



SOLUTIONS FOR THE REPAIR AND PROTECTION OF REINFORCED CONCRETE



constructive solutions



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, 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.

Parchem is the licensed distributor of Fosroc products in Australia, and Concrete Plus is the licensed distributor in New Zealand.

- > **Protective Coatings**
- > **Concrete Repairs**
- > **Industrial Flooring**

- > **Joint Sealants**
- > **Grouts and Anchors**
- > **Waterproofing**

FOSROC DELIVER SOLUTIONS NOT JUST PRODUCTS

CAD Details

A library of standard CAD details are available.

Project Specifications

Dedicated specification managers on hand to assist with correct system choices and tailored solutions.

Site Support

Expert product and application support made available from our specialist teams.

Seminar & Training

Comprehensive programme of seminars and training courses designed to expand and reinforce your knowledge.

INNOVATIVE SOLUTIONS FOR REINFORCED CORROSION

WHAT IS CORROSION?

Corrosion can be described as the deterioration of a material, usually a metal, by a chemical or electrochemical reaction within its environment. In this case we are looking at corrosion of steel reinforcement in concrete. When steel is embedded in concrete, a passive oxide film forms upon its surface. This film is maintained by the alkaline nature of the concrete (typically in excess of pH 12.6). While this passive film is present, the steel is immune to corrosion and therefore gives stability to a structure. However, when the concrete becomes carbonated the local or global pH of the concrete can fall, causing passivity to be lost and corrosion to occur. Chloride induced corrosion is also a major problem and can mean the concrete around the steel can still have a high pH, high enough for passivation, but once the chlorides reach the steel they break the passivation layer and corrosion occurs.

WHAT CAUSES CORROSION?

- A number of everyday contaminants can cause corrosion:
- Airborne chlorides
- Seawater
- Carbon dioxide in the atmosphere
- Sea-dredged aggregates
- Chloride containing admixtures

WHAT HAPPENS WHEN CORROSION OCCURS?

During the corrosion process, a by-product is formed (rust), which occupies a volume seven times greater than that of the native metal. This volume change causes cracking and eventual spalling of the concrete surface.

CORROSION IN THE MARINE ENVIRONMENT

The majority of Australia's infrastructure can be classed as being in a marine environment. This environment is extremely aggressive in nature due to the abundance of both chloride and moisture.

AREAS OF VULNERABILITY

Areas prone to corrosion on a marine structure can be categorised into three areas:

- Atmospheric zone. This is reinforced concrete located in the vicinity of the marine environment, but not in direct contact with water; i.e. bridge decks, soffits and beams. These elements often display moderate corrosion rates due to the presence of airborne moisture and chloride.
- Splash and tidal zone. This is the area located on and around the water line and is often classed as semi-submerged; i.e. concrete piles and piers. These elements generally experience the most severe corrosion due to the high moisture, oxygen availability and wet/dry cycling.

Telltale signs of corrosion in these two zones are cracking, spalling and red rust staining.

- Submerged zone. This is reinforced concrete permanently located underwater, i.e. marine piles. These areas can experience lower levels of corrosion due to reduced oxygen levels. However, while corrosion here is less aggressive, submerged areas are at risk from another problem known as black rust and low water corrosion.



SELECTING A CORROSION PROTECTION STRATEGY FOR CONCRETE STRUCTURES

Vector Corrosion Technologies offers a wide range of galvanic corrosion protection systems, impressed current cathodic protection systems and electrochemical protection systems. Parchem is the licensed distributor of Vector Corrosion Technologies in Australia, and Concrete Plus is the licensed distributor in New Zealand.

Selecting the appropriate level of corrosion protection is based on many factors such as the level of chloride contamination and carbonation, amount of concrete damage, location of corrosion activity (localized or widespread), the cost and design life of the corrosion protection system, and the expected service life of the structure. The following levels of protection can be used as a guide to decide the most effective strategy.

CORROSION PREVENTION

Corrosion prevention is used to prevent corrosion activity from initiating in contaminated concrete.

To mitigate new corrosion activity from occurring around concrete repairs or at other interfaces between new and old concrete such as bridge widening, joint repairs and slab replacements, a simple localized corrosion prevention strategy utilizing with Galvashield® XPT or Galvashield® XP2 embedded galvanic anodes, can extend the life of concrete repairs.

CORROSION CONTROL

The use of corrosion control systems will either stop on-going corrosion activity or provide a significant reduction in the corrosion rate and an increased service life of the rehabilitated structure.

Galvashield® XP2 and XP4 anodes can be used in corrosion control or corrosion prevention applications. Galvashield® CC anodes are used to provide targeted galvanic corrosion control to columns, beams, decks, post-tensioned anchorages and other structures where on-going corrosion activity threatens the service life of the structure. Galvanode® DAS anodes can also be used in concrete overlays, concrete jacketing and other concrete repair applications to provide long lasting galvanic protection.

CATHODIC PROTECTION

Cathodic protection provides the highest level of protection and is intended to stop on-going corrosion activity.

Impressed current systems such as those that use Ebonex® discrete anodes and Vectorode® catalyzed titanium anodes utilize an outside power source. For long-term performance, these systems should be monitored and maintained. Ebonex anodes are ideal to protect heavily reinforced concrete, thick structural sections such as columns or beams, or steel framed masonry buildings while Vectrode anodes are placed into slots cut into the concrete surface or underneath a concrete overlay.

Galvanic systems are typically designed to provide corrosion control or cathodic protection. The systems are self-powered and require less monitoring and maintenance than ICCP. Galvashield® Jackets are used to protect marine pilings and other structures. Galvanode® DAS and Galvanode® DAS Marine anodes can also be used in concrete overlays, concrete jacketing and other concrete repair applications to provide long lasting galvanic protection.

CORROSION PASSIVATION

Corrosion Passivation is provided by electrochemical treatments which are aimed at directly addressing the cause of the corrosion activity. Norcure® Chloride Extraction is used to address chloride contaminated structures such as bridges and parking garages. Norcure® Re-alkalisation is commonly used on carbonated building facades. These systems are installed onto the structure, operated for a short duration, then dismantled and removed leaving the structure in a passive condition. Electrochemical treatments provide many of the long-term corrosion mitigation benefits of cathodic protection systems but without the need for maintenance and monitoring.

CORROSION INVESTIGATION

Cost-effective solutions are predicated on identifying the cause of the problem, not just the symptom; therefore, a thorough evaluation of why the deterioration has occurred is recommended.

Investigating the extent and magnitude of corrosion provides useful information when designing a repair plan.

CORROSION MITIGATION COMPARISON CHART

	Product	Level of Protection	Service Life	Anode Size	Anode Type	Applications	Special Features	Mitigation Strategy
GALVANIC TREATMENTS	Galvashield XPT	Pr	10 - 20 Years	25 x 125 x 25mm (1" x 5" x 1") 60 grams of zinc	Discrete Embedded	Same as Galvashield XP, low concrete cover, tight spaces	2G Technology	L
	Galvashield XP2	Pr CC	10 - 20 Years	65 x 80 x 30mm (2.5" x 3.1 x 1") 100 grams of zinc	Discrete Embedded	Wider spacing than Galvashield XP, higher current density for corrosion control	2G Technology, BarFit groove	L
	Galvashield XP4	Pr CC	10 - 20 Years	65 x 120 x 30mm (2.5" x 4.7" x 1") 160 grams of zinc	Discrete Embedded	Wider spacing than Galvashield XP2, higher chloride corrosion control	2G Technology, BarFit groove	L
	Galvashield CC	Pr CC	10 - 20 Years	CC65, CC100,	Discrete Embedded	Protection of areas with active corrosion, embedded into drilled holes	2G Technology, quick rebar and anode connection devices	L, G
	Galvanode DAS	Pr CC CP	10 - 40 Years	Zinc mass:0.25, 0.6, 1.2, 2.0 lb./ft. (0.37, 0.89, 1.8, 3.0 kg/m)	Distributed Embedded	Galvanic encasements of reinforced concrete, pile jacketing, overlays, large area repairs	Custom sizes available	L, G
	Galvanode Jacket	Pr CC CP	10 - 40 Years	Distributed alkali-activated or zinc mesh, bulk zinc anode	Distributed Embedded	Marine or non-marine piles and columns	Stay-in-place formwork	G
ICCP	Ebonex	CP	25 + Years	7 - 28mm diameter, lengths up to 600mm	Discrete Embedded	High current capacity, reinforced concrete beams and columns, steel frame masonry buildings	Vented, special connectors, acid resistant grout	L, G
TREATMENTS	Norecure Chloride Extraction	Pa	20 + Years	Varies	Distributed, Temporary Surface Applied	Chloride contaminated beams, archs, columns and other large areas, historic structures	Does not significantly change structure appearance	G
	Norecure Re-Alkalisation	Pa	Indefinite	Varies	Distributed, Temporary Surface Applied	Widespread carbonation, historic structures	Does not significantly change structure appearance	G

LEVELS OF PROTECTION

PR - CORROSION PREVENTION

Used to prevent corrosion activity from initiating in contaminated concrete. If concrete repair projects are completed in accordance with industry guidelines, the replacement of damaged concrete will address the areas with the highest level of corrosion activity. But after the repairs are complete, new corrosion sites are likely to form in the remaining contaminated concrete which was passive before the repairs. Research in the area of corrosion prevention indicates that a low applied current density (in the order of 0.4 mA/m² of steel surface area) is effective at preventing the initiation of corrosion in concrete. The required current will decrease over time as chemical reactions increase the alkalinity and decrease the concentration of chloride ions around the reinforcing steel.

CC - CORROSION CONTROL

Utilized when active corrosion exists. The use of corrosion control systems will provide a reduction in the corrosion rate and increases the service life of the rehabilitated structure. In many cases, this level of protection can be provided with low incremental cost as the protection can be targeted at specific areas of contamination or corrosion activity. The current requirements for corrosion control are higher than for corrosion prevention, generally in the range of 1 to 7 mA/m² and can decrease over time as the beneficial effects of chemical reactions build up the alkalinity and decrease chloride concentrations around the reinforcing steel.

CP - CATHODIC PROTECTION

Provides active long term protection. Cathodic protection should be selected when the highest level of protection is necessary and the cost is economically justified. Current industry standards for cathodic protection are based upon a 100 mV depolarization acceptance criteria. This level of protection generally requires an initial operating current between 5 and 20 mA/m². Current may be provided by galvanic anodes or by an impressed current power supply. Impressed current systems should be monitored and maintained over time.

PA - CORROSIVE PASSIVATION

Achieved by changing the environment around the steel to a significantly less corrosive condition. This can be achieved by reducing the amount of chloride or by increasing the pH around the steel by using a temporary electric field. The systems are installed until the objective is achieved then removed so that no further monitoring or maintenance is required.

SPECIAL FEATURES

2G Technology - Includes special additive for increased anode current.

BarFit - Grooved design or plastic spacers for secure fit to steel.

L-Local - A local corrosion mitigation strategy is utilized when only targeted areas require protection or if global protection is outside the owner's current budget.

G-Global - A Global corrosion mitigation strategy is utilized when protection is required for an entire structure or large structural elements.

GALVANIC SYSTEMS

GALVASHIELD® XPT

System Description

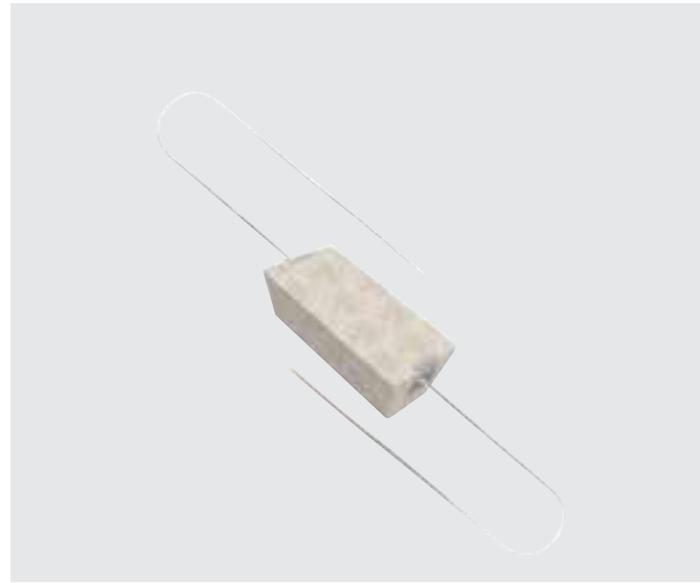
Bar shaped discrete anode - Alkali-activated zinc - 2G Technology

Applications

Targeted Corrosion prevention around patch repairs and joints.
Low concrete cover or congested steel spacing

Product Details

Corrosion prevention spacing: 175 - 750mm



GALVASHIELD® XP2

System Description

Oval shaped discrete anode - Alkali-activated zinc - 2G Technology - BarFit groove for secure anode placement

Applications

Targeted Corrosion prevention or corrosion control for patch repairs and joints

Product Details

Corrosion prevention spacing: 300 - 750mm

Corrosion control spacing: 200 - 600mm



GALVASHIELD® XP4

System Description

Oval shaped discrete anode - Alkali-activated zinc - 2G Technology - BarFit groove for secure anode placement

Applications

Targeted Corrosion prevention or corrosion control for patch repairs and joints. High chloride or high steel density structures

Product Details

Corrosion control spacing: 150 - 750mm



GALVANIC SYSTEMS

GALVASHIELD® CC

System Description

Cylindrical-shaped discrete anodes - Alkali-activated zinc - 2G Technology

Applications

Corrosion control for concrete

Product Details

Corrosion Control spacing: 325 - 700mm



GALVANODE™ DAS MARINE

System Description

Cylindrical-shaped discrete anodes - Alkali-activated zinc - 2G Technology

Applications

Corrosion control for concrete

Product Details

Corrosion Control spacing: 325 - 700mm



GALVANODE™ DAS

System Description

Embedded foil covered anodes for distributed protection - Alkali-activated zinc

Applications

Galvanic encasements - Overlays

Product Details

Based on service life and protection requirements



GALVANODE™ DAS

System Description

Galvanic anodes with a stay-in-place formwork - Distributed alkali-activated anodes or zinc mesh anodes - Bulk zinc anodes

Applications

Galvanic encasements - Jacketing - Overlays. For marine or non-marine environments

Product Details

Anode selection and spacing based on design requirements



IMPRESSED CURRENT SYSTEMS

EBONEX™

System Description

Cylindrical or star-shaped discrete anodes with high current capacity. Built-in ventilation - Crimps or electrical connectors

Applications

Global or targeted protection - Reinforced concrete or masonry structures

Product Details

Anode sizes: 7 to 28mm diameter lengths up to 600mm. Anode spacing based on design requirements



VECTRODE™ ANODES

System Description

Range of MMO Titanium anodes and related components

Applications

Global or targeted protection - Reinforced concrete, masonry, or buried structures

Product Details

Mesh, Tibbon Mesh, Tubes, Wire



ELECTROCHEMICAL TREATMENTS

NORCURE™ RE-ALKALISATION

System Description

Long term corrosion passivation with short term electrical treatment. Potassium or sodium carbonate used as electrolyte

Applications

Carbonated concrete - Large area treatment

Product Details

2 to 8 week treatment time - Will not re-carbonate



NORCURE™ CHLORIDE EXTRACTION

System Description

Range of MMO Titanium anodes and related components

Applications

Global or targeted protection - Reinforced concrete, masonry, or buried structures

Product Details

Mesh, Tibbon Mesh, Tubes, Wire





HIGH PERFORMANCE CONCRETE REPAIR MORTARS

The number, size and geometry of repair areas will vary from job to job.

Expert diagnosis needs to be carried out to determine the extent of the problem. The most appropriate method of repair should then be selected.

Fosroc offer the world-renowned range of Renderoc mortars. These are pre-bagged, single component products available in various grades.

These repair mortars have been tested to both local and International standards with independent performance certification. This independent performance data is backed up with close to 20 years of proven performance repairing Australian Infrastructure. This long and varied history provides comfort for engineers and asset owners that the products are not only independently verified but have a track record of proven performance.

NON STRUCTURAL REPAIR MORTARS

RENDEROC® FC

Polymer Modified Fairing Mortar

- Designed for application in thin layers to produce a fair faced appearance to concrete in readiness to receive a protective coating

RENDEROC® HB

Polymer modified general purpose patch repair mortar

- Used for large and small vertical and overhead applications
- Lightweight formulation enables high build

RENDEROC® HB25

High performance lightweight low shrinkage concrete reinstatement mortar

- Used for vertical and overhead builds
- Lightweight formulation enables high build
- Low shrinkage

STRUCTURAL REPAIR MORTARS

The Fosroc range of repair mortars are specifically designed for rehabilitation of large civil infrastructure which demands a high level of engineering and durability performance. The following range of repair mortars have been tested to EN1504 and are defined as being suitable for structural repair to this standard. The below table summarises the different products durability characteristics.

All of the below products have independent test certificates available on request and the results are based on product manufactured and supplied in Australia and New Zealand.

RENDEROC® HB40

High Performance fibre reinforced, medium weight concrete reinstatement mortar

- Low permeability
- Low shrinkage
- Used for vertical and overhead

RENDEROC® HB70

Structural grade polymer modified high build reinstatement mortar

- High strength
- High build
- High abrasion
- Low shrinkage
- Low permeability

RENDEROC® HB50

High performance, high build structural grade patch repair mortar

- High strength
- High resistivity mortar
- High build mortar
- Enhanced durability
- Strong monolithic bond

RENDEROC® LA55

Super fluid, high strength micro concrete reinstatement mortar

- Ideal for the repair of large structural sections of concrete
- Excellent chloride and carbonation resistance
- Can be pumped or poured
- Self compacting

GUNCRETE E

Spray applied repair mortar with high build and high strength

- Ideal for bridge piers, tunnels and sewers
- High build and high strength
- Low rebound

Test method	Standard	Renderoc HB40 Result-R3		Renderoc HB70 Result-R4		Renderoc LA55 Result-R4	Guncrete E Result-R4
Compressive Strength @28 days	EN 2190:1999	38 MPa		60 MPa		74.3 MPa	84 MPa
Bond strength by pull off	EN 1542:1999	Without primer	1.8 MPa	Without primer	70 MPa @ 56 days	3.3 MPa	3.2 MPa
		With Nitobond HAR primer	2.5MPa	-	-	-	-
Capillary Absorption	EN 13057	0.2 kg/(m ² x h ^{0.5})		0.1 kg/(m ² x h ^{0.5})		0.1 kg/(m ² x h ^{0.5})	0.1 kg/(m ² x h ^{0.5})
Carbonation Resistance	EN 13295:2005	Conforms		Conforms		Conforms	Conforms
Coefficient of thermal expansion	EN 1770:1990	13.7 x 10 ⁻⁶ /°C		14.8 x 10 ⁻⁶ /°C		17.2 x 10 ⁻⁶ /°C	16.3 x 10 ⁻⁶ /°C
Shrinkage and Expansion	EN 12617-4:2002	Shrinkage: 1.7 MPa		Shrinkage: 3.1 MPa		Shrinkage: 3.3 MPa	Shrinkage: 2.7 MPa
		Expansion: 1.7 MPa		Expansion: 3.0 MPa		Expansion: 3.3 MPa	Expansion: 2.8 MPa
Elastic Modulus	EN 13412:2008	18.4 GPa		26.9 GPa		39.3 GPa	52.8 GPa
Chloride Diffusion	Nordtest NT Build 443	4.47 x 10 ⁻¹² m ² /sec		1.2 x 10 ⁻¹² m ² /sec		0.64 x 10 ⁻¹² m ² /sec	1.0 x 10 ⁻¹² m ² /sec

SPECIALISED REPAIR MORTARS

PATCHROC® GP/C

Fast setting emergency patching mortar used repairing localised patches

- Rapid strength gain. Will accept foot traffic in just 2 hours
- High strength high abrasion and weather resistance

PAVEROC

Reinstatement mortar for large areas of concrete pavements and floors

- Rapid strength gain. Will accept pedestrian traffic after just 12 hours
- High strength and high abrasion resistance

RENDEROC® RAPID

Extremely fast setting repair mortar

- Used where urgent repairs are required
- Rapid strength gain

RENDEROC® G

An acid resistant repair mortar for use in highly corrosive environments.

- Based on geopolymer technology
- Has excellent long term resistance to acidic conditions

EPOXY REPAIRS

NITOMORTAR 903

Multi purpose epoxy binder for fast repair and filling of voids. For combining with selected fillers and aggregates to produce mortars of desired consistency.

NITOMORTAR AP

Used for repairing and re-profiling of precast concrete units, damaged arrises and treads.

- Rapid strength - 66MPa after 1 day
- Multipurpose repair mortar and adhesive
- Excellent resistance to abrasion and impact
- Used as an adhesive for Nitofill LV crack injection system

NITOFIL LV

Pre-packaged low viscosity or thixotropic epoxy resin injection grout.

- Achieve high strength bond to dry or wet concrete
- Material designed for low creep
- Non shrink - no loss of bond or surface contact
- High compressive, tensile and flexural strengths
- Excellent chemical resistance



PROTECTIVE COATINGS & IMPREGNATIONS

Although the correct use of Fosroc's range of repair mortars will ensure a successful, long lasting repair, it should be remembered that the rest of the structure will remain exposed to possible future attack from the surrounding environment.

The use of correctly selected coating systems can prevent the damaging gases and salts from entering the concrete pore structure and reaching the steel reinforcement where the damage occurs.

A highly impervious coating however is not the simple answer to the problem. The porous nature of concrete, and the fact that it inevitably contains some moisture, means that the coating must allow the structure to breathe.

A further consideration, especially where climatic conditions are severe, is the resistance of the coating to UV attack. This is particularly important in countries such as Australia where high levels of UV are recorded on a daily basis.

PROPERTIES REQUIRED OF A PROTECTIVE COATING

The particular characteristics of concrete demand that the protective coating system chosen must meet certain basic performance which are as follows:

- Prevent ingress of chloride ions and carbon dioxide
- Still allow moisture to pass through the coating
- Excellent weathering and UV resistance
- Provide an aesthetic appearance to the concrete surface (if required)

TYPES OF PROTECTIVE TREATMENTS

HYDROPHOBIC IMPREGNATIONS

Are generally low viscosity liquids which penetrate into the concrete and line the pores. They are colourless and therefore have little or no effect on the appearance of the structure. These systems are hydrophobic and thus repel water, which otherwise would cause corrosion of the reinforcing steel as chlorides are carried by water.

The Nitocote SN508 Creme and Nitocote SN508 Creme are high performance silane based systems that have a proven track record of performance on civil infrastructure projects.

COATINGS

Well formulated combinations of penetrants and coatings, like the Dekguard system, provide engineers and asset owners another high performance option to protect concrete infrastructure.

The Dekguard System consists of a silane-siloxane primer with a pigmented acrylic topcoat. The low viscosity, low volatility primer penetrates the substrate and provides resistance to water soluble chloride salts. The topcoat is an aliphatic acrylic which forms a film over the surface of the concrete, providing excellent resistance to carbonation as well as chloride attack.

The combination of the two provides powerful protection against corrosive and UV attack together with the breathability vital to allow potentially harmful water vapour to escape from the structure.



SILANE IMPREGNATIONS

Today, alkylalkoxysilanes set the standard in terms of highly efficient penetration and excellent resistance to high alkalinity. They are colorless, low-molecular (and thus low-viscosity), highly penetrating liquids that are generally applied to concrete in undiluted form. There, they react with moisture, liberating alcohol, and form extremely stable bonds with the pores and capillary walls of the concrete. After the reaction, the silane juts out into the centre of the capillaries and pores, which is the reason behind hydrophobic impregnation's high effectiveness.

NITOCOTE SN511

(PREVIOUSLY KNOWN AS EMER-STOP S100N)

Nitocote SN511 is an iso-butyltriethoxysilane clear liquid water repellent. Nitocote SN511 is used in undiluted form for the impregnation of reinforced concrete.

Special Features

Nitocote SN511 is characterised by:

- Excellent penetration
- Being solvent-free and environmentally compatible
- Low volatility
- Optimum resistance to alkalis
- The treated concrete has the following lasting properties:
- Drastic reduction in chloride and water absorption
- Retention of breathability
- High protection against freeze/thaw

After application to the concrete, Nitocote SN511 reacts initially with atmospheric moisture or the building material's pore water. In the zone where the impregnating agent has penetrated, the active agent formed greatly reduces the concrete's absorption, but without blocking the concrete's pores and capillaries. The impregnated building material retains its very high water-vapor permeability.



NITOCOTE SN508 CREME

(PREVIOUSLY KNOWN AS EMER-STOP CREME)

Nitocote SN508 Creme is an aqueous, solvent-free, water-repellent cream based on silane. It's a high-quality specialty product for the hydrophobic impregnation of concrete and reinforced concrete.

The formula for deep-pore protection Emer-Stop Creme is characterized by:

- Excellent penetration
- Being solvent-free, aqueous and environmentally compatible
- Low volatility
- Optimum resistance to alkalis

The treated concrete exhibits the following lasting properties:

- Drastic reduction in chloride and water absorption
- Retention of breathability by the substrate
- High protection against freeze/thaw

Nitocote SN508 Creme's thixotropic consistency is unique among water repellents and its properties are excellent for the hydrophobic impregnation of high-quality concrete and reinforced concrete. Unlike conventional liquid products, Nitocote SN508 Creme can be applied to the required extent in just one or sometimes two steps.

Depending on porosity and thus concrete quality, the silane active ingredient penetrates into the substrate within a short period of time (30 minutes to a couple of hours) and there it reacts, liberating alcohol with the silicate matrix of the capillaries and pores of the concrete.

Nitocote SN508 Creme also allows the pores and capillaries of the substrate to remain open, leaving the substrate breathable. Nitocote SN508 Creme is designed so that the active ingredient penetrates as deeply into the concrete as possible and thus optimally protects against the absorption of water and aggressive substances, as well as against damage from freeze/thaw.

NITOCOTE SN502

Economical, general purpose penetrating hydrophobic silane-siloxane, clear treatment for masonry and concrete

- Reduces water and chloride intrusion
- Penetrates into porous substrates
- Non-staining
- Suitable for applications where windy conditions or high temperatures are likely
- Minimises efflorescence
- Allows water vapour to escape from the structure

DEKGUARD RANGE OF COATINGS SYSTEMS

DEKGUARD® ELASTIC

High Performance crack accommodating elastomeric acrylic protective and decorative coating.

- Can accommodate substrate cracking up to 6mm and cyclic movement up to 1mm
- Excellent barrier to carbon dioxide, chloride ions, oxygen and water
- Special acrylic polymer minimises dirt retention
- Allows water vapour to escape from the structure
- UV-resistant with high resistance to long term weathering
- Water based

DEKGUARD® E2000

High Performance crack accommodating elastomeric acrylic protective and decorative coating.

- Provides all of the benefits of the Dekguard Elastic but due to a thinner film build has reduced movement capacity
- Can accommodate substrate cracking up to 2 mm and cyclic movement up to 0.3 mm

The below table is a summary of performance data for the Dekguard range of protective coatings. These are tested to the standard AS/NZS 4548.5-1999- guide to long life for coatings and masonry which has been prepared as a guide for information on the properties that could be expected from long-life exterior coatings applied to concrete and masonry surfaces.

All of the performance data have had independent third party test certificates which can be provided on request.

TABLE SUMMARY OF DEKGUARD PERFORMANCE DATA TESTED TO AS/NZS 4548.5-1999

	Elongation at break (ASTM D412)	CO ₂ diffusion resistance			Vapour Diffusion Coefficient cm ² /sec	Chloride ion diffusion coefficient m ² /sec
		Equivalent thickness of air (R), metres	Equivalent thickness of 30 MPa concrete cover (Sc) :	CO ₂ Diffusion Coefficient, cm ² / sec:		
Dekguard Elastic	>400%	> 150	> 380 mm	3.8x10 ⁻⁷	1.3 x 10 ⁻⁴	5.5 x 10 ⁻¹⁴ m ² /sec
Dekguard E2000	>300%	> 96	> 240 mm	3.7 x 10 ⁻⁷	1.1 x 10 ⁻⁴	2.3 x 10 ⁻¹⁴ m ² /sec



**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's 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.

Parchem Construction Supplies Pty Ltd
7 Lucca Road, Wyong NSW 2259
Phone: 1300 737 787
www.parchem.com.au
ABN 80 069 961 968

Concrete Plus
23 Watts Road, Sockburn 8042
Phone: 0800 657 156
www.concreteplus.co.nz
NZBN 9429033691282