



# Fosroc Solutions for the Rail Industry

[www.fosroc.com](http://www.fosroc.com)



*constructive solutions*

# Company background

With more than 80 years' experience in developing solutions for the construction, structural and civil engineering markets, Fosroc has become world-leader in this field, building a reputation for innovation, quality, customer focus and expert technical support.

Supplied and supported from an extensive network of administrative and manufacturing facilities across Europe, the Middle East, India, North and South Asia, Fosroc products and services offer solutions for construction, infrastructure and utilities markets. Our international reach is further extended through approved distributorships and licensee partners across the globe.

Fosroc products include:-

- Cement grinding aids
- Concrete admixtures
- Surface Treatments
- Grouts & anchors
- Waterproofing
- Joint sealants
- Concrete repairs
- Surface coatings
- Industrial flooring

This comprehensive product offering is backed by expert technical and sales support to ensure that you receive the most effective and efficient solutions. Our tailored project solutions include:-

- Project specifications
- CAD and BIM detailing
- Technical support
- Site support
- CPD Seminars







# Rail industry expertise

Fosroc has been a key supplier to the UK and international rail industry for many years, offering a wide range of solutions to meet the industry's demands for performance, reliability, efficiency and network availability.

Our experienced staff possess the knowledge and skills necessary to achieve optimum results for each construction project by creating tailored solutions. A high level of assistance continues throughout projects from early stage specification to detailing using computer-aided design and building information modelling, together with technical support on-site or via our Help Desk.

The quality, reliability and durability of our solutions, coupled with our proven track record worldwide, underpins our commitment to the rail industry. We recognise the vital importance that these factors play in assuring passenger safety, low maintenance and minimum disruption to service.

Fosroc products meet all relevant performance standards and are manufactured under quality management systems certified to ISO 9001. We are a Link-up registered supplier to the industry and many of our products carry London Underground approval.

A nationwide network of distributors assures ready availability of Fosroc products, with efficient delivery to sites throughout the country.



This brochure highlights the range of solutions Fosroc can provide within the rail industry, with a detailed product selector on page 14.





# Solutions for the rail industry

Fosroc products and services cover a multitude of applications across the rail infrastructure, providing solutions for new-build and refurbishment projects in buildings, platforms, track, utilities, roads, car parks, bridges and viaducts.

**Car parks**  
pages 9-10

**Bridges**  
page 8





**Stations**  
pages 5-6

**Tunnels**  
page 7

**Gantries**  
page 11

**Depots**  
page 12

**Underground  
stations**  
page 7



# Station solutions

Subject to high levels of daily wear and tear, station assets need to be maintained on a regular basis.

From floor coatings and sealants to platform and render repairs, Fosroc solutions are designed to enable you to undertake maintenance and remedial works quickly and efficiently, with minimum disruption to passenger operations.

## Floor coatings

- Cemtop floor levelling compounds
- Nitoflor epoxy resin coatings
- Nitoseal and Thioflex movement and construction joint sealants
- Flamex fire-rated sealants



## Flat roofs

- Nitoproof fire-rated UV-stable coating
- Fosroc® Polyurea waterproof spray-applied coating
- Nitoseal joint sealants
- Flamex fire-rated sealants



## Concrete repairs and coatings

- Nitoprime Zincrich steel protective coating
- Renderoc repair mortars for soffits and walls
- Dekguard protective anti-carbonation coating





## Platform repairs

- Paveroc and Patchroc GP patch repair mortars for small or large areas
- Fosroc® XR rapid setting bedding mortars
- Conbextra and Lokfix grouts for fixing ironwork and drainage channels
- Nitoseal joint sealants
- Flamex fire-rated sealants



## Below ground structures

- Proofex fully integrated range of waterproofing and drainage membranes and ancillaries
- Supercast PVC and hydrophilic waterstops
- Fosroc® Polyurea waterproof spray-applied seamless coating





# Tunnel solutions

Fosroc offers a variety of solutions for Tunnel Boring Machines (TBM), Cut and Cover, Drill and Blast tunnel construction methods, delivering improvements in performance and cost-effectiveness through trouble-free shotcreting, waterproofing and crack repairs.

- Auracast precast concrete admixtures
- Auramix readymix concrete admixtures
- Auramol mould release agents
- Sprayset Shotcrete rock structure consolidation
- Polyurea WPE waterproof coating
- Proofex waterproofing and drainage membranes
- Supercast PVC and hydrophilic waterstops
- Nitoseal joint sealants
- Nitofill crack repair
- Cebex, Conbextra and Lokfix grouts



# Underground solutions

A range of Fosroc products has been authorised for use in civil engineering projects within London Underground and accepted for application in below ground locations, being compliant with fire performance requirements as given in LU Standard 1-085 'Fire Safety Performance of Materials'.

- Vertical and overhead concrete repair solutions, soffit repairs, tunnel segment repairs
- Grouting solutions for seats, gantries, perspex screens, ironwork and void filling
- Platform repairs
- Steel protection primer
- Patch repairs

## LUL approved products include

Conbextra GP	Renderoc HBS
Conbextra HF	Renderoc LA55
Conbextra TS	Renderoc RP252
Renderoc DS	Renderoc ST05
Renderoc HBM	Patchroc GP
Renderoc HB	Paveroc

Visit [www.fosrocrail.co.uk](http://www.fosrocrail.co.uk) for latest approvals





# Bridge solutions

Fosroc offers a wide range of solutions for both the construction and maintenance of bridge structures. Designed to withstand the testing conditions of traffic load, vibration and aggressive compounds, Fosroc products deliver economy, efficiency and exceptional performance.

## Precast concrete structures

- Auracast precast admixtures
- Auramix ready-mix admixtures
- Auramol mould release agents
- Preco surface retarders used with precast and cast in-situ concrete to avoid scabbling
- Conbextra PM structural grout for gaps in precast units

## Parapet and concrete repair solutions

- Renderoc repair system for bridge strike, soffit repairs; spalling due to de-icing salts causing corrosion
- Dekguard anti-carbonation protective coatings
- Nitoseal roadway joint sealants

### Cycle path/Footbridges

- Nitoproof anti-slip coating
- Nitoseal joint sealant



## Grouting solutions

- Conbextra BB bridge bearing grout
- Conbextra range for grouting of lighting columns and other hardware
- Lokfix anchor grout for grouting of barriers





# Car park solutions

Fosroc offers a fully integrated package for car parks, including a high quality car park decking range, waterproofing and maintenance solutions.

## Stair and lift well

### External

- Renderoc wall repair and fair facing mortars
- Dekguard protective anti-carbonation coating
- Nitoseal joint sealants

### Internal

- Nitoflor FC anti-slip floor coating
- Fosroc® XR rapid setting mortar for repairs to steps
- Nitoseal floor joint sealant
- Conbextra and Lokfix grouts for ironwork reinstatement



## Car park deck coatings

- Nitodek flexible skid-resistant car decking systems providing a highly durable and aesthetically pleasing solution for exposed, intermediate and basement park areas.
- Nitodek UVR Topcoat, UV-stable coating for top deck
- Nitodek UV-LM line marking



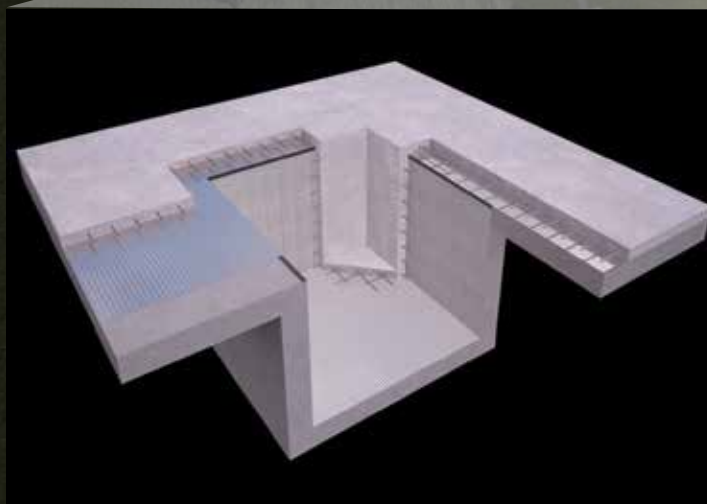
## Underground concrete structures

### New build

- Proofex waterproofing membranes and drainage systems for basements and lift pits
- Supercast hydrophilic waterstops for non-movement joints

### Repairs to existing structure

- Nitofill crack injection (non-structural)
- Proofex Cavitydrain internal drainage system
- Supercast PVC waterstopping systems
- Renderoc concrete repair mortars

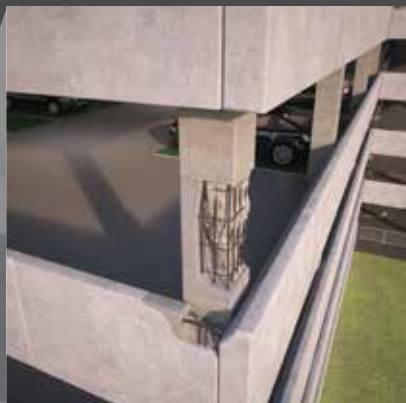






## Concrete/render repairs

- Renderoc repair mortars for reinstatement of columns and fascias
- Dekguard anti-carbonation protection of columns



## Decks, turning circles & ramps

- Nitodek range of car decking systems providing a highly durable solution for decks, turning circles, ramps and pedestrian walkways
- Patchroc GP and Paveroc patch repair mortars
- Thioflex and Nitoseal fuel resistant, high movement, joint sealant



## Roadway and pavement repairs

- Fosroc® XR rapid setting bedding mortars for repairs, bedding-in ironwork and installing stone setts, paving and block pavements
- Conbextra and Lokfix grouts for fixing ironwork handrails and bollards



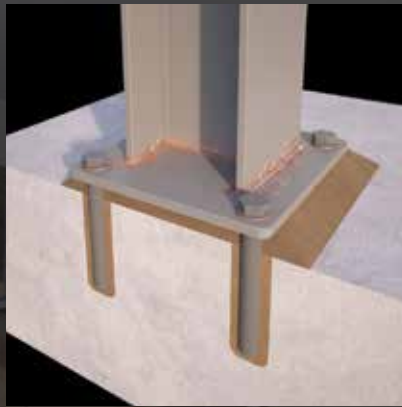


# Light rail and gantry fixing solutions

Fosroc offers a wide range of grouting and fixing solutions for rail and gantry installations, which may be subjected to heavy, dynamic and mobile loads as well as corrosive compounds.

## Gantries

- Conbextra grouts for grouting in gantries, filling large voids and gantries exposed to high wind shear
- Lokfix grout for bolt fixing and anchoring
- Galvafrond rust protection



## Under-rail grouting

- Conbextra resin-based grouts for gaps up to 120mm and under rail grouting







## Depot solutions

Fosroc offers a range of solutions to meet the demanding environments experienced in maintenance depots, cleaning facilities and bund areas.

They include a range of self-levelling floor compounds, anti-slip floor coatings and joint sealants designed to withstand daily exposure to cleaning chemicals and other potentially corrosive compounds as well as delivering efficiency in application and durability in service.

### Floor coatings

- Cemtop floor levelling compounds
- Nitoflor high performance epoxy resin coatings
- Nitoseal and Thioflex tough, highly resistant floor joint sealants
- Nitocote highly chemical resistant coatings
- Nitodek coatings for external areas





# Case studies

## Crossrail



Image courtesy of Network Rail

Fosroc has supplied product and technical support for stations and London Underground facilities across the massive £16 billion Crossrail scheme, including Pudding Mill, Victoria Dock, Tottenham Court Road, Kings Cross and Farringdon:-

**Conbextra EPR:** Grouting base plates, track section and dynamic load areas.

**Renderoc HB:** Concrete repairs on existing structures.

**Supercast SW20, SWX and PVC Waterstops:** Station waterproofing.

## Manchester Metrolinks

Creating four new lines, this major network expansion uses Fosroc products in a number of areas:-

**Conbextra EPR, HF and GP:** Grouting for sleepers and new platforms.

**Lokfix:** Fixing-in railings, handrails and bolt holes

**Proofex Engage and Proofex 3000:** Waterproofing at sub-stations.

**Thioflex 600:** Robust joint sealant for bridges and stations.

**Nitoseal MS300:** Floor joint sealant on platforms.

## Copenhagen Metro



With more than 16 km of this 44 km project being tunnels, Fosroc supplied a wide range of products as well as on-site support and product training.

Products included admixtures for 500,000 tonnes of ready-mixed concrete, grouts, concrete repair systems, surface treatments, waterproofing materials, adhesives and sealants.

## Translink Adelaide Maintenance Depot, Belfast



This purpose-built facility, constructed on a brownfield site, provides stabling, re-fuelling, maintenance and train-wash facilities as well as offices and storage.

**Proofex Engage** waterproofing and gas-resistant membrane and **Proofex 3000** waterproofing and radon-resistant membrane were installed as a barrier to separate contaminated ground from the concrete floor slab and to act as a tanking membrane.

## Birmingham New Street



Fosroc has provided a wide range of solutions to this major redevelopment project:-

**Polyurea WPE** creates seamless waterproof protection, with a durable chemical resistant finish.

**Nitokit LV** provides injected epoxy-based crack repairs.

**Flamex 2** high performance, flexible intumescent joint sealant protects platforms.

**Conbextra EP10** for grouting.

**Lokfix P25** for fixing railings and other hardware.



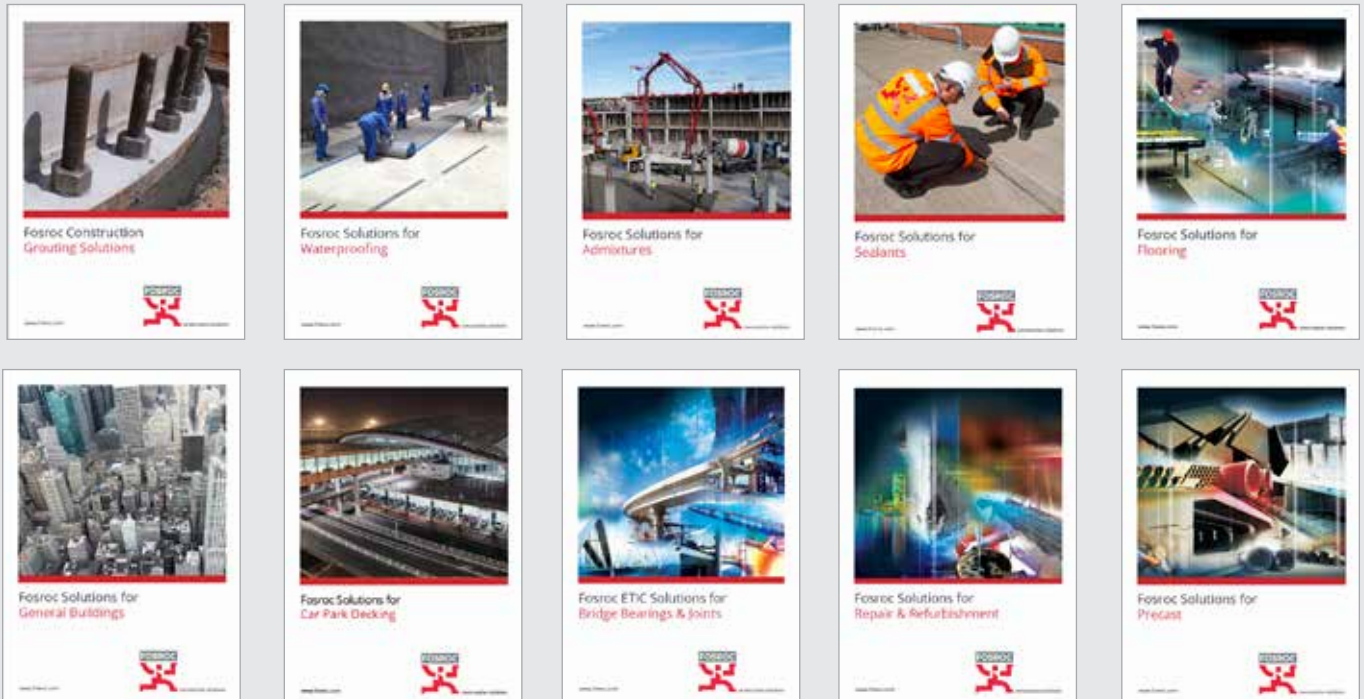


# Fosroc's product group offer

Application	Product	Benefits
<b>Concrete</b>		
Precast concrete	<b>Auracast PC admixtures</b>	Excellent rheology at low w/c ratios leading to high quality finish
In-situ concrete	<b>Auramix PC admixtures</b>	Increased early & long term strength of concrete Reduced bleeding and segregation Reduced overall application costs
Underwater concrete	<b>Conbextra UW</b>	Minimises washout of concrete placed underwater
Mould release	<b>Auramol</b>	Biodegradable, easily sprayed, clean quick stripping of formwork
Shotcrete	<b>Sprayset</b>	Consolidation of rock structures
<b>Grouts, anchors</b>		
Anchoring	<b>Lokfix range</b>	For vertical, overhead and horizontal anchors
Grouting	<b>Cebex and Conbextra range</b>	Cementitious and resins systems Thixotropic and pumpable grades Bridge bearing grout
<b>Concrete repairs</b>		
Concrete repair	<b>Renderoc hand, spray or flow applied mortars</b>	Fast setting High strength High-build, low shrinkage
Crack repairs	<b>Nitofill and Nitokit ranges</b>	Resin injection – water stopping repairs Flexible resin
Pavement repairs	<b>Patchroc GP, Paveroc</b>	Emergency patch repairs –small/large areas
Highway maintenance	<b>XR range</b>	Fast setting bedding mortars
<b>Waterproofing</b>		
Waterproofing membranes	<b>Proofex Engage</b>	Assured waterproofing due to mechanical bond to fresh concrete Excellent non water-tracking performance Easy, quick installation
	<b>Polyurea WPE</b>	Shortened construction times due to rapid setting properties Spray-applied seamless system
	<b>Proofex 3000, Proofex 3000MR</b>	Self-adhesive, easy to apply Waterproofing basements grades 2 & 3 Gas proof grade
Drainage membrane	<b>Proofex Sheetdrain</b>	Rapid water dispersion due to high flow capacity Single cusped for ease of application
Concrete joints	<b>Supercast PVC/SW</b>	Economical PVC profiles Basic polymer swellable waterstops giving excellent long term wet/dry cycle durability
Water resistant concrete	<b>Conplast WP402</b>	Integral water resisting admixture for ready mix concrete Reduces porosity and permeability
<b>Joint Sealants</b>		
Civil engineering sealants	<b>Nitoseal, Thioflex 600</b>	Excellent adhesion Forms tough highly chemical resistant seal
Fire rated joint sealants	<b>Flamex range</b>	Fire tested to BS476 Part 20 For overhead and wall joints
Pavement sealants	<b>Colpor 200PF</b>	Highly durable, fuel resistant
<b>Coatings</b>		
Anti-carbonation	<b>Dekguard range</b>	Highly durable and resistant to weathering
Chemical resistance	<b>Nitocote range</b>	Tough, chemical and abrasion resistant finish Suitable for a range of environments
Anti-slip	<b>Nitoproof 800</b>	Seamless, durable, fire-resistant waterproof coating UV stable- for balconies and walkways
Steel protective coating	<b>Nitoprime Zincrich Plus</b>	Anti-corrosion primer used with Renderoc
<b>Flooring</b>		
Self-levelling screeds	<b>Cemtop range</b>	Cementitious flooring systems
Floor coatings	<b>Nitoflor range</b>	High performance epoxy resin coatings
Floor joint sealant	<b>Nitoseal MS300</b>	Tough, abrasion resistant one part sealant
Car park decking	<b>Nitodek range</b>	Flexible skid-resistant for exposed and intermediate decks



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*