



# Fosroc Solutions for Precast



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*constructive solutions*



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## Company Profile

**Fosroc** is a world leader in the delivery of tailored Constructive Solutions for virtually any type of construction project, combining high quality products, expert technical support, customer service and innovation.

Fosroc's worldwide presence includes group companies in 15 countries with exports to over 70 countries.

Fosroc has over 80 years of experience in supply of speciality chemicals and is acknowledged as a market leader in quality production and supply of the most comprehensive range of high performance construction chemicals, serving the construction industries in building and civil structures above and below ground.



**Global  
leaders  
in delivering  
Constructive  
Solutions**



Fosroc's product range is as follows:-

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

### 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 and BIM detailing**  
**Site support**



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# Precast Solutions

## Introduction

Fosroc provides a wide variety of high end construction products to the Precast industry. We are a “One Source” supplier with advanced technologies in Admixtures like high range water reducers, viscosity modifiers, air entraining agents, accelerators, curing compounds, sealants, protective coatings, fibers, form release agents and repair products.

This brochure outlines some of the products along with their key advantages.

### Fosroc Solutions for Precast Industry include:-

- Concrete Admixtures
- Concrete Repairs
- Surface Treatments
- Joint Sealants
- Waterproofing & Protective Coatings
- Grouts & Anchoring



# Advanced Technology

# Concrete Admixtures

## Concrete Admixtures

Admixtures are necessary in determining flow characteristics and workability of the concrete thus will reconcile the conflicting requirements of flow and cohesion, avoiding potential problems with retardation, segregation and air entrainment.

Fosroc has developed the following types of admixture which meet EN standards suitable for the precast industry:-

### High Range Water Reducers

Fosroc has specifically formulated the **Auracast** range of water reducers for use in the precast industry. Ideally suited for factory-line concrete production including applications using cement replacement materials and white cement.

#### Auracast 200 / Auracast 220A

Fosroc's range of PCE concrete admixtures specifically engineered for the precast industry

- High range water reducing property helps achieve high early strengths and superior late strengths.
- High early strengths help in reducing production cycles.
- Reduced permeability levels even for low slump concrete, especially in the case of the precast elements, which reduces penetration of water and other deleterious impurities and increases the durability of concrete. Also reduces efflorescence.
- Improves cohesion and particle/pigment dispersion to produce dense concrete matrix.
- Chloride free, suitable for use in precast, prestressed and reinforced concrete.
- Compatible with all portland cements including cement replacement materials and white cement.
- Helps in superior concrete finishes which increase life of moulds.
- Can help in moderate slump retention.





# Concrete Admixtures

## Concrete Admixtures

### Auracast 230A

Fosroc Auracast 230A is a unique combination of polycarboxylate polymers which act through a strong steric hindrance mechanism, outperforming conventional superplasticisers.

- Ideally suited for semi dry extruded units offering high early age strength whilst improving surface finishes.
- Reduces sensitivity to variations in moisture content in aggregates.
- Eliminate segregation and bleeding in mixes.
- Exhibits better passing-ability and pump-ability while keeps high fluid mixes homogeneous.
- No effect on setting time.
- No adverse effect on early or later age strength.

Concrete admixtures for semi dry concrete

### Conplast SD100 / Conplast Drymix 1 / Conplast Drymix 5

- Improved early and late strengths.
- Improved surface finish and texture.
- Improved green strength resulting in fewer breakages.
- Improved rheology under vibration allowing smoother machine operation with reduced cycle times.

Air Entraining Agents

### Conplast AE383

- Provides concrete with resistance to freezing and thawing.
- Improves cohesion, reduces segregation and bleeding.
- Gives dense, uniform, close textured surface to concrete.
- Excellent air bubble stability.
- Consistent performance, even with changes in aggregate quality and ambient temperature.
- Effective in low workability concrete.

Accelerators and Waterproofing Agents

To accelerate the drying process Fosroc has specially formulated admixtures. And for concrete waterproofing Fosroc has the following admixtures.

### Resivit

Chloride-free, hardening accelerator for high early strength development.

- Accelerated strength development.
- Reduced set time.
- If used in conjunction with the Auracast range the combination of early set and strength gains achieved can enable double casting in a single shift.

### Conplast WP402

Hydrophobic pore-blocking waterproofing admixture.

Conplast WP402 will drastically reduce water absorption in structural and precast concrete. It is suitable for use in below ground structures, reinforced concrete in marine areas, piles, water retaining structures, manholes, waste water treatment and desalination plants.

- Bitumen ammonia free system.
- Provides integral protection, ensuring reduced permeability throughout the concrete.
- Integral protection is maintained even if surface damage occurs, unlike applied surface films or coatings.
- Reduced water transmission allows control of unsightly efflorescence on the surface of the concrete units.
- Improved durability and higher resistance to weathering



# Concrete Repairs

## Concrete Repairs

Precast concrete offers quality, value and performance. These features are part of the reason why precast structures are sound, sturdy and long lasting. Added to this is the fact that they achieve superior load carrying capabilities through their own internal design.

While other building materials deteriorate, lose strength, deflect, or experience creep and stress relaxation, the strength of precast concrete gradually increases with age. Durability studies have shown that precast concrete can easily provide a service life well over 100 years. However, through the initial production and installation process, **there is the possibility of honeycombs or chipped surface areas that need to be repaired with either a coating or repair material.** In addition, refurbishing of existing precast structures is commonly required to repair scaled or spalled surfaces that are incurred from every day wear and tear.

Fosroc manufactures a complete line of repair and refurbishment products which can aesthetically enhance or repair whatever type of precast concrete structure you may have.

### Renderoc Patch

Fast setting repair mortar specifically designed for the precast concrete industry

- No independent primer required – a slurry coat of Renderoc Patch is sufficient.
- High early age strength/set.
- Ease of application - single component, mixed with fresh water and applied by hand/trowel.
- Can be darkened or lightened to match colour.

### Renderoc HB/ HB30 / HB45

High performance lightweight concrete reinstatement mortars conforming to BS EN 1504-3.

- Extra high build – fewer cold joints.
- Frequently obviates need for form work.
- Exception shrinkage compensation.

### Nitomortar FC

High strength trowel grade, epoxy resin fairing coat and repair mortar.

- Two Component Epoxy Repair Mortar.
- Abrasion and chemical resistant.
- High early strengths.
- Excellent adhesive properties.
- Fill in blowholes and honeycombs.

### Renderoc FC

Single component polymer modified cementitious pinhole filler.

- Easy to use - no independent primer or curing membrane necessary.
- Excellent bond to the concrete substrate.
- Pre-blend to overcome site-batched variations.
- Only the site addition of clean water is required.



# Structural

## Grade

# Concrete Repairs

## Concrete Repairs

### Renderoc ST 05

Protective cementitious coating and levelling mortar for applications from feather edge to 5mm conforming to the requirements of BS EN 1504-3, Class R4. It is applied in thin layers, for the filling of blow-holes or imperfections in concrete to produce a smooth surface.

- Easy to mix and apply for both vertical and horizontal applications.
- Excellent bond to concrete without priming.
- Carbonation and chloride barrier.
- High compressive strength.

### Renderoc RP252

Two component fibre and polymer modified cementitious mortar for re-profiling and protection, conforming to the requirements of BS EN 1504-3 Class R3. Designed for application from 3 – 20mm to produce a smooth render finish to concrete surfaces.

- Easy to use for a wide range of application thicknesses.
- Low permeability provides protection against carbon dioxide and waterborne chlorides.
- Excellent bond to the concrete substrate.
- Pre-blended to overcome site-batched variation.
- Shrinkage compensated.



Polymer  
Modified



Shrinkage  
Controlled



# Surface Treatment

## Surface Treatment

### Mould Release Agents

When precast concrete is casted the moulds should be coated with a coating which will prevent the concrete to bond to the mould and thus making the mould removal process easy and assuring a smooth finish. Fosroc has chemical based and water based mould release agents which are very useful in the precast industry as the moulds should be easily removed thus providing a high quality, fair-faced and stain-free concrete.

#### Auramol H15 / Auramol Bio W45

- Ensures easy release, reducing damage and improving efficiency of production.
- Minimises surface blemishes and staining, promoting high quality fair-faced concrete.
- Reduces opportunity of damage to mould, extending usable life.
- Minimises cleaning of formwork before re-use.
- Suitable for use with virtually all types of mould.
- Inhibits corrosion of steel formwork.

### Curing Compounds

Concrete must have an internal relative humidity of at least 80% for the complete hydration of cement to occur. When the internal humidity of concrete drops below 80%, strength gain is stopped which could result in shrinkage cracking. Fosroc has an entire line of curing agents that meet ASTM standards.

#### ConcureWB

- Enhanced concrete durability - acts as a dustproofer/ surface hardener, 55% increase in abrasion resistance.
- Excellent service life - good general resistance to chemicals and UV exposure.
- Labour saving - acts as a primer system for subsequent finishes.
- Versatile - can be applied equally well to freshly placed or existing concrete.
- Cost effective - low cost spray application.

### Surface Retardars

To produce an exposed aggregate concrete finish in either face down or face up concrete manufacturing, and to produce a mechanically sound construction joint.

#### Preco Hydrotard/Preco Minicote

- Suitable across a wide variety of job-site conditions and mould surfaces, including steel, fibreglass, concrete and timber.
- Available in a range of etch depths, colour coded for ease of identification.
- Suitable for large units where hydration heat is high.
- Economical in application.
- Mould release agent not required.





# Joint Sealant

## Joint Sealant

Sealants are used to seal joints with the aim of preventing ingress into or out of the joint.

### Nitoseal MS300

Single component, high modulus, gun-grade sealant, based on hybrid silyl modified polyether technology. Nitoseal MS300 meets or exceeds the test requirements of: ISO11600 Type F 25HM: Classification of sealants for building construction, ASTM D2203-93: Standard test method for staining, BSEN 140-3:1995: Acoustics measurement of sound insulation in buildings, EN15651-1:2012 Sealants for façade elements. Designed for sealing joints in pre-cast concrete panels and other concrete structures.

- Single component. Easy to apply.
- UV stable with very strong adhesion to concrete.



# Waterproofing & Protective Coatings

## Waterproofing & Protective Coatings

To protect the Precast Concrete from dampness and protect it from chloride and sulphate ions attack Fosroc has a range of chemical & abrasion resistance coatings for precast concrete.

### **Nitocote EP405**

Solvent-free epoxy resin coating.

- Low cost service life - excellent chemical and abrasion resistance, does not support bacterial growth.
- Cost saving - primerless system.
- Added value system - acts as an impermeable waterproof coating.
- Versatile usage - can be applied to green concrete by brush, roller or spray.

### **Nitocote CM210**

Polyurethane modified liquid applied single component elastomeric waterproofing membrane.

### **Mulseal DP**

Rubberised high build elastomeric membrane.

### **Brushbond FLXIII**

Acrylic polymer modified protective and decorative coating.

- Excellent barrier to carbon dioxide, chloride ions and water.
- Allows water vapour to escape from the structure.
- Water proof - suitable for water retaining structures.
- High resistance to the effects of long-term weathering, durable in all climatic conditions including UV attack.
- Flexible, with thermal expansion similar to concrete, good abrasion resistance.
- Covers honeycombed and pitted poured concrete effectively.

### **Dekguard Range**

Elastomeric protective coatings based on polyurethane/acrylic polymer with excellent elongation, resistance to atmospheric contaminants, UV light and rain. Available in a wide range of colours.

### **Fosroc Proofex Engage**

Waterproofing and gasproofing membrane for concrete basements, lift pits, car parks and other water excluding structures. Proofex Engage can be used to achieve waterproofing to Grades 1,2 and 3 as defined in BS 8102: 2009.

- Can be applied during precast manufacture, ideally suited for basement wall panels, culverts or any structure that requires permanent waterproofing.





# Grouts & Anchoring

## Grouts & Anchoring

Grouts provides permanent, strong and total infilling of the original void to the required performance criteria:

### Conbextra PM

For structural grouting of gaps in precast units and high strength pointing.

- Fast installation rate.
- Pump application.
- Pre-blended to overcome site-batching variations.
- Easy to use no priming required.
- Rapid strength gain.
- Shrinkage compensated.

### Conbextra BM

Conbextra Bedding Mortar is used in the structural bedding in, of precast modular concrete units.

- Non-shrink.
- High strength.
- Chloride free.
- Produces a masonry mortar capable of giving a smooth finish.
- Easy to use no priming required.
- Pre-blended to overcome site batching variations.
- Low wastage due to ability to mix part packs.
- Rapid strength gain.
- Only addition of water required.

### Conbextra GP

Gaseous expansion system compensates for shrinkage and settlement in the plastic state.

No metallic iron content to cause staining.

Prepackaged material overcomes potential on-site batching variations.

High ultimate strength and low permeability ensure the durability of the hardened grout.

- Non-shrink grout.
- General purpose non shrink grout for gaps 10 to 75mm.
- Compressive strength 65 to 70N/mm<sup>2</sup>.
- Complies to BS EN1504-3 and EN1504-6.
- Single expansion system to counteract shrinkage.

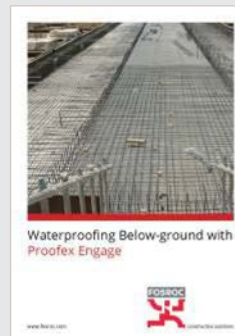
### Lokfix

Fast setting polyester resin anchoring grouts.

- Ultra rapid strength gain.
- Vibration resistant.
- Corrosion resistant.
- Tolerant of wet and damp conditions.
- Can be placed underwater and in damp conditions.
- Non expansive.
- Pre-weighed components ensure consistent performance of the grout.



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



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