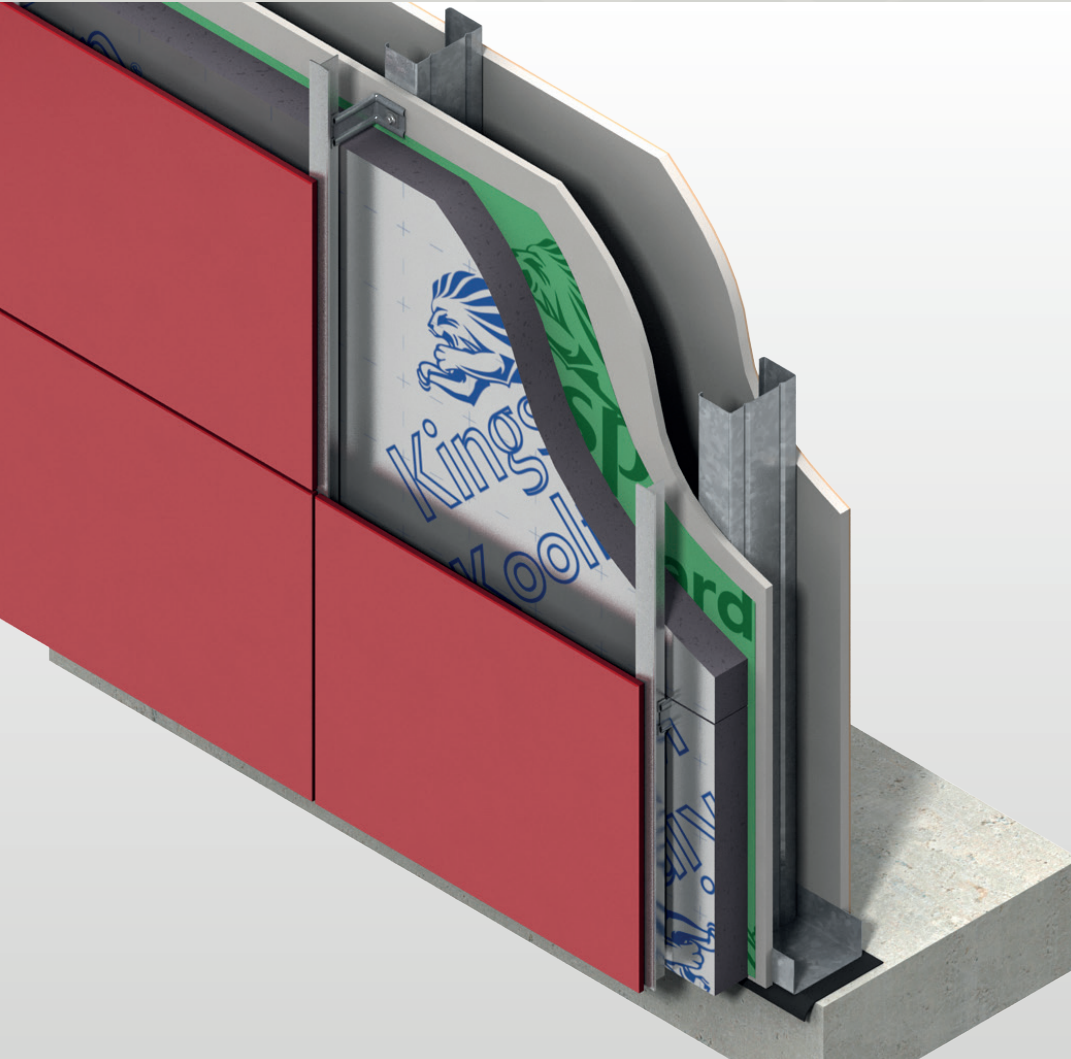




Kooltherm® K15 Rainscreen Board

INSULATION FOR RAINSCREEN CLADDING SYSTEMS



- Premium performance rigid thermoset insulation
- NFPA 285 compliant
- UL Classified
- Higher R-value per inch than any commonly used insulation
- R-value of 13.3 on 2 in
- Negligible smoke developed
- ASTM E84 rating of 25/20 (flame-smoke)
- Clear cavity is maintained – resists moisture penetration
- Resistant to the passage of water vapor
- Easy to handle and install
- Manufactured with a blowing agent that has zero ODP, low GWP, HCFC and CFC free

Fiber-free
Core


Kingspan®

*Low Energy –
Low Carbon Buildings*

Typical Constructions

Introduction

Kingspan Kooltherm® K15 Rainscreen Board is a premium performance insulation products, with a fiber-free rigid thermoset phenolic insulation core faced on both sides with a low emissivity composite foil facing. The product is used as insulation for rainscreen cladding systems.

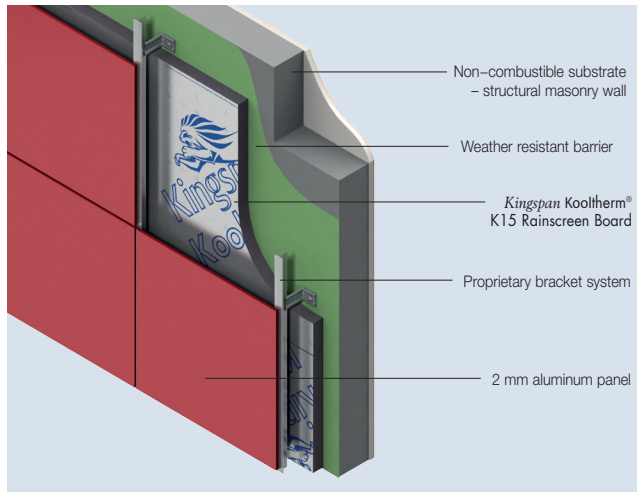


Figure 1 – Insulated Rainscreen Cladding Systems (2mm aluminum panel)

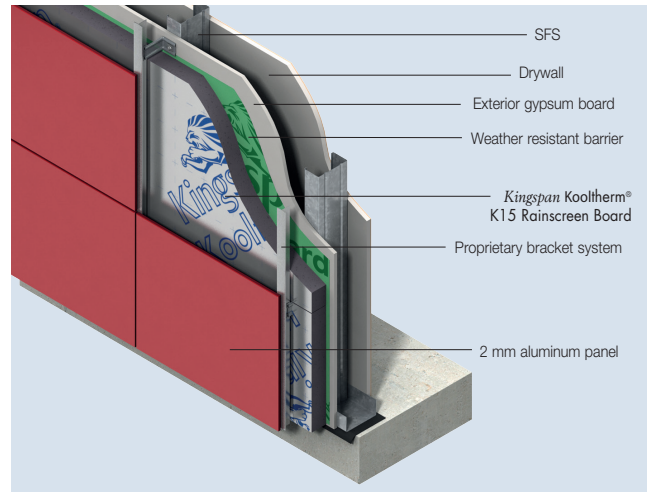


Figure 3 – Insulated Rainscreen Cladding Systems (2mm aluminum panel)

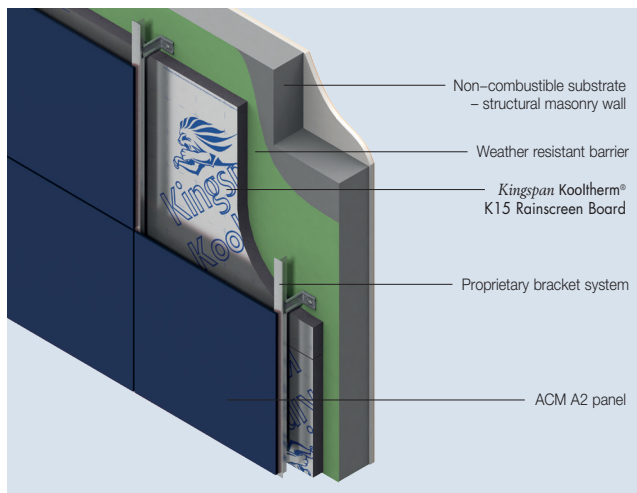


Figure 2 – Insulated Rainscreen Cladding Systems (ACM A2 panel finish)

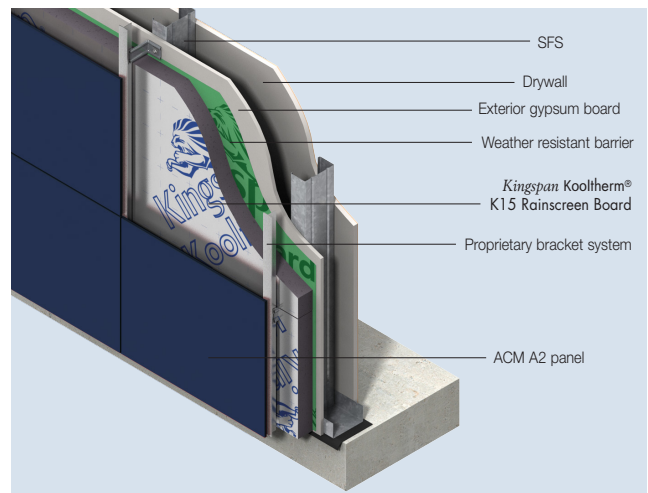


Figure 4 – Insulated Rainscreen Cladding Systems (ACM A2 panel finish)

Product Details

The Facings

Kingspan Kooltherm® K15 Rainscreen Board is faced on both sides with a low emissivity composite foil, adhesively 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® K15 Rainscreen Board* is a premium performance rigid thermoset fiber-free phenolic insulant manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).



Standard Dimensions

Kingspan Kooltherm® K15 Rainscreen Board is available in the following standard size(s):

Nominal Dimension	Availability	
	(in)	(mm)
Width	47.25	1200
Length	96	2438
Insulant Thickness	Refer to Kingspan Insulation for current stock and non-stock sizes.	

Durability

If correctly installed, *Kingspan Kooltherm® K15 Rainscreen Board* can have an indefinite life. Its durability depends on the supporting structure and the conditions of its use.

Resistance to Solvents, Fungi & Pests

The insulation core is resistant to short-term contact with petroleum 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 the 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® K15 Rainscreen Board* resist attack by mold and microbial growth, and do not provide any food value to pests.

Product Data

Property	Test Method	Result
General		
Nominal Thickness (in / mm)	Stock*	1.18 / 30
(in / mm)		1.97 / 50
(in / mm)		2.95 / 75
Standard Dimensions		
Width (in / mm)		47.25 / 1200
Length (in / mm)		96 / 2438
Compressive Strength, Min. (psi)	ASTM C209	15
Water Absorption, Max. (% by volume)	ASTM C272	1.15
Density, Min. (lb/ft³)	ASTM C1621	2.0
Closed Cell Content (% of cells closed)	ASTM D6226	94.67
Air Permeance (L/S/m²) / (cfm/ft²)	ASTM E2178	0.002 / 0.000
Water Vapor Permeance, Max. ¹ (perm)	ASTM E96	0.51

¹ Permeance shown is for 25mm thick board. Permeance typically decreases as board thickness increases.

* Contact Kingspan Insulation for available non-stock sizes.



Product Details

Standards & Approvals

Kingspan Kooltherm® K15 Rainscreen Board, is manufactured to the highest standards under a management system certified to ISO 9001: 2008 (Quality Management Systems. Requirements), ISO 14001: 2004 (Environmental Management Systems. Requirements), and OSHAS 18001:2007 (Occupational Health & Safety Management Systems. Requirements).

Fire Performance

The rigid thermoset insulation core of *Kingspan Kooltherm® K15 Rainscreen Board*, when subjected to the ASTM E84 (Standard Test Method for Surface Burning Characteristics of Building Materials) / UL 723 fire test specified in the table below, has achieved the result shown.

Flame Spread	Smoke Developed
25	20

Exterior Wall Fire Performance

With its superior fire properties, *Kingspan Kooltherm® K15 Rainscreen Board* has gained the following NFPA 285 UL Certification Listings:

[Alucobond ACM A2 Panel Rainscreen Wall System Certification](#)

[Dri-Design Aluminum Panel Rainscreen Wall System Certification](#)

[Henkel Acrylic Stucco Wall System](#)

[Masonry Veneer Wall System](#)



Further details of the fire performance of Kingspan Insulation products may be obtained from Kingspan Insulation.

Thermal Resistance

The R-values detailed below are quoted in accordance with ASTM C518 (Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus).

Thermal resistance (R-value) varies with thickness and is calculated by dividing the thickness of the board by its thermal conductivity.

Insulant Thickness		Thermal Resistance
(in)	(mm)	(R-value)*
1.18 •	30	8.0
1.38	35	9.3
1.57	40	10.6
1.77 •	45	12.0
1.97	50	13.3
2.17	55	14.7
2.36	60	16.0
2.56	65	17.4
2.76 •	70	18.7
2.95	75	20.0
3.15	80	21.4
3.35	85	22.7
3.54	90	24.0
3.74	95	25.4
3.94 •	100	26.7
4.72	120	32.0
5.91	150	40.1

Stocked Items
Refer to Kingspan Insulation for current stock and non-stock sizes.

* Listed R-values are based on certified thermal conductivity testing at 75 mm.

Design Considerations

Sustainability & Responsibility

Kingspan Insulation has a long-term commitment to sustainability and responsibility.

A report covering the sustainability and responsibility of Kingspan Insulation Ltd's British operations is available at

www.kingspaninsulation.co.uk/sustainabilityandresponsibility.

Specification Clause

Kingspan Kooltherm® K15 Rainscreen Board should be described in specifications as:

The wall insulation shall be *Kingspan Kooltherm® K15 Rainscreen Board* ____ mm thick: comprising a premium performance rigid thermoset insulation core faced on both sides with a low emissivity composite foil facing. 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 BS / I.S. EN ISO 9001: 2008, BS / I.S. EN ISO 14001: 2004 and BS / I.S. OHSAS 18001: 2007 and ISO 50001: 2011; by Kingspan Insulation LLC; and installed in accordance with the instructions issued by them.

Sitework

General

Cutting

- Cutting should be carried out either by using a fine toothed saw, or by scoring with a sharp knife, snapping the board over a straight edge and then cutting the 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® K15 Rainscreen Board* is available through specialist insulation distributors throughout the US.

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 polyethylene sheet or weatherproof tarp. Boards that have been allowed to get wet should not be used.

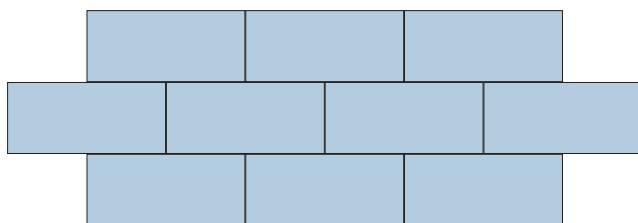
Health and Safety

- Kingspan Insulation products are chemically inert and safe to use.
- A Safety Data Sheet for this product is available from the Kingspan Insulation website
www.kingspaninsulation.us

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.



Layer Staggered-Joint Pattern

Boards to be installed horizontally (meaning 96 in horizontal orientation)

Installation

- Since rainscreen cladding systems are proprietary and utilize different mechanisms for attaching cladding panels to the wall structure, installation guidance should be sought from the system manufacturer.
- However, in the absence of any other guidance the instructions laid out below may be followed.
- Insulation boards should be installed break-bonded with board edges lightly butted and in such a manner to achieve a close fit between the board and substrate interface so as to avoid gaps behind or between the boards.
- Boards should be cut neatly around fasteners and brackets, so as to avoid gaps. Where small gaps are unavoidable, fill gaps with fire rated sealant or expanding sealant.
- The number and type of mechanical fasteners required to fasten *Kingspan Kooltherm® K15 Rainscreen Board* will vary with the geographical location of the building, the local topography, the height and width of the wall concerned, the wall structure, and the type of mechanism being used to attach the cladding system.
- A minimum of 9 fasteners are required to secure the insulation board to the wall structure.
- Please refer to the column opposite for recommended fastening patterns.
- Fasteners at board edges must be located > 2 in and < 6 in from edges and corners of the board and not overlap board joints.

Refer to:

EJOT 262-612-3550

www.ejot-usa.com

SFS Intec 610-376-5751

www.sfsintec.ca

Rodenhouse 616-454-3100

www.rodenhouse-inc.com/kingspan-kooltherm

ITW Ramset 800-848-5611

www.ramset.com

- The joints of *Kingspan Kooltherm® K15 Rainscreen Board* should always be taped using a fire rated classified to Class 1 / Class A ASTM E84 / UL 723, 3 in. wide self-adhesive aluminium foil rainscreen cladding tape.
- In the absence of other protection, exposed edges of *Kingspan Kooltherm® K15 Rainscreen Board* should be protected by a suitable self-adhesive aluminium foil tape fire rated classified to Class 1 / Class A ASTM E84 / UL 723, with a 3 in. min. wide overlap onto the insulation board face.

Kingspan Insulation

Company Details

Kingspan Insulation LLC 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 traded group of companies headquartered in Kingscourt, County Cavan, Ireland.

Kingspan Insulation LLC, headquartered in Atlanta, GA, is a leading manufacturer in energy efficiency and moisture management products, offering high performance insulation, building wraps and pre-insulated HVAC ductwork.

Products & Applications

Kingspan Insulation LLC has a vast product range that includes optimum, premium and high performance rigid insulation products and moisture management products.

Kingspan Insulation LLC products are suitable for both new build and renovation in a variety of applications within both residential and non-residential buildings.

Insulation for:

- Flat Roofs (XPS & VIP)
- Green Roofs (XPS & VIP)
- Cavity Walls
- Solid Walls
- Wood and Steel Framing
- Insulated Cladding Systems
- Insulated Render Systems
- Below Grade
- Basement Walls
- Floors
- Soffits
- Ductwork

Further Solutions:

- *Kingspan* Kooltherm® Cavity Closer
- *Kingspan* KoolDuct® Pre-Insulated Ducting
- *Kingspan* **GreenGuard**® Building Wraps

Insulation Product Benefits

Product Overview

Kingspan **OPTIM-R**® Vacuum Insulation Panel (VIP)

- With an aged R-value of 28 per inch, these products provide an insulating performance that is up to five times better than other commonly available insulation materials.
- Provides high levels of thermal efficiency with minimal thickness.
- Over 90% (by weight) recyclable.

Kingspan Kooltherm® K-range Products

- Higher R-value per inch than any commonly used insulation.
- Each product achieves the required fire performance for its intended application.
- ASTM E84 rating of 25/20 (flame-smoke)
- Manufactured with a blowing agent that has zero ODP, low GWP, HCFC and CFC free.

Kingspan **GreenGuard**® Product Line

- Rigid extruded polystyrene insulation (XPS) for use as general purpose insulation for roofing, wall and foundation applications requiring a minimum compressive strength.
- R-value of 5.0 per inch of thickness.
- Continuous Insulation (Ci) for above grade walls, as well as below grade walls and floors.
- Provides an extra barrier against moisture infiltration.
- Each product achieves the required fire performance for its intended application.

All Products

- Unaffected by air infiltration – a problem that can be experienced with mineral fiber 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.

Contact Details

Sales and Technical Support

Tel 1 800 241 4402
Fax 1 678 589 7325
email info@kingspaninsulation.us
website www.kingspaninsulation.us

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For more information on specific building product recommendations and product data, contact your Kingspan Insulation LLC representative.

For the most current installation guidelines and compliance information go to www.kingspaninsulation.us.

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