

INVERTED ROOF INSULATION

The Inverted Roof Concept, also known as protected membrane or upside down roofing, ensures insulating both the water-proofing membrane and the reinforced concrete slab from extreme thermal stress. This is achieved by placing IsoBoard extruded polystyrene insulation board above, instead of below the waterproofing membrane.

Typical uses for IsoBoard in this application:

Installed either as new or retrofit insulation above water-proofing membranes on flat topped buildings or balconies, in retail or office developments, flats, hospitals, airports, hotels and in residential housing.

Installation Guidelines.

1. Apply ballast above the insulation board to prevent wind uplift and flotation:
 - using 20 mm nominal size gravel where no traffic is envisaged;
 - using paving slabs where pedestrian traffic is envisaged;
 - using light weight concrete screed to falls where drainage is important;
 - and below a flexible road pavement or reinforced concrete slab for parking decks.
2. Avoid placing the insulation above the slab and below the water proofing layer (warm deck installation). Moisture penetration through the slab from below will condense under the water proofing, resulting in bond failure and bubbling.

Suggested Bill of Quantity Specification:

“IsoBoard® high density 32-36kg/m³ rigid extruded polystyrene 100% closed cell insulation board of (____)mm thickness and 600 mm width with shiplap joint all round laid tightly butted on waterproofing membrane (elsewhere).”

Ordering IsoBoard for the inverted roof application

- For this application boards in lengths of 1,2m/2,4m are practical.
- Order boards with shiplap or tongue and groove edge profiles.
- Consult your nearest IsoBoard sales office for advice concerning the appropriate thickness of IsoBoard required for your application.

The recommended inverted roof installation method for IsoBoard

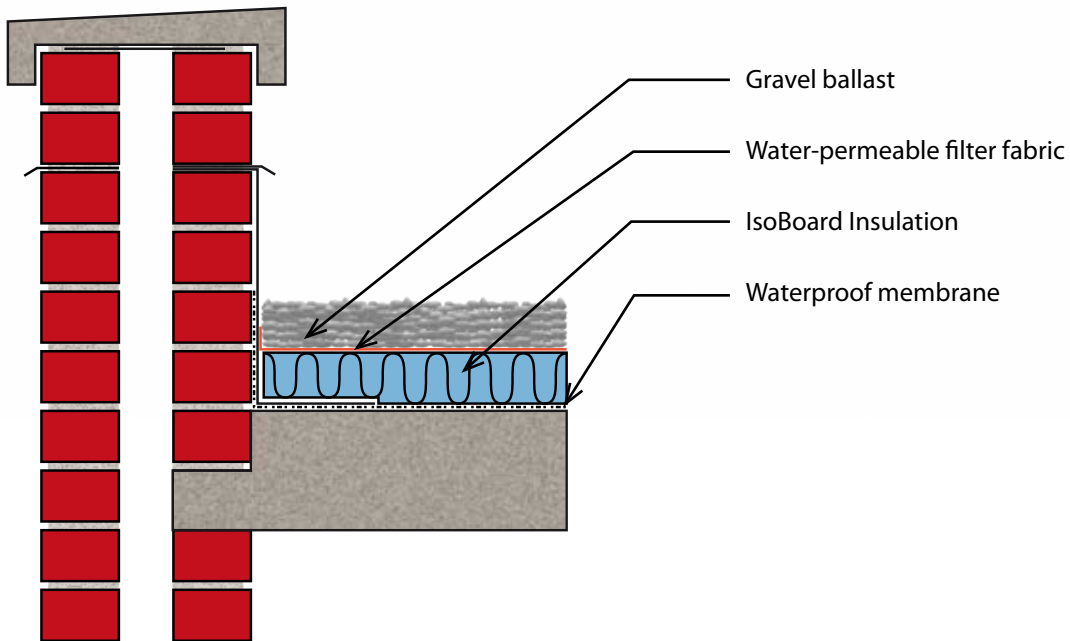
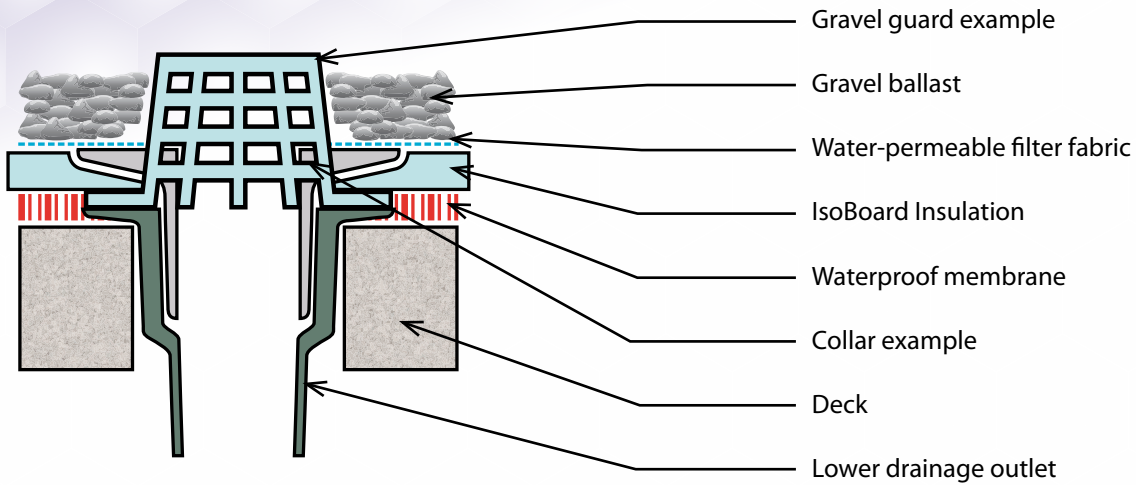
- IsoBoard profiled all-round with shiplap or tongue and groove edge profiles is laid over the water-proofing membrane.
- A water-permeable geofabric membrane is laid over the IsoBoard, and covered with 20 mm nominal size rounded gravel, paving slabs or concrete screeds to prevent flotation and wind uplift.
- The thickness of ballast loading required should resist flotation and wind uplift, as stipulated in the Agrément Certificate tables.
- Rainwater outlets/downlets should be dual level, capable of accepting water from above both the waterproofing membrane and the IsoBoard layer. Verges, upstands and roof-light kerbs should be high enough to contain the insulation and ballast layer, with modifications carried out to existing buildings if necessary. Maintenance on drainage downlets is important.
- Concrete paving slabs should be laid over insulation in areas subject to foot traffic, such as access ways to lift or air-conditioning plant. Slabs need to be raised above the insulation to facilitate drainage. Slabs can be laid on a bed of pea gravel or special support rings.
- When vehicular traffic is envisaged, the paving structure will require design by a competent person.

Site Handling Instructions

1. Store boards flat within original packaging until required.
2. Boards are to be protected from adverse weather conditions and direct sunlight for the storage period.
3. IsoBoard is easily cut to length or trimmed using a sharp knife or hacksaw.
4. Handle and install with care to prevent damage to board edges.
5. Please contact IsoBoard for any queries with respect to the above.



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