

PermaSEAL^{PRO}

20P Green Roof

Drainage & Storage Membrane



PermaSEAL[®] PRO 20P 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.

The membrane incorporates a bonded high quality geotextile filter layer to provide a 20mm cavity that is protected against soil obstruction and can store a large amount of water.

The recycled HDPE membrane is perforated to allow water to pass through to the drainage space below, preventing saturation of the vegetation above. The perforations also make it suitable for inverted warm roof application and the all-in-one drainage, storage and filter functionality allows for quick installation.

PermaSEAL[®] PRO 20P Green Roof is used as a water storage and drainage layer in conjunction with a primary waterproof coating above decks and flat roofs. It can be specified for a broad range of Green Roof designs, making it the 'go to' membrane for specialist installers. It's guaranteed against deterioration for 30 years and has a life expectancy equal to the design life of the structure (DIN 9001:2000). It is an inert product and is highly resistant to water, alkalis, saline solutions and organic acids and is not affected by minerals. It is also resistant to bacteria, fungi, and other small organisms.

ACCREDITATIONS

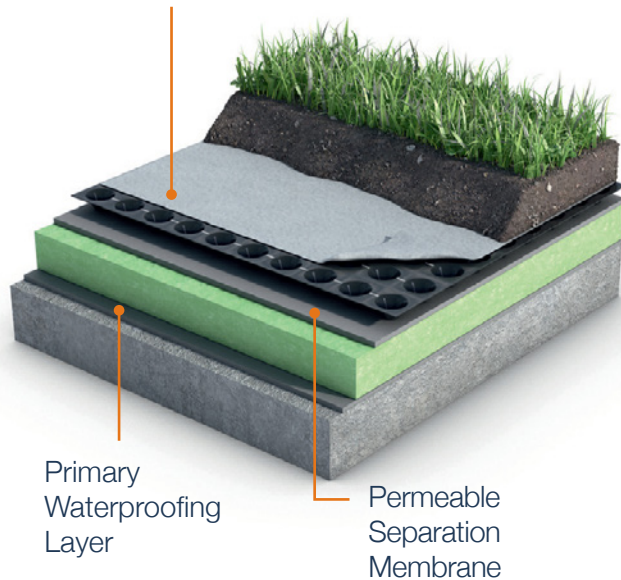
PermaSEAL[®] PRO 20P Green Roof Drainage & Storage Membrane is tested and CE marked to the relevant standard.

PERMASEAL[®] PRO 20P GREEN ROOF	PRODUCT TECHNICAL DETAILS
Membrane	HDPE approx 1000g/m ²
Composition	Recycled HDPE
Geotextile	PP approx 100g/m ²
Stud height	Approx 20mm
Total weight	Approx 1100g/m ²
Number of studs	400/m ²
Compressive strength	Approx 150kN/m ²
Colour	Black
Water drainage capacity	Approx 9 l/s m
Water storage capacity	Approx.6 l/m ²
Roll length	10m
Roll width	2m plus 10cm geotextile overlap
Air volume between studs	Approx.14 l/m ²
Temperature resistance	-30°C to +80°C
Chemical properties	Chemical resistant
Physical properties	Safe for drinking water
Characteristic opening width	Approx170 µm
Water permeability EN ISO 11058	Approx. 100 · 10 ⁻³ m/s
Fire resistance	Class E

FEATURES

- **Fully bonded, high quality** geotextile prevents slip and compression into storage cups
- **Geotextile filter layer** prevents siltation of the studs
- **High drainage** capacity
- **Tough and durable** membrane
- **Easy to install** – simply unroll
- **Large water storage capacity** of approx 6 litres /m²
- **High compressive strength** - 150kN /m²
- Bonded geotextile filter layer **saves time on installation** compared with loose laid geotextile

PermaSEAL® PRO 20P Green Roof Membrane



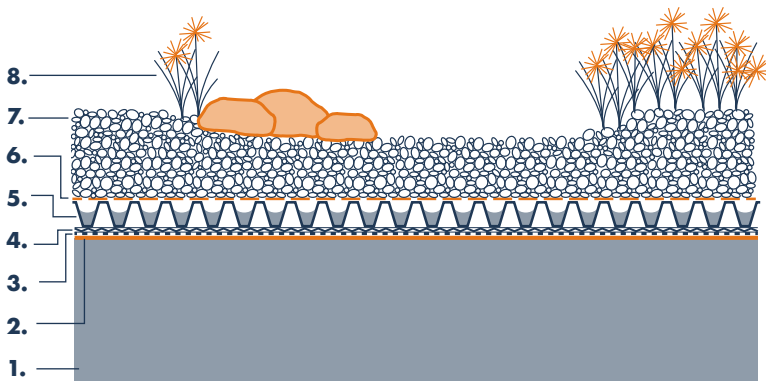
INSTALLATION

The application surface should have a gradient of at least 2%. Once the horizontal waterproofing and other specified materials are in place, roll out the PermaSEAL® PRO 20P Green Roof on the sealed surface with the geotextile facing upwards.

Ensure that every roll of membrane overlaps the next roll by approximately 100mm, this joint can be sealed with PM Power fix or PermaSEAL® Jointing Tape taking care to lift the geotextile, over lapping onto the next section of membrane. The dimpled sheet can be cut to the required length, being careful not to damage the waterproofing or any other layers.

Once installed, the membrane is immediately ready to receive the Intensive or extensive Green Roof substrate.

TYPICAL GREEN ROOF BUILD-UP



KEY

1. Deck
2. Waterproofing layer
3. PermaSEAL® PRO Root Barrier
4. PermaSEAL® PRO Protection Fleece
5. PermaSEAL® PRO 20P Membrane
6. Bonded Geotextile Filter Layer
7. Biodiverse Substrate
8. Biodiverse Vegetation

FINISHING

PermaSEAL® 20P Green Roof is designed to receive a number of build-ups including intensive and extensive Green Roofs and landscaping designs. If the Geotextile is removed it can also accept walkable and drivable finishes (the studs must be filled).

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 20P Green Roof and the drivable pavement.

EXTENSIVE GREEN ROOF

- Roofs with low vegetation like grass, moss, flowers
- Thin substrate layer, 8 - 10 cm high
- Small weight up to 100 Kg/m²
- Nearly no maintenance
- No additional water necessarily

WALKABLE ROOF (WITH PAVEMENT OR FLAGSTONES)

- A bedding course of sand, gravel or chippings will be installed between PermaSEAL® PRO 20P Green Roof and the pavement.

All Permagard products are of a high quality and subject to rigid quality control. The company, however, cannot govern the conditions of the usage and application of its products and any warranty, written or implied covers material only. The information contained in this leaflet is given in good faith but no liability can be assumed by the Company for any damage, loss, injury or patent infringement arising from its use.

Permagard Products Ltd
Units B2-B5, Worthy Road
Chitting Industrial Estate
Avonmouth
Bristol, BS11 0YB