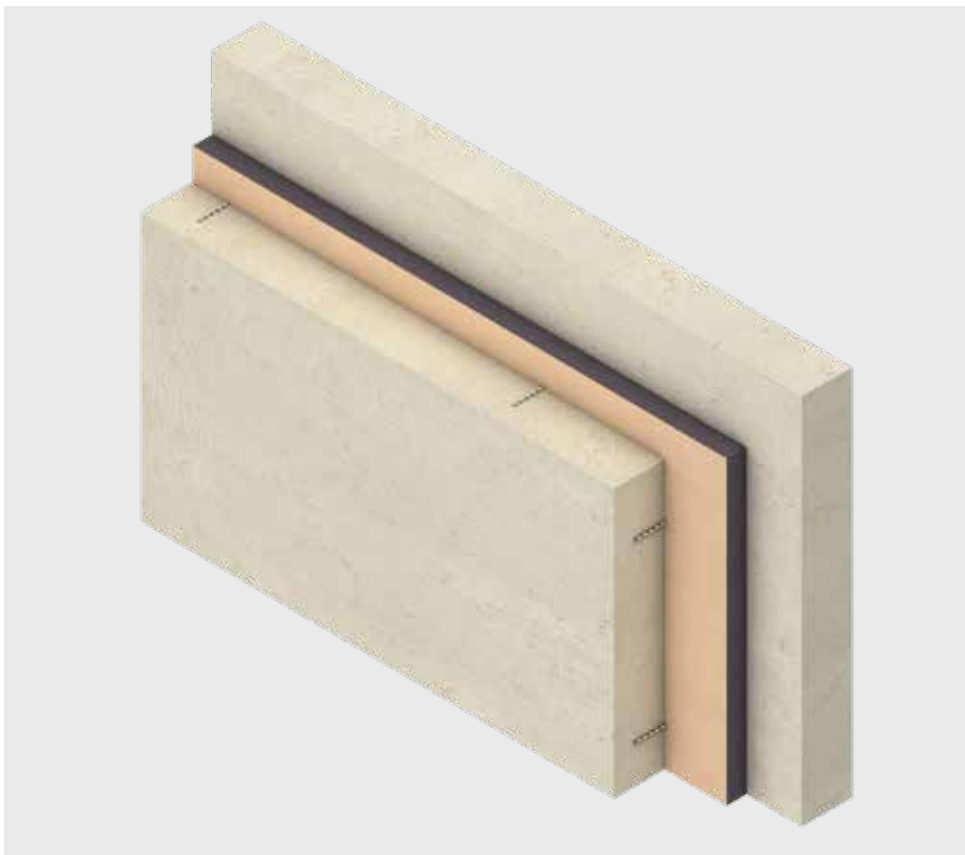


Kooltherm[®]

K20 Concrete Sandwich Board

High performance insulation for concrete sandwich wall systems



- Highest R-value per inch*
- Thinner pre-cast and tilt-up panels
- Extensive NFPA 285 compliant wall systems**

*of commonly available insulations
**see Fire Performance section for details

Product Details

K20 Concrete Sandwich Board

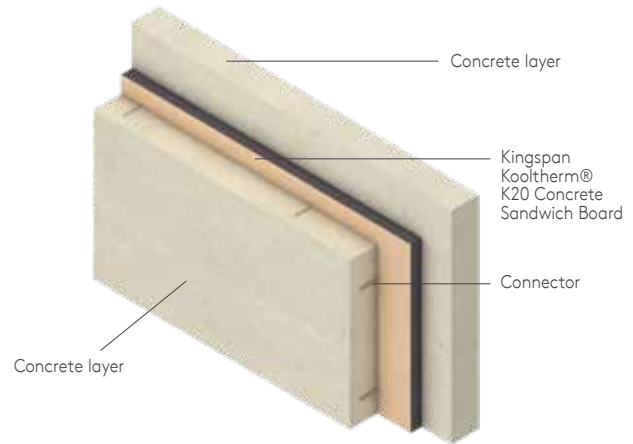


Introduction

Kingspan Kooltherm® K20 Concrete Sandwich Board is a premium performance insulation product, used for concrete insulated sandwich wall systems.

- Fire resistance
 - Negligible smoke developed
 - ASTM E84 rating of 5/5 (flame spread/smoke developed index)*, Class A
 - Extensive NFPA 285 compliant wall systems*
- R-value
 - R-7.4 per inch
 - Premium Performance
- Ultra-thin
 - Thinner insulation boards to meet the required R-value
- 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
 - Supported by Kingspan world-wide Planet Passionate program - www.kingspan.com/us/en-us/about-us/planet-passionate

Insulated Sandwich Panel



The Facings

Kingspan Kooltherm® K20 Internal Insulation Board has a glass tissue based facing, adhesively bonded to the insulation core during manufacture.

The Core

The core of Kingspan Kooltherm® K20 Internal Insulation 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).



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.

*see fire performance section for details

Product Details

K20 Concrete Sandwich Board

Product Data		
Property	Test Method	Result
Compressive Strength, Min. (psi)	ASTM D1621	16
Water Absorption, Max. (% by volume)	ASTM C209	1.21
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, Max.(perm) ¹	ASTM E96	0.79

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

Standard Dimensions

Kingspan Kooltherm® K20 Internal Insulation Board is available in the following standard size(s):

Nominal Dimension	Availability	
	(in)	(mm)
Width	47.244	1200
Length	89.370	2270
Custom lengths and widths available	Made to order	

Standards and Approvals

Kingspan Kooltherm® K20 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).

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	11.6
1.97	50	14.5
2.36	60	17.4
2.76	70	20.4
2.95	75	21.8
3.15	80	23.3
3.54	90	26.1
3.94	100	29.1
4.72	120	34.9

* 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 Kingspan Kooltherm® K20 Internal Insulation Board, when subjected to the ASTM E84/UL 723 (Standard Test Method for Surface Burning Characteristics of Building Materials) has achieved the below results.

Flame Spread	Smoke Developed
5	5

Kingspan Kooltherm® K20 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 Details / Sitework

K20 Concrete Sandwich Board

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.

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.

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.

Durability

If correctly installed, Kingspan Kooltherm® K20 Internal Insulation 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® K20 Internal Insulation Board resist attack by mold and microbial growth, and do not provide any food value to pests.

Kingspan Insulation

K20 Concrete Sandwich Board

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.
- Rigid thermoset insulation core achieves the best possible rating of 5 under ASTM E84 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

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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