

Dekguard Clear



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Dekguard Clear
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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
- Good barrier to chloride ingress
- Breathability allows water vapour to escape from structure
- Provides a barrier to carbon dioxide and other atmospheric acid gases

Description

The Dekguard Clear system comprises a single component penetrating oligomeric 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 an oligomeric siloxane blend 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 elements, weathering and rain. A major feature of the system is its ability to allow water vapour to escape from the structure.

Technical support

Fosroc offers a 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.

Design criteria

The coating should be applied to achieve a uniform wet film thickness not less than 140 microns. Subsequent coats must be applied at the same rate.

Properties

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

Volume solids

Dekguard Clear: 15%

Carbon dioxide diffusion resistance (Taywood method).

Equivalent thickness of air

initial: 3.8 m per 20 μ m d.f.t.

Equivalent thickness of 30 N/mm² concrete cover (Taywood method):

9.3 mm per 20 μ m d.f.t.

Water vapour diffusion resistance

(Taywood method):

SD 0.07 m @ 172 μ m 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

Sub index i₁: 0.8

Building Regulations rating: Class 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 not be less than 20 microns and shall give a reduction in chloride ion penetration not less than 90%. When tested to BS 476, Pt 7 : 1989 it must exhibit a Class 1 spread of flame and achieve a Class 0 Building Regulations rating when tested to BS 476, Pt 6 : 1989 and Pt 7 : 1987.



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: If Nitobond AR has been used as a curing membrane over Renderoc patch repairs, it is not necessary to remove this 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 the local Fosroc office.

It is essential to produce an unbroken coating of Dekguard Clear. 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.

Rougher substrates can be levelled using Renderoc RP252, a cementitious reprofiling and protection mortar. Separate data sheets **must** be referred to.

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 Clear

Number of coats:	As necessary to give required carbon dioxide diffusion resistance
Theoretical application rate:	0.14 litres/m ² /coat
Minimum dry film thickness:	20 microns per coat
Overcoating time at 20°C:	6 hours

Dekguard Primer

Number of coats:	Flood coat
Theoretical application rate:	0.4 litre/m ²
Theoretical dry film thickness:	N/A
Overcoating time at 20°C:	12 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.

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 Fosroc office should be consulted.

The primer should be allowed to dry for a minimum of 12 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 the local Fosroc office.

All primed substrates should be treated with Dekguard Clear top coat. The material should 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 Clear and Dekguard Primer should be removed from tools and equipment using Fosroc Solvent 102.

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 the local Fosroc office.



The application of the Dekguard Clear System 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%.

Estimating

Supply

Renderoc FC:	25 kg bags
Renderoc RP252:	20 kg bags
Renderoc RP252 liquid:	5 litre bottles
Dekguard Primer:	25 litre drums
Nitoprime DG:	25 litre drums
Dekguard Clear:	25 litre drums
Fosroc Solvent 102:	5 litre drums

Coverage

Renderoc FC:	15 litre (5 m ² at 3 mm thick)
Renderoc RP252:	12 litre (2.4 m ² at 5 mm thick)
Dekguard Primer:	2.5 m ² per litre (total)
Nitoprime DG:	2.5 m ² per litre (total)
Dekguard Clear:	7.0 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

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

Storage conditions

Dekguard Clear should be stored in accordance with the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972.

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.

Precautions

Health and safety

Renderoc FC and Renderoc RP252 contain cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately — **do not** induce vomiting.

Dekguard Primer, Dekguard Clear, Nitoprime DG 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 resins, hardeners 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 provides additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately — **do not** induce vomiting.

Fire

Renderoc FC is non-flammable.

Dekguard Primer, Dekguard Clear, 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

Dekguard Clear:	7°C
Dekguard Primer:	38°C
Nitoprime DG:	38°C
Fosroc Solvent 102:	33°C

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



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