



# Fosroc Solutions for Waterproofing

# ABOUT FOSROC INTERNATIONAL

Since the company's beginnings over 80 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's commitment to customer service and technical support is second to none. We work closely with architects, structural engineers, contractors and owners to best understand their requirements. Together we can develop a bespoke solution for a construction project, adding value and becoming more than just a materials supplier, but a solution provider.

Fosroc has an extensive network of offices and manufacturing locations across Europe, the Middle East, Africa, India, North, South and East Asia, and is further represented in other regions across the world by distributor and licensee partners.

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.

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

## FOSROC DELIVER SOLUTIONS NOT JUST PRODUCTS

<b>CAD Details</b> A library of standard CAD details are available, bespoke CAD details can be created for your specific project	<b>Project Specifications</b> Dedicated specification managers on hand to assist with correct system choices and tailored solutions	<b>Site Support</b> Expert product and application support made available from our specialist teams.	<b>Seminar &amp; Training</b> Comprehensive programme of seminars and training courses designed to expand and reinforce your knowledge.
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Leader in delivering Constructive Solutions  
**Worldwide!**



# FOSROC WATERPROOFING

FOSROC's vast experience in providing constructive solutions to many famous building structures around the world has been built on a broad portfolio of products. These include waterproof membranes, waterstops, joint sealants, concrete repair mortars, resin flooring, protective coatings, structural strengthening, grouts and concrete admixtures manufactured to the highest quality standards backed by independent test certificates.

At Fosroc we recommend the best technology for each project rather than being driven by one particular response. We liaise and evaluate with our customers the most appropriate solution for what they are trying to achieve. We just want to deliver what is best to the customer providing peer to peer based solutions for engineering problems to ultimately find a number of ways to create value.

We have a full range of world class waterproofing systems providing the most up-to-date technologies from basement to roof to ensure long lasting integrity and durability of your building structure.



Belowground Waterproofing



Above-ground Waterproofing



Wet Areas Waterproofing



Joint Sealants



Concrete Technology

# BELOW-GROUND WATERPROOFING

Fosroc offers one of the most comprehensive ranges in below-ground waterproofing, providing leak-free buildings around the world. These systems are manufactured to the highest quality standards backed by independent test certificates.

For below-ground structures where the exterior face of the structural concrete is inaccessible, the waterproofing must be applied prior to pouring the concrete. Conventional systems are either loose-laid or self-adhering to the substrate not the structural concrete, this means there is no seal between the waterproofing and the structural concrete which can lead to water travelling between the waterproofing and the structure from any leakages that may occur. BS8102:2009 highlights this problem and recommends that a fully-bonded pre-applied waterproofing system be used to mitigate this risk. A similar problem occurs where ground settlement takes place.

Fosroc have developed an innovative system, **Proofex Engage**, which incorporates a unique cell mesh which mechanically bonds to freshly placed concrete giving a tenacious waterproof seal, preventing water migration even if ground settlement occurs. It is installed rapidly with no need for blinding concrete, priming or protection and can be trafficked immediately after application. It is also gas resistant and highly durable and is unaffected by contaminants within the ground. Quality is assured through BBA and EN13967:2004 and the system is suitable for use in accordance with BS8102:2009 Grades 1, 2 and 3.

- Rapid installation - no blinding concrete or protection required.
- Assured watertight integrity even in the event of ground settlement.
- No water-tracking.
- Easy jointing and compatible full range of ancillaries.
- Integrity assured at pile caps.
- Excellent solution for precast concrete.
- Protects structure against ground contaminants.
- Long term watertight durability.



**Proofex PGP / Alkorplan**, a loose-laid PVC membrane system, is available in large rolls. Joining is realised through welding with hot air. Compartments can be laid out using **Supercast PVC** waterstops which are welded to the membrane.



The **Nitoproof** liquid-applied coatings range provides protection for foundations or for dampproofing, they are easy to apply and are available in a wide range of grades.



**Supercast Predimax** injection hose waterstops for future provision of sealing leaking joints.



**Nitocote CM210** provides an excellent solution for waterproofing the outside or inside faces of basement walls and floors due to its ability to withstand both positive and negative water pressure. This makes it an ideal choice for waterproofing existing basements. The system is easily applied by brush, roller, trowel or spray and the completed solution gives both water, fire and CO<sub>2</sub> protection.



For BS8102:2009 Type C internal drained cavity waterproofing, the structural concrete is designed to minimise water penetration and a suitable HDPE studded drainage membrane is installed to collect groundwater seepage. The groundwater is then directed to suitable discharge points. **Proofex Cavitydrain 80** and **200** drainage membranes can provide up to 10L/s/m water flow capacity.



Post-applied bitumen based waterproofing for floors and walls can be easily installed using **Proofex GP / 3000** self-adhesive membranes in conjunction with **Proofex Protection Boards**. **Proofex 3000MR** is ideal where gas is present in the ground or the soil is contaminated. The aluminium foil layer in the membrane provides resistance and long term durability.

Where a structurally integral waterproof system is chosen, (i.e. BS8102:2009 Type B) the **Conplast WP** range of hydrophobic pore-blocking admixtures can be added to the insitu concrete. These admixtures reduce porosity and permeability, and increase water and corrosion resistance. Optimum dosages can be recommended based on project specific details.

System type	Example of application use	Fosroc Product name
Pre-applied membrane	Piled wall basements	<b>Proofex Engage</b>
PVC membrane	Basements	<b>Proofex PGP / Alkorplan</b>
Self-adhesive membranes	Ground slabs and shallow basements	<b>Proofex 3000 / GP / 12 / 3000MR</b>
Liquid-applied membranes	Foundations / dampproofing	<b>Nitoproof range</b>
Cementitious coatings	Existing basements	<b>Brushbond / Nitocote CM210</b>
Torch-applied membranes	Basements	<b>Proofex Torchseal</b>
PVC waterstops	Concrete joints	<b>Supercast Watafoil / Hydrofoil / Rearguard</b>
Swellable waterstops	Concrete joints	<b>Supercast SW10 / 20 / 30 / X</b>
Injection hose waterstops	Concrete joints	<b>Supercast Predimax</b>
Drainage membranes	Basements	<b>Proofex Sheetdrain / Cavitydrain</b>
Waterproof admixtures	Basements and ground slabs	<b>Conplast WP range</b>



**Supercast PVC** and **Supercast SW** swellable waterstops to stop the passage of water through joints in concrete structures.

**Supercast SW20** swellable strip achieves 1bar water pressure resistance after 1 day and long term wet/dry cycling assuring excellent performance throughout the life of the structure.

# ABOVE-GROUND WATERPROOFING

Cool roofs, as the name implies, are roofs that heat up very little, thanks to their high capacity to reflect solar radiation and, at the same time, to emit infrared heat energy. They can be an effective solution to the problem of overheating that afflicts individual buildings and urban areas in the summer, mitigating the heat island effect. Proofex ORG white, a TPO/FPA synthetic membrane, reduces the roof's surface temperature thanks to its reflectance and remittance. The same effect can be achieved with Nitoproof 800/UVR Topcoat liquid-applied seamless coating.

Flat/sloping roofs that are trafficked can be easily waterproofed by using either a spray or liquid-applied membrane to give seamless protection and rapid return to service times.



TPO membranes are widely used for large exposed roof waterproofing applications where the roof is non-trafficked. **Proofex ORG** is a reinforced grade giving a fully flat finish. A fully bonded system can be achieved using **Proofex OFB** grade which is glued to the substrate with edge laps hot air welded.

**Polyurea WPE** is an excellent solution for waterproofing flat roofs where upstands are prevalent due to a high number of air-conditioning units / pipes / turbines etc. The seamless waterproofing integrity achieved gives peace of mind and application times are rapid allowing services to be installed quickly and returned back to service in the shortest times possible.

System type	Example of application use	Fosroc Product name
TPO membrane	Exposed non-trafficked roof	<b>Proofex OGP / ORG / OFB</b>
Spray-applied membrane	Exposed trafficked roof	<b>Polyurea WPE</b>
Liquid-applied membrane	Exposed roof / Balcony	<b>Nitoproof 800</b>
Topcoat	Exposed roof / Balcony	<b>Nitoproof UVR Topcoat</b>
Cement based coating	Exposed roof / Balcony	<b>Brushbond TiFlexicote</b>



## COOL ROOFS CAN HELP OUR PLANET

Solar reflective "cool" roofs save energy, money, and CO2 when applied to air conditioned buildings, they also improve comfort when applied to unconditioned buildings. They offset CO2 via global cooling, whether or not the building is conditioned. Cool roofs also reduce strain on the electrical grid by lowering late afternoon peak power demand. Widespread use of cool roofs can lower outdoor air temperatures, further reducing the need for cooling energy, as well as improving air quality and human health by slowing the formation of smog. Unlike conventional roofs, cool roofs stay at or close to ambient temperatures even in hot days, reflecting away solar rays during day time and radiating the stored heat at night time.

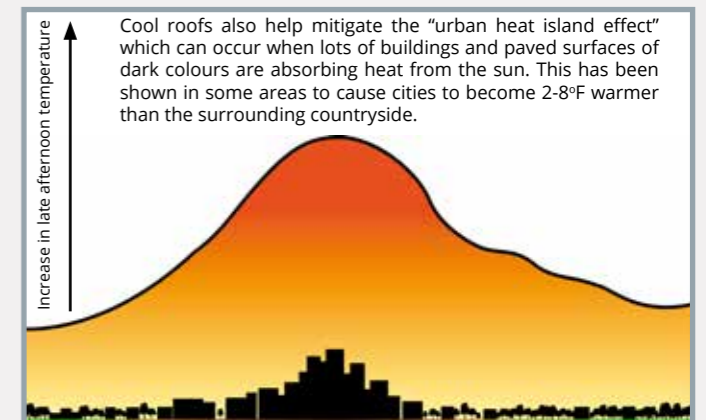
Both the LEED and Green Globes green building rating systems define a highly reflective roof as a roof with a minimum Solar Reflectance Index (SRI) of 0.78 for low-slope ( $\leq 2:12$ ) and 0.29 for steep-slope ( $> 2:12$ ) applications. In addition, both systems provide credits for the use of highly reflective roofing systems as part of their overall rating program.

Nitoproof UVR Topcoat white achieves a certified SRI of 1.05 which far exceeds the recommended minimum, ensuring high potential energy savings, comfort, environmental improvement and best-in-class performance from a worldwide leader in providing innovative constructive solutions.

This topcoat can be roller applied on top of Polyurea WPE fast-setting spray-applied waterproofing membrane, or Nitoproof 800 liquid-applied waterproofing membrane.

An alternative to liquid-applied systems is Fosroc's loose-laid TPO membrane Proofex ORG White which is solar reflective, it is a TPO synthetic welded sheet membrane having an SRI value of 0.99.

Fosroc Brushbond TiFlexicote is a cement-based polymer modified brush or roller applied coating providing excellent waterproofing qualities along with an SRI value of 1.00.





## GREEN ROOF / PODIUM DECK WATERPROOFING

In today's ever changing world there is added importance being placed on waterproofing of above-ground structures with social, environmental and economic benefits being gained through use of Green Roofs.

This ever-increasing trend coupled with traditional flat/sloping roofs and podium decks allows Fosroc to promote its full range of spray/liquid-applied membranes, TPO membranes and drainage membranes to best effect servicing the needs of clients and designers.

Green roofs are growing rapidly in popularity and 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. Fosroc's root resistant waterproofing systems include **Proofex PGP** PVC membrane, **Nitoproof 800** liquid-applied membrane, **Polyurea WPE** spray-applied membrane and **Proofex OGP** TPO/FPA membrane.

Podium decks, especially found over underground car parks, can be waterproofed using many of Fosroc's waterproofing systems. Each project can be looked at and the best technical assistance given from one of our specification managers.

Flat/sloping roofs can be waterproofed by using either a spray or liquid-applied membrane to give seamless protection. TPO/FPA membranes are widely used.

System type	Example of application use	Fosroc Product name
TPO membrane	Green roof	<b>Proofex OGP</b>
Spray-applied membrane	Podium deck / Terrace	<b>Polyurea WPE</b>
Liquid-applied membrane	Green roof / Balcony / Podium deck	<b>Nitoproof 600PF / 800</b>
Drainage membrane	Green roof / Podium deck	<b>Proofex Sheetdrain 80 /100</b>



### Proofex PGP / Alkorplan

A loose-laid PVC membrane system, is available in large rolls which is ideal for large flat podium deck areas. Joining is realised through welding with hot air, a geotextile layer gives protection for finished components.



### Nitoproof 600PF

One-component PU liquid-applied waterproofing membrane can be easily applied to podium deck areas to provide a seamless coating. Detailing around upstands and drains is straightforward for this highly flexible waterproofing membrane.



### Green Roofs

Fosroc have an extensive range of "root resistant" compliant membranes for Green Roofs giving choice for each project type:

- **Proofex PGP / Alkorplan** - PVC membrane
- **Polyurea WPE** - Spray applied membrane
- **Nitoproof 800** - Liquid applied membrane
- **Proofex OGP** - TPO membrane

These membranes when combined with **Proofex Sheetdrain 80/100** drainage membranes, will provide a complete waterproofing solution for your Green Roof project.



# WATER INDUSTRY

Today's water industry operates sophisticated and costly networks including clean water treatment works and sewage plants, usually run as a public service by a public utility which is owned by local or national government. In some countries, the water industry is regulated with products undergoing extensive approvals certification especially when in contact with potable water.

Fosroc have developed many solutions to protect and seal clean and dirty water structures, these systems have proven track records and are widely known for their high quality.

WRAS approved **Supercast PVC** waterstops in conjunction with **Nitoseal MS600** sealant provides an excellent watertight seal for all expansion/construction joints. Internal coating of potable water tanks can be achieved with DWI approved **Nitocote CM210**, a polymer modified cementitious waterproof coating.

Fosroc product name	Application use	System type
<b>Nitocote CM210</b>	Inside of potable water tanks	Potable water coating
<b>Supercast Rearguard and Hydrofoil</b>	Expansion and Construction joints	PVC Waterstops
<b>Proofex 3000</b>	Tank roof waterproofing	HDPE bitumen self-adhesive membrane
<b>Hydrocell XL</b>	Expansion and Construction joints	Polyethylene joint filler board
<b>Nitoseal MS600</b>	Expansion and Construction joints	MS Polymer 1K joint sealant
<b>Renderoc range</b>	Concrete repairs	Cementitious polymer modified concrete repair mortars



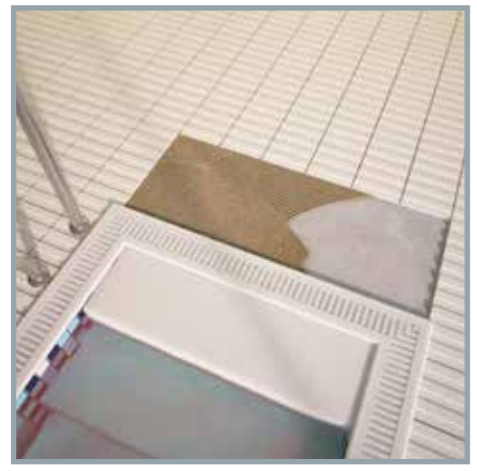
# WET AREAS

Areas within a building that are supplied with water from its water supply system are vulnerable to potential leakages and subsequent damaged to its structure and interior finishes.

These critical applications can be dealt with by using a wide variety of waterproofing products supplied by Fosroc, ensuring piece of mind for long term durability and comfort.

Fosroc offers a full range of wet area waterproofing product systems, manufactured to the highest quality standards backed by independent test certificates.

These systems which include Brushbond cementitious coatings, **Polyurea WPE** spray-applied membrane, **Supercast SW** swellable and **Supercast PVC** waterstops, **Nitoproof 600PF** liquid-applied membrane and **Nitoseal MS** sealants can be easily and quickly applied to give rapid return-to-service times.



**Brushbond FLX111** is a high performance elastomeric cement-based coating ideal for waterproofing wet areas such as bathrooms and showers. It can also protect concrete and masonry for both below and above-ground applications for new and old substrates. It provides excellent crack-bridging performance and is suitable for use in potable water applications.

- Can be applied to damp concrete
- Certified to BS6920:1990 Part 1
- Excellent crack-bridging performance
- Easy application by brush, roller or trowel

The **Fosroc Nitotile** products are a range of polymer modified one-component high performance waterproof tile adhesives which are suitable for fixing many different types of ceramic, porcelain and quarry tiles. **Nitotile UW** grade is used as an adhesive for the permanent fixing of tiles in damp and totally submerged conditions such as fountains, swimming pools, splash zones and bathroom floors.



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



Details of your local Fosroc office can be found at [www.fosroc.com](http://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.



*constructive solutions*