Kooltherm® K10 Soffit Board

INSULATION FOR STRUCTURAL CEILINGS (SOFFITS)

- Premium performance rigid thermoset insulation
- R-value of 16.5 on 2 in
- Higher R-value per inch than any commonly used insulation
- Approved to Class 1 fire rating Class Number 4880 for exposed ceiling / soffit
- Negligible smoke developed
- ASTM E 84 rating of 25/20 (flame/smoke)
- Unaffected by air infiltration
- 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
Product Details

Fastened Directly to Concrete Soffit

The Upper Facing
The upper facing of Kingspan Kooltherm® K10 Soffit Board is a glass tissue based facing, adhesively bonded to the insulation core during manufacture.

The Core
The core of Kingspan Kooltherm® K10 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® K10 Soffit Board is a low emissivity composite foil, autohesively bonded to the insulation core during manufacture. The exposed facing used on Kingspan Kooltherm® K10 Soffit Board has not been designed with the purpose of an aesthetic finish as its primary function. Where appearance is critical, advice should be sought from the Kingspan Insulation Technical Service Department.

Standards and Approvals

Standard Dimensions
Kingspan Kooltherm® K10 Soffit Board is available in the following standard size:

<table>
<thead>
<tr>
<th>Nominal Dimension</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(in)</td>
</tr>
<tr>
<td>Width</td>
<td>47.244</td>
</tr>
<tr>
<td>Length</td>
<td>89.370</td>
</tr>
<tr>
<td>Insulant Thickness</td>
<td>Refer to Product Data table</td>
</tr>
</tbody>
</table>

Durability
If correctly installed, Kingspan Kooltherm® K10 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 petrol 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® K10 Soffit Board resist attack by mold and microbial growth, and do not provide any food value to pests.
Thermal Resistance


<table>
<thead>
<tr>
<th>Insulant Thickness (in / mm)</th>
<th>Thermal Resistance R-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.18</td>
<td>10</td>
</tr>
<tr>
<td>1.38</td>
<td>11.5</td>
</tr>
<tr>
<td>1.57</td>
<td>13</td>
</tr>
<tr>
<td>1.77</td>
<td>14.5</td>
</tr>
<tr>
<td>1.97</td>
<td>16.5</td>
</tr>
<tr>
<td>2.17</td>
<td>18</td>
</tr>
<tr>
<td>2.36</td>
<td>19.5</td>
</tr>
<tr>
<td>2.56</td>
<td>21</td>
</tr>
<tr>
<td>2.76</td>
<td>23</td>
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<tr>
<td>2.95</td>
<td>24.5</td>
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<tr>
<td>3.15</td>
<td>26</td>
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<tr>
<td>3.35</td>
<td>28</td>
</tr>
<tr>
<td>3.54</td>
<td>29.5</td>
</tr>
<tr>
<td>3.74</td>
<td>31</td>
</tr>
<tr>
<td>3.94</td>
<td>32.5</td>
</tr>
</tbody>
</table>

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

* 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® K10 Soffit Board should be described in specifications as:

The soffit insulation shall be *Kingspan* Kooltherm® K10 Soffit Board ___ mm thick: comprising a premium performance rigid thermoset insulation core with a glass tissue based facing on its front surface and low emissivity composite foil on its reverse surface. 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; by Kingspan Insulation Limited; and installed in accordance with the instructions issued by them.
Fastening Directly to Concrete Soffits

- Insulation boards should be installed break-bonded, with joints lightly butted.
- The number of mechanical fasteners required to fasten Kingspan Kooltherm® K10 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\(\frac{3}{8}\) 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 1½ in penetration into a solid substrate.
- Please refer to the column opposite for recommended fixing 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.
- 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.

For details on fasteners refer to:
- EJOT 262-612-3550
  - www.ejot-usa.com
- SFS Intec 610-376-5751
  - www.sfsintec.ca

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](image1)
- 11 Fasteners per board
  - 47.3 x 89.4 in / 1.2 x 2.4 m board

![12 Fasteners per board](image2)
- 12 Fasteners per board
  - 47.3 x 89.4 in / 1.2 x 2.4 m board

![13 Fasteners per board](image3)
- 13 Fasteners per board
  - 47.3 x 89.4 in / 1.2 x 2.4 m board

![14 Fasteners per board](image4)
- 14 Fasteners per board
  - 47.3 x 89.4 in / 1.2 x 2.4 m board

![15 Fasteners per board](image5)
- 15 Fasteners per board
  - 47.3 x 89.4 in / 1.2 x 2.4 m board
Sitework

Taping
- The joints of Kingspan Kooltherm® K10 Soffit Board should always be taped using a 3 in wide self–adhesive aluminum foil tape.
  Consult a Kingspan representative.
- In the absence of other protection, exposed edges of Kingspan Kooltherm® K10 FM Soffit Board should be protected by a suitable self–adhesive aluminium foil tape, with a 2 in min. wide overlap onto the insulation board face, see Figure 2.

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.

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® K10 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.
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 quoted 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 design R-Value of 23.8 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.
- Rigid thermoset insulation core achieves the best possible rating of 20 under ASTM E 84 smoke developed.
- Manufactured with a blowing agent that has zero ODP, low GWP, HCFC and CFC free.

Kingspan GreenGuard® Products
- 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.
Kingspan Insulation LLC believes the information and recommendations herein to be accurate and reliable. However, since use conditions are not within its control, Kingspan Insulation LLC does not guarantee results from use of such products or other information herein and disclaims all liability from any resulting damage or loss. No warranty, express or implied, is given as to the merchantability, fitness for particular purpose, or otherwise with respect to the products referred to.

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.