



# Fosroc Solutions for Precast

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



*constructive solutions*



*constructive solutions*

## 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 have gained the acknowledgement as "market leaders" 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



**www.fosroc.com**



# 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 ASTM standards suitable for the precast industry:-

### High Range Water Reducers

Fosroc has specifically formulated water reducers for use in the precast industry. Ideally suited for factory-line concrete production including applications using cement replacement materials and white cement as per ASTM C-494, Type F requirements.

### Conplast SP430PC

Superior high range water reducer specifically designed for precast and high early strength development.

**Standards compliance:- Conplast SP430PC conforms with BS 5075, BS:EN 934-2 and with ASTM C494 as Type A and Type F.**

- High range water reducing property helps achieve high early-strengths and low water absorption values.
- 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.



# High Early Strength Development



# Concrete Admixtures

## Concrete Admixtures

### Auracast 224

A PCE admixture for Precast and concrete blocks for early strength development. high performance hyperplasticiser intended for applications where increased early and ultimate compressive strengths are required, Auracast 224 **conforms with BS 5075, BS:EN 934-2 and with ASTM C494 as Type A , E & F.**

- Increased early and ultimate compressive strengths.
- Increased flexural strength.
- Improved adhesion to reinforcing and stressing steel.
- Improved resistance to carbonation.
- Lower permeability.
- Increased resistance to aggressive atmospheric conditions.
- Reduced shrinkage and creep.
- Increased durability.

### Viscosity Modifiers

Viscosity modifying agents are specially formulated to help control bleeding and segregation of concrete that does not have an optimum gradation of aggregates.

### Auramix V200

High performance viscosity modifying agent to ensure consistency and stability in High Fluid Concrete

- 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. Exhibit better surface finish.

### Air Entraining Agents

A proper air-void system is critical to the freeze-thaw durability of concrete. Fosroc has products complying to ASTM and AASHTO certified air entraining agents.

### Conplast AEA

- 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.
- Suitable for use in Middle East conditions.

### Accelerators and Waterproofing Agents

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

### Sprayset HBL 42

**Alkali-free, liquid shotcrete accelerator for high early strength development**

- Alkali-free, thus improving working environment.
- Low effect on long term strength and durability.
- Accurate dosage possible.

### Conplast WP400

**Hydrophobic pore-blocking waterproofing admixture**

Conplast WP400 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.
- Lower water: cement ratio improves compressive strength at same workability.

# Concrete Repair

## 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 & refurbishment products which can aesthetically enhance or repair whatever type of precast concrete structure you may have.

### Renderoc TGXtra

Shrinkage controlled, polymer modified, vertical and overhead cementitious repair mortar system.

- A High build achievable without formwork saving time and expense of multiple applications.
- Low permeability provides good protection Against carbon dioxide and chlorides.
- Excellent bond to the concrete substrate.
- Shrinkage compensated.

### Renderoc SXtra/HSXtra

Shrinkage controlled, polymer modified, structural grade cementitious repair mortar system.

- A High strength and high abrasion resistant.
- Excellent bond to the concrete substrate.
- Shrinkage compensated.

### 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 Repair

## Concrete Repairs

### Renderoc BF2

Tough two-part, polymer modified, cementitious, patching and repair material for use on new and existing concrete and masonry surfaces. Renderoc BF2 provides a smooth finish to precast, poured in place and tilt up concrete surfaces.

- Cost effective/ time saving - no independent primer or curing agents required.
- High performance - excellent bond to substrate.
- User friendly - gauging liquid supplied to overcome mixing problems, ideal for remote locations.
- Allows part mixing.

### Renderoc RSXtra

Fast setting cement based patching material for concrete and masonry designed to reach initial set in 20-30 minutes and final set within 45 minutes. User-friendly Renderoc RSXtra trimmed to conform to the area of placement after initial set and offers a quick, easy finishing on vertical and overhead applications without forms.

- Pioneering 'DS Technology' ensures shrinkage control, and enables repairs to be completed 'right first time'.
- Rapid strength gain - accepts vehicular traffic in 2 hrs.
- Good durability - high strength, abrasion and weather resistance.
- Economical - can be 'bulked-out' with graded aggregate in some locations.
- Self compacting - eliminates honeycombing voids.



## 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.

#### Reebol

- Ensures easy release, reducing damage and improving efficiency of production.
- Minimises surface blemishes and staining, promoting high quality fair-faced concrete even with white cement.
- 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.

#### Concure A/ Concure RB90/ Concure WB

- 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.



Efficiency  
Improving



# Joint Sealant

## Joint Sealant

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

### Nitoseal PU40

Single component, moisture curing, non-sag, gun-grade polyurethane elastomeric sealant. Nitoseal PU40 sealant meets or exceeds the test requirements of: ASTM C-920 Types S, Grade NS, Class 25, Use NT-A, Use M-A and Use 0-A. 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 ET402

Coal tar extended 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.

### Nitoproof 600

Polyurethane modified liquid applied single component elastomeric waterproofing membrane.

### Nitoproof 30/230

Rubberised high build elastomeric membrane.

### Brushbond

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.







**Excellent  
Elongation**



## Grouts & Anchoring

### Grouts & Anchoring

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

#### 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 20 to 100mm.
- Compressive strength 65 to 70N/mm<sup>2</sup>.
- Complies to BS 1881 BS 4551 ASTM C469.
- Single expansion system to counteract shrinkage.

#### Lokfix

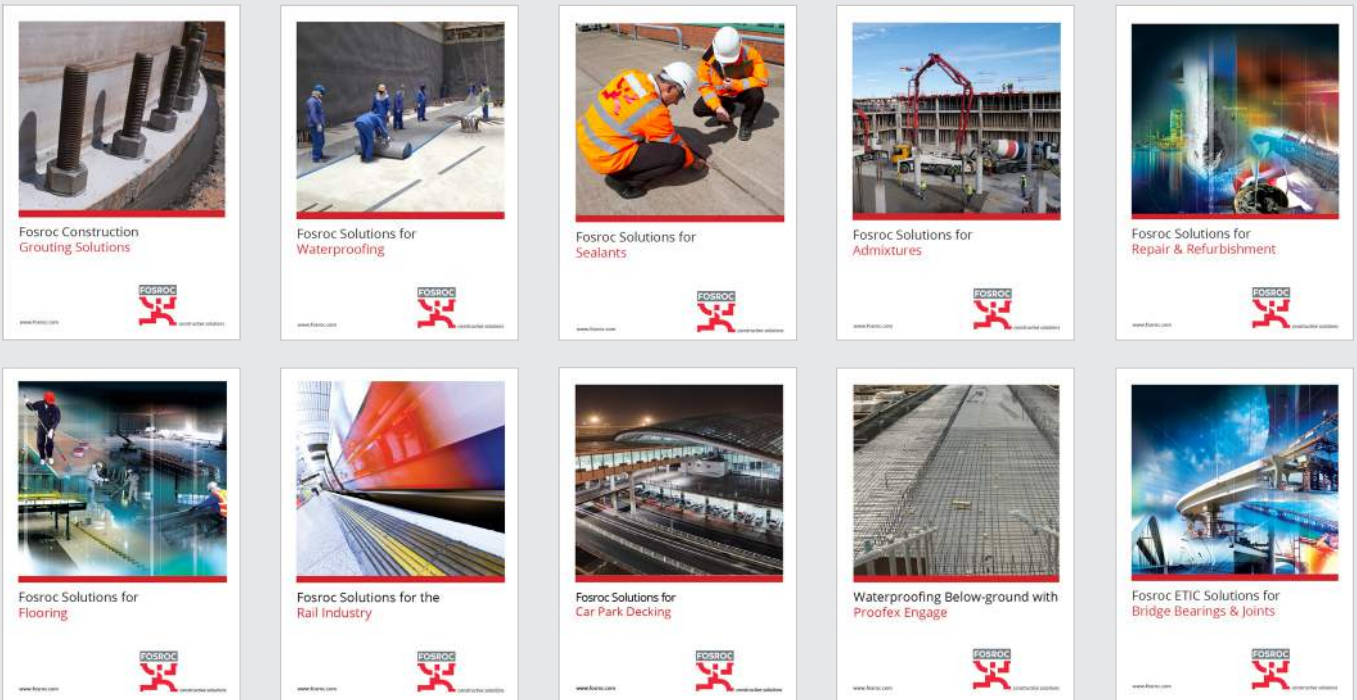
Fast setting polyester resin anchoring grouts.

- 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.

**Note:** The above product list is not comprehensive, please contact Al Gurg Fosroc LLC for detail solutions for other applications.



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.

