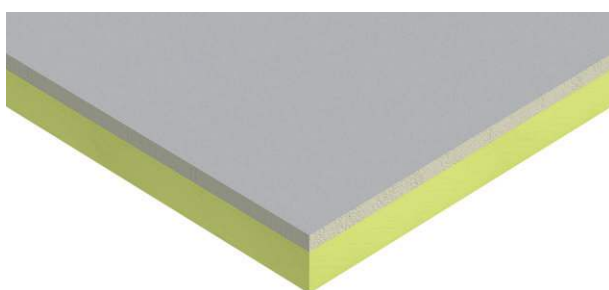


Kingspan GreenGuard® GG301 Upstand Board

Insulation with impact resistant building board component used as an upstand around roof perimeters on the internal façade of parapets



Thermal resistance

Thermal resistance (R-value) varies with the thickness of each component and is calculated by dividing the thickness of the board (expressed in metres) by its thermal conductivity, followed by adding the resulting figures together. The sum is rounded down to the nearest 0.05 (m²K/W).

Product thickness (mm)	Thermal resistance (m ² K/W)
56	1.45

* Product thickness = insulation thickness + 6 mm building board.

Standard dimensions

Kingspan GreenGuard® GG301 Upstand Board is available in the following standard size:

Nominal dimension	Availability
Impact resistant building board thickness (mm)	6
Insulant thickness (mm)	50
Total thickness (mm)	56
Board size (mm)	1200 x 600

Thermal properties

The λ -value detailed below for the insulation component of the Kingspan GreenGuard® GG301 product is quoted in accordance with BS EN 13164: 2012: + A1: 2015 (Thermal insulation products for buildings. Factory made extruded polystyrene foam (XPS) products. Specification).

Thermal conductivity

The thermal conductivity (λ -value) of the building board component of Kingspan GreenGuard® GG301 is 0.30 W/mK.

The thermal conductivity of the insulation board component of Kingspan GreenGuard® is 0.034 W/mK.

Fire performance

The building board component achieves European Classification (Euroclass) A1 when classified to BS EN 13501-1: 2007 + A1: 2009 (Fire classification of construction products and building elements. Classification using data from reaction to fire tests).

Under System 4 AVCP, the insulation component of Kingspan GreenGuard® GG301 achieves European Classification (Euroclass) F when classified to EN 13501-1: 2018.

There are potential restrictions placed upon this product which vary dependant on building type, height, construction and location. For guidance regarding the routes to compliance for meeting the fire safety requirements of the Building Regulations / Standards, refer to the relevant Technical Bulletins and links to Government websites at www.kingspaninsulation.co.uk/fireregulations (for GB) or contact technical services at technical@kingspaninsulation.ie (for Ireland).

Kingspan GreenGuard® GG301 Upstand Board

Concrete deck with paving slab ballast

Dense concrete deck with suspended ceiling

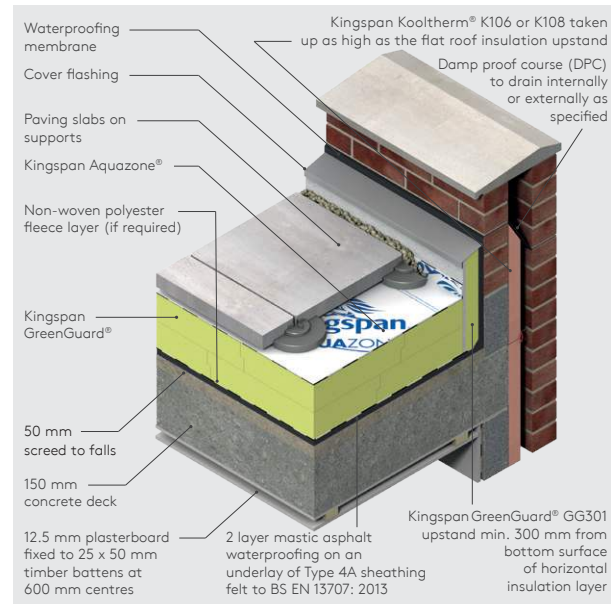


Figure 1

Cutting and restraint guidelines

- Cutting Kingspan GreenGuard® GG301 should be carried out by using a TCT saw. Ensure correct FFP2 or 3 grade PPE is used to protect against inhalation of dust during cutting.
- Kingspan GreenGuard® GG301 should be mechanically fixed in place. Adhesive can be used when it is not possible to use mechanical fixings, i.e. it would puncture the waterproofing behind the board.
- A minimum distance of 300 mm should be maintained between the top of the insulation upstand and the bottom of the horizontal roof insulation, and minimum 150 mm above the top layer of horizontal insulation layer (see Kingspan GreenGuard® GG300 literature for details).
- Adhesive can be used instead of mechanical fixings as the primary attachment mechanism, provided no more than one board high (600 mm) is used around the parapet and also the product is restrained at the top (via a cover flashing) and at the bottom of the board (via the roofing system, i.e. Kingspan GreenGuard® and ballast / paving slabs on supports).
- Mechanical fixings or bands / strips of adhesive (contact supplier for suitable adhesive) must be arranged in an even pattern. Follow the manufacturer's guidelines for adhesive bead width, bead spacing and perimeter application. In the absence of manufacturer's guidelines, apply the adhesive approximately 25 mm in from board edges to avoid bridging the joint and adhesive seeping through the joints. Contact adhesive supplier for suitable adhesive.

- When using mechanical fixings, a minimum of three fixings are required along the top edge of the board, provided the bottom edge of the board is fully supported by the roofing system, i.e. Kingspan GreenGuard® and ballast / paving slabs on supports. Alternatively, a further three fixings are required along the bottom edge of the board.
- Fixings should be positioned across the top edge of the board and located >50 mm and <200 mm from edges and corners, and must not overlap joints.
- Fixings should be positioned evenly at a maximum of 600 mm centres.
- Fixings should incorporate a square or circular plate washer (25 mm x 25 mm or 25 mm diameter).
- Fixings should be driven straight and care should be taken not to overdrive the fixings.
- The requirement for additional fixings should be assessed in accordance with BS EN 1991-4: 2005 + A1: 2010 (National Annex to Eurocode 1. Actions on Structures. General Actions. Wind Actions).
- Whichever method of attachment is used, a cover flashing is to be provided along the top of the boards once installation of the Kingspan GreenGuard® GG301 boards has been completed.

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