

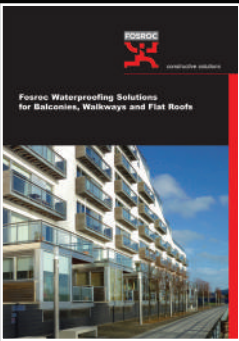
www.fosroc.com

FOSROC



constructive solutions

Fosroc offers a full range of construction solutions, helping to protect structures throughout the world. Please refer to our other brochures, which include:



FOSROC



Details of your local Fosroc office can be found at
www.fosroc.com

Important Note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.

Waterproofing and Drainage for Green Roofing





Our profile

Since the company's beginnings over 50 years ago, Fosroc has developed into an International leader in delivering Constructive Solutions for projects across a broad range of market segments including transport, utilities, industrial and general buildings.

Fosroc has an extensive network of offices and manufacturing locations across Europe, the Middle East, India, North and South Asia, and is further represented in other regions across the world by distributor and licensee partners. For details of your local offices, please refer to www.fosroc.com.

Selecting from the full portfolio of Fosroc products and services and integrating expert technical support, world class customer service and innovation, Fosroc goes beyond just product selling to ensure that we partner with our customers to deliver complete constructive solutions.

- Cement Grinding Aids
- Concrete Admixtures
- Surface Treatments
- Grouts & Anchors
- Waterproofing
- Joint Sealants
- Concrete Repairs
- Surface Coatings
- Industrial Flooring



how we can help you

For a tailored project solution please contact your local Fosroc office where experienced staff will assist and provide you with a high level of support, including;

- Seminars
- Project specifications
- CAD details
- Site support



Aesthetics

Green roofing is growing rapidly in popularity with building owners and community planners across the world. A green roof can transform an underused and functional area into an attractive feature, such as a garden or open space that can be visited and enjoyed by building occupants. Realisable property values are higher for such buildings and this form of roofing can sustain the marketability of office structures.

Additional energy savings

Green roofing acts as a thermal insulator to protect buildings from high external temperatures in hot climates and retaining heat in colder climates, minimising air conditioning or heating costs. In hot climates green roofing also helps in cooling surrounding areas, but in any area the installation of a green roof may also reduce the requirements for traditional insulation.

Increased durability

A well-designed green roof system can outperform other forms of roofing, which may suffer from wide temperature variations or the effects of Ultra-Violet (UV) radiation.

Improved sound insulation

The green roof can be used as an acoustic barrier, creating a healthier environment for the occupants. The growing medium serves to block lower sound frequencies, whilst the plants block higher frequencies.

Providing storm water retention

Green roofing may also have benefits in storm water management. Rain water is captured and held within the growing media for release back into the atmosphere through evaporation. This decreases the amount of water run-off into local water systems; by delaying and reducing peak storm water run-off rates and volumes, lower loading is placed on drainage systems.

Environmentally friendly air purification

As well as absorbing carbon dioxide during photosynthesis and releasing oxygen into the built environment, plants can also reduce particulate and other pollution by filtering these from the air. Materials trapped at the greenery surface area is washed by rain or watering into the growing medium below.

**social,
environmental
and economic
benefits**



Intensive/ Extensive Green Roofing

A green roof is a designated green area created by adding layers of growing medium and plants on top of a functional roofing system and typically consists of:

- Plants selected to suit client specifications
- A growing medium, which may or may not include soil
- A filter geotextile to contain the roots and the growing medium while allowing for water penetration
- A specialised drainage layer, sometimes with built-in water reservoirs to retain water
- The waterproofing/ roofing membrane, with an integral root resistance
- The roof structure, with traditional insulation either above or below

The two basic types of green roof systems, extensive and intensive, are differentiated mainly by the cost, depth of growing medium and the choice of plants.

Extensive Green Roof

Shallow growing medium, low plant diversity

- Lightweight roof
- Low maintenance and long life
- Relatively low cost
- Vegetation left to grow freely
- Restricted access
- More limited choice of plants
- Less energy efficiency benefits

Intensive Green Roof

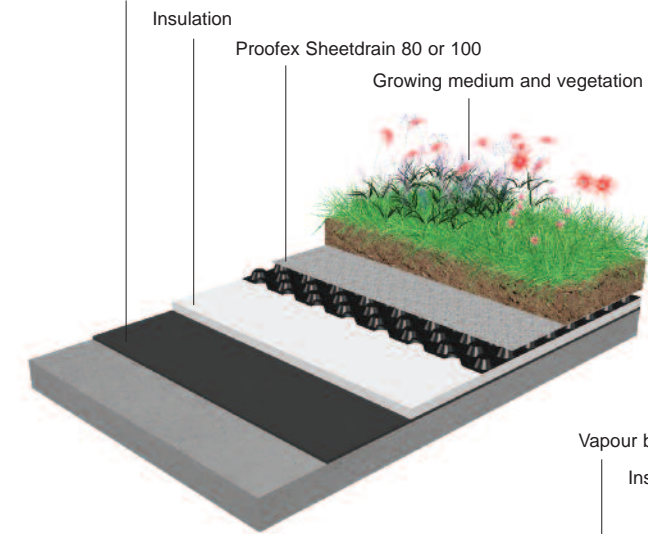
Deep soil, more favourable conditions for plants, high plant diversity

- Greater choice of plants
- More visually attractive
- Often accessible, more recreational
- More energy efficiency benefits
- Higher weight loading on roof
- Higher maintenance costs
- Higher complexity systems



Typical details

Fosroc Polyurea WPE or Nitoproof 800 waterproofing



Waterproofing under insulation

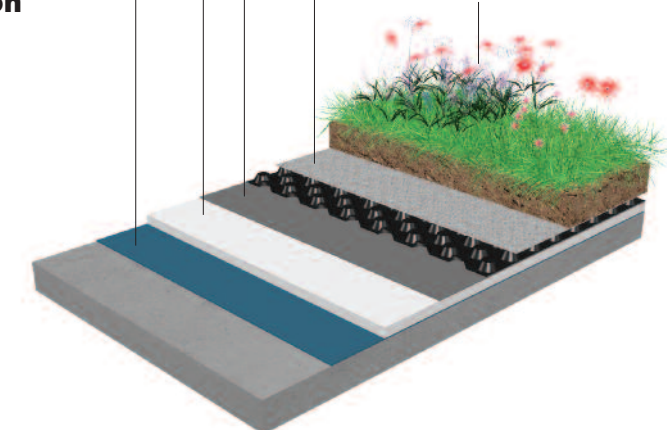
Vapour barrier

Insulation

Proofex OGP waterproofing

Proofex Sheetdrain 80 or 100

Growing medium and vegetation



Waterproofing on top of insulation

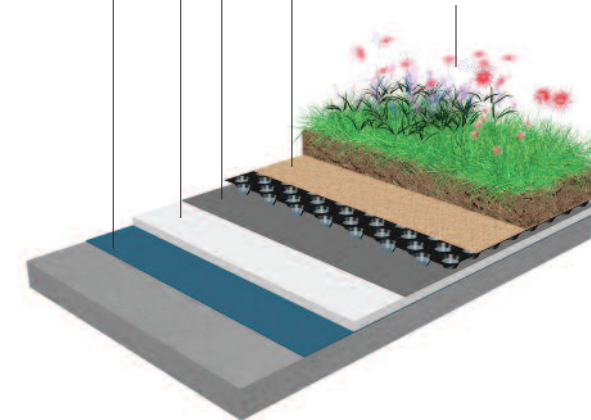
Vapour barrier

Insulation

Proofex OGP waterproofing

Proofex Cavitydrain 200P and 140g/m² geotextile

Growing medium and vegetation



Water storage reservoir sheet system on top of insulation

a waterproofing and drainage membrane for every application

Product systems

A successful, functional and aesthetic green roof can only be delivered through holistic design of a complete system. Inappropriate interface, poor installation, and inadequate product selection can create weak points that are expensive to correct. The Fosroc systems-based approach is essential in creating and maintaining a value-adding asset.

Waterproofing

The waterproofing membrane forms the core part of the green roof and must provide a permanent barrier that retains long-term resistance to root penetration. Selection of membrane type must consider factors such as structural loading, substrate type and material, fixing preferences and design detailing. This detailing to perimeters, outlets, upstands and protrusions through the roof is also affected by the depth of the green roof build up.

Proofex OGP

(loose laid TPO)

Proofex ORG

(loose laid reinforced TPO)

Proofex OFB

(fully bonded TPO)

Nitoproof 800

(liquid hand applied PU)

Fosroc Polyurea WPE

(spray applied Polyurea)

- TPO/ FPA waterproofing membranes
- FLL root resistant
- Watertight welded laps
- Environment friendly – no plasticisers, recyclable
- Various thicknesses
- Large roll size
- Seamless waterproofing system
- Good crack bridging ability
- Hand applied application
- CEN TS14416 root resistant
- Seamless waterproofing system
- Fast cure spray application
- Excellent durability
- CEN TS14416 root resistant



Drainage

The second key design consideration is the drainage requirement. For flat or shallow green roofing particularly, care must be taken to ensure that rainwater is adequately drained to prevent potentially harmful pooling.

Fosroc Sheetdrain/ Cavitydrain products are designed to allow excess water to drain from the roof and are particularly good for large depth vegetation layers.

For shallow depth vegetation the drainage membrane must also perform as a water storage and irrigation system, sometimes referred to as a reservoir sheet. Fosroc non-geotextile drainage membranes create water storage capacity in the form of cups, whilst perforations allow excess water to drain away. These are covered with a separate geotextile prior to soil backfill to prevent soil filling the reservoir cups and reducing the water storage and handling capacity.

Proofex Sheetdrain 80

(8mm HDPE drainage membrane for standard applications)

Proofex Sheetdrain 100

(10mm HDPE drainage membrane for heavy duty applications)

Proofex Cavitydrain 200P

(20mm HDPE drainage and water storage reservoir sheet especially for shallow depth soils)

- Good water flow capacities
- HDPE core with non-woven PP filter
- Large roll size for quick application
- High compressive strengths
- 5.6l/m² water storage capacity
- Good water flow capacity
- Large roll size for quick application
- High compressive strength



Service

Running through all our activities Fosroc has a strong commitment to delivering successful constructive solutions.

From basic advice at the project concept stage to bespoke CAD details at design stage, early consultation can assure definition of a complete, system-based solution.

Technical advice and site support during the construction phase can help turn that system into a successful reality.

