



Dekguard E2000

High performance crack accommodating elastomeric protective coating for reinforced concrete structures

Uses

To protect atmospherically exposed reinforced concrete structures from attack by acid gases, chloride ions, oxygen and water, especially where there is a danger of subsequent cracks appearing within the substrate. Dekguard E2000 is suitable for use on all types of structures, including those in coastal environments.

Advantages

- Can accommodate substrate cracking up to 2 mm
- Excellent barrier to carbon dioxide, chloride ions, oxygen and water
- Special acrylic polymer minimises dirt retention
- Allows water vapour to escape from the structure
- Resistant to the effects of ultra-violet light

Description

The Dekguard E2000 system comprises a single component penetrating silane-siloxane primer and a single component crack accommodating pigmented coating, both ready for immediate site use.

The film forming, stabilising primer (Nitoprime DG) is supplied as a clear liquid and is based on an acrylic resin and 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. A thin surface film is produced which consolidates and stabilises porous substrates.

Dekguard E2000 is a crack accommodating, water based protective coating based on a special pure aliphatic acrylic polymer. It provides excellent crack accommodation, low dirt pick-up and rain. It is available in a wide range of colours.

Technical support

Fosroc offers comprehensive range of high performance, high quality repair, maintenance and construction products.

In addition, Fosroc offers a technical support package to specifiers, end users and contractors as well as on-site technical assistance in locations all over the world. For further information please contact us at your nearest Fosroc office.

Design criteria

The coating should be applied in one coat to achieve a total dry film thickness of not less than 200 microns in order to accommodate substrate cracking up to 2 mm. To achieve the correct protective properties, the Dekguard E2000 system must be applied on to the substrate at the coverage rates recommended.

Properties

The values obtained are for the Dekguard E2000 system applied at the minimum recommended application rate.

Volume solids

Dekguard E2000 : 49%

Carbon dioxide diffusion resistance.

Equivalent thickness of air (Taywood Method) : > 50 meters

Water vapour diffusion resistance (Klopfer method): S_D 0.11m @ 200 microns dft

Reduction in chloride ion

penetration (Aston University Diffusion Cell Method) : >99%

Incipient crack spanning capability

@ 200 microns dft- static test @40°C 2 mm
(ASTM C836-84 modified) @20°C 2.5 mm

Tear resistance

(ASTM D624-84) : 12 N/mm²

Specification clauses

Elastomeric protective/decorative surface coating.

The protective coating system shall comprise of Nitoprime DG, an acrylic film-forming penetrating silane-siloxane primer and Dekguard E2000, a single component crack accommodating coating suitable for application by brush, roller or spray

The total dry film thickness of the coating shall be not less than 200 microns and shall be capable of providing carbon

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dioxide diffusion resistance equivalent to not less than 50 metres of air and a reduction in chloride ion penetration not less than 99% (by the Aston University Diffusion Cell Method). It must exhibit a water vapour transmission resistance (S_D) of not more than 0.11 metres (by the Klopfer method) at a dry film thickness of 200 microns. It must be capable of bridging a 2mm incipient crack @ 20°C before failure.

Application instructions

Preparation

All surfaces should be dry and free from contamination such as oil, grease, loose particles, laitance, and all traces of mould release oils and curing compounds. This is best achieved by lightly grit-blasting the surface. 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 the local Fosroc office.

It is essential to produce an unbroken coating of Dekguard E2000. To ensure this is achieved, surfaces containing blowholes or similar areas of pitting should be filled using Renderoc FC, a cementitious fairing coat (for further details, refer to separate datasheet). Trials with Renderoc FC should be conducted to ensure compatibility and retention of the bond between the underlying coating and the substrate. For further advice, consult the local Fosroc office.

It is essential to produce an unbroken coating of Dekguard E2000. 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 datasheet). Renderoc FC should be allowed to cure for approximately 48 hours, depending on ambient conditions, before the application of Dekguard E2000.

Application

In order to obtain the protective properties of the Dekguard E2000 system, it is important that the correct rates of application and overcoating times are observed.

	Nitoprime Dekguard	DG E2000
Number of coats:	Flood coat	1 or 2
Theoretical application rate per coat:	0.4 litres/m ²	0.4 litres/m ²
Theoretical wet film thickness per coat:	N/A	400 microns
Overcoating time:	2 hours @ 20°C 1 hour @ 35°C	When firm to touch

Any areas of glass should be masked. Plants, grass, joint sealants, asphalt and bitumen-painted areas should be protected during application. Nitoprime DG should be applied first. It should be applied in one or more coats until the recommended application rate of 0.4 litre/m² has been achieved. This is best accomplished by using portable spray equipment of the knapsack-type. A uniform surface appearance (sheen) should be achieved. If any matt porous patches remain, a further application of primer should be made.

The primer should be allowed to dry for a minimum of two hours (at 20°C) before continuing. Under no circumstances should the primer be overcoated with Dekguard E2000 until the surface is properly dry. Dekguard E2000 should be supplied by the use of suitable airless spray equipment. For further information about application techniques, please consult the local Fosroc office.

All primed substrates should be treated with one coat of Dekguard E2000. It is important that no gaps or 'raw edges' appear in the finished coating. Special care should be taken to provide an unbroken coating at external corners and similar exposed protrusions. The coat should be applied to achieve a uniform coating with a wet film thickness not less than 400 microns. If required, 2 coats each of 200 microns can be applied

Cleaning

Renderoc FC and Dekguard E2000 should be removed from tools and equipment with clean water immediately after use. Nitoprime DG should be removed from tools and equipment using Fosroc Solvent 102

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Limitations

Application of Nitoprime DG should not commence if the temperature of the substrate is below 2°C. Application of Dekguard E2000 should not commence if the temperature of the substrate is below 5°C.

The product 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%.

The use of Dekguard E2000 should not be considered for areas subjected to exposure to ponded water.

Estimating

Supply

Renderoc FC	:	10 kg bag / 25 kg bag
Nitoprime DG	:	25 litre drums
Dekguard E2000	:	20 litre drums
Fosroc Solvent 102	:	5 litre drums

Coverage

Renderoc FC	:	15 litres (5m ² @3 mm thickness)/25 kg
Nitoprime DG	:	2.5m ² per litre (total)
Dekguard E2000	:	2.5m ² per litre (total)

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

Note: In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

Storage

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

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. Dekguard E2000 should be protected from frost.

Precautions

Health and safety

Renderoc FC, Nitoprime DG, Dekguard E2000 and Fosroc Solvent 102 should not come in contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to alkalis, resins and solvents. Wear suitable protective clothing, gloves and eye protection. If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provide additional skin protection. In case of contact with eyes, rinse immediately with clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting.

Fire

Renderoc FC and Dekguard E2000 are non-flammable. Nitoprime DG and Fosroc Solvent 102 are flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO₂ or foam. Do not use a water jet.

Flash points

Nitoprime DG	:	38°C
Fosroc Solvent 102	:	33°C

For further information, refer to the Product Material Safety Data Sheet.



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Important note

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