

High performance, aliphatic acrylic, translucent protective coating for concrete and masonry

Uses

To protect atmospherically exposed (non-trafficked) reinforced concrete structures from attack by acid gases, chloride ions, sulphates, oxygen and water. The product is also suitable to hide concrete repaired areas, visual differences with the host concrete. Dekguard O 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 O is a component of Fosroc's Renderoc system of concrete reinstatement.

Advantages

- Reduces different appearances between concrete sections and / or repaired patches
- 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
- Matt finish

Description

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

The primer (Dekguard Primer) is supplied as a clear liquid and is 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 O is an aliphatic acrylate, solvent based protective coating, providing outstanding resistance to aggressive elements, UV light and rain.

Technical Support

Parchem offers a comprehensive range of high performance, high quality repair, maintenance and construction products. In addition, 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 O system must be applied on to the substrate at the recommended coverage rate 0.2 litres/m² per coat.

Specification Clause

Protective/ decorative surface coating

The protective coating system shall comprise Dekguard Primer, a penetrating Silane- Siloxane primer and Dekguard O, a single component aliphatic acrylate coating suitable for application by brush, roller or spray. The total dry film thickness of the coating must be not less than 150 microns and exhibit Carbon dioxide diffusion resistance (AS/NZS 4548.5-1999) Equivalent Thickness of Air (R), >350m: CO₂ Diffusion Resistance 1.3x10⁻⁰⁴ cm²/sec: Chloride ion diffusion coefficient (AS/NZS 4548.5-1999) @218 days 0.1x10⁻¹² m²/ sec.

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: When Nitoprime 330 has been used to cure Renderoc repairs, it is not necessary to remove the Nitoprime 330 prior to the application of Dekguard O. Any other curing membrane will need to be mechanically 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 O. 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 O.

Fosroc® Dekguard O

Properties

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

Test Method	Typical Result
Volume solids	38%
Carbon dioxide diffusion resistance (AS/NZS 4548.5-1999)	
Equivalent Thickness of Air (R),m: (Note: To protect concrete from carbonation, R must be at least 50m - Klopfer criteria)	> 350 metres
Equivalent thickness of 30 MPa concrete cover (Sd)	> 850 mm
CO ₂ Diffusion Resistance cm ² /sec:	1.3x10 ⁻⁰⁴
Water vapour transmission resistance (AS/NZS 4548.5-1999)	
Vapour Transmission Rate:	40.4g/m ² /24hr
Equivalent Thickness of Air (R), m:	< 1
Vapour Diffusion Coefficient cm ² /sec:	1.3x10 ⁻⁰⁴
Water Transmission Resistance (AS/NZS 4548.5-1999):	0g/24hr/m ² /KPa
Chloride ion diffusion coefficient (AS/NZS 4548.5-1999):	@218 days 0.1x10 ⁻¹² m ² / sec

Application

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

	Dekguard Primer	Dekguard O
Number of coats:	Flood coat	2
Theoretical application rate per coat:	0.4 litres/m ²	0.2 litres/m ²
Theoretical wet film thickness per coat:	N/A	200 microns
Overcoating time -		
@ 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 or painted areas should be protected during application.

The 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. 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 but in continuous, multiple coats as necessary. If in doubt about the condition of the substrate, the local Parchem sales office should be consulted.

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

Dekguard O 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 O. 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 200 microns. This coat should be allowed to dry before continuing.

The second coat of Dekguard O should be applied exactly as the first, again achieving a wet film thickness not less than 200 microns.

Cleaning

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

Fosroc® Dekguard O

Limitations

The Dekguard O 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 O 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.

Dekguard coatings are not designed nor suitable for use on trafficable surfaces.

Estimating

Supply

Dekguard O 20 litre:	FC860700-20L
Dekguard Primer 20 litre:	FC861520-20L
Nitoprime DG 20 litre:	FC862600-20L
Fosroc Solvent 10:	4 & 20 litre drum

Coverage

Dekguard O:	2.5 m ² /litre (total)
Dekguard Primer:	2.5 m ² /litre (total)
Nitoprime DG:	2.5 m ² /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 O, Dekguard Primer and Nitoprime DG have a shelf life of 12 months if kept in a dry store in the original, unopened packs. 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.