

Kooltherm[®]

K12 Framing Board

Insulation for Wood and Steel Framing Systems



- Highest R-value per inch*
- Extensive NFPA 285 compliant wall systems**

* of commonly available insulations

** see fire performance section for additional details

Typical Constructions

K12 Framing Board

Introduction

Kingspan Kooltherm® K12 Framing Board is a premium performance insulation, with a fiber-free rigid thermoset phenolic insulation core faced on both sides with a low emissivity composite foil facing which is used in wood or steel frame walls.

- Fire resistance
 - ASTM E84 Class A rating (≤ 25 flame spread, ≤ 450 smoke developed)
 - Extensive NFPA 285 compliant wall systems*
- R-value
 - R-6.8 per inch
 - Premium performance
 - Low emissivity foil facing can increase potential radiant thermal resistance of any 1/2" or greater unvented cavity in front of the insulation
- Ultra-thin
 - More R-value in your available space
 - Thinner panels needed to meet required R-value
 - Thinner exterior walls mean potentially more internal floor space
- 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 only. Products in other countries, even with the same product name, may have differences.

Continuous Insulation Applications

C.I. on Steel Frame with Sheathing

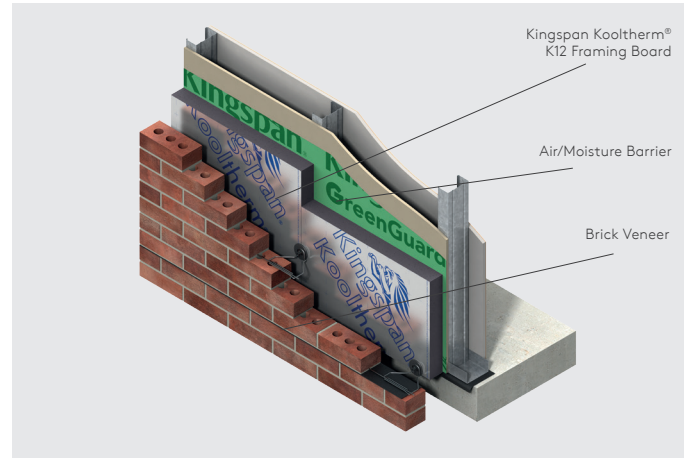


Figure 1

C.I. on Wood Frame with Sheathing

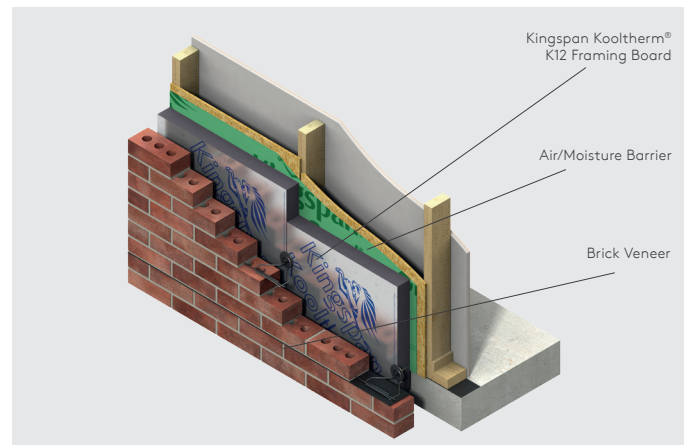


Figure 2

* See Fire Performance Section for details

Typical Constructions

K12 Framing Board

C.I. on Wood Frame with Sheathing

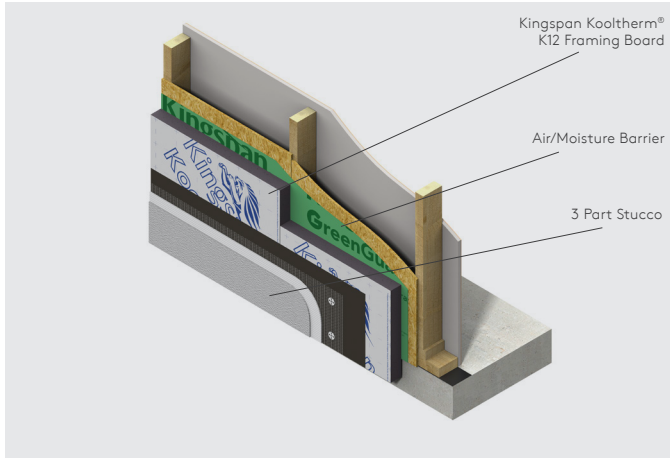


Figure 3

Insulation Between Wood Frame

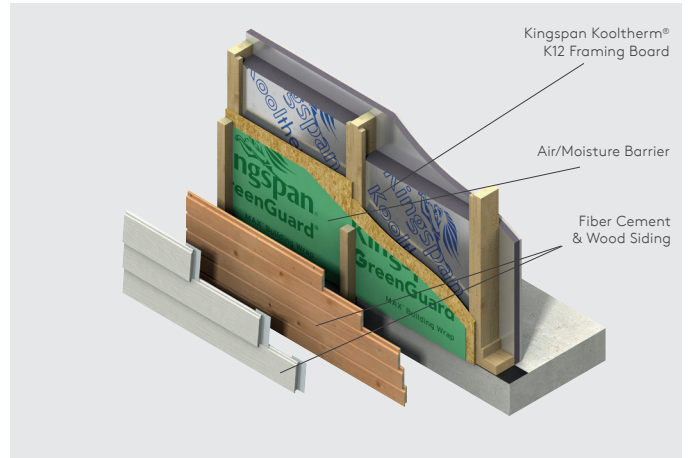


Figure 5

C.I. on Steel Frame with Sheathing

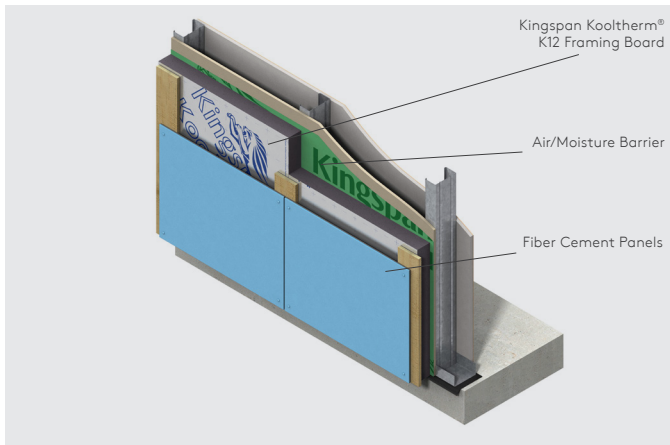


Figure 4

Product Details

K12 Framing Board

Standard Dimensions

Kingspan Kooltherm® K12 Framing Board is available in the following standard size:

Nominal Dimension	Availability	
	(in)	(mm)
Width	47.25	1200
Length	95.98	2438

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). Conditioned for 90 days at 140° F dry heat prior to testing.

Insulant Thickness		Thermal Resistance
(in)	(mm)	(R-value)*
1.18	30	8.0
1.57	40	10.6
1.97	50	13.3
2.36	60	16.0
2.76	70	18.7
2.95	75	20.0
3.15	80	21.4
3.54	90	24.0
3.94	100	26.7

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

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

Fire Performance

For information regarding ASTM E84 rating, please review Intertek flame spread listing on the Intertek Directory of Building Products website.

Kingspan Kooltherm® K12 can be used in Type V construction without limitation. For Types I, II, III, or IV construction, K12 can be used in assemblies that have passed NFPA 285, or assemblies that have received an engineering judgement (EJ) as being equivalent to an assembly that has passed NFPA 285 per approval by the authority having jurisdiction (AHJ). For guidance on compliant assemblies, please refer to the Kingspan NFPA 285 Technical Evaluation Report, which can be found at www.kingspaninsulation.us. For further details, please contact Kingspan Insulation Technical Services.

Product Data

Property	Test Method	Result
General		
Compressive Strength, Min. (psi)	ASTM D1621	16
Water Absorption, Max (% by volume)	ASTM C209	1.15
Density, Min. (lb/ft ³)	ASTM D1622	2.0
Closed Cell Content (% of cells closed)	ASTM D6226	94.67
Air Permeance (L/(s·m ²)@ 75 Pa) (cfm/ft ² @1.57 psf)	ASTM E2178	0.002 0.000
Water Vapor Permeance (perm) ¹	ASTM E96	0.51

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

Standards and Approvals

Kingspan Kooltherm® K12 Framing Board is manufactured 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).

Durability

If correctly installed, Kingspan Kooltherm® K12 Framing Board can have an indefinite life. Its durability depends on the supporting structure and the conditions of its use.

Resistance to Solvents, Fungi & Pests

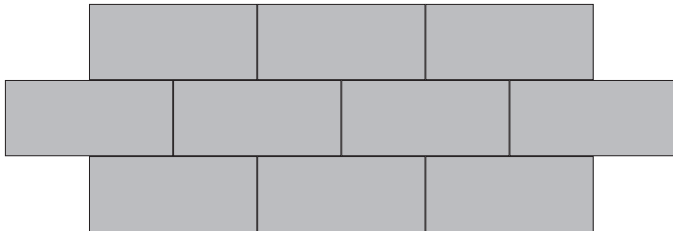
The insulation core is resistant to short-term contact with fuel and with most diluted acids, alkalis and mineral oils. However, it is recommended that any spills be cleaned off fully before the boards are installed. Ensure that safe methods of cleaning are used, as recommended by the suppliers of the 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® K12 Framing Board resist attack by mold and microbial growth, and do not provide any food value to pests.

Sitework & More

K12 Framing Board

Layout



Layer Staggered - Joint Pattern
Boards to be installed horizontally (meaning 96 in horizontal orientation)

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.

Handling

- Safe, light, & easy to handle, no irritating fibers in the core.
- 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.

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, outdoor 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 sunscreen.

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.

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.

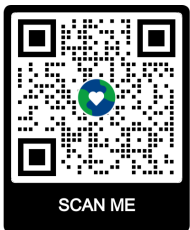
Kingspan Insulation LLC, headquartered in Atlanta, GA, is a leading manufacturer in energy efficiency and moisture management products, offering high performance insulation, building wraps and pre-insulated HVAC ductwork.

Contact Details

USA

Kingspan Insulation LLC
2100 Riveredge Parkway | Suite 175
Atlanta | Georgia 30328

T: +1 (800) 241 4402
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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