



Bridge Solutions



Introduction

With direct exposure to the harsh atmospheric conditions, combined with cyclic loading from heavy vehicular traffic, the service conditions experienced by bridges are some of the most arduous within civil engineering. Protecting such a structure from these conditions requires novel and tailored solutions, Parchem and Fosroc have developed a range of products specifically designed for such purposes.

Parchem understands the ease and simplicity of application are as important as long term performance. All our products are supported by detailed technical literature, giving full explanations of requirements before, during and after application to ensure success. In addition, by partnering with our customers at all stages, we aim to add value and give support as well as providing solutions with long term benefits.

This brochure outlines some of the products Parchem, Fosroc and other key suppliers have tailored for bridges, along with their key advantages.

Parchem Solutions for Bridges include;

- Protective Coatings
- Bridge Bearing Grouts
- Joint Sealants
- **Deck Waterproofing**
- **Curing Compounds & Foundation Waterproofing**
- Surface Treatments
- Formwork Liner and Form Release Agent
- **Grouts and Anchors for concrete and steel fixtures**



Bridge Coatings

Fosroc Dekguard System

Dekguard E2000, Dekguard S, Dekguard Elastic and Dekguard O.

High performance protective coatings

Advantages

- Anti chloride & anti carbonation - withstands long term exposure to chloride and carbon ions.
- High performance - comprehensive barrier against carbon dioxide, water, sulphates and chloride ions.
- Extremely durable - maintains performance, even after long term UV weathering.
- Breathable - water vapour can escape from the structure.
- Highly decorative - wide range of colours available, with low dirt pick-up to minimise maintenance costs.



Fosroc Dekguard E2000

Description

Dekguard E2000 is an elastomeric, water-based protective coating based on a special acrylic polymer. It provides excellent elongation and recovery, resistance to atmospheric contaminants, UV light and rain. It is available in a wide range of colours.



Elastomeric
Coating System

Fosroc Dekguard S

Description

Dekguard S is a pure aliphatic acrylate, solvent based protective coating. It is available in a wide range of colours. The complete system also includes a primer (Dekguard Primer or Dekguard Primer DG) which is supplied as a clear liquid, based on a silane-siloxane dissolved in a penetrating organic carrier.

The primer is reactive and capable of producing a chemically-bound hydrophobic barrier, thus inhibiting the passage of water and water-borne contaminants.

The Dekguard S system thus comprises a single component, penetrating silane-siloxane primer and a single component pigmented coating, both ready for immediate site use.



Sea Cliff Bridge, NSW

The Sea Cliff Bridge is a balanced cantilever bridge linking the coastal villages of Coalcliff and Clifton.

The Dekguard S coating was applied to all surfaces of the parapet walls to provide protection from the harsh marine environment.

High Performance
Coating System



Bridge Bearing Grouts

Fosroc Renderoc BB

Non-shrink cementitious bearing grout for use in a wide variety of applications

Renderoc BB is an exceptionally high strength grout designed for grouting beneath bridge bearings, parapet posts and flanged lighting columns and heavy stanchion base.

Advantages

- Drying shrinkage meets requirements of RTA1380 table 1380.7
- High early and ultimate compressive strengths
- Good flow, particularly at low temperatures
- Low permeability ensures durability
- Can be poured or pumped
- Provides a rough finish on the surface supporting the beam
- Uses shrinkage limited cement conforming to AS3972 and RTA3211

Poured or Pumped



Bridge Joint Sealants

Fosroc Thioflex 600

Fuel Resistant, multi-component, polysulphide joint sealant.

Sealing high movement joints in civil engineering structures, including superstructures, bridges, basements and subways.

Advantages

- Forms a tough, elastic, rubber-like seal
- Accommodates continuous and pronounced cyclic movement
- Excellent adhesion to most common substrates
- High resistance to ageing reduces physical damage due to climatic extremes



Emer-Seal Roadseal

High performance, low modulus, high joint movement accommodation, one-component silicone rubber joint sealant.

Roadseal is a one-part, gun applied, silicone rubber joint sealant designed to effectively seal joints in concrete roads, runways, carparks and pavements. The low modulus characteristics of Roadseal allow it to accommodate cyclic joint movements of plus 100% and minus 50%. Roadseal is designed to be applied to joints between concrete pavements in order to prevent running water from undermining the pavement. Roadseal also serves to prevent stones from being deposited in the joints which would otherwise lock the joints and restrict the free thermal movement of adjacent pavement segments.

Advantages

- Ready to use
- Easy contractor application
- No mixing required
- Fast rate of cure
- Excellent adhesion to clean dry concrete
- Excellent weathering - UV and ozone resistant
- Dispensed from a bulk container by hand or air powered pump
- Large joint movement accommodation



Bridge Deck Waterproofing

Index Testudo 30

Torch applied 5 mm thick high performance reinforced elastoplastomeric polymer – bitumen bridge deck waterproofing membrane.

Advantages

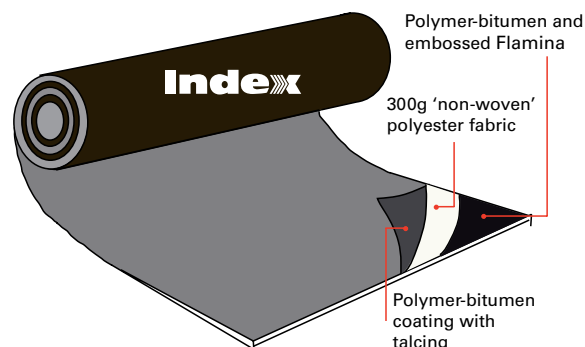
- Index membranes have over 25 years of proven performance throughout Australia
- Low VOC - 7 grams per Litre
- Handles ponding and permanently wet conditions
- No curing times. Instantly waterproof
- Uniform thickness
- Excellent stability at both high and low temperatures
- Has excellent durability and flexibility

Description

Testudo 30 is manufactured from distilled bitumen, selected for industrial use, with a high content of elastomeric and plastomeric polymer additives to obtain a phase inversion compound.

The performance of the compound is therefore incremented along with the durability and the resistance to high and low temperatures while the already optimum adhesive and impermeable qualities of the bitumen remain unchanged.

Testudo 30 is reinforced with a high weight (300 gm), isotropic, thermally fixed, rot-proof, non-woven single strand spunbond polyester fabric. This ensures a very strong membrane with notable ultimate elongation and an optimal resistance to puncture and piercing.



Index Autotene Asfaltico EP

Self-heat-adhesive membrane in elastoplastomeric polymer bitumen.

Advantages

- Adheres uniformly on its own, hence sealing mistakes are prevented
- Quicker and cheaper laying, saves gas and saves on gas bottle transport
- Can be used both under bituminous conglomerate and under melted asphalt

Description

Autotene Asfaltico EP is a membrane which bonds with the heat of the bitumen paving laid over it. It's adhesion continues through use and is reinforced by the action of traffic and solar action.

Bonding on the laying surface is no longer determined by the operator, but by the successive hot laying of paving, whether hot bitumen or asphalt is used. The heat of the paving layer activates the adhesive properties of the mix which covers the lower face of the membrane in contact with the laying surface, automatically ensuring a secure bond. Compared to the traditional technique, Autotene Asfaltico EP is quicker to lay. The torch is only used for sealing the front end overlaps.



High
temperature
resistance

Proofex HD

Woven polypropylene surfaced, bituminous self adhesive membrane.

Proofex HD is a self adhesive bituminous membrane incorporating a polypropylene mesh for added strength and heat stability. The bitumen compounds used to manufacture the product are modified with SBS to promote maximum elasticity. The top face of the membrane is treated with a protective film.

Advantages

- Self adhesive - allows installation without the use of heating torches while providing a fully bonded membrane system
- Suitable for the application of hot asphalt up to 165°C directly over the membrane
- Uniform thickness - eliminates any likelihood of thin application commonly found with liquid applied membranes
- Contains a polypropylene mesh for extra strength, puncture resistance and dimensional stability
- Seldedge strip provides bitumen to bitumen seal at longitudinal joints ensuring watertight seal



Heat Stable

Foundation Waterproofing & Curing Compounds

Proofex Engage

Fully bonded, pre-applied sheet membrane

Advantages

- Mechanically bonds to wet concrete
- Restricts water tracking
- Fully sealed overlaps

Nitoproof Liquid Applied Membranes

Wide range of membranes

Advantages

- Low VOC, non-toxic, non-flammable and solvent free
- Two primers (porous and non-porous) compatible with all membranes
- Includes topcoat and trafficable membranes

Index Sheet Membranes

Heavy duty torch applied and self adhesive sheet membranes

Advantages

- Uniform thickness - eliminating likelihood of uneven application
- Excellent stability in both high and low temperatures
- Excellent durability and flexibility

Fosroc Concure Range

Concrete curing compound

Advantages

- Eliminates the need for water, wet hessian or plastic sheets to cure concrete
- High curing efficiency ensures good water retention and thus hydrations and strength gain
- Certain grades do not require removal before application of subsequent coatings



Form Release Agent

Fosroc Reebol WB

Water based form release agent.

To provide quick, clean and easy stripping of moulds and formwork and ensure high quality fair-faced and stain-free concrete.

- Low cost and economical
- Non-hazardous, non-toxic
- Ensures good fair-faced concrete
- Non-staining
- Minimises cleaning of shutters before re-use
- Can be used on all types of formwork
- Does not rust steel moulds or equipment
- Does not inhibit application of paints etc to finished concrete (field trials should be conducted)



Surface Treatments

Fosroc Preco Range

Concrete surface retarder.

This produces a key for subsequent pours, e.g. Paving without the need for hacking or mechanical scabbling.

Preco V – Solvent based, pre-mixed surface revealing agent for use on formwork for exposed aggregate finishes.

Preco H, Preco RWB – Water based, pre-mixed surface revealing liquid for exposed aggregate finish on fresh horizontal concrete.



Silane Impregnating Protection

Emer-Stop S100N & Emer-Stop Creme

Emer-Stop S100N is a deeply penetrating treatment designed to protect concrete from both water and chloride ingress whilst still permitting water vapour transmission out of the structure

Emer-Stop Creme is a deeply impregnating water dispersed, thixotropic creme, water repellent and chloride ion protective clear treatment for concrete

- Especially suitable for protecting concrete structures in marine and coastal environment.
- Durable, impregnating silane based products exposed bridge superstructure elements columns, beams, girders, facades.



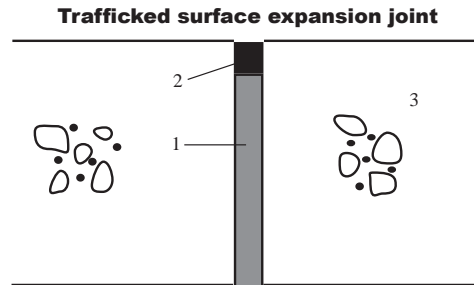
Joint Fillers

Expandafoam

Closed cell polyethylene joint filler.

Uses

- Bridge decks
- Abutments
- Pier hinge joints



Diagram

1. Jointflex
2. Suitable joint sealant
3. Slab

Hydrocell

Closed cell polyethylene joint filler.

Non absorbent closed cell polyethylene joint filler for joints subjected to heavy loads. Complies with Road and Traffic Authority of NSW specifications T1204.

Controlled Permeability Formwork Liner

Zemdrain

- Self adhesive
- Multiple use
- Produces high quality durable concrete surfaces



Anchor Adhesives and Grouts for Bridge Concrete Elements

Parchem offer wide range of bridge grouting solutions for structural anchoring, structural grouting, stitch joint grouting for precast segmental bridge, grouting for fixing road components.

Powers PF PRO/ PURE 150 PRO

Heavy duty, low odour, pure epoxy anchoring adhesive

Powers KF2

High performance, polyester resin

Powers V12

High performance, economical, versatile, vinyl ester resin

Note: Mechanical Anchors also available in Powers range



Fosroc Conbextra Range

High strength and high flow epoxy and cementitious grout



Grout and Anchor Resins for Bridge **Steel Fixtures and Fittings**

Parchem offer a complete range of resin grouts and anchors for all kinds of bridge steel fixings and fittings

Powers Range

Fosroc Conbextra Range



Epoxy grouts

www.parchem.com.au

**Superior Service
Throughout
Australia**

With trade stores and warehouses throughout Australia, Parchem is able to offer a superior level of service to customers in all regions of the country.

**Single Source
Supplier**

Parchem range of products gives you the security of dealing with a single supplier for a complete range of compatible solutions to meet the total needs of your project.

**ISO 9001 Quality
Assurance**

With its manufacturing facilities fully accredited to ISO 9001, Parchem offers its customers the assurance of independently audited quality systems.



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