

Insulated Roof & Wall Panels

NBS Specification



Topdek Single-ply Insulated Roof Deck
KS1000 TD

NBS Specification

NBS:

Project:

Date:

FH43 METAL COMPOSITE PANEL CLADDING/COVERING

To be read with Preliminaries/General conditions.

TYPE OF CLADDING SYSTEM

121S METAL COMPOSITE PANEL ROOF CLADDING

- Drawing reference(s): _____
- Supports: Kingspan Multibeam cold rolled purlins.
- Bearing width: 50mm.
- Finished pitch: minimum 1:80 (0.72°) or more after deflection to avoid ponding.
- Manufacturer and reference: Kingspan Insulated Panels, roof cladding system for standard internal & external non-corrosive environments also Loss Prevention Certification Board certified to LPS 1181 Grade EXT-B.
- Test results:
- LPS 1181: 2005: Part 1: Issue 1.1, ceiling lining tests: Passed all requirements
- Panels:
 - Profile reference: KS1000 TD, Topdek Single-ply Insulated Roof Deck.
 - External facings:
 - Material: PVC membrane from one of the following manufacturers Iko / Sika (delete as appropriate)
 - Thickness: 1.5mm nominal.
 - Finish/Colour: Armourplan Mid Grey RAL 7046, Dark Grey RAL 7015, Trocal Light Grey RAL 7047 Anthracite RAL 7016. (Delete as appropriate).
 - Internal facings:
 - Material: Hot-dip zinc coated steel to BS EN 10346:2009.
 - Thickness: 0.5mm
 - Finish/Colour: CleanSafe 15.
 - Core insulation: ECOsafe LPCB certificated PIR formulation. Receiving BREEAM Credit (Pollution 4: Insulant GWP) 2006 credit.
- Panel thickness: 100mm core (England & Wales)
- End laps: 60mm.
 - Sealing end lap: 150 or 200mm wide (dependent upon membrane manufacturer) welded membrane strip at end lap. Welded as per membrane manufacturers recommendations.
 - Sealing side lap: Double sided clear polyester tape (Premier Sealant Systems Limited Tel: 01724 864 100 Multibond Solutions Ltd Tel: 01388 420 200 must be applied to side lap prior to welding. Overlap of membrane welded to membrane of adjacent panel at side laps.
- Fasteners: As determined by clause 220A.
- Number and location:
 - Primary fasteners: As determined by clause 197A, but with a minimum of five number at panel ends and a minimum of one number at intermediate locations, as recommended by cladding manufacturer. Intermediate fasteners covered with welded membrane patch. Size and welded as per membrane manufacturers recommendations.
 - Secondary fasteners (Side Lap Stitching):

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- From Outside - At the side lap fix sheets together with self-coring fasteners evenly spaced at centres not exceeding 500mm.
- From Inside - At the side lap fix sheets together with stitchers/rivets (delete as appropriate) evenly spaced at centres not exceeding 500mm.
- Accessories:
 - Profile fillers as clause 300A.
- Thermal Transmittance (U Value) calculated using the method required by the Building Regulations
 - Part L2A (England & Wales) 0.18W/m²K.
 - Manufacturers 25 year thermal guarantee required.
- Air leakage rate of 5m³/hr/m² at 50Pa, based on the assumption that the full building envelope is constructed using Kingspan panels.
- Other requirements:
 - Panels manufactured under the following ISO standards 14001, 18001, 9001.
 - Cladding contractor to attend a product training course at Kingspan Insulated Panels.

197A ATTACHMENT

- Determine the number and location of cladding fasteners recommended by the cladding manufacturer to resist wind loads calculated in accordance with BS 6399:Part 2 Standard Method and BS 5427:Part 1.
- Calculate wind loads on roof and wall cladding appropriate to location, exposure, roof height, building shape and size in accordance with BS 6399:Part 2 Standard Method and BS 5427:Part 1.
 - Basic wind speed (Vb): ____ m/s
 - Altitude factor (Sa): ____
 - Direction factor (Sd): ____
 - Seasonal factor (Ss): 1
 - Probability factor (Sp): 1
 - Terrain and building factor (Sb): ____
 - External and internal size effect factors (Ca): 1
 - External pressure coefficients (Cpe): As determined from BS 6399: Part 2, clauses 2.4 and 2.5.
 - Internal pressure coefficients (Cpi): As determined from BS 6399: Part 2, clause 2.6.
 - Dominant opening: _____

218B PROTECTION OF FINISHED ROOF

Ensure that:

- Finished roof areas are protected from damage by subsequent building operations.
- Access points onto the roof and areas likely to be heavily trafficked during construction are protected to the approval of the CA.
- Paint, solvent, bitumen, oils, fat, grease or other substance harmful to the membrane do not come into contact with the roof surface.

Do not:

- Store building materials on the roof
- Permit the use of the roof as a working platform without adequate protection and the consent of the CA.

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220A FASTENERS

- Primary fasteners: Self coring fasteners.
 - Type(s), size(s) and drilling capacity: As recommended by fastener manufacturer to suit type and thickness of supports, and thickness of cladding panels.
 - Screw material: Anti-corrosion coated carbon steel.
- Secondary fasteners: Self coring fasteners.
 - Screw/washer material: As primary fasteners.

275 CONTINUITY THERMAL INSULATION

- Junctions between the roof panel system and walls / penetrations insulated with PIR board insulation any gaps filled with Premier Sealants (01724 864 100) Firefoam (class B1 rated) or similar, fire rated gun applied canister urethane insulation.
- Placement: Secure and continuous with cladding/ covering insulation.

300A PROFILE FILLERS GENERALLY

- Drawing reference(s): _____
- Manufacturer and reference: Premier Sealant Systems Limited ref: M25 or similar, type to suit cladding profile.
- Material: MP (Metallocene polyolefin).
- Colour: White.
- Fixing: Seal the top, bottom and sides of each profile filler with a single line of non-setting gun-grade, PremSeal CV or similar.
- Locate where shown on drawings and wherever necessary to close off corrugation cavities from the inside and outside of the building. Ensure a tight fit and leave no gaps.

310A PURPOSE MADE COLD FORMED METAL ACCESSORIES

- Drawing reference(s): _____
- Material: Galvanised steel.
- Thickness/gauge: At least 0.7mm, but to suit size and position of the accessory.
- Finish/Colour:
- Visible on outside.
- Visible on inside: To match internal finish/colour of cladding unless indicated otherwise.
- For bonding to membrane: 0.6mm thick metal with membrane finish to bonding surfaces.
- Lock form visible edges of accessories unless otherwise detailed.
- Fix to cladding and/or supporting structure as detailed.

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480A METAL FLASHINGS/TRIMS

- To be lapped at joints as follows, unless specified otherwise:
- Flashings/trims where the shape of the flashing/trim permits: End laps to be at least 75mm and sealed with two runs of gun grade butyl sealant. Notch lock forms on overlapped flashings/trims by 80mm.
- Where possible fix flashings/trims to structure in conjunction with adjacent sheeting. Otherwise fix securely to cladding with fasteners as detailed or in the absence of such details, with carbon steel stitchers/steel blind head rivets (delete as appropriate) at 400mm centres.
- Fix flashings at laps with carbon steel stitchers/steel blind head rivets (delete as appropriate).
- Where flashings/trims are fixed to the external face of the cladding, install the fixing through the crown/upstand of the external facing.

482A LAPS IN SHAPED METAL FLASHINGS/TRIMS

- Where the shape of the flashing/trim does not permit the use of a lap joint, and where detailed, butt joint and seal flashings/trims on butt straps from sheet of the same material and finish as the flashing/trim.
- Fix onto butt straps as Clause 480A and seal with four runs of gun grade butyl sealant.
- Width of strap minimum 70mm unless specified otherwise.

483A LAPS IN METAL FLASHING/TRIMS BONDED TO MEMBRANE

- Place sections of flashing/trim, leaving a 5mm wide gap between the ends of the sections and place a 50mm wide strip of masking tape centrally over the gap.
- Place a 150mm wide membrane butt strap centrally over the masking tape and weld to the flashing/trim on either side of the joint.
- Weld main membrane flashing to flashing/trim and membrane butt strap.

580A INSULATED PANEL IDENTIFICATION & LABELLING

- When the roofing and /or the wall cladding to this building is completed, a label identifying the composition of the insulated panels is to be fitted.
- This label illustrates the type of Insulated panels fitted, to assist Insurers, Fire Officers, Owners and Occupiers identify the envelope composition.
- It is a recommendation of the Kingspan Total Guarantee that the insulated panel identification label, which will have a specific project registration number, is installed in an agreed location. The project architect, cladding subcontractor or owner should locate or instruct the location of these labels in an appropriate and accessible location on the building.

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