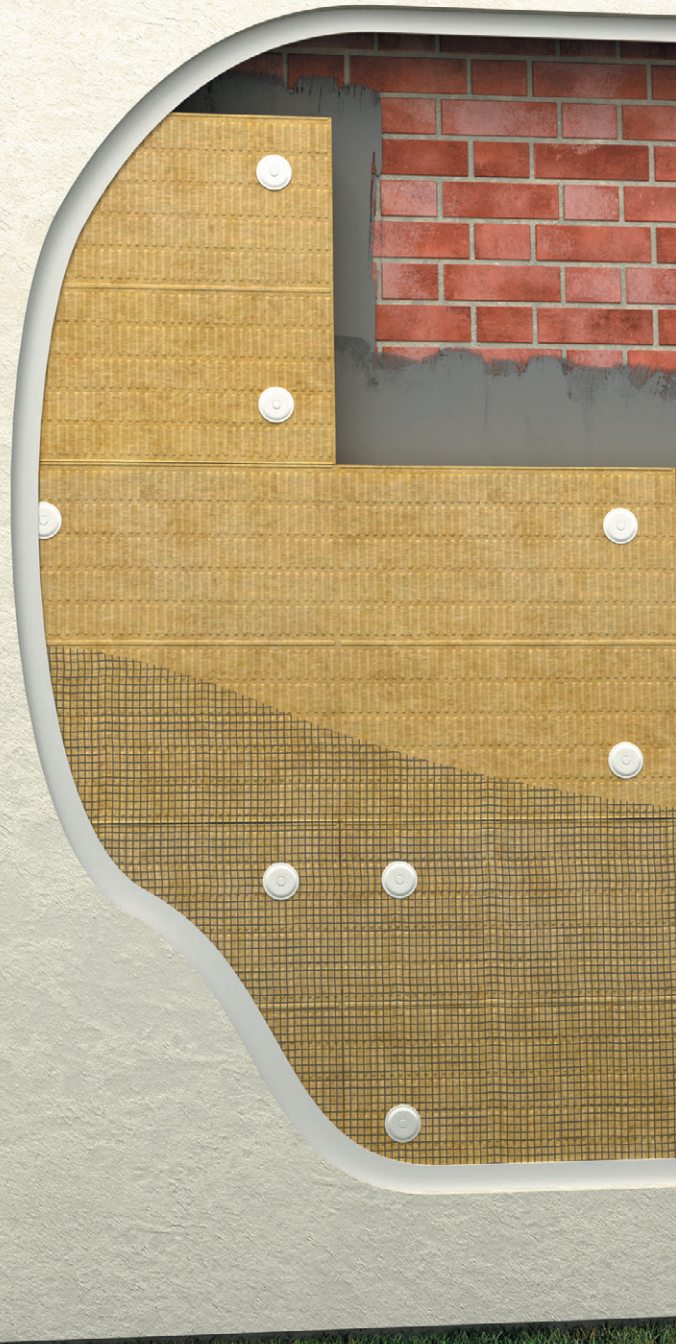


Insulation
Ireland

First Issue | 11/2025

K-Roc® External Wall Slab

External insulation for masonry walls



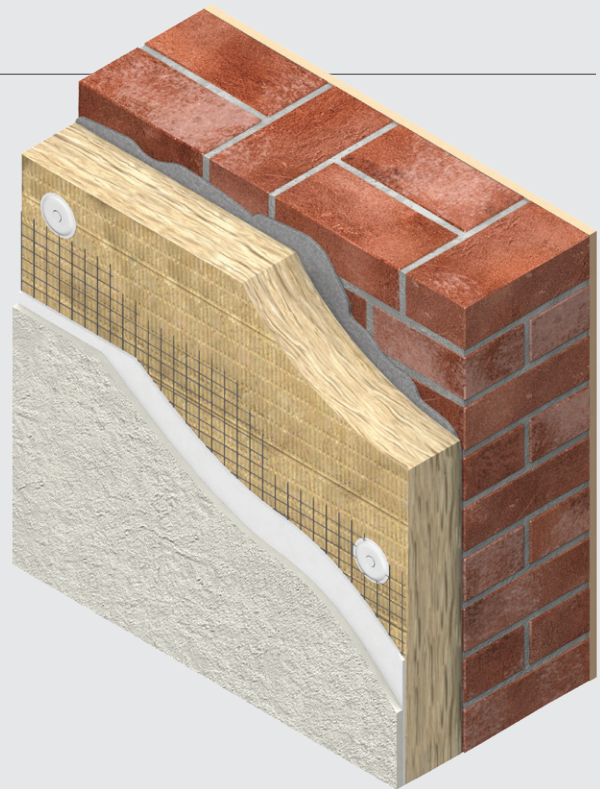
Kingspan®

Contents

Introduction	1
Product details	2
The product	2
Standard dimensions	2
Moisture properties	2
Compressive strength	2
Density	2
Thermal properties	2
Fire performance	2
Typical constructions & U-values	3
Assumptions	3
U-value table key	3
New build - solid block wall	3
Refurbishment	4
Sitework	5
General	5
About Kingspan Insulation	6
Products & solutions	6
Company details	10
Services	10
Planet Passionate	11

Introduction

- Rock mineral fibre insulation with a thermal conductivity of 0.037 W/mK
- European Classification (Euroclass) A1
- Suitable for use behind traditional and lightweight polymer modified renders
- Ideal for new build and refurbishment



Useful links

Website

[Kingspan K-Roc® External Wall Slab webpage](#)

Declaration of Performance (DoP)

[Kingspan K-Roc® External Wall Slab Declaration of Performance](#)

Safety information

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

Product details

The product

Kingspan K-Roc® External Wall Slab is a rock mineral fibre insulation.

Standard dimensions

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

Nominal dimension		Availability
Length	(m)	1200
Width	(m)	600
Insulant thickness	(mm)	50 - 200

Moisture properties

Kingspan K-Roc® External Wall Slab typically achieves a water vapour resistivity of 5 MNs/gm and 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® External Wall Slab typically 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® External Wall Slab typically 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).

Compressive stress

Kingspan K-Roc® has a compressive stress of 30 kPa when tested to BS EN 826: 2013 (Thermal insulating products for building applications. Determination of compression behaviour).

Density

Kingspan K-Roc® External Wall Slab has a density of 120 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: 0.037 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 ($\text{m}^2\text{K/W}$)
50	1.35
60	1.60
70	1.85
80	2.15
90	2.40
100	2.70
110	2.95
120	3.20
130	3.50
140	3.75
150	4.05
160	4.30
170	4.55
180	4.85
190	5.10
200	5.40

Fire performance

Under System 1 AVCP, Kingspan K-Roc® External 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 from the Kingspan Insulation Technical Service Department (see rear cover for details).

Typical constructions & U-values

Assumptions

The U-values in the tables that follow have been calculated using the method detailed in EN ISO 6946: 2017 (Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods), and 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.

For the refurbishment examples, the internal wall finish is taken as 13 mm lightweight plaster unless stated otherwise. In all examples, the external wall rendered finish is taken to be a 10 mm polymer render.

NB When calculating U-values to EN ISO 6946: 2017, the type of mechanical fixing used may change the thickness of insulation required. These calculations assume telescopic tube fasteners with a thermal conductivity of 1.00 W/mK or less, the effect of which is insignificant.

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 below 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.

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.

New build - solid block wall

215 mm dense block* and Kingspan K-Roc® External Wall Slab

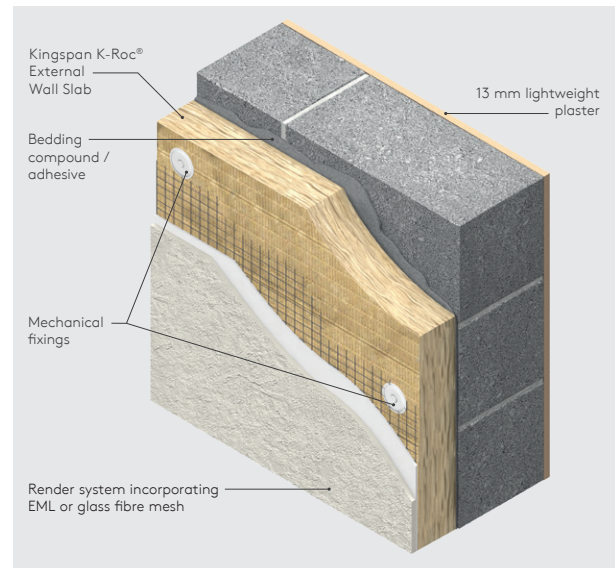


Figure 1

U-values for various thicknesses of Kingspan K-Roc® External Wall Slab and 215 mm dense block with 10 mm polymer render	
Insulation thickness (mm)	U-value (W/m ² K)
100	0.31
110	0.29
120	0.27
130	0.25
140	0.23
150	0.22
160	0.21
170	0.20
180	0.19
190	0.18
200	0.17

* Calculations assume dense block of λ -value 1.13 W/mK.

NB A 6.6% thermal bridging factor has been assumed for the effect of mortar joints.

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

Typical constructions & U-values

Refurbishment

102.5 mm brick / 50 mm EcoBead® Platinum® filled cavity / 100 mm block* and Kingspan K-Roc® External Wall Slab

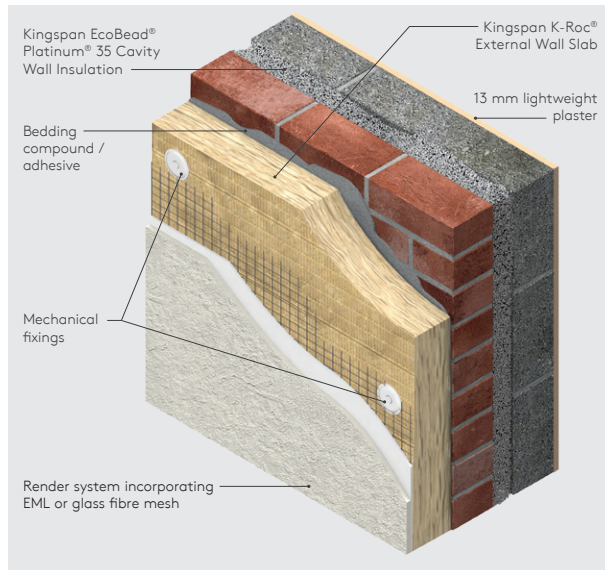


Figure 2

U-values for various thicknesses of Kingspan K-Roc® External Wall Slab and 102.5 mm brick / 50 mm EcoBead® Platinum® filled cavity / 100 mm block with 10 mm polymer render

Insulation thickness (mm)	U-value (W/m ² K)
70	0.26
80	0.24
100	0.21
110	0.20
120	0.19
130	0.18
140	0.17
150	0.17
160	0.16
170	0.15
180	0.15
190	0.14
200	0.14

* Calculations assume dense block of λ -value 1.13 W/mK.

NB A 6.6% thermal bridging factor has been assumed for the effect of mortar joints.

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

Sitework

Minimum render thickness

- All render coats should be strictly applied in accordance with the system suppliers accreditation and their current application guidance, paying particular attention to thickness and cure times between layers. Advice must be sought from the system provider.
- Minimum total render thicknesses should average 8 mm and not drop below 6 mm at any point.

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 dust mask with a filter FFP2 or greater to prevent inhalation of dust particles.

Availability

- K-Roc® External Wall Slab is available through specialist insulation distributors and selected builders' merchants throughout 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

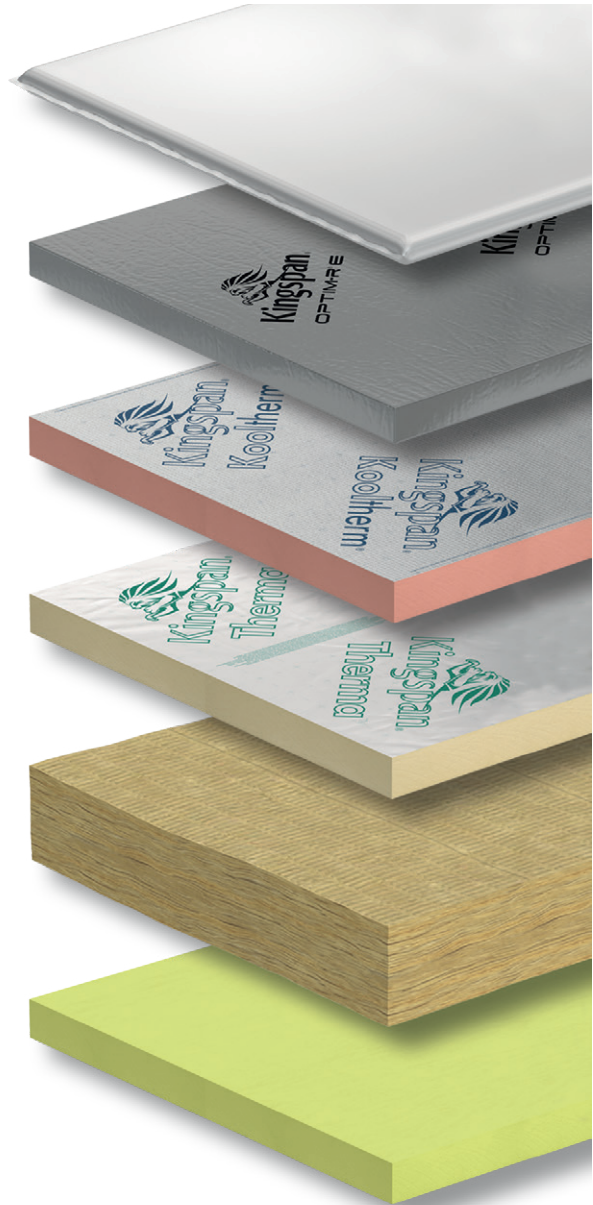
- A Safety Information Data Sheet for this product is available from the Kingspan Insulation website www.kingspaninsulation.ie/safety.

About Kingspan Insulation

Products & solutions

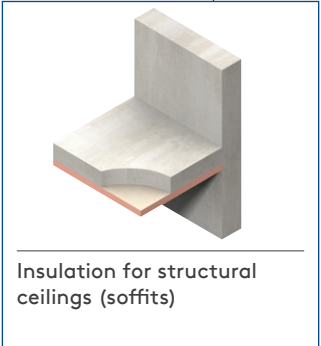
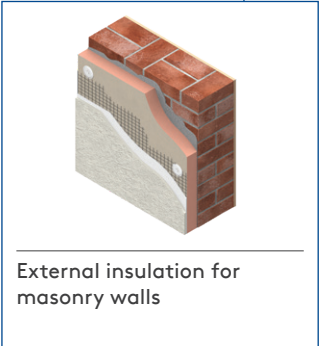
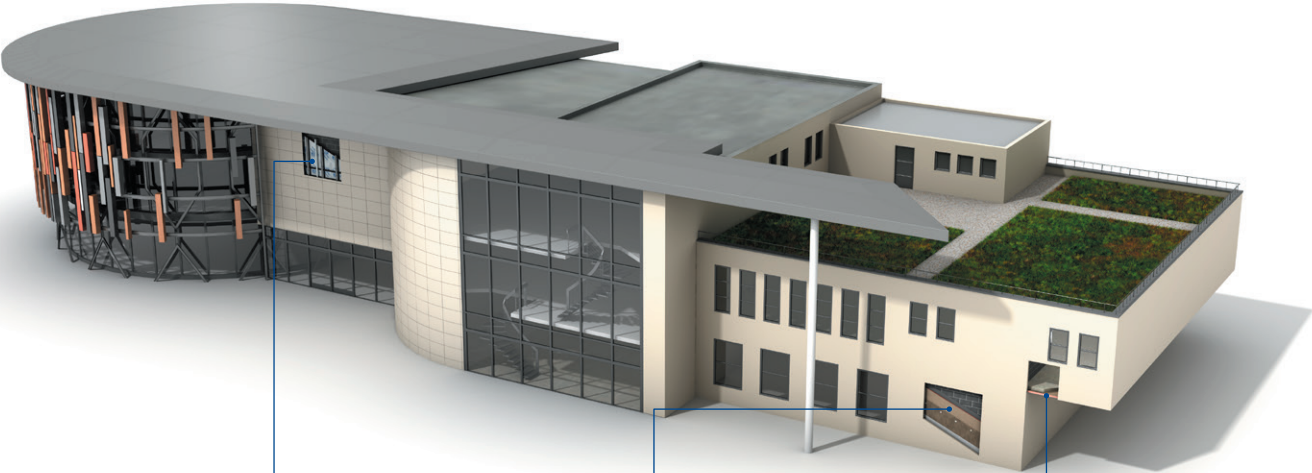
Rigid insulation products for building fabric applications, including roofs, walls and floors.

- 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 Aerobord® - expanded polystyrene (EPS).
- Kingspan TEK® - structural insulated panels (SIPs).
- Cavity closers - PVC-U extrusions with an insulation core.
- Membranes - for pitched roofs and walls.



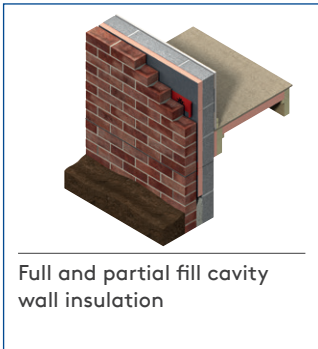
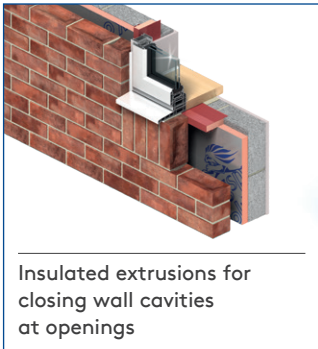
About Kingspan Insulation

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

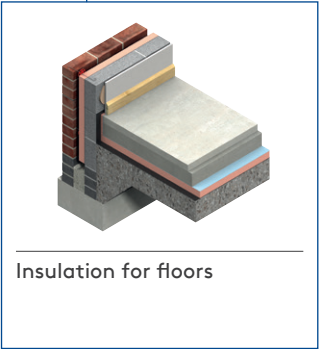
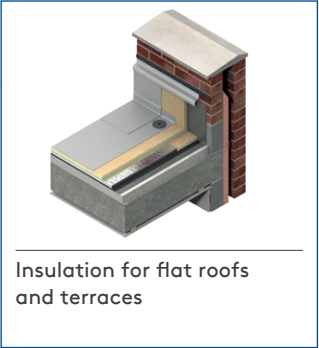
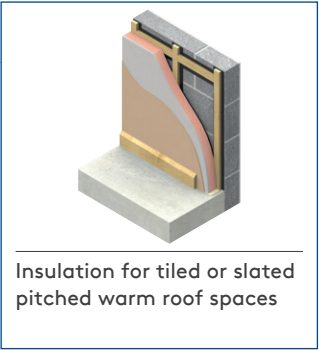


About Kingspan Insulation

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



About Kingspan Insulation



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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Planet Passionate is our group wide global sustainability programme.

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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