

PermaSEAL^{PRO} 40P Green Roof

Drainage & Storage Membrane



PermaSEAL[®] PRO 40P Green Roof is a high quality HDPE drainage and water storage membrane suitable for use in extensive and intensive soft landscaping Green Roof applications, along with various hard landscaping designs.

Made from 100% recycled HDPE, the 40mm profile has a water storage capacity of approx. 15 l/m². This allows for installation into Green Roof areas designed to be without irrigation for extended periods or areas that are heavily planted, optimising water supply to the vegetation. With a high pressure resistance of approx 200 kN/m², it suits a wide range of applications from wildflower blanket and plug/seed mix to medium size planting or paving for walkable and drivable access.

The dimpled membrane has a high drainage capacity of $i = 0.10$; approx 3.78 l/s·m, allowing for large drainage lengths and/or low roof slopes. The plant substrate can be applied directly onto the dimpled membrane after laying a separate geotextile membrane. Thanks to the perforations, the water-storing drainage element is permeable and is also suitable for inverted roofs; this prevents a film of water from forming on the inverted roof insulation. In walkable areas without vegetation, geotextile is not required. The base layer and the bedding material are applied directly onto the dimpled membrane and into the storage cups. Pavement or slab covering can then be laid on top of it.

PermaSEAL[®] PRO 40P Green Roof is guaranteed against deterioration for 30 years and has a life expectancy equal to that of the structure (DIN 9001:2000). It is an inert product and is highly resistant to water, alkalis, saline solutions, organic acids, bacteria, fungi and other small organisms and is not affected by minerals.

PERMASEAL[®] PRO 40P GREEN ROOF

PRODUCT TECHNICAL DETAILS

Membrane	HDPE approx 2200g/m ²
Composition	Recycled HDPE
Stud height	Approx 40mm
Total weight	Approx 2200g/m ²
Number of studs	164/m ²
Compressive strength	Approx 200kN/m ²
Colour	Black
Water drainage capacity $i = 1.00$	Approx 4.30 l/s m
Water drainage capacity $i = 0.10$	Approx 3.78 l/s m
Water storage capacity	Approx. 14 l/m ²
Slab length	2m
Slab width	1m
Temperature resistance	-30°C to +80°C
Chemical properties	Chemical resistant
Physical properties	Safe for drinking water
Fire resistance	Class E

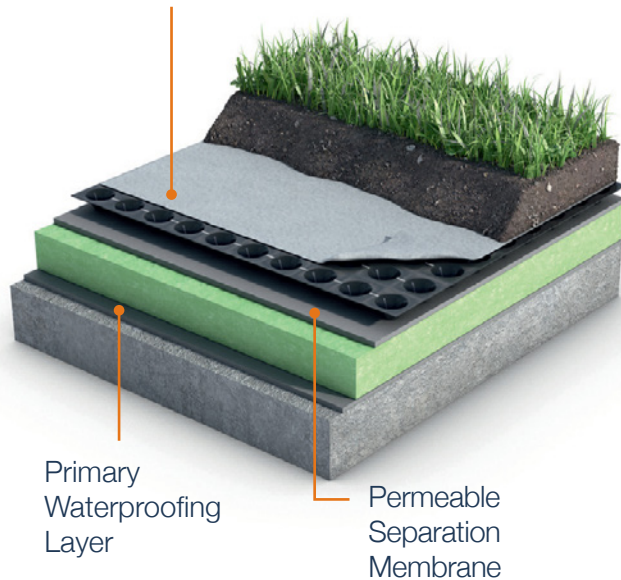
FEATURES

- **Large water storage capacity** of 15 litres /m²
- **High compression** strength 200kN/m² = 20t/m²
- Suitable for **intensive Green Roof** and **walkable areas**
- Extremely **tough** and **durable**
- **Easy** to install
- **Manageable slab size/weight** for one person
- Can be used on **inverted warm roofs** or **cold roofs**

ACCREDITATIONS

PermaSEAL[®] PRO 40P Green Roof Drainage and Storage membrane is tested and CE marked to the relevant standard.

PermaSEAL® PRO 40P Green Roof Membrane



INSTALLATION

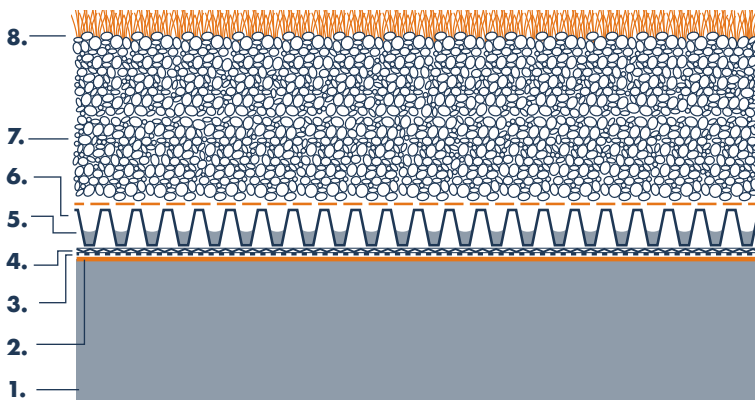
The application surface should have a gradient of at least 2%. Once the horizontal waterproofing, root barrier and any other required build-up is in place, the PermaSEAL® PRO 40P slabs are laid in place.

There is no need for overlaps simply butt joint edges together. Overlapping can be achieved if necessary.

The dimpled sheet can be cut to the required length with a knife, being careful not to damage the waterproofing or any other layers.

Once installed and depending on the finish, the PermaSEAL® PRO Geotextile 120 can be applied over the surface ready to receive the planting substrate.

TYPICAL GREEN ROOF BUILD-UP



KEY

1. Deck
2. Waterproofing layer
3. PermaSEAL® PRO Root Barrier
4. PermaSEAL® PRO Protection Fleece 500
5. PermaSEAL® PRO 40P Membrane
6. PermaSEAL® PRO Geotextile 120
7. Intensive Substrate
8. Turf Grass

FINISHING

PermaSEAL® PRO 40P Green Roof is designed to receive a number of build-ups including intensive Green Roof or hard landscaping designs.

INTENSIVE GREEN ROOF

- Roofs with large vegetation e.g. bushes, trees
- Thick substrate layer, 15-60 cm thick
- High weight up to 500 kg/m²
- Must be maintained like gardens
- Additional water necessary

DRIVABLE ROOF

- A sub base course and a bedding course will be installed between PermaSEAL® PRO 40P Green Roof and the drivable pavement.

WALKABLE ROOF (WITH PAVEMENT OR FLAGSTONES)

- A bedding course of sand, gravel or chippings will be installed between PermaSEAL® PRO 40P Green Roof and the pavement.

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