

High performance, pigmented aliphatic acrylic, chloride ion and carbonation protective and decorative coating for concrete and masonry

## Uses

To protect atmospherically exposed reinforced concrete structures from attack by acid gases, chloride ions, sulphates, oxygen and water. The product is also suitable to protect other cementitious substrates and masonry. Dekguard S is suitable for use on all types of structures, especially those in aggressive marine and coastal environments. It is equally suitable for new and existing structures. Dekguard S is a component of the Renderoc system of concrete reinstatement.

## Advantages

- Excellent barrier to carbon dioxide, chloride ions, sulphates, oxygen and water
- Allows water vapour to escape from the structure
- Highly UV-resistant aliphatic acrylic gives exceptional resistance to the effects of long-term weathering
- Highly durable in all climatic conditions
- Wide range of decorative colours
- Excellent resistance to dirt pick-up

## Properties

The values obtained are for the Dekguard S system applied at the minimum recommended application rate.

| Test method  | Typical result                              |
|--|---|
| <b>Volume solids</b>   | 43%   |
| <b>Carbon dioxide diffusion resistance (AS/NZS 4548.5-1999) Equivalent Thickness of air (R), m:</b><br>(Note: To protect concrete from carbonation, R must be at least 50m - Klopfer criteria) | >200 metres                                 |
| <b>Equivalent Thickness of 30 MPa concrete cover (Sc)</b>  | >940 mm                                     |
| <b>CO<sub>2</sub> Diffusion Coefficient cm<sup>2</sup>/sec:</b>  | 7.1x10 <sup>-08</sup>                       |
| <b>Water vapour transmission resistance (AS/NZS 4548.5-1999) Vapour Transmission Rate:</b>   | 21.9g/m <sup>2</sup> /24hr                  |
| <b>Equivalent thickness of Air (Sd) m:</b>   | >1  |
| <b>Vapour Diffusion Coefficient cm<sup>2</sup>/sec:</b>  | 2.7x10 <sup>-05</sup>                       |
| <b>Reduction in chloride ion penetration (Aston University Diffusion Cell method):</b>   | >99%  |
| <b>Chloride ion diffusion coefficient AS/NZS 4548.5-1999: @ 147 days</b>   | 1.0 x 10 <sup>-14</sup> m <sup>2</sup> /sec |
| <b>Freeze/thaw salt scaling (50 cycles) - (ASTM C672-84):<br/>Good quality concrete (control):</b>   | Unaffected<br>Severe scaling                |
| <b>Fire testing (BS 476, Pt 7: 1987) - Spread of flame:</b>  | Class 1                                     |

## Description

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

The primer (Dekguard Primer) is supplied as a clear liquid and 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.

Dekguard S is an aliphatic acrylate, solvent based protective coating, providing outstanding resistance to aggressive elements, UV light and rain. It is available in a wide range of colours.

## Design Criteria

The coating should be applied in two coats to achieve a total dry film thickness of not less than 150 microns. To achieve the correct protective properties, Dekguard S system must be applied on to the substrate at the coverage rates recommended.

## Specification Clause

The protective coating shall comprise a penetrating silane-siloxane primer and Dekguard S, a single component aliphatic acrylic coating. The total dry film thickness of the coating shall be not less than 150 microns and when tested to AS/NZS 4548.5-1999 exhibit a Carbon dioxide diffusion resistance > 200m equivalent thickness of air (R) and Chloride ion diffusion coefficient: 1.0 x 10<sup>-14</sup>m<sup>2</sup>/sec @ 147 days.

# Fosroc® Dekguard S

## Application Instructions

### Preparation

All surfaces should be dry and free from contamination such as oil, grease, loose particles, decayed matter, moss, algal growth, laitance, and all traces of mould release oils and curing compounds. This is best achieved by lightly grit-blasting the surface. Where moss, algae or similar growths have occurred, treatment with a proprietary biocide should be carried out after the grit-blasting process.

Note: it is not necessary to remove Nitobond AR curing membrane prior to the application of Dekguard S. Any other curing membrane will need to be removed.

Where application over existing sound coatings is required, trials should be conducted to ensure compatibility and retention of the bond between the underlying coating and the substrate. For further advice consult your local Parchem sales office.

It is essential to produce an unbroken coating of Dekguard S. To ensure this is achieved, surfaces containing blow-holes or similar areas of pitting should first be filled using Renderoc FC, a cementitious fairing coat (for further details, refer to separate Technical Data Sheet). Renderoc FC should be allowed to cure for approximately 48 hours dependent on ambient conditions before the application of Dekguard S.

### Application

In order to obtain the protective properties of the Dekguard S system, it is important that the correct rates of application and overcoating times are observed.

|   | Dekguard Primer  | Dekguard S   |
|---|--|--|
| <b>Number of coats:</b>                         | Flood coat   | 2  |
| <b>Theoretical application rate per coat:</b>   | 2.5 m <sup>2</sup> /litre<br>0.4 litres/m <sup>2</sup> | 6 m <sup>2</sup> /litre<br>0.167 litres/m <sup>2</sup> |
| <b>Theoretical wet film thickness per coat:</b> | N/A  | 175 microns  |
| <b>Overcoating time -</b>                       |  |  |
| <b>@ 2°C:</b>                                   | 4 hours  | 12 hours   |
| <b>@ 20°C:</b>                                  | 2 hours  | 6 hours  |
| <b>@ 30°C:</b>                                  | 90 minutes   | 5 hours  |

Application should not commence if the temperature of the substrate is below 2°C.

Any areas of glass should be masked. Plants, grass, joint sealants, asphalt and bitumen-painted areas should be protected during application.

Dekguard Primer should be applied in one or more coats until the recommended application rate of 0.4 litre per square metre has been achieved. This is best accomplished by using portable spray equipment of the knapsack-type. Very porous surfaces may require the application of Nitoprime DG as an alternative primer, or may require other special treatment.

Nitoprime DG should be applied at the same coverage rate as Dekguard Primer in continuous, multiple coats as necessary. If in doubt about the condition of the substrate, contact your local Parchem sales office.

The primer should be allowed to dry for a minimum of two hours (at 20°C) before application of Dekguard S. Under no circumstances should the primer be overcoated until the surface is properly dry.

Dekguard S may be applied by the use of suitable brushes, rollers or spray. For further information about application techniques, please consult your local Parchem sales office.

All primed substrates should be treated with two coats of Dekguard S. The material should be stirred thoroughly before use. The first coat should be applied to all areas by the use of suitable brushes, rollers or spray to achieve a uniform coating with a wet film thickness not less than 175 microns. This coat should be allowed to dry before continuing.

The second coat of Dekguard S should be applied exactly as detailed above, again achieving a wet film thickness not less than 175 microns.

### Cleaning

Dekguard Primer, Nitoprime DG and Dekguard S should be removed from tools and equipment using Solvent 10.

### Limitations

The Dekguard S system is formulated for application to clean, sound concrete or masonry. Where application over existing sound coatings or paints is required, trials should be conducted to ensure compatibility and retention of the bond between the underlying coating and the substrate. When applied over existing coatings or paints, the performance characteristics of Dekguard S may be impaired and its fire rating invalidated. Compatibility and soundness should be assessed on a trial area. For further advice consult your local Parchem sales office.

Application should not commence if the temperature of the substrate is below 2°C.

### Estimating

#### Supply

|                    |                   |
|--------------------|-------------------|
| Dekguard S:        | 20 litre drum     |
| Dekguard Primer:   | 20 litre drum     |
| Product code:      | 561520            |
| Nitoprime DG:      | 20 litre drum     |
| Product code:      | 562600            |
| Fosroc Solvent 10: | 4 & 20 litre drum |

# Fosroc® Dekguard S

---

## Coverage

|                  |   |
|------------------|---|
| Dekguard S:      | 3.0 m <sup>2</sup> / litre (total in 2 coats) |
| Dekguard Primer: | 2.5 m <sup>2</sup> per litre (total)          |
| Nitoprime DG:    | 2.5 m <sup>2</sup> per litre (total)          |

The coverage figures given are theoretical - due to wastage factors, the variety and nature of possible substrates, practical coverage figures will be reduced.

## Storage

### Shelf life

Dekguard products have a shelf life of 12 months from date of manufacture if kept in a dry store in the original, unopened containers. Refer to the Use by Date indicated on the packaging.

### Storage conditions

Store in cool, dry conditions, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced.

## Important notice

A Safety Data Sheet (SDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

## Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.