

PowerDeck[®] F

Product Guide

PIR insulation for Warm Flat Roofs.

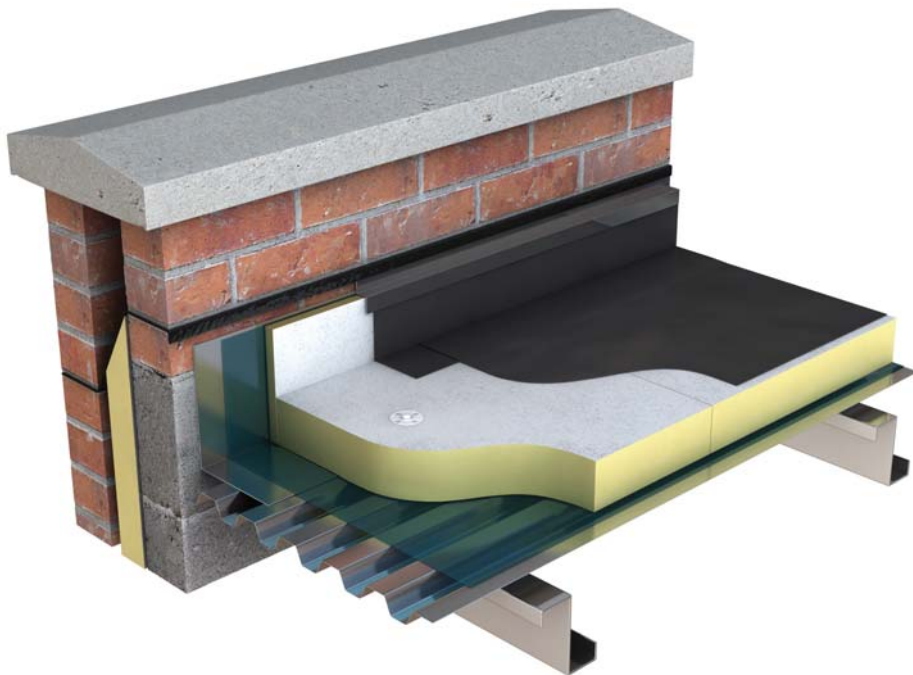
...a better way

Introduction

The Company.

Driven by a culture of innovation, technical competence and flair, Recticel Insulation Products is dedicated to raising the standard of quality of insulation products in the UK.

Recticel Insulation, based at its new state-of-the-art facility in Stoke-on-Trent, is part of the International Recticel Group, one of the world's largest producers of PIR insulation products. At Recticel Insulation, quality is at the heart of everything we do. Striving for excellence in quality of both product and service, Recticel Insulation will raise the standards and product demands of the customer by delivering to the UK unparalleled PIR product and service quality. Our mission is, to demonstrate that, on all levels, Recticel Insulation will continue to deliver **'a better way'** of Insulation.





Insulation for warm flat roofs.

Powerdeck F is a high performance rigid polyisocyanurate (PIR) foam board for use in warm flat roofs under built-up felt, mastic asphalt and approved single-ply membrane waterproofing systems.

Description.

Powerdeck F is a closed cell, CFC and HCFC-free (zero ozone depletion), rigid polyisocyanurate foam core faced, both sides, with a perforated mineral coated glass fibre tissue. It has an exceptionally low thermal conductivity of 0.024 W/mK.*

Wider choice.

Powerdeck F, in a wide range of thicknesses, will assist in meeting the appropriate Building Regulation standard with any form of warm flat roof construction.

Quality.

Outstanding product quality manufactured to ISO 9001 Quality Systems.

Ozone friendly.

Zero ozone depletion potential (Zero ODP). Recticel Powerdeck F has a global warming potential (GWP) of less than 5.

Global Warming.

CFCs, HCFCs and HFCs are all powerful greenhouse gases. Pentane on the other hand achieves an A rating in the "Green Guide to Specification" and the Intergovernmental Panel on Climate Change (IPCC) confirming a Global Warming Potential of below 5.

All our products have a global warming potential of below 5.

Low thermal conductivity.

The declared thermal conductivity value of 0.024 W/mK* is up to 30% more efficient than other types of insulation materials.

Compatibility.

Fully compatible with built-up felt, mastic asphalt and approved single-ply membrane waterproofing systems.

Warm roof construction.

No requirement for roof ventilation and inherently safe from harmful interstitial condensation.

Tapered systems.

Powerdeck F boards are available in a tapered format to assist roof drainage.

Reduced risk of condensation.

Condensation within the roof structure is avoided as it is maintained at the same temperature as the inside of the building.

Handling.

Powerdeck F is lightweight yet tough and resilient. It is easily cut using a knife or fine-toothed saw.

Durability.

Powerdeck F is rot-proof, durable and maintenance free.

CE Mark.

All of our products carry the CE Mark to show compliance with the harmonised European Standard BS EN 13165.

*Thermal Conductivity of 0.025 W/mk for thicknesses of 80mm to 119mm.

*Thermal Conductivity of 0.026 W/mk for thicknesses below 80mm.

Installation

Design - Built-Up Waterproofing Systems.

Powerdeck F boards are compatible with most bitumen based built-up felt roofing systems. Built-up felt systems are laid partially bonded, in conjunction with a type 3G felt venting layer, directly on to the boards in accordance with BS 8217.

Condensation.

A suitable vapour control layer must be installed prior to laying the Powerdeck F boards. This can be in the form of a single layer of Type 3B roofing felt. Reference should be made to BS 5250 and BS 6229 for the condensation assessment and adequate bonding to the deck.

Roof Loading.

Powerdeck F boards are suitable for loads associated with the pedestrian maintenance traffic on the roof; for areas of heavier pedestrian traffic extra precautions should be taken such as the use of promenade tiles. Care must be taken to avoid damage to boards by impact or by concentrated loads during installation.

Roof Drainage.

To ensure adequate drainage the roof should have a minimum finished fall of 1:80. This may mean designing for twice the minimum finished fall to account for building inaccuracies, roof deflection and building settlement.

Tapered Systems.

Tapered Powerdeck F boards are available where it is not desirable or technically possible to create the falls in the roof structure. In refurbishment projects they offer a simple solution to ponding problems whilst at the same time upgrading the thermal insulation of the roof.

Thermal Bridging.

With increasing levels of insulation it is vitally important to ensure continuity of the insulation at the junction of elements. At the junction of the roof and the wall packing the eaves with compressible mineral fibre insulation will both prevent thermal bridging and close the cavity.

At upstands and parapets the cavity wall insulation should be continued above the level of the roof to ensure continuity of the wall and roof insulation.

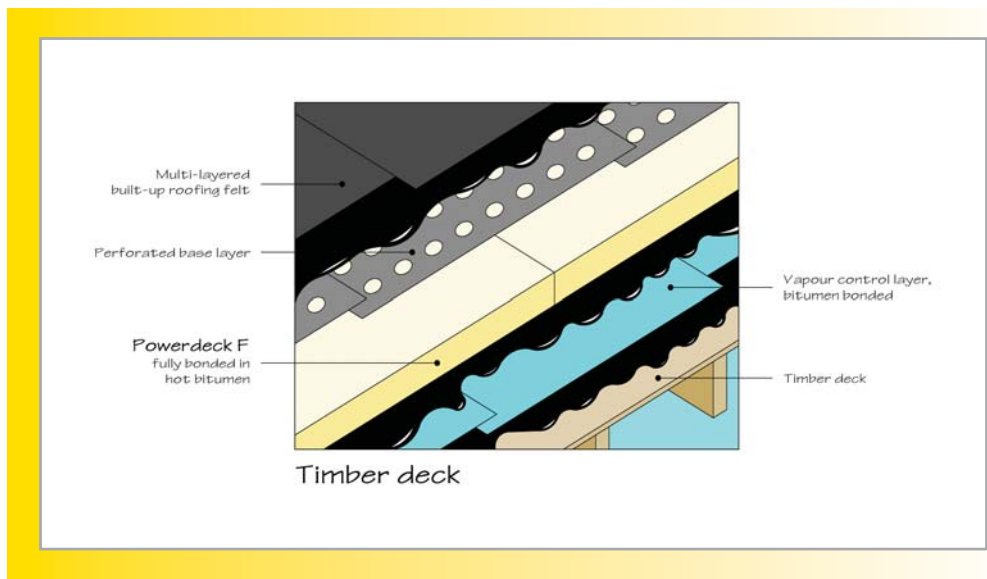
Wind Uplift.

The wind uplift force exerted on the roof will vary according to geographical location, site location and building height. Reference should be made to BS 6229 for adequate bonding of the vapour control layer to the deck to help resist wind uplift. Calculations relating to the bonding and any supplementary fixings should be made with reference to BS 6399.

Fire Performance.

When used within a flat roof constructed in accordance with this brochure Powerdeck F will not prejudice the fire resistance properties of the roof and adds no significant fire load to the building. A 3 layer built-up felt covered with 10mm chippings would give the required external fire rating, FAA: whilst 12.5mm plasterboard will ensure the necessary fire protection internally. For other specifications the manufacturer of the mineral surfaced cap sheet should be contacted. Fire stopping in the form of mineral fibre insulation should be used at party walls.

Timber Deck - Built Up Roofing (Pour & Roll) Figure 1.

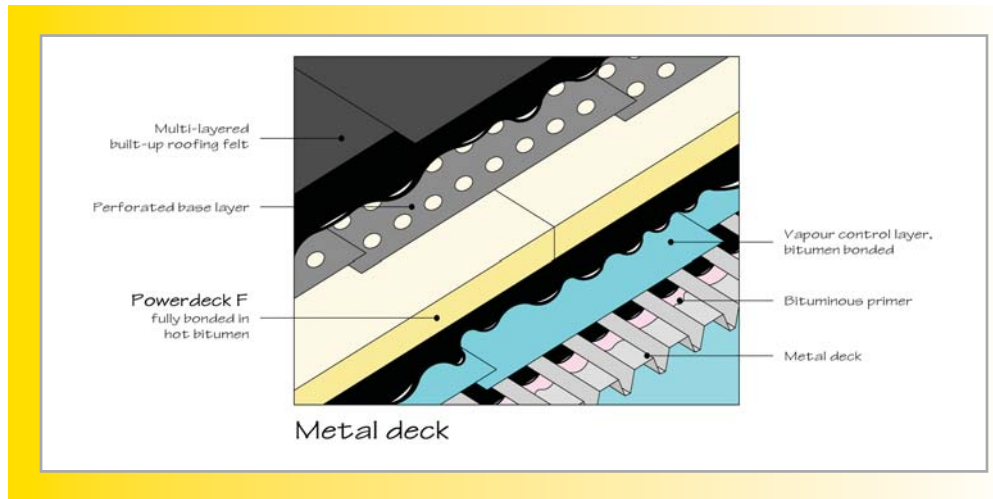


The usual procedure for construction is:

- 1) A vapour control layer, normally Type 3B felt, is either fully bonded in hot bitumen or nailed to the plywood deck. On tongue and groove timber decks the vapour control layer should be nailed. Ensure a 50mm overlap at the end and side laps and seal around penetrations and openings. At roof edges, parapets, abutments etc allow sufficient extra felt to either lap back on top of the insulation or to dress into the upstand by at least 150mm.
- 2) Hot bitumen is mopped over the vapour control layer and the Powerdeck F boards bedded into it in a brick-bond pattern.
- 3) Alternatively the Powerdeck F boards may be mechanically fixed using screw fixings incorporating a 75mm diameter washer within 50mm to 150mm of each corner. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 4) The vapour control layer should be turned back over the top of the boards and sealed in hot bitumen.
- 5) A Type 3G felt perforated base layer is then loose laid, mineral surface down, on the insulation.
- 6) The next two layers of high performance roofing felt are then laid in hot bitumen using a pour and roll technique.
- 7) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Installation

Metal Deck - Built Up Roofing (Pour & Roll) Figure 2.

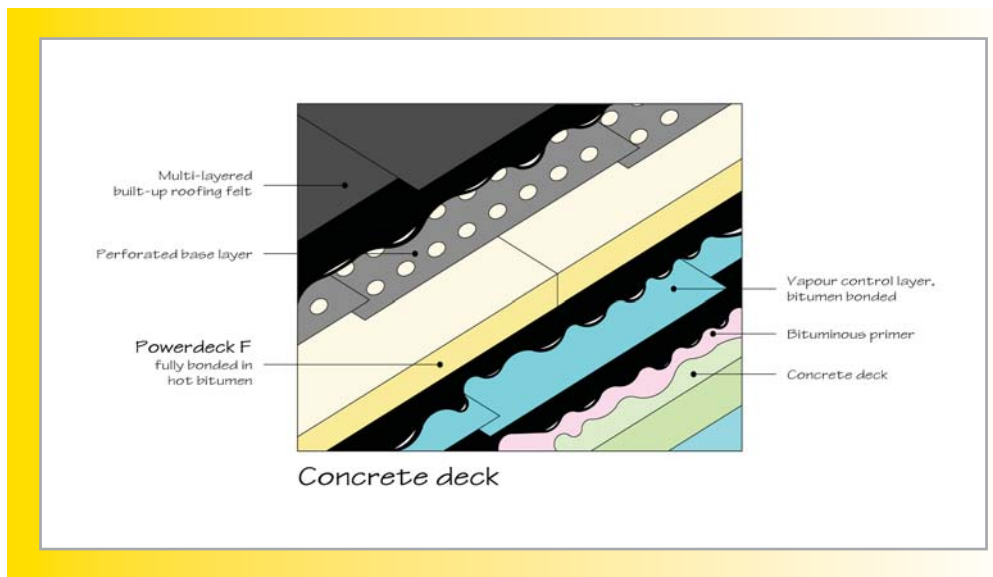


The usual procedure for construction is:

- 1) The metal deck must be primed prior to laying the vapour control layer.
- 2) The vapour control layer, normally Type 3B felt, is bonded in hot bitumen to the deck. Ensure a 50mm overlap at the end and side laps and seal around penetrations and openings. At roof edges, parapets, abutments etc allow sufficient extra felt to either lap back on top of the insulation or to dress into the upstand by at least 150mm.
- 3) Hot bitumen is mopped over the vapour control layer and the Powerdeck F boards bedded into it in a brick-bond pattern.
- 4) Alternatively the Powerdeck F boards may be mechanically fixed using fixings incorporating a 75mm diameter washer within 50mm to 150mm of each corner. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 5) The boards should be laid either with their long edges across the troughs or diagonally across the roof to ensure that the short ends are fully supported (see table below).
- 6) The vapour control layer should be turned back over the top of the boards and sealed in hot bitumen.
- 7) A Type 3G felt perforated base layer is then loose laid, mineral surface down, on the insulation.
- 8) The next two layers of high performance roofing felt are then laid in hot bitumen using a pour and roll technique.
- 9) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Spanning on Metal Decks	
Powerdeck F Thickness (mm)	Maximum Span (mm)
30	100
40	150
45	175
50	200

Concrete Deck - Built Up Roofing (Pour & Roll) Figure 3.



The usual procedure for construction is:

- 1) The deck must be dry, clean, smooth and laid to the correct fall.
- 2) The deck must be primed prior to laying the vapour control layer, normally Type 3B felt, bonded in hot bitumen to the deck. Ensure a 50mm overlap at the end and side laps and seal around penetrations and openings. At roof edges, parapets, abutments etc allow sufficient extra felt to either lap back on top of the insulation or to dress into the upstand by at least 150mm.
- 3) Hot bitumen is mopped over the vapour control layer and the Powerdeck F boards bedded into it in a brick-bond pattern.
- 4) Alternatively the Powerdeck F boards may be mechanically fixed using fixings incorporating a 75mm diameter washer within 50mm to 150mm of each corner. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 5) The vapour control layer should be turned back over the top of the boards and sealed in hot bitumen.
- 6) A Type 3G felt perforated base layer is then loose laid, mineral surface down, on the insulation.
- 7) The next two layers of high performance roofing felt are then laid in hot bitumen using a pour and roll technique.
- 8) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Installation

Design - Mastic Asphalt Waterproofing Systems.

Recticel Powerdeck F boards are compatible with mastic asphalt waterproofing systems. The mastic asphalt must be laid on an isolating layer of Type 4A sheathing felt laid over the boards in accordance with BS 8218.

Sheathing Felt.

An isolating layer of Type 4A sheathing felt must always be used under the mastic asphalt. This isolates the asphalt from movement in the substrate, allows the lateral movement of moisture vapour and warm air during installation of the asphalt and acts as a vapour pressure release in service.

Condensation.

A suitable vapour control layer must be installed prior to laying the Powerdeck F boards. This can be in the form of a single layer of Type 3B roofing felt. Reference should be made to BS 5250 and BS 6229 for the condensation assessment and adequate bonding to the deck.

Roof Loading.

Powerdeck F boards are suitable for loads associated with the pedestrian maintenance traffic on the roof; for areas of heavier pedestrian traffic extra precautions should be taken such as the use of promenade tiles. Care must be taken to avoid damage to boards by impact or by concentrated loads during installation.

Roof Drainage.

To ensure adequate drainage the roof should have a minimum finished fall of 1:80. This may mean designing for twice the minimum finished fall to account for building inaccuracies, roof deflection and building settlement.

Tapered Systems.

Tapered Powerdeck F boards are available where it is not desirable or technically possible to create the falls in the roof structure. In refurbishment projects they offer a simple solution to ponding problems whilst at the same time upgrading the thermal insulation of the roof.

Thermal Bridging.

With increasing levels of insulation it is vitally important to ensure continuity of the insulation at the junction of elements. At the junction of the roof and the wall packing the eaves with compressible mineral fibre insulation will both prevent thermal bridging and close the cavity.

At upstands and parapets the cavity wall insulation should be continued above the level of the roof to ensure continuity of the wall and roof insulation.

Wind Uplift.

The wind uplift force exerted on the roof will vary according to geographical location, site location and building height. Reference should be made to BS 6229 for adequate bonding of the vapour control layer to the deck to help resist wind uplift. Calculations relating to the bonding and any supplementary fixings should be made with reference to BS 6399.

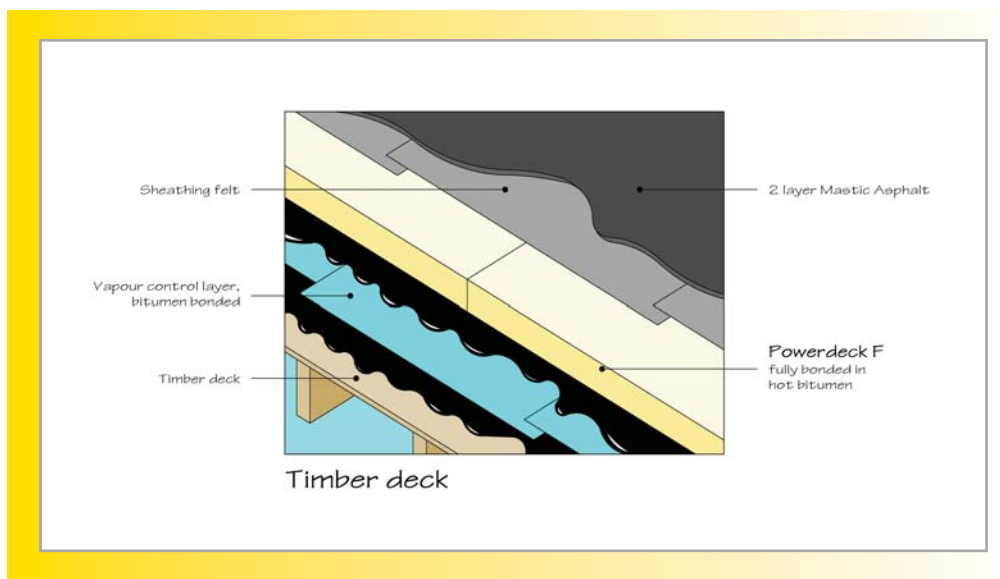
Fire Performance.

When used within a flat roof constructed in accordance with these recommendations Powerdeck F will not prejudice the fire resistance properties of the roof and adds no significant fire load to the building. A 2 layer mastic asphalt system covered with mineral chippings would give the required external fire rating, FAA: whilst 12.5mm plasterboard will ensure the necessary fire protection internally. Fire stopping in the form of mineral fibre insulation should be used at party walls.

Reflective Coatings.

Solar reflective paint may be applied to exposed areas of mastic asphalt. This reduces the temperature of the asphalt in summer and should be maintained in accordance with the manufacturer's instructions. The paint should be free from materials deleterious to mastic asphalt i.e. metallic pigments, aggressive solvents or water-based emulsions.

Timber Deck - Mastic Asphalt Waterproofing Figure 4.

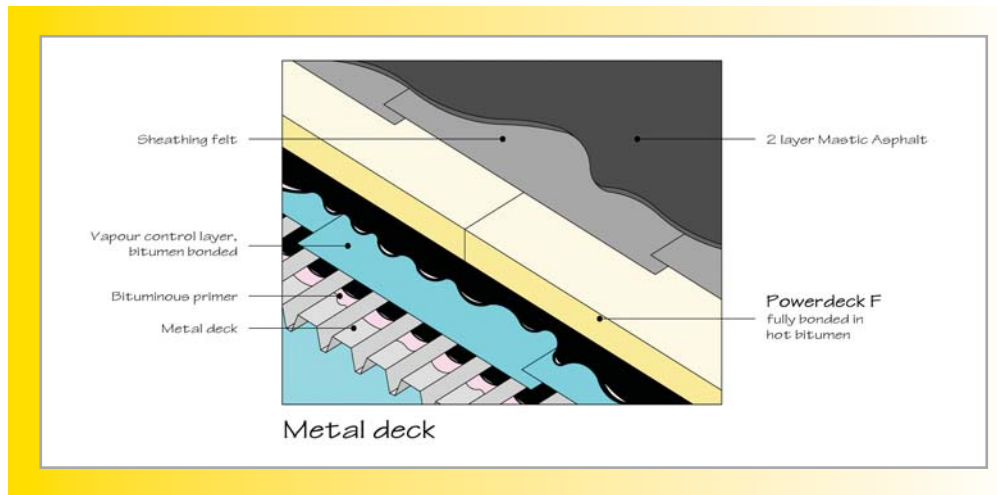


The usual procedure for construction is:

- 1) A vapour control layer, normally Type 3B felt, is either fully bonded in hot bitumen or nailed to the plywood deck. On tongue and groove timber decks the vapour control layer should be nailed. Ensure a 50mm overlap at the end and side laps and seal around penetrations and openings. At roof edges, parapets, abutments etc allow sufficient extra felt to either lap back on top of the insulation or to dress into the upstand by at least 150mm.
- 2) Hot bitumen is mopped over the vapour control layer and the Powerdeck F boards bedded into it in a brick-bond pattern.
- 3) Alternatively the Powerdeck F boards may be mechanically fixed using screw fixings incorporating a 75mm diameter washer within 50mm to 150mm of each corner. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 4) The vapour control layer should be turned back over the top of the boards and sealed in hot bitumen.
- 5) A Type 4A sheathing felt isolating layer is then loose laid on the insulation with 50mm end and side laps.
- 6) The mastic asphalt waterproofing, in 2 or 3 layers, is then installed in accordance with BS 8218.
- 7) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Installation

Metal Deck - Mastic Asphalt Waterproofing Figure 5.

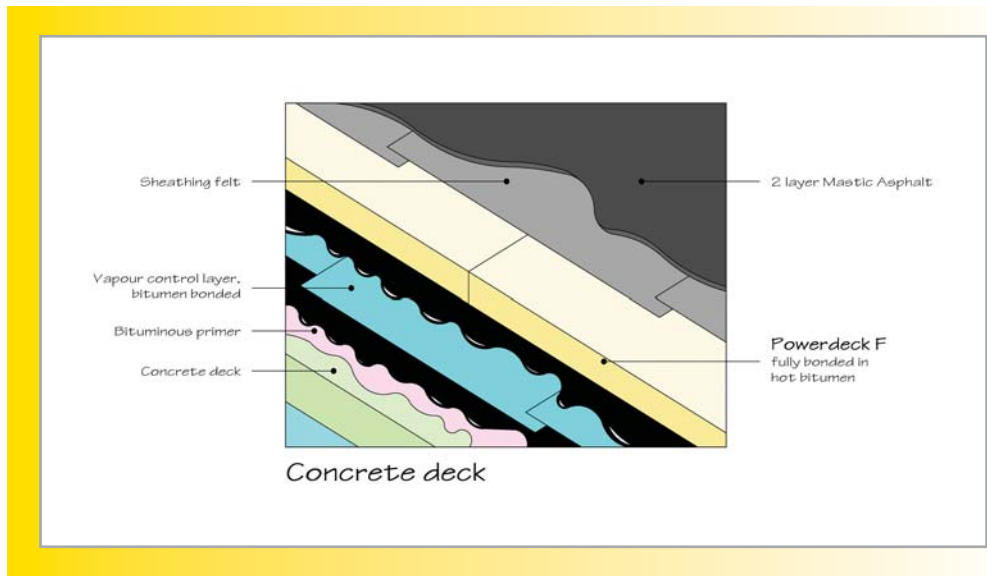


The usual procedure for construction is:

- 1) The metal deck must be primed prior to laying the vapour control layer.
- 2) The vapour control layer, normally Type 3B felt, is bonded in hot bitumen to the deck. Ensure a 50mm overlap at the end and side laps and seal around penetrations and openings. At roof edges, parapets, abutments etc allow sufficient extra felt to either lap back on top of the insulation or to dress into the upstand by at least 150mm.
- 3) Hot bitumen is mopped over the vapour control layer and the Powerdeck F board bedded into it in a brick-bond pattern.
- 4) Alternatively the Powerdeck F boards may be mechanically fixed using fixings incorporating a 75mm diameter washer within 50mm to 150mm of each corner. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 5) The boards should be laid either with their long edges across the troughs or diagonally across the roof to ensure that the short ends are fully supported (see table below).
- 6) The vapour control layer should be turned back over the top of the boards and sealed in hot bitumen.
- 7) A Type 4A sheathing felt isolating layer is then loose laid on the insulation with 50mm end and side laps.
- 8) The mastic asphalt waterproofing, in 2 or 3 layers, is then installed in accordance with BS 8218.
- 9) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work

Spanning on Metal Decks	
Powerdeck F Thickness (mm)	Maximum Span (mm)
30	100
40	150
45	175
50	200

Concrete Deck - Mastic Asphalt Waterproofing Figure 6.



The usual procedure for construction is:

- 1) The deck must be dry, clean, smooth and laid to the correct fall.
- 2) The deck must be primed prior to laying the vapour control layer, normally Type 3B felt, bonded in hot bitumen to the deck. Ensure a 50mm overlap at the end and side laps and seal around penetrations and openings. At roof edges, parapets, abutments etc allow sufficient extra felt to either lap back on top of the insulation or to dress into the upstand by at least 150mm.
- 3) Hot bitumen is mopped over the vapour control layer and the Powerdeck F boards bedded into it in a brick-bond pattern.
- 4) Alternatively the Powerdeck F boards may be mechanically fixed using fixings incorporating a 75mm diameter washer within 50mm to 150mm of each corner. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 5) The vapour control layer should be turned back over the top of the boards and sealed in hot bitumen.
- 6) A Type 4A sheathing felt isolating layer is then loose laid on the insulation with 50mm end and side laps.
- 7) The mastic asphalt waterproofing, in 2 or 3 layers, is then installed in accordance with BS 8218.
- 8) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Installation

Design - Single-Ply Membrane Waterproofing Systems.

Powerdeck F boards are compatible with most mechanically fixed, fully bonded and loose-laid and ballasted single-ply membrane waterproofing systems.

Condensation.

The requirement for a vapour control layer must be assessed with reference to BS 5250 and BS 6229. If required, a polythene sheet (minimum 1000g) or bitumen based vapour control layer should be used.

Roof Loading.

Powerdeck F boards are suitable for loads associated with the pedestrian maintenance traffic on the roof; for areas of heavier pedestrian traffic extra precautions should be taken such as the use of specially designed walkways (consult the membrane manufacturer for specific details). Care must be taken to avoid damage to boards by impact or by concentrated loads during installation. When using ballasted systems the roof structure must be designed to accept the additional dead load, minimum 80 kg/m².

Roof Drainage.

To ensure adequate drainage the roof should have a minimum finished fall of 1:80. This may mean designing for twice the minimum finished fall to account for building inaccuracies, roof deflection and building settlement.

Tapered Systems.

Tapered Powerdeck F boards are available where it is not desirable or technically possible to create the falls in the roof structure. In refurbishment projects they offer a simple solution to ponding problems whilst at the same time upgrading the thermal insulation of the roof.

Thermal Bridging.

With increasing levels of insulation it is vitally important to ensure continuity of the insulation at the junction of elements. At the junction of the roof and the wall packing the eaves with compressible mineral fibre insulation will both prevent thermal bridging and close the cavity.

At upstands and parapets the cavity wall insulation should be continued above the level of the roof to ensure continuity of the wall and roof insulation.

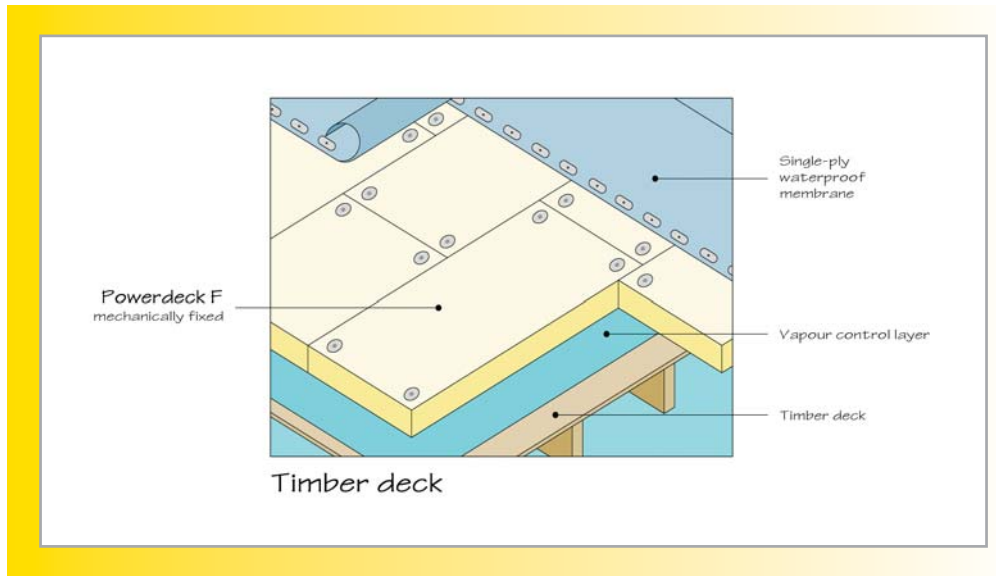
Wind Uplift.

The wind uplift force exerted on the roof will vary according to geographical location, site location and building height. Reference should be made to BS 6229 for adequate bonding of the vapour control layer to the deck to help resist wind uplift. Calculations relating to the bonding and any supplementary fixings should be made with reference to BS 6399.

Fire Performance.

The fire performance of Powerdeck F depends upon the choice of waterproofing system. Generally an external fire rating of FAB will be achieved with mechanically fixed and adhered systems, whilst loose-laid and ballasted systems are deemed to achieve a fire rating of FAA. Fire stopping in the form of mineral fibre insulation should be used at party walls.

Timber Deck - Single-Ply Waterproofing Figure 7.

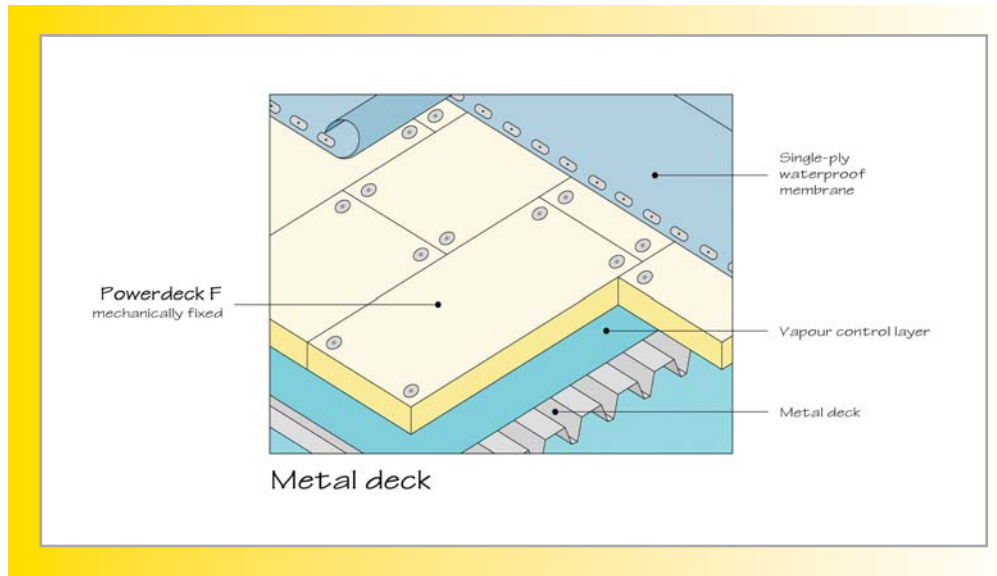


The usual procedure for construction is:

- 1) If required a vapour control layer, normally 1000g polythene, is laid over the deck, ensuring a sealed 150mm overlap at the end and side laps. At roof edges, parapets, abutments etc allow sufficient extra polythene to either lap back on top of the insulation or to dress into the upstand by at least 250mm.
- 2) The Powerdeck F boards are mechanically fixed using 4 screw fixings per board. The fixings should incorporate a 75mm diameter washer and are positioned within 50mm to 150mm of the edge or the corner of each board. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 3) Alternatively when using a bitumen based vapour control layer, nailed or fully bonded to the timber deck, the boards may be bedded in hot bitumen, tightly butted and in a brick bond pattern.
- 4) The vapour control layer should be turned back over the top of the boards and sealed.
- 5) The single-ply waterproof membrane is then laid in accordance with the manufacturer's recommendations.
- 6) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Installation

Metal Deck - Single-Ply Waterproofing Figure 8.

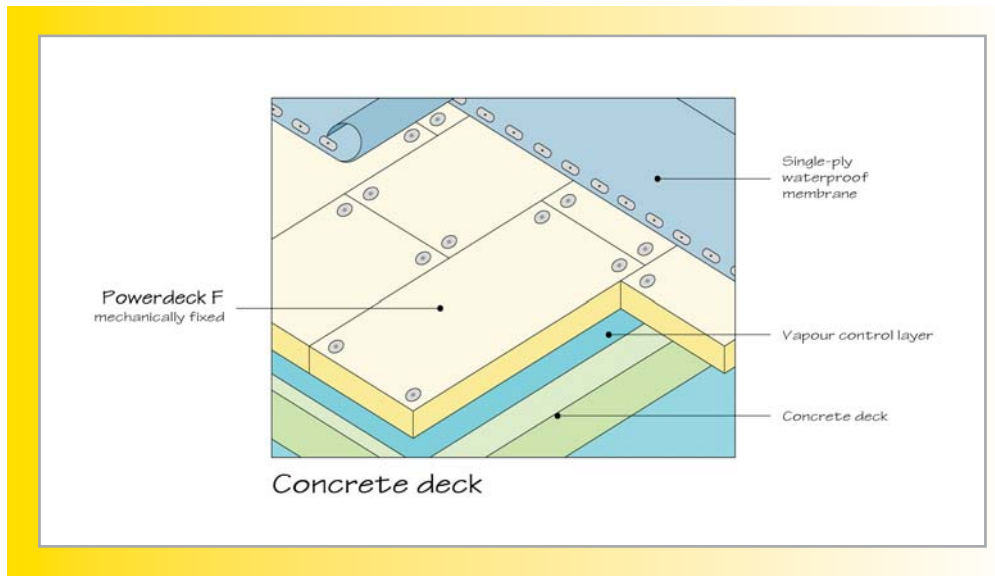


The usual procedure for construction is:

- 1) If required a vapour control layer, normally 1000g polythene, is laid over the deck, ensuring a sealed 150mm overlap at the end and side laps. At roof edges, parapets, abutments etc allow sufficient extra polythene to either lap back on top of the insulation or to dress into the upstand by at least 250mm.
- 2) The Powerdeck F boards are mechanically fixed using 4 screw fixings per board. The fixings should incorporate a 75mm diameter washer and are positioned within 50mm to 150mm of the edge or the corner of each board. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 3) Alternatively when using a bitumen based vapour control layer the boards may be bedded in hot bitumen, tightly butted and in a brick bond pattern.
- 4) The boards should be laid either with their long edges across the troughs or diagonally across the roof to ensure that the short ends are fully supported (see table below).
- 5) The vapour control layer should be turned back over the top of the boards and sealed.
- 6) The single-ply waterproof membrane is then laid in accordance with the manufacturer's recommendations.
- 7) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Spanning on Metal Decks	
Powerdeck F Thickness (mm)	Maximum Span (mm)
30	100
40	150
45	175
50	200

Concrete Deck - Single-Ply Waterproofing Figure 9.



The usual procedure for construction is:

- 1) The deck must be dry, clean, smooth and laid to the correct fall.
- 2) If required a vapour control layer, normally 1000g polythene, is laid over the deck, ensuring a sealed 150mm overlap at the end and side laps. At roof edges, parapets, abutments etc allow sufficient extra polythene to either lap back on top of the insulation or to dress into the upstand by at least 250mm.
- 3) The Powerdeck F boards are mechanically fixed using 4 fixings per board. The fixings should incorporate a 75mm diameter washer and are positioned within 50mm to 150mm of the edge or the corner of each board. Additional fixings may be required in areas of especially high wind loads or around the perimeter of the roof where the wind uplift is greatest.
- 4) Alternatively when using a bitumen based vapour control layer the boards may be bedded in hot bitumen, tightly butted and in a brick bond pattern.
- 5) The vapour control layer should be turned back over the top of the boards and sealed.
- 6) The single-ply waterproof membrane is then laid in accordance with the manufacturer's recommendations.
- 7) To prevent moisture ingress into the system during installation lay only sufficient Powerdeck F boards that can be waterproofed in the same working period. Correctly seal and weather any joints or edges at the end of the day's work.

Technical Details

Heat Loss Calculations.

Description.

The method of calculating U-values is the Combined Method (see BS EN ISO 6946) which as well as assessing the thermal bridge effect of mortar joints, timber studs etc also accounts for air gaps in the insulation and mechanical fasteners penetrating the insulation.

The Building Regulations no longer use the Elemental U-value Method as a means of showing compliance. In new build a U-value in the region of 0.16 W/m²K will help ensure compliance whilst in extensions and refurbishment work a U-value of 0.20 W/m²K is required.

Timber Deck Plasterboard Ceiling	
PowerDeck F Thickness (mm)	U-Value (W/m ² K)
30	0.57
40	0.46
50	0.39
60	0.34
70	0.29
80	0.26
90	0.24
100	0.22
110	0.20
120	0.18
130	0.17
140	0.16
150	0.15
160	0.14
170	0.13
180	0.12
190	0.12

Single Ply waterproofing, Powerdeck F Insulation board, Metal lined VCL, 25mm Timber deck, Joist cavity Bridged by 50x200 joists at 450mm centres, 12.5mm plasterboard and 2mm skim. Thermally broken fixings assumed

Metal Deck Plasterboard Ceiling	
PowerDeck F Thickness (mm)	U-Value (W/m ² K)
30	0.76
40	0.59
50	0.48
60	0.40
70	0.34
80	0.30
90	0.27
100	0.24
110	0.22
120	0.19
130	0.18
140	0.17
150	0.16
160	0.15
170	0.14
180	0.13
190	0.12

Single Ply waterproofing, Powerdeck F Insulation board, Metal lined VCL, Metal deck.
Thermally broken fixings assumed

Concrete Deck (150mm) Plasterboard Ceiling	
PowerDeck F Thickness (mm)	U-Value (W/m ² K)
30	0.60
40	0.49
50	0.41
60	0.36
70	0.30
80	0.27
90	0.24
100	0.22
110	0.20
120	0.18
130	0.17
140	0.16
150	0.15
160	0.14
170	0.13
180	0.13
190	0.12

Single Ply waterproofing, Powerdeck F Insulation board, Metal lined VCL, 150mm Concrete deck,
Batten cavity Bridged by 50x25mm battens at 400mm centres, 12.5mm plasterboard and 2mm skim.
Thermally broken fixings assumed

Technical Details

Technical Details.

Powerdeck F board is available in the following dimensions:

Length (mm)	1200
Width (mm)	600
Thickness (mm)	25, 30, 40, 45, 50, 60, 70, 75, 80, 85, 90, 100, 110, 120, 130, 140, 150

Other sizes available on request Powerdeck F insulation is also available as a tapered board through our specialist single layer tapered insulation division Gradient Insulation Limited.

GRADIENT
FLAT ROOFING

The Tapered Roofing Experts

www.gradientuk.com

Specifications Clause.

The flat roof insulation shall be mm thick Recticel Powerdeck F CFC and HCFC-free, rigid PIR foam with perforated mineral coated glass tissue facings to both sides. Insulation to be installed as work proceeds in accordance with Recticel Insulation Products.

Designation Code.

PUR – EN 13165 – T2 – DS(TH)8 – DLT(2)5 – CS(10/Y)150 – TR80 – WL(T)2

Compressive Strength.

Compressive strength exceeds 150 kPa at yield

Designation Code

CS(10/Y)150

Thermal Conductivity.

The declared thermal conductivity, λ D-value of Powerdeck F is:

0.026 W/mK for thicknesses below 80mm.

0.025 W/mK for thicknesses of 80mm to 119mm.

0.024 W/mK for thicknesses of 120mm and above.

when tested using BS EN 13165: 2001.

Moisture Vapour Transmission.

The mineral coated glass fibre fleece facings of the Powerdeck F board give it a vapour resistance value in excess of 15 MNs/g. When bedded in hot bitumen the board joints will be further sealed; a practical value for the moisture vapour resistance of the system is 40 MNs/g.

Specific Heat Capacity.

The specific heat capacity is 1.4 kJ/kgK.

Durability.

When correctly installed, Powerdeck F board is maintenance free and has an indefinite life at least equal to that of the building.

Storage.

Powerdeck F boards are supplied wrapped in polythene to provide short term protection. On site the boards should be stored in dry conditions, clear of the ground, on a clean level surface.

Reaction to Fire.

Euroclass F (BS EN 13501-1)



Health and Safety.

Recticel PowerDeck F Insulation boards are inherently safe to handle. During cutting or machining any dust generated is of nuisance value only. Large scale machining should be connected to a dust extraction system. The facing used on this product can become slippery when wet. Ensure care is taken to avoid skin and eye contact with any sharp edges. Do not stand on or otherwise support your weight on this board unless it is fully supported by a load bearing surface.

A comprehensive health and safety data sheet is available from Recticel Insulation Products upon request.

References.

The Building Regulations and supporting documents.
Thermal Insulation: Avoiding Risks.
Limiting Thermal Bridging and Air Leakage: Robust Construction Details for Dwellings and Similar Buildings (DTLR/DEFRA).
CIBSE Guide A3 - Thermal Properties of Building Structures.
BS 5250 Code of Practice for Control of Condensation in Buildings.
BS 6229 Code of Practice for Flat Roofs with Continuously Supported Coverings.
BS 6399 Loadings for Buildings.
BS 747 Reinforced Bitumen Sheets for Roofing.
BS 8217 Code of Practice for Built-up Felt Roofing.
BS 8218 Code of Practice for Mastic Asphalt Roofing.
BS 8000 Workmanship on Building Sites.
Part 4 Code of Practice for Waterproofing.
BRE Digests, Information Papers and Good Building Guides.
Single Ply Roofing Association (SPRA) Design Guide for Single Ply Roofing 2007 Edition.
Information Document: BRUFMA ID/1/2009 - MECHANICAL FIXINGS FOR RIGID POLYISOCYANURATE (PIR) AND POLYURETHANE (PUR) ROOFBOARDS BENEATH SINGLE-PLY WATERPROOFING MEMBRANES.
Information Document: BRUFMA ID/3/2009 - GREEN ROOFS AND BALLASTED ROOFS: PROTOCOL FOR THE SECUREMENT OF RIGID POLYISOCYANURATE (PIR) AND POLYURETHANE (PUR) ROOFBOARDS BENEATH SINGLE-PLY WATERPROOFING MEMBRANES.
Information Document: BRUFMA ID/1/2010- USE OF ADHESIVES FOR SECURING RIGID POLYISOCYANURATE (PIR) AND POLYURETHANE (PUR) ROOFBOARDS BENEATH SINGLE-PLY WATERPROOFING MEMBRANES.

Contact Details.

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The information, technical details and other instructions included in this literature are correct at the time of publication and apply to the uses described. Heat loss calculation figures quoted are for guidance only. A detailed U-value calculation together with condensation risk analysis should be completed for each individual project. Please contact Recticel Insulation Technical Service Department for assistance.

Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations. For other applications or conditions of use, contact Recticel Insulation Technical Service Department for assistance.

Recticel Insulation Ltd. reserves the right to amend product specifications without prior notice.



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