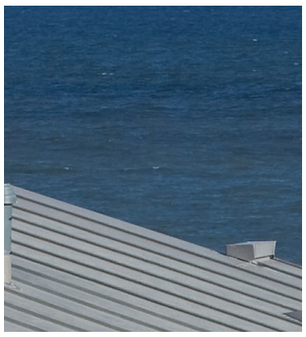
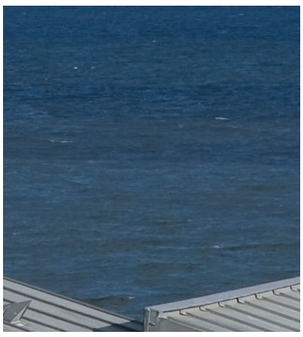
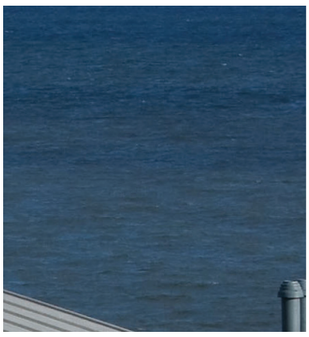







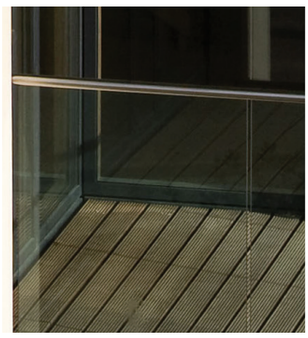




Metdeck

Warm roof insulated decking board for long strip metal roofing utilising the high performance of Kingspan Kooltherm technology



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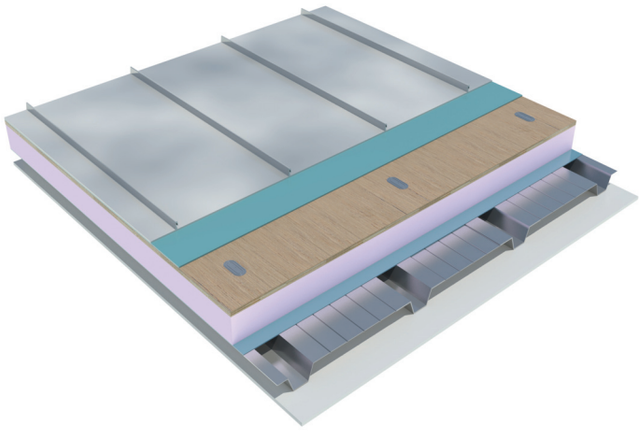

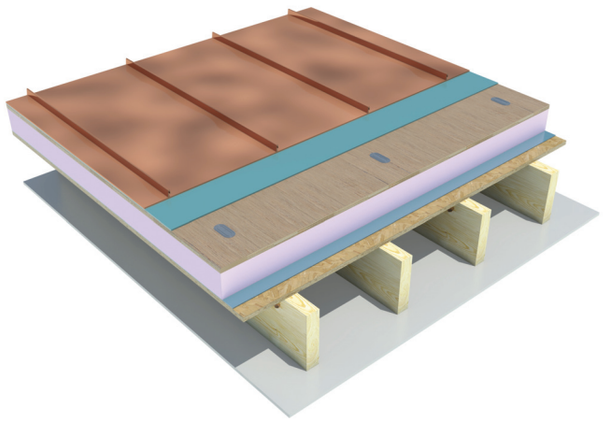

Metdeck

The Metdeck warm roof decking board combines the superior thermal performance of Kingspan's Kooltherm Insulation board with a WBP exterior grade plywood to provide a continuous supporting substrate for the application of long strip metal roofing, ensuring faster fixing times.

Product Description

The Upper Facing

The upper facing of Metdeck is 18mm WBP exterior grade plywood.

The Core

The core of Metdeck is manufactured from Kingspan's high performance CFC/HCFC-free, zero ODP resol foam technology and has a typical density of 35kg/m^3.

The Lower Facing

The lower facing of Metdeck is a low emissivity composite foil which is highly resistant to the transmission of water vapour.

Durability

Metdeck is a composite roofing board consisting of high performance rigid resol foam manufactured to BS EN ISO 13166 factory bonded to a WBP (Water and Boil Proof) Plywood layer. This product is specifically designed for metal waterproofing finished roof systems such as zinc/copper.

Specification Clause

Metdeck should be specified as:
The roof insulation shall be Metdeck comprising an 18mm WBP exterior grade plywood upper facing bonded to a ___ mm thick CFC/HCFC-free rigid resol insulation core with a lower facing of low emissivity composite foil manufactured to the highest standards under quality control systems approved to BS EN ISO 9001: 2000 / I.S. EN ISO 9001: 2000 by Metal Processors Limited and shall be applied in accordance with the instructions issued by them.

Wind Loading

Wind loadings should be assessed in accordance with BS EN 6399-2: 1997 (Loading for buildings. Code of practice for wind loads).

Roof Waterproofing

Metdeck is specifically designed for use with mechanically fixed metal roof finishes such as zinc & copper to BS EN 5427: Part 1: 1996: Code of practice for the use of profiled sheet for roof and wall cladding on buildings, BS EN 501: Roofing products from metal sheet. Specifications for fully supported roofing products of zinc sheet and BS EN 988: zinc and zinc alloys. Specification for rolled flat products for building. Refer to CP 143: Part 5: 1964 zinc: Code of practice for sheet roof and wall coverings. Zinc

Cold Bridging

Reasonable provision must be made to limit the effects of cold bridging. The design should ensure that roof-light or ventilator kerbs etc. are always insulated to a similar standard as the general roof area. Where the roof design incorporates a parapet, 25 mm thick insulation upstand of at least 150 mm should be used around the perimeter of the roof on the internal facade of the parapet. The exposed face of the insulation must be lined with 18 mm exterior grade plywood prior to the application of the waterproofing layer. Wall insulation should also be carried up into the parapet creating an overlap of insulation. Please contact the Metal Processors Technical Service Department (see rear cover) for further advice.

Water Vapour Control

A continuous bituminous self sealing vapour barrier to BS EN 13970:2004 (Flexible sheets for waterproofing - Bitumen water vapour control layers - Definitions and Characteristics) must be applied on the roof deck prior to fitting Metdeck boards.

Roof Loading

Metdeck is suitable for use on maintenance access roofs subject to limited foot traffic and restrictions on metal waterproofing finish.

Typical U-Values

The following table of U-Values are calculated in accordance with BS/I.S EN ISO 6946:2006 (Building Components and Building Elements. Thermal Resistance and Thermal Transmittance. Calculation Method) and is based on Metdeck used in conjunction with a profiled metal deck with no ceiling finish.

Table of U-Values:

Product Thickness* (mm)	U-Value (W/m^2K)
98	0.23
108	0.21
118	0.19
138	0.16
148	0.15

*Product thickness = insulation + 18mm WBP Ply
Note: Calculations are based on metal roofing on Breathable membrane on Metdeck composite insulation on bituminous vapour barrier on Profiled metal deck

U-Value will vary depending on final fixing arrangement to be determined by site specific wind uplift calculation

NB When calculating U-values to BS / I.S. EN ISO 6946: 2006, the type of mechanical fixing used may change the thickness of insulation.

For the purposes of these calculations the standard of workmanship has been assumed good and therefore the correction factor for air gaps has been ignored.

NB The figures quoted are for guidance only. A detailed U-value calculation together with condensation risk analysis should be completed for each individual project.

Sitework

Metdeck should be mechanically fixed, plywood uppermost, onto a continuously supporting substrate such as metal deck, plywood deck or concrete deck prepared with a bituminous vapour barrier (see Water Vapour Control). Number and type of fixings to be determined by the fixing manufacturer/supplier and should be designed taking into account wind loading (see Wind Loading).

Fire Rating

The Insulation core has a class 0/low risk fire rating.

Daily working Practice

Metdeck is not designed as temporary waterproofing and should be protected as soon as possible after fixing. Due to the impermeable nature of metal waterproofing it is imperative that moisture is not trapped within the construction build-up. At the end of each days work or during extended periods of time a night joint should be formed to prevent water penetration of the construction.

Cutting

A fine toothed saw should be used to cut the boards. Ensure that all boards are allowed to butt close together to ensure continuity of insulation.

Packaging

The boards are supplied in labelled packs shrink-wrapped in polythene.

Storage

The polythene packaging of Metdeck should not be considered adequate for long term 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 a polythene sheet or weatherproof tarpaulin. Boards that have been allowed to get wet should not be used.

Health and Safety
Metdeck is chemically inert and safe to use. A leaflet on this topic which satisfies the requirements set out in the Control of Substances Hazardous to Health Regulations 1988 (COSHH) is available from the Metal Processors.

CFC/HCFC-free
Metdeck is manufactured without the use of CFCs/ HCFCs and has zero Ozone Depletion Potential (ODP).

Standard Dimensions
Metdeck is available in the following standard size:

Length (m) 2.4 Width (m) 1.2
Length (m) 2.4 Width (m) 0.6*
Thickness (mm) 80+18, 90+18, 100+18, 120+18, 130+18

Available on request, minimum quantities will apply. Contact Metal Processors for availability.

Compressive Strength
Typically exceeds 125 kPa at 10% compression when tested to BS EN 826: 1996 (Thermal insulating products for building applications. Determination of compression behaviour).

Water Vapour Resistance
Modified to include board facings, the boards achieve a resistance far greater than 100 MN.s/g when tested in accordance with BS EN 4370-2: 1993 (Methods of test for rigid cellular materials. Methods 7 to 9).

Durability
If correctly applied, Metdeck has an indefinite life. Its durability depends on the supporting structure, the waterproofing and the conditions of its use.

Resistance to Solvents, Fungi & Rodent
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 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 Metdeck resist attack by mould and microbial growth, and do not provide any food value to vermin.

Thermal Conductivity
The boards achieve a thermal conductivity (lambda value) of:

0.020 W/m.K for 45mm & above
0.021 W/m.K for 25-44mm
0.022 W/m.K for <25 mm

Thermal Resistance
Thermal resistance (R-value) varies with thickness and is calculated by dividing the thickness of the board (expressed in metres) by its thermal conductivity.

Table of Thermal Resistance:*

Product Thickness (mm)	Thermal Resistance (m^2K/W)
98	3.75
108	4.20
118	4.65
138	5.55
148	6.00

*Rounded down to nearest 0.05W/mk as per BS EN 13165 and 13166

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Kingspan® Insulation