Flat Roof Insulation

Installation Guide

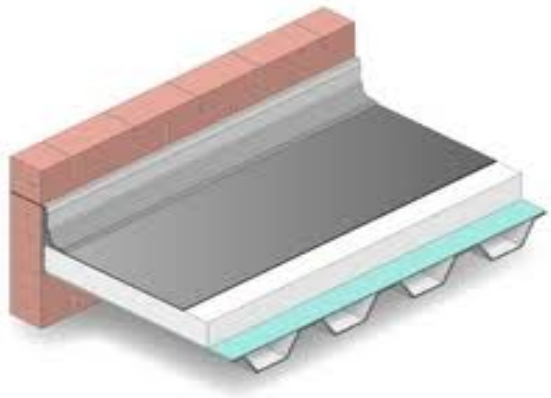
Sundolitt Flat Roof Insulation Board for installation below waterproofing membranes on a warm flat roof construction.

Can be used with fully adhered or mechanically fixed single ply membranes. Also suitable for built-up felt and cold applied liquid waterproofing membranes.

Available as flat sheet to be laid over a deck laid to falls to provide excellent insulation. The panels are square edged and can be cross laid in multiple layers to reduce the risk of cold bridging.

Preparation

Sundolitt Flat Roofing Insulation must be laid on a level and even deck. Our Insulation Boards can span across profiled metal decks without additional support.



The deck should be installed or laid with an even fall sufficient to allow water to drain to rainwater outlets. Code of practice recommends a minimum finished fall of 1:80.

Existing decks should be cleared of loose chippings and any defects repaired prior to installation of the new insulation.

The roof should be as dry as is practicably possible, this reduces the risk of condensation caused by high levels of moisture trapped below the new waterproofing layer.

For fully adhered systems the deck should be suitably primed prior to installation of the vapour control layer. This is not necessary where the insulation is to be mechanically fixed.

Airtight Vapour Control Layer

A suitable airtight vapour control layer (AVCL) is placed over the deck below the insulation to prevent interstitial condensation.

The type of membrane will depend upon the weatherproofing system being used. For mechanically fixed systems this may be a polyethylene sheet with joints lapped and sealed. For fully adhered systems the AVCL should be a minimum Type 3B Felt or similar reinforced membrane suitable for adhering to the deck.

All joints of the membrane must be lapped and sealed. A minimum lap of 150mm is required for the AVCL.

The membrane must be dressed up any parapet walls or upstands to the depth of the insulation plus 300mm to meet the top of the upstand insulation. The AVCL is sealed against the upstand using a proprietary double-sided tape or other suitable adhesive.

For retrofit installations the existing weatherproofing may be considered as an adequate AVCL only where there is no damage and it is in a good watertight condition. It is good building practice to always install a new vapour control layer on existing roofs.

For mechanical fixed systems the membrane should be temporarily adhered or weighted down to prevent wind uplift during installation.

Further information regarding vapour control and airtightness can be found in BS 6229:2018

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The insulation boards are cut to size with a fine toothed saw and placed over the AVCL on the deck.

Boards should be placed in a staggered brickwork pattern offsetting the joints between each panel. Where more than one layer is used subsequent layers should be laid with joints off-set from the layer below. This is to minimise continuous joints through the depth of insulation, thereby reducing the risk of cold bridging.

Fully Bonded Roof Systems

Within a fully bonded system the insulation must be bonded to the AVCL using an adhesive able to withstand wind uplift and suitable for the membrane used.

For bituminous felt applications the EPS Insulation may be adhered using hot bitumen applied to the VCL with a mop. This will reduce the temperature of the bitumen to a level where the EPS will not be damaged. Where possible non-solvent based cold adhesives should be used.

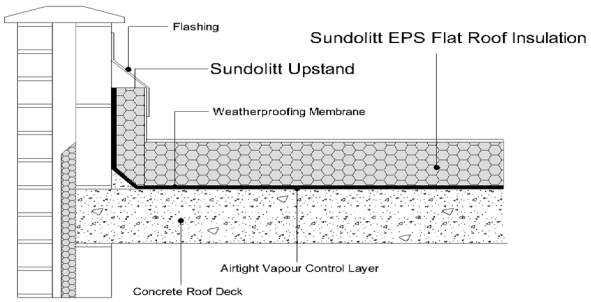
Mechanically Fixed Systems

The insulation is temporarily fixed to the AVCL using dabs of adhesive. This is to prevent wind uplift during installation.

Mechanical fixings with suitable washer heads are driven through the insulation to the decking at a frequency to meet the calculated requirements to prevent wind uplift.

Thermal Bridging

To prevent cold bridging a 25mm thick EPS Flat Roof Insulation Board is dressed up the perimeter at parapet walls and upstands. The insulation is installed to a height at least 300mm above the top of the horizontal insulation.



Weatherproofing

The installation recommendations of the weatherproofing provider must be followed.

The weatherproofing layer is dressed up at the perimeter parapet walls and at upstands, covering the vertical insulation. A suitable flashing is then installed and dressed over the vertical weatherproofing ensuring a continuous water tight finish.

Sundolitt EPS Flat Roof Insulation may require a suitable separating layer before installation of the weatherproofing. This may be a polyester fleece or membrane which provides simple contact separation.

Timber or cementitious boarding is required over EPS boards to prevent damage to the insulation from hot applied weatherproofing. The maximum working temperature of EPS is 80°C.

For areas of high foot traffic the insulation and weatherproofing should be protected by the use of promenade tiles or by specially constructed walkways.

For roof terraces and balconies the appropriate grade of Sundolitt Flat Roof Insulation should be used with suitable paving slabs on spacer pads or decking system placed over the weatherproofing.

Accreditation

Sundolitt Climate EWI is manufactured in accordance with BS EN ISO 13163.

✓ QMS
ISO 9001
Registered Company

✓ EMS
ISO 14001
Registered Company

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