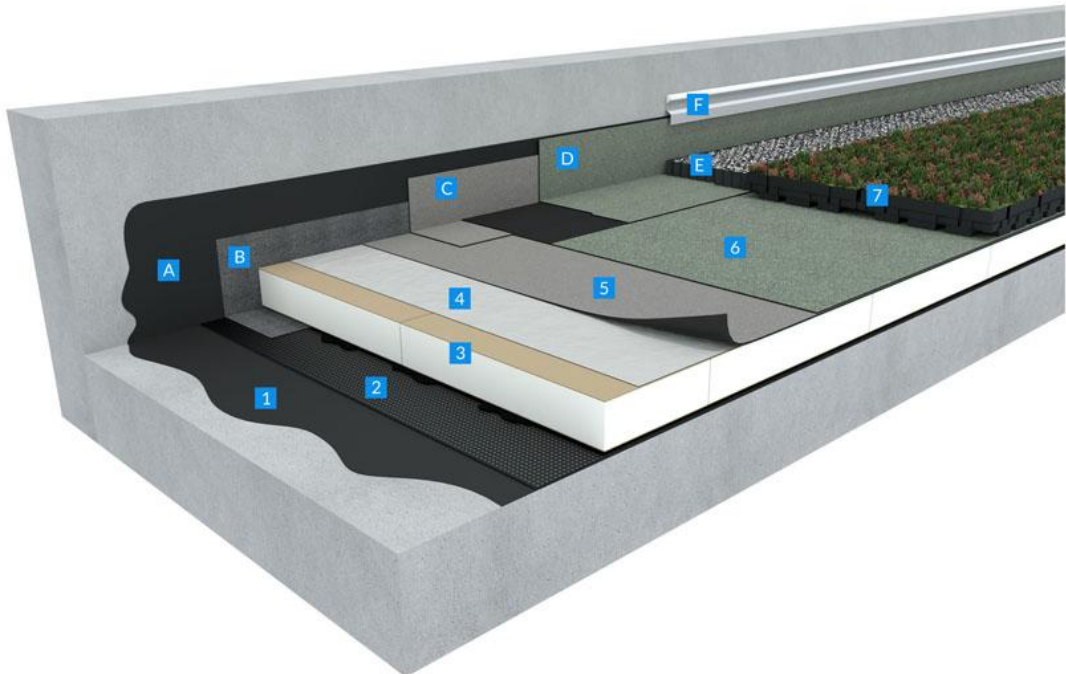


Extensive green roof with pre-cultivated sedum modular packs - non accessible
Double layer bitumen waterproofing system:
PREFLEX + GRAVIFLEX

Substrate & Use of roof	Finishing	Standard warm roof / inverted roof
Concrete Extensive green roof Non accessible	Pre-cultivated sedum modular packs (Canopia JARDIBAC or similar type)	Insulation under waterproofing



- **Substrate**
 The load bearing structure (trapezoidal metal sheet, concrete or wooden) must comply with all associated national standards and regulations, ensuring that the load bearing capacity is sufficient for any additional loads imposed upon the construction. It is important to consider the possibility of future deflection of the construction when designing roof drainage.
 - **Preparation:** The bearing elements and substrates must comply with local technical standards. After proper cleaning of the roof area, a complete control shall be carried out by the Contractor. Slope and planarity shall be carried out with the following tolerances:

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- **Slope:**
3 - 20 % on concrete decks (depending on the type of terrace, please contact the BMI Technical Department).
 - Water ponding areas shall be identified clearly.
 - **Levels:**
Tolerances for planarity shall be:
 - 7 mm with a 2 m straight edge.
 - 2 mm with a 200 mm straight edge.
 - **Surface:**
Prepare substrate surfaces thoroughly prior to application of new roofing materials. This is particularly important for refurbishment applications. Providing a smooth, even, sound, free of dust, grease and oil, foreign chemicals, curing compound, clean and dry substrate minimises the likelihood that underlying deficiencies will cause premature deterioration or even failure of the new roofing system.
Concrete:
Masonry bearing elements and substrates in compliance with local technical standards.
Are not accepted: slope screeds of lightweight concrete.
- **Upstands/Parapets:**
Siplast Primer: cold-applied, quick drying, universal elastomeric bitumen primer. Approx. coverage 0.15 litre/m² on steel and approx. coverage 0.30 litre/m² on concrete (depending on concrete porosity, please consult the supplier's technical documentation).
Parequerre: Nonwoven polyester-reinforced modified SBS elastomeric bitumen angle strip. Cut in 0.25 m or 0.33 m wide strips for use as a reinforcement angle on upstands. Torched at the junction of the parapet with the main area.
Preflex: Polyester-reinforced, 3 mm thick modified SBS elastomeric bitumen underlayer membrane for upstands on roof gardens, green roofs and accessible flat roofs for pedestrians or light vehicles. Thermofusible film on both sides. Fully torched on primer.
Graviflex: Polyester-reinforced, modified SBS elastomeric bitumen cap sheet membrane with anti-root additive for roof garden waterproofing. Upper surface is protected with slate flakes, thermofusible film on the underside. Nominal thickness on the longitudinal selvedge: 3.2 mm. Fully torched on top of the Preflex.

Vegetation barrier between parapets and sedum modular packs is carried out with **Nidarroof 40-1F** filled with gravel.
Nidarroof 40-1F: Alveolar structured rigid plastic plate covered by a nonwoven polyester on the underside, used as a gravel stabiliser.
Consult the technical documentation.

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- **Vapour Control Layer**

Siplast Primer: cold-applied, quick drying, universal elastomeric bitumen primer. Approx. coverage 0.30 litre/m² on concrete.

Irex Profil: Glass fleece-reinforced modified SBS elastomeric bitumen vapour control layer, fully torched.

- **Insulation:** Polyisocyanurate boards (PIR) / Polyurethane (PUR) boards with composite or fibre-reinforced facing, composite perlite boards glued with **Colle PAR** or **PUR Glue**. Mineral wool with Class C compressibility glued with **Colle Par** or **PUR Glue**. Expanded polystyrene boards (EPS) Class C glued with **PUR Glue**. Bitumen-faced cellular glass insulation boards laid in hot-bitumen (without a vapour control layer).

Consult the supplier's technical documentation and local regulations.

- **Separation layer**

Verecran 100: 100 g/m² glass fibre mat as a separation layer, loosely laid.

Note: Preflex can be torched on top of the bitumen-faced insulation boards (in this case Verecran 100 is deleted)

- **Waterproofing**

Preflex: Polyester-reinforced, 3 mm thick modified SBS elastomeric bitumen underlayer membrane for upstands on roof gardens, green roofs and accessible flat roofs for pedestrians or light vehicles. Thermofusible film on both sides. Loose-laid on top of the Verecran 100, torched-overlaps.

Graviflex: Polyester-reinforced modified SBS elastomeric bitumen root resistant cap sheet for double layer waterproofing systems, used for waterproofing of green roofs/roof gardens or flat roofs with different uses: planted areas, access for pedestrians, access for light vehicles. Upper surface is protected with slate flakes, thermofusible film on the underside. Nominal thickness on the longitudinal selvedge: 3.2 mm. Fully torched on top of the Preflex.

The GRAVIFLEX System comprises two waterproofing membranes for multi-use green roofs or podium waterproofing: Preflex and Graviflex bonded together by torching. It is a universal system for different uses on the same flat roof or podium/plaza decks that can be used on a combination of areas: roof gardens for pedestrians, blue roofs, access for light vehicles, inaccessible areas with gravel or self-protected.

- **Finish**

Pre-cultivated sedum modular roof pack (**Canopia JARDIBAC** type) or similar type: 600 x 400 x 70 mm container designed to contain varieties of mixed sedums to be delivered on site.

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- **Expansion Joints:**

Expansion joints have to be planned by the architects and are project specific.

Recommendation:

The expansion joints will be prepared in compliance with the **Neodyl System** technical assessment. The Neodyl System comprises **Cordon Neodyl, Joint Neodyl (Bande Neodyl)** lyred-shaped waterproofing strips and a protection system (in case of green roofs, it is GRAVIFLEX to be torched). It will have a kerb, raised flat, flat, with upstands-in certain cases.

The Neodyl System is used for structural expansion joints on pedestrian accessible roofs, roof gardens and non-accessible exposed roofs. Suitable for all roof substrates.

For more information please consult the “**Roof Details and Connections**”.

- **Details**

All details shall be finalized before roofing works start:

Rainwater drains shall be well located, in sufficient number and ready to receive waterproofing membranes.

Expansion joints shall be located at the highest roof points, on reinforced concrete curbs chamfered as shown on drawings.

All pipes, cables and other penetrations shall be in place. Provision for proper waterproofing of roof equipment and machinery shall be made.

All parapets shall be in place, with provision for groove or counter flashing at an acceptable height (150 mm above finished roof level).

All other planted area details, please consult the detailed green roof catalogues, technical documents, installation manuals or contact directly the BMI Technical Department.

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