

Clear protective coating system for exposed concrete and masonry

Uses

A protective and weather-resistant system designed to protect new and existing concrete and masonry structures from attack by water, chlorides, sulphates, carbon dioxide and other acid gases. It can be used on a wide variety of structures and buildings, including high-rise flats, car parks, commercial and industrial buildings, subways, underpasses and bridges.

Advantages

- Highly resistant to weathering
- Excellent barrier to chloride ingress
- Breathability allows water vapour to escape from structure
- Excellent barrier to carbon dioxide and other atmospheric acid gases

Description

The Dekguard Clear protective coating system comprises a single component, penetrating oligomeric silane-siloxane primer and a single component clear 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 pore lining, thus inhibiting the passage of water and water-borne contaminants.

Dekguard Clear is a solvent based clear methacrylate coating, which will provide resistance to aggressive corrosion elements, weathering and rain. A major feature of the system is its ability to allow water vapour to escape from the structure.

The Dekguard Clear coating system provides a satin finish. Its application may tend to slightly darken (wet) the finished appearance of the substrate.

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 to achieve a uniform wet film thickness of not less than 140 microns. This equates to a dry film thickness (d.f.t.) of 20 microns. Subsequent coats must be applied at the same rate.

Properties

Solids content by volume:	20%
Carbon dioxide diffusion resistance	
Equivalent thickness of air (Taywood method) - Initial:	3.8m per 20 micron d.f.t.
Equivalent thickness of 30 MPa concrete cover (Taywood method):	9.3mm per 20 micron d.f.t.
Water vapour diffusion resistance (Taywood method):	S_d 0.07 m @ 172 micron d.f.t.
Reduction in chloride ion penetration (Aston Page method):	>90%
Fire testing (BS 476, Pt 7 : 1987) Spread of flame:	Class 1
Fire testing (BS 476, Pt 6 : 1989) Propagation index I:	1.0
Freeze/thaw salt scaling ASTM C672 (50 cycles):	Unaffected
Reduction in water absorption ASTM C642:	84%

Specification Clauses

Clear methacrylate protective/weather resistant surface coating

The protective coating shall comprise a penetrating oligomeric siloxane primer and Dekguard Clear, a single component methacrylate coating. The total dry film thickness of the system shall be not less than 20 microns and shall give a reduction in chloride ion penetration not less than 90%.

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 Fosroc's Nitobond AR curing membrane prior to the application of Dekguard Clear.

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 substrate. For further advice, consult your local Parchem sales office.

It is essential to produce an unbroken coating of Dekguard Clear. To ensure this is achieved, surfaces containing blowholes 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

Fosroc® Dekguard Clear

dependent on ambient conditions before the application of Dekguard Clear.

Application

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

Dekguard Primer

Number of coats:	As required to achieve absorption of specified quantity
Theoretical application rate:	0.4 litres / m ² / coat
Minimum dry film thickness:	N/A
Overcoating time at 20°C:	2 hours

Dekguard Clear

Number of coats:	As necessary to give required performance properties.
Theoretical application rate:	0.14 litres / m ² / coat
Minimum wet film thickness:	140 microns per coat
Overcoating time at 20°C:	6 hours

Application of either Dekguard Primer or Dekguard Clear 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 1 or more coats until the recommended application rate of 0.4 litres 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, your local Parchem sales office should be consulted.

The primer should be allowed to dry for a minimum of 2 hours (at 20°C) before continuing. Under no circumstances should the primer be overcoated with Dekguard Clear until the surface is properly dry.

Dekguard Clear may be applied by the use of suitable

brushes or rollers. For further information about application techniques, please consult your local Parchem sales office prior to the commencement of work.

All primed substrates should be treated with minimum 1 coat of Dekguard Clear. The material should be stirred thoroughly before use and be applied to all areas by the use of suitable brushes or rollers to achieve a uniform coating with a wet film thickness not less than 140 microns.

Subsequent coats should be applied exactly as detailed above, again achieving a uniform coating with a wet film thickness not less than 140 microns per coat. Each coat should be allowed to dry for not less than 6 hours at 20°C.

Cleaning

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

Limitations

The Dekguard Clear 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 Clear 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 Clear should not be applied in windy conditions where early-age dust adhesion may occur, or where rain is likely within 2 hours at 20°C or 20 hours at 5°C (up to 80% RH). It should not be applied when the prevailing relative humidity exceeds 90%.

Fosroc® Dekguard Clear

Estimating

Supply

Dekguard Primer 20 litre:	FC861520-20L
Nitoprime DG 20 litre:	FC862600-20L
Dekguard Clear 20 litre:	FC861530-20L
Solvent 10:	4 and 20 litre drums

Coverage

Dekguard Primer:	2.5 m ² per litre (total)
Nitoprime DG	2.5 m ² per litre (total)
Dekguard Clear:	7 m ² per litre per coat

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

Storage

Shelf life

Dekguard Clear, 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.