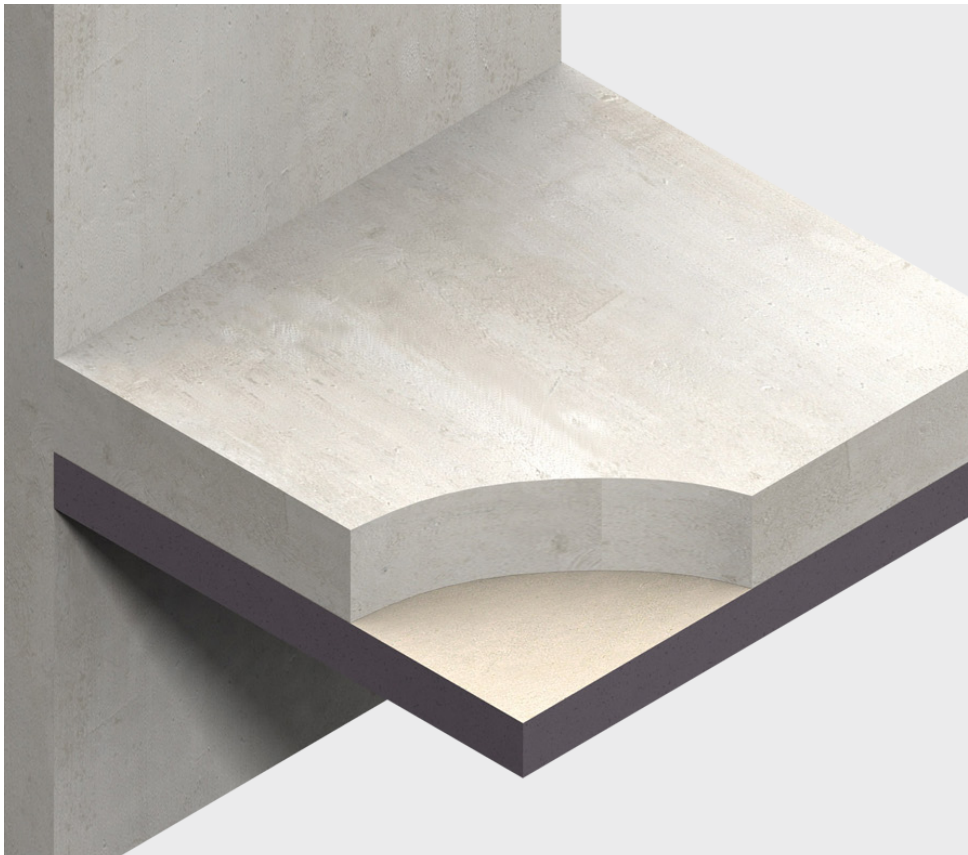


Kooltherm[®]

K110 Soffit Board

Insulation for structural ceilings (soffits)



- R-Value of 8.1 per inch
- Thin profile solution for insulating soffits
- FM 4880 approved*
- NFPA 286 approved*

*see fire performance section for additional details

Product Details

K110 Soffit Board

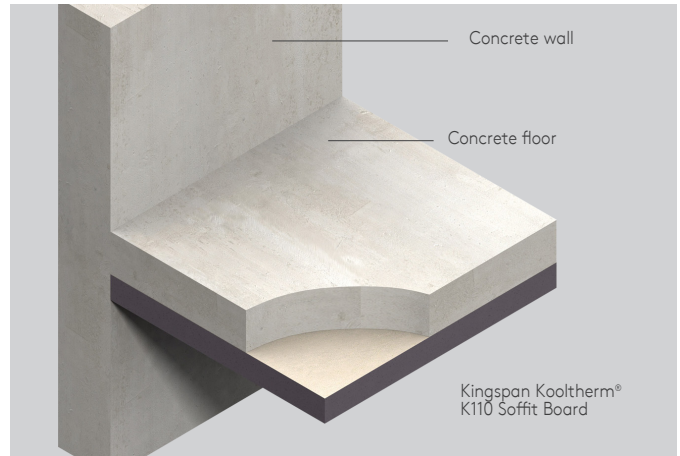
Introduction

Kingspan Kooltherm® K110 Soffit Board is a premium performance insulation product with a fiber-free rigid thermoset phenolic core, a glass tissue based facer on its back surface and a low emissivity composite foil on its front surface which is used for structural ceilings.

- Fire resistance
 - ASTM E84 Class A rating (≤ 25 flame spread, ≤ 450 smoke developed)
 - NFPA 286 approved*
 - FM 4880 approved*
- R-value
 - R-8.1 per inch
 - Premium Performance
- Ultra-thin
 - Thinner insulation boards needed to meet a required R-value
 - Increased floor to ceiling clearances
- Proven product line
 - Used in thousands of projects world-wide
 - In service across the world for over 20 years
- Sustainability
 - Manufactured with a blowing agent that has zero ODP, low GWP, and both HCFC and CFC free

NOTE: Products referenced in this brochure are appropriate for the US and Canada only. Products in other countries, even with the same product name, may have differences.

Fastened Directly to Concrete Soffit



The Core

The core of Kingspan Kooltherm® K110 Soffit 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).



The Exposed Facing

The exposed facing of Kingspan Kooltherm® K110 Soffit Board is a low emissivity composite foil, bonded to the insulation core during manufacture. When variation to the appearance is required, advice should be sought from the Kingspan Insulation Technical Service Department.

Standard Dimensions

Kingspan Kooltherm® K110 Soffit Board is available in the following standard size:

Nominal Dimension	Availability	
	(in)	(mm)
Width	47.24	1200
Length	89.37	2270

*see fire performance section for additional details

Product Details

K110 Soffit Board

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).

Insulant Thickness		Thermal Resistance
(in)	(mm)	(R-value)*
1.57	40	12.8
1.97	50	15.9
2.36	60	19.1
2.5	63.5	20.3
2.76	70	22.3
2.95	75	23.9
3.15	80	25.5
3.54	90	28.7
3.94	100	31.9

* Note: Listed R-values per Intertek Code Compliance Research Report CCRR-1066. R-values are expressed in ft²•h•F/Btu.

* Contact Kingspan Insulation for available non-stock sizes

Fire Performance

The rigid thermoset insulation core of Kingspan Kooltherm® K110 Soffit Board, when subjected to the ASTM E84 (Standard Test Method for Surface Burning Characteristics of Building Materials) fire test specified in the table below, has achieved the result shown.

Flame Spread	Smoke Developed
≤ 25	≤ 450

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

FM Certification

Kingspan Kooltherm® K110 Soffit Board is FM Approved to FM 4880 (Approval Standard for Class 1 Fire Rating of Building Panels or Interior Finish Materials) October 2015. Kooltherm® K110 (thicknesses up to, and including, 4.72 in / 120mm. This approval is valid for ceiling / soffit insulation only, with noncombustible walls with no height restriction. For the purpose of FM Approval, the Kooltherm® K110 entire product thickness and exposed facer should be fastened to the supporting structural soffit with metal mechanical fasteners & washer plates with minimum 2 in / 50 mm wide aluminum tape over joints. For mechanical reasons the fastening specification given on page 4 of this document and the taping specification on page 5 must still be followed. Not all thicknesses are covered by the FM Approval when fixed in a ceiling / soffit position. Further details of the current FM Approval can be located on the FM Approvals online listing website 'Approval Guide' at www.fmapprovals.com / approval-guide or www.approvalguide.com by searching Kooltherm K110 or alternatively contact the Kingspan Insulation Technical Service Department.

NFPA 286

Kingspan Kooltherm® K110 Soffit Insulation Board can be left exposed without a thermal or ignition barrier on the ceilings. This application is in compliance with the International Building Code (IBC) and the International Residential Code (IRC) through testing to the NFPA 286 (Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth). Kingspan Kooltherm® K110 soffit Insulation Board can be installed up to a maximum thickness of 75mm (3-inches) in exposed applications.

For more information regarding the exposed application of Kooltherm® K110 Soffit Insulation Board please see our DrJ Engineering Technical Evaluation Report Certification on <https://www.kingspan.com/us/en-us/about-kingspan/kingspan-insulation> or at <https://www.drjcertification.org/ter/1601-06>. Further details of the fire performance of Kingspan Insulation products may be obtained from Kingspan Insulation.

Product Data		
Property	Test Method	Result
General		
Compressive Strength, Min. (psi)	ASTM D1621	16
Water Absorption, Max (% by volume)	ASTM C209	1.0
Nominal Density, Min. (lb/ft ³)	ASTM D1622	2.4
Closed Cell Content (% of cells closed)	ASTM D6226	95
Air Permeance (L/(s•m ²)@ 75 Pa) (cfm/ft ² @1.57 psf)	ASTM E2178	0.003 0.000
Water Vapor Permeance (perm) ¹	ASTM E96	3

Standards and Approvals

Kingspan Kooltherm® K110 Soffit Board is manufactured to the highest standards under a management system certified to the highest standards under a management system certified to ISO 9001: 2015 (Quality Management Systems. Requirements), ISO 14001: 2015 (Environmental Management Systems. Requirements), ISO 45001: 2018 (Occupational Health and Safety Management Systems. Requirements) and ISO 50001: 2018 (Energy Management Systems. Requirements).



Typical Constructions

K110 Soffit Board

Durability

If correctly installed, Kingspan Kooltherm® K110 Soffit Board can have an indefinite life. Its durability depends on the supporting structure and the conditions of its use.

If the building is considered to be in an exposed location, advice should be sought from the Kingspan Insulation Technical Service Department to determine the product's suitability.

Resistance to Solvents, Fungi & Pests

The insulation core is resistant to short-term contact with fuel 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 spilled 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® K110 Soffit Board resist attack by mold and microbial growth, and do not provide any food value to pests.

Sustainability & Responsibility

Kingspan Insulation has a long-term commitment to sustainability and responsibility. Explore the milestones achieved, progress made, and details on how our global business is stepping up to the challenging goals of our sustainability program, Planet Passionate. To learn more, please visit the website for more details.

Sitework

K110 Soffit Board

- Insulation boards should be installed break-bonded, with joints lightly butted.
- The number of mechanical fastener required to fasten Kingspan Kooltherm® K110 Soffit Board will vary with the geographical location of the building, the local topography, the height and width of the soffit concerned, and the soffit construction.
- A minimum of 11 mechanical fasteners, with a minimum head diameter of 1 3/8 in., are required to secure the insulation board to the soffit.
- The fasteners should be evenly distributed over the whole area of the board, and must offer a minimum 1 1/2 in. penetration into a solid substrate.
- Fasteners at board edges must be located > 2 in. and < 6 in. from edges and corners of the board and not overlap board joints.
- Insulation boards can also be fitted by a shot fired fastening method which can result in significantly faster installation times. All of the guidance above still applies.
- Please refer to the column opposite for recommended fastening patterns.

For details on fasteners refer to:

EJOT 262-612-3550

www.ejot-usa.com

TRUFAST 616-454-3100

<https://www.trufastwalls.com/kingspan-kooltherm>

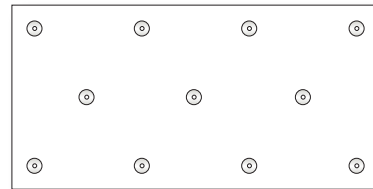
ITW Ramset 800-848-5611

www.ramset.com

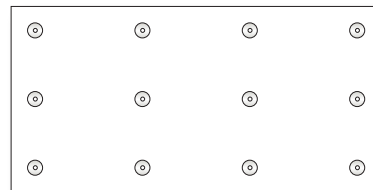
Recommended Fastening Patterns

The images below show recommended fastening patterns, the number of fasteners used and the resulting fastener density.

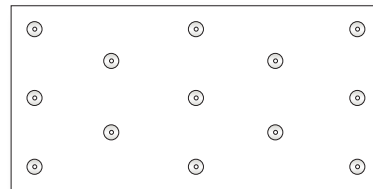
The fastening patterns shown are suitable for continuous flat (even) decks only. For non-continuous decks contact the Kingspan Insulation Technical Service Department for further guidance.



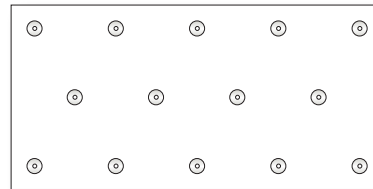
11 Fasteners per board
47.3 x 89.4 in. / 1.2 x 2.27 m board



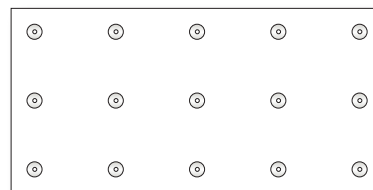
12 Fasteners per board
47.3 x 89.4 in. / 1.2 x 2.27 m board



13 Fasteners per board
47.3 x 89.4 in. / 1.2 x 2.27 m board



14 Fasteners per board
47.3 x 89.4 in. / 1.2 x 2.27 m board



15 Fasteners per board
47.3 x 89.4 in. / 1.2 x 2.27 m board

Sitework

K110 Soffit Board

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.

Availability

- Kingspan Kooltherm® K110 Soffit 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.

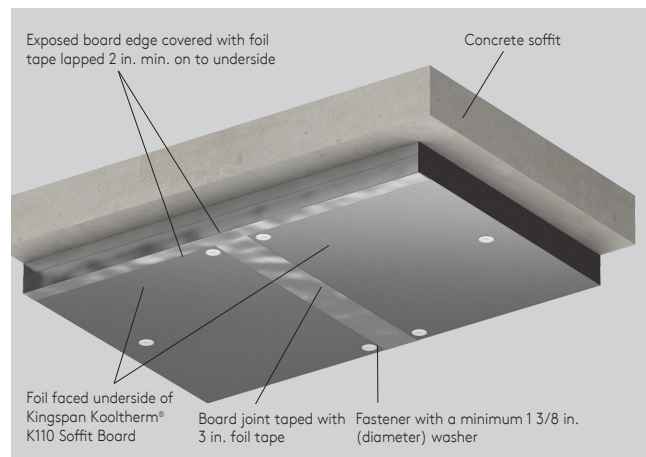
Please note that the reflective surfaces on this product are designed to enhance its thermal performance. As such, they will reflect light as well as heat, including ultraviolet light. Therefore, if this product is being installed during very bright or sunny weather, it is advisable to wear UV protective 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.

Taping

- The joints of Kingspan Kooltherm® K110 Soffit Board should always be taped using a minimum 3 inch wide self-adhesive aluminum foil tape with a Class A fire rating (Flame Spread Index of 25 or less and a Smoke Developed Index of 450 or less).
- In the absence of other protection, exposed edges of Kingspan Kooltherm® K110 Soffit Board should be protected by a suitable self-adhesive aluminium foil tape, with a minimum 2 inch wide overlap onto the insulation board face.



Kingspan Insulation

K110 Soffit Board

Product Overview

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
- Below Grade
- Basement Walls
- Floors
- Soffits
- Ductwork

Further Solutions:

- Kingspan KoolDuct® Pre-Insulated Ducting
- Kingspan GreenGuard® Building Wraps

Kingspan OPTIM-R® Vacuum Insulation Panel (VIP)

- With an aged design 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.

Kingspan Kooltherm® Products

- Higher R-value per inch than any commonly used insulation.
- Each product achieves the required fire performance for its intended application.
- ASTM E84 Class A rating (≤ 25 flame spread, ≤ 450 smoke developed)
- Manufactured with a blowing agent that has zero ODP, low GWP, and both 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

USA

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Atlanta | Georgia 30328

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F: +1 (678) 589 7325

E: info@kingspaninsulation.us

www.kingspaninsulation.us



Please scan the QR code for the most recent product information.

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

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