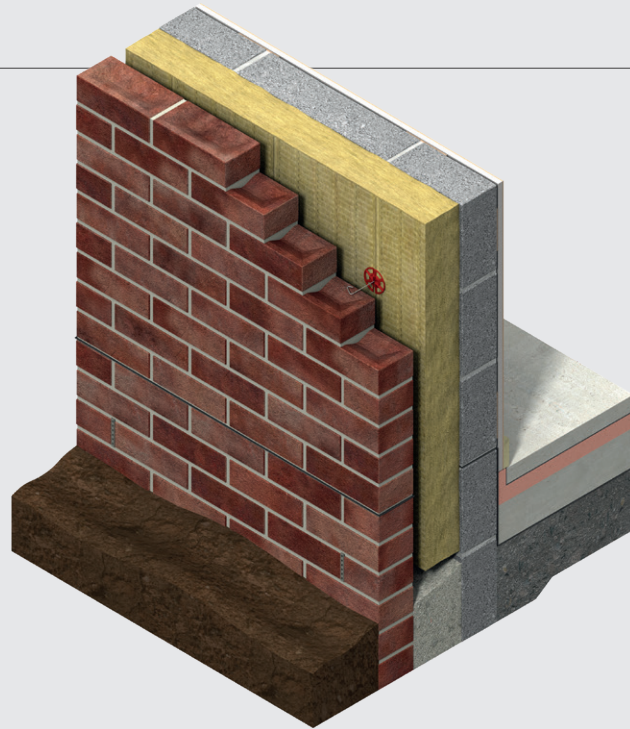

Kingspan®

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Introduction

- Rock mineral fibre insulation with a thermal conductivity of 0.035 W/mK
- European Classification (Euroclass) A1
- Clear cavity is maintained – resists moisture penetration



Useful links

Website

[Kingspan K-Roc® Partial Fill Cavity Wall Slab webpage](#)

Certification

[Kingspan K-Roc® Partial Fill Cavity Wall Slab Certificate of Constancy of Performance \(FIW\)](#)

Declaration of Performance (DoP)

[Kingspan K-Roc® Partial Fill Cavity Wall Slab Declaration of Performance](#)

Safety information

[Kingspan K-Roc® product safety information](#)

Product details

The product

Kingspan K-Roc® Partial Fill Cavity Wall Slab is a rock mineral fibre insulation.

Standard dimensions

Kingspan K-Roc® Partial Fill Cavity Wall Slab is available in the following standard size(s):

Nominal dimension		Availability
Length	(m)	1,200
Width	(m)	455
Insulant thickness	(mm)	Refer to local distributor for current stock and non-stock sizes.

Moisture properties

Kingspan K-Roc® Partial Fill Cavity Wall Slab achieves a water vapour diffusion resistance factor of 1 MU, μ in accordance with BS EN 12086: 2013 (Thermal insulating products for building applications. Determination of water vapour transmission properties).

Kingspan K-Roc® Partial Fill Cavity Wall Slab achieves a water absorption (short term) of $\leq 1 \text{ kg/m}^2$ when tested to BS EN ISO 29767: 2019 (Thermal insulating products for building applications. Determination of short term water absorption by partial immersion).

Kingspan K-Roc® Partial Fill Cavity Wall Slab achieves a water absorption (long term) of $\leq 3 \text{ kg/m}^2$ when tested to EN 12087: 2013 (Thermal insulating products for building applications. Determination of long term water absorption by immersion).

Density

Kingspan K-Roc® Partial Fill Cavity Wall Slab has a nominal density of 45 kg/m^3 .

Thermal properties

The λ -values and R-values detailed below are quoted in accordance with BS EN 13162: 2012 + A1: 2015 (Thermal insulation products for buildings. Factory made mineral wool (MW) products. Specification).

Thermal conductivity

The slabs achieve a thermal conductivity (λ -value) of: 0.035 W/mK .

Thermal resistance

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

Insulant thickness (mm)	Thermal resistance ($\text{m}^2\text{K/W}$)
120	3.40
130	3.70
140	4.00
150	4.25
160	4.55
170	4.85
180	5.10
190	5.40
200	5.70

Fire performance

Under System 1 AVCP, Kingspan K-Roc® Partial Fill Cavity Wall Slab achieves European Classification (Euroclass) A1 when classified to EN 13501-1: 2018 (Fire classification of construction products and building elements - Classification using data from reaction to fire tests). The EU Certificate of Constancy of Performance (certificate number 0751-CPR-400.0-01) is available to download on the [website](#).

Typical constructions

Assumptions

The U-values in the tables that follow have been calculated using the method detailed in ISO 6946: 2017 (Building components and building elements - Thermal resistance and thermal transmittance - Calculation methods). They are valid for the constructions shown in the detail immediately above the table.

NB When calculating U-values to ISO 6946: 2017, the type of wall tie used may change the thickness of insulation required. For cavity widths ≤ 150 mm, calculations assume a stainless steel flexible tie with 2.5 ties per m^2 and a cross-sectional area of 12.50 mm^2 . For cavity widths > 150 mm, calculations assume a stainless steel flexible tie with 4.9 ties per m^2 and a cross-sectional area of 23.4 mm^2 .

U-value table key

Further information on the applicable notional and area weighted average limiting U-values is available in the relevant geographical documentation:

- Technical Guidance Document L (Dwellings) and Technical Guidance Document L (Buildings other than Dwellings) to the Building Regulations for the Republic of Ireland
- Technical Booklets F1 & F2 to the Building Regulations for Northern Ireland.

102.5 mm brick outer leaf / 100 mm block inner leaf

Internal finish - 13 mm lightweight plaster

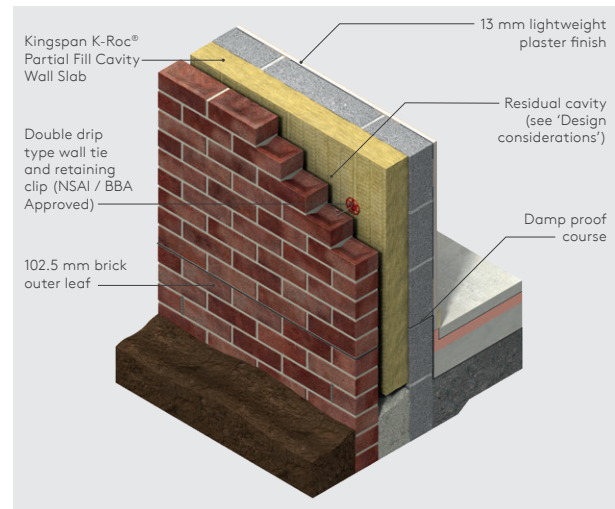


Figure 1

U-values (W/m^2K) for various thicknesses of Kingspan K-Roc [®] Partial Fill Cavity Wall Slab	
Insulant thickness (mm)	U-values (W/m^2K)
120	0.25
130	0.24
140	0.22
150	0.21
160	0.20
170	0.19
180	0.18
190	0.17
200	0.16

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

Design considerations and sitework

Specification clause

Kingspan K-Roc® Partial Fill Cavity Wall Slab should be described in specifications as: The wall insulation shall be Kingspan K-Roc® Partial Fill Cavity Wall Slab ____ mm thick: comprising a rock mineral fibre insulation, with a thermal conductivity of 0.035 W/mK.

Design standards

The following should be consulted regarding the construction of insulated cavity walls:

- I.S. EN 845-1: 2013 + A1: 2016 (Specification for ancillary components of masonry. Wall ties, tension straps, hangers and brackets);
- I.S. EN 1996-1-1: 2005 + A1: 2012 (Eurocode 6. Design of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures);
- I.S. EN 1996-2: 2006 (Eurocode 6. Design of masonry structures - Design considerations, selection of materials and execution of masonry);
- I.S. EN 1996-3: 2006 (Eurocode 6. Design of masonry structures - Simplified calculation methods for unreinforced masonry structures); and
- PD 6697: 2019 (Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2).

Residual cavity width

Ireland

A minimum cavity width of 40 mm is recommended for wall heights up to 12 m. For buildings over 12 m and up to 25 m in height, the exposure factor must not exceed 120, calculated in accordance with IS EN 1996-3: 2006 (with masonry or concrete inner and outer leaves) and using the Irish Map of Driving Rain Index. Otherwise a min. 50 mm residual cavity must be retained.

For further details please contact the Kingspan Insulation Technical Service Department (see rear cover for details).

NI

The residual cavity width should be 50 mm. This may be reduced to 25 mm in isolated areas due to individual construction features. For further details please contact the Kingspan Insulation Technical Service Department (see rear cover for details).

The NHBC normally requires a 50 mm residual cavity width in areas of severe exposure to wind driven rain (exposure zone 3) and a minimum 75 mm residual cavity width in areas of very severe exposure to wind driven rain (exposure zone 4), where nominal standards of tolerance and workmanship are accepted.

Wall ties

Wall ties should have a retaining clip for securing the insulant to the masonry plane and be of a double drip type. Ideally they should be BBA / NSAI approved and conform to I.S. EN 845-1: 2013 + A1: 2016, I.S. EN 1996-1-1: 2005 + A1: 2012, I.S. EN 1996-2: 2006, I.S. EN 1996-3: 2006 and PD 6697: 2019.

General

Cutting

- Cutting should be carried out using a hard steel-bladed saw, such as a fine-toothed hand saw. For minor adjustments or notches, use a sharp knife or insulation knife.
- Ensure accurate trimming to achieve close-butting joints and continuity of insulation.
- Appropriate personal protective equipment (PPE) should be worn, including:
 - work gloves
 - loose-fitting, long-sleeved shirts and long trousers to prevent skin irritation from fibres
 - cap or hood to prevent irritation from fibres
 - safety glasses
 - disposable dust respirator - a certified dusk mask with a filter FFP2 or greater to prevent inhalation of dust particles.

Availability

- Kingspan K-Roc® Partial Fill Cavity Wall Slab is available through specialist insulation distributors and selected builders' merchants throughout Ireland and Northern Ireland.

Packaging & storage

- The polyethylene packaging of Kingspan Insulation products, which is recyclable, should not be considered adequate for outdoor protection.
- Ideally, slabs should be stored inside a building. If, however, outside storage cannot be avoided, then the slabs should be stacked clear of the ground and covered with an opaque polythene sheet or weatherproof tarpaulin. Slabs that have been allowed to get wet should not be used. To prevent damage, do not place any weight or objects on the insulation slabs.
- Do not stack insulation slabs more than 3 metres high.

Health & safety

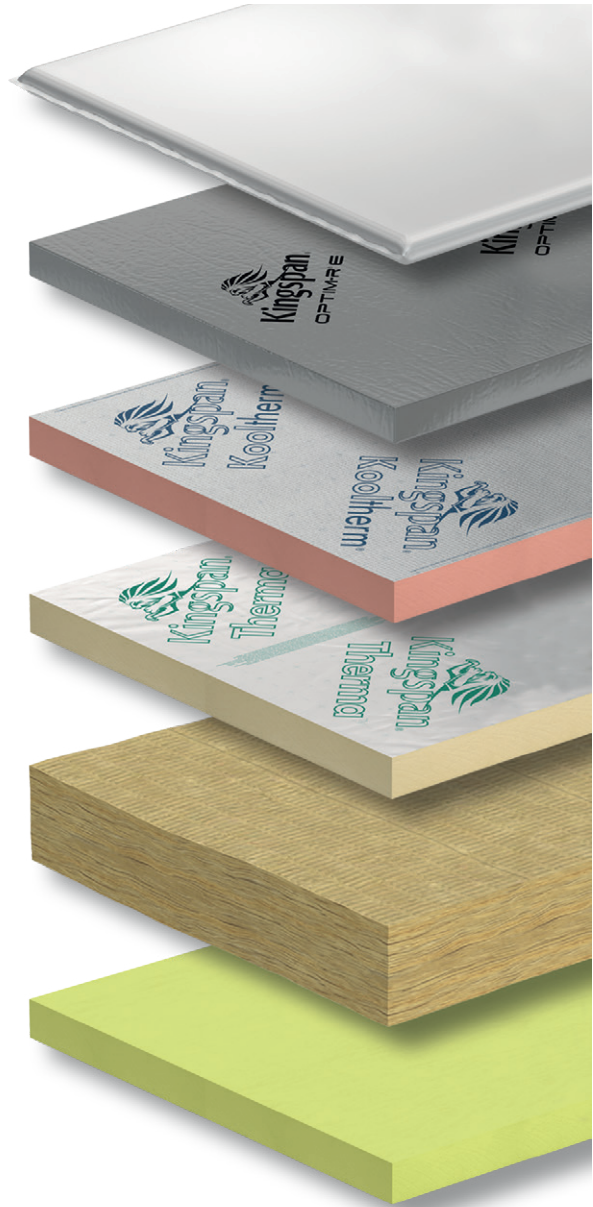
- A Safety Information Data Sheet for this product is available from the Kingspan Insulation website www.kingspaninsulation.ie/safety.

About Kingspan Insulation

Products & solutions

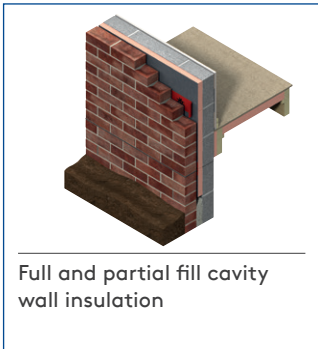
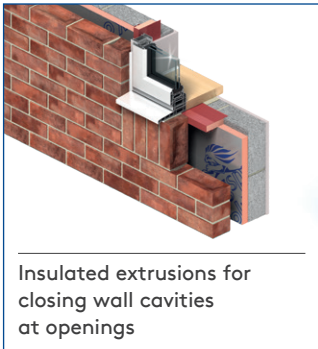
Rigid insulation products for building fabric applications, including roofs, walls and floors.

- Kingspan AlphaCore® – microporous silica-based insulation.
- Kingspan OPTIM-R® – vacuum insulation panel (VIP) systems.
- Kingspan Kooltherm® – phenolic insulation.
- Kingspan Therma™ – PIR insulation.
- Kingspan K-Roc® – rock mineral fibre insulation.
- Kingspan GreenGuard® – extruded polystyrene insulation (XPS).
- Kingspan TEK® – structural insulated panels (SIPs).
- Cavity closers – PVC-U extrusions with an insulation core.
- Membranes – for pitched roofs and walls.

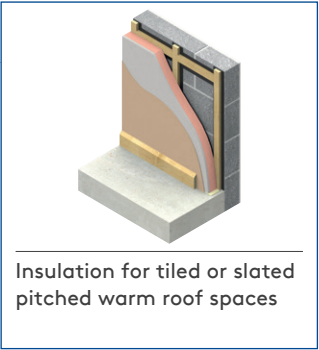


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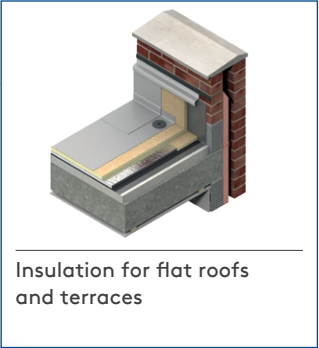
From new housing developments to refurbishing your home, we offer a number of different solutions for roof, wall and floor applications.



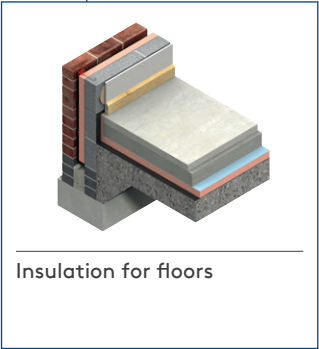
About Kingspan Insulation



Insulation for tiled or slated pitched warm roof spaces



Insulation for flat roofs and terraces



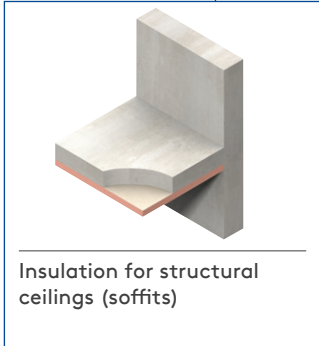
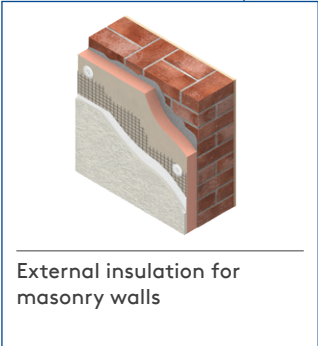
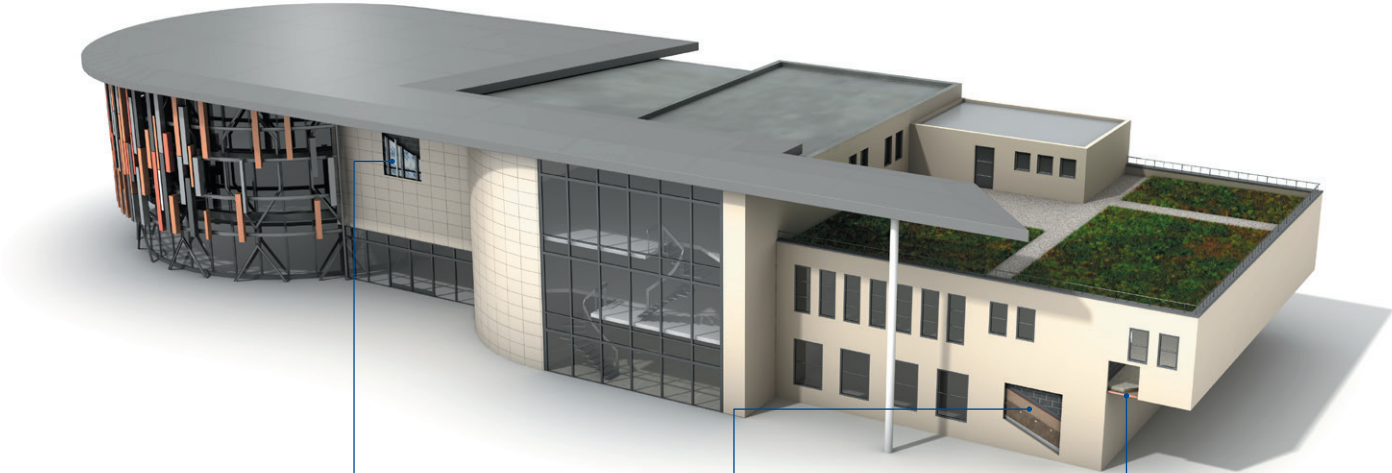
Insulation for floors



Insulation for timber and steel framing systems

About Kingspan Insulation

Solutions available for roofs, walls and floors of commercial buildings, from schools to retail.



About Kingspan Insulation

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 leading manufacturer of rigid insulation products and insulated systems for building fabric and building services applications.

Our site in Castleblayney, Ireland, is accredited to the independent compliance standard ISO 37301: 2021.



Services

Our support services provide fast and accurate advice no matter what your role is. Visit our website to access the following services.

- U-value calculations – free, quick and easy U-value calculations with our U-value Calculator.
- Help and advice on your projects, including stockists, how to guides, regulatory guidance and e-learning.
- Dedicated Specification and Sales teams to support projects.
- Building Information Modelling (BIM) – download BIM objects for our products.
- Tapered roofing service – Kingspan Insulation's tapered roofing systems come with a supporting design service to ensure the most cost-effective solution for a roof is identified.



- CPDs – Kingspan Insulation offers a number of free CPD seminars for architects and specifiers covering a wide range of industry topics. CPDs can be booked or a range of courses can be found online.



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Our Planet Passionate programme aims to have a positive impact on three big global challenges: climate change, circularity and protection of our natural world.



Scan for our latest progress report to learn more about our targets, partnerships and global commitments.

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Visit our free online U-value calculator.
Offering free, quick and easy calculations
for wall, floor and roof constructions.



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