

## Dekguard S

**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 Parchem' 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

### 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.

### SPECIFICATION CLAUSES

#### PROTECTIVE/DECORATIVE SURFACE COATING

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 exhibits the following performance characteristics.

#### PROPERTIES

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

TEST METHOD	TYPICAL RESULT
Volume solids	43%

#### Carbon dioxide diffusion resistance

(AS/NZS 4548.5-1999)

##### Equivalent

thickness of air (R), m: - >200 metres

(Note: To protect concrete from carbonation, R must be at least 50m - Klopfer criteria)

##### Equivalent Thickness of 30 MPa

concrete cover (S<sub>c</sub>) >940 mm

CO<sub>2</sub> Diffusion Coefficient cm<sup>2</sup>/sec: 7.1x10<sup>-08</sup>

#### Water vapour transmission resistance

(AS/NZS 4548.5-1999)

Vapour Transmission Rate: 21.9g/m<sup>2</sup>/24hr

Equivalent thickness of Air (S<sub>a</sub>) m: >1

##### Vapour Diffusion Coefficient

cm<sup>2</sup>/sec: 2.7x10<sup>-05</sup>

#### Reduction in chloride ion penetration

(Aston University Diffusion Cell method):

>99%

#### Chloride ion diffusion coefficient

AS/NZS 4548.5-1999:

@ 147 days

1.0 x 10<sup>-14</sup>m<sup>2</sup>/sec

<b>Freeze/thaw salt scaling (50 cycles) - (ASTM C672-84):</b>	Unaffected
<b>Good quality concrete (control):</b>	Severe scaling
<b>Fire testing (BS 476, Pt 7: 1987) - Spread of flame:</b>	Class 1

## TECHNICAL SUPPORT

Parchem offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.

## 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.

## 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>	0.4 litres/m <sup>2</sup>	0.175 litres/m <sup>2</sup>
<b>Theoretical wet film thickness per coat:</b>	N/A	175 microns
<b>Overcoating time -</b>		
@ 2°C:	4 hours	12 hours
@ 20°C:	2 hours	6 hours
@ 30°C:	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

Renderoc FC should be removed from tools and equipment with clean water immediately after use. Dekguard Primer, Nitoprime DG and Dekguard S should be removed from tools and equipment using Solvent 10.

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.

## 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

<b>Renderoc FC:</b>	15 kg bag
<b>Dekguard Primer:</b>	20 litre drum
<b>Nitoprime DG:</b>	20 litre drum
<b>Dekguard S:</b>	10 litre drum
<b>Solvent 10:</b>	4 & 20 litre drum

### COVERAGE

<b>Renderoc FC:</b>	9 litres (3.0 m <sup>2</sup> at 3 mm thickness)
<b>Dekguard Primer:</b>	2.5 m <sup>2</sup> per litre (total)
<b>Nitoprime DG:</b>	2.5 m <sup>2</sup> per litre (total)
<b>Dekguard S:</b>	3 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

All products have a shelf life of 12 months if kept in a dry store in the original, unopened packs.

## STORAGE CONDITIONS

## ADDITIONAL INFORMATION

Parchem provides a wide range of complementary products which include:

- concrete repair – cementitious and epoxy
- grouts and anchors – cementitious and epoxy
- waterproofing membranes – liquid applied, cementitious and bituminous sheet membranes
- waterstops – pvc and swellable
- joint sealants – building, civil and chemical resistant
- industrial flooring systems – cementitious and epoxy
- architectural coatings
- filler boards – swellable cork, bituminous and backing rod
- ancillary products

For further information on any of the above, please consult with your local Parchem sales office.

## IMPORTANT NOTICE

A Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the MSDS 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.

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