

Environmentally friendly high performance water-based acrylic protective and decorative coating for concrete and masonry conforming to the requirements of BS EN 1504-2

Uses

To protect atmospherically exposed reinforced concrete structures, cementitious substrates and masonry from carbonation, chloride ingress, weathering and rain.

Dekguard A Plus is suitable for use on all types of structures, including those in coastal environments. It is equally suitable for new and existing structures.

Dekguard A Plus is a component of Fosroc's Renderoc system of concrete reinstatement.

Dekguard A Plus is suitable for principles 1.3, 2.2 and 8.2 as defined by BS EN 1504-2

Advantages

- Excellent barrier to carbon dioxide, chloride ions, oxygen and water
- Allows water vapour to escape from the structure
- High resistance to the effects of long-term weathering and durable in all climatic conditions
- Water-based
- Wide range of decorative colours

Description

Dekguard A Plus is an advanced single component, water based acrylic pigmented protective coating, providing outstanding resistance to carbon dioxide, chloride ions, UV light and rain. After application, the passage of water and waterborne contaminants is inhibited, however as the coating is breathable, the passage of water vapour remains possible.

Dekguard A Plus is available in a wide range of colours, ready for immediate site use.

Specification Clause

The protective and decorative coating shall be Dekguard A Plus, a single component water based acrylic coating conforming to the requirements of BS EN 1504-2 principles 1.3, 2.2 and 8.2.

The total dry film thickness shall not be less than 150 microns and shall be capable of providing carbon dioxide diffusion resistance equivalent to not less than 75 meters of air.

It must exhibit a Class 1 water vapour transmission rate and a liquid water transmission rate of $<0.1 \text{ kg} / (\text{m}^2\text{h}^{0.5})$

When tested to methods EN-ISO 11925-2 and EN 13823, it shall achieve a Euroclass B s1 d0 fire rating.



Standards Compliance

Dekguard A Plus complies with the requirements of BS EN 1504-2 Principles 1.3, 2.2 and 8.2.

Fire rating EN 13501-1 2007 Euroclass B s1 d0.

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Dekguard A Plus	
EN1504-2: Surface protection systems methods 1.3, 2.2 and 8.2	
Permeability to CO ₂	> 50 m
Permeability to water vapour	Class 1: < 5 m
Capillary absorption and permeability to water	< 0.1 kg/(m ² h ^{0.5})
Adhesion strength by pull-off test	≥1.0MPa (non-trafficked)
Fire Classification	Class B s1 d0
Dangerous substances	Complies with 5.3

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Properties

The following results were obtained at a temperature of 20°C unless otherwise stated.

Test method	Standard	EN1504-2 Requirement	Result
Bond strength by pull off	EN 1542:2000	Non traffic weight >1.0 MPa	2.8 MPa
Water vapour permeability	EN ISO 7783-2:1999	Class 1 Sd < 5 metres	0.7 metres
Liquid water transmission rate	EN 1062-3:1999	$W < 0.1 \text{ kg}/(\text{m}^2 \text{ h}^{0.5})$	$< 0.02 \text{ kg}/(\text{m}^2 \text{ h}^{0.5})$
Carbon dioxide permeability	EN 1062-6:2002	Sd > 50 m	95 metres
Equivalent thickness of 30MPa concrete cover	Taywood Method (calculated)	-	238 mm
Fire Testing EN 13501-1 2007	Methods EN-ISO 11925-2 and EN 13823	-	Euroclass B S1 d0
Number of coats	-	-	Priming layer: 1 coat Dekguard A Plus: 2 coats
Theoretical application rate per coat	-	-	Priming layer: 0.1 litres / m ² Dekguard A Plus: 0.18 litres / m ²
Theoretical wet film thickness per coat	-	-	Dekguard A Plus : 180 microns
Volume Solids			41%
Overcoating time @ 20°C	-	-	Priming coat: 6 hours Dekguard A Plus: 6 hours
Minimum application temperature	-	-	Application should not commence / be carried out at temperatures below 5°C. Cure times will be increased at low temperatures.
Colour range	-	-	Standard colours BS4800: White BS 00E55 Magnolia BS 08B15 Sandstone BS 08B17 Portland BS 00A01 Other colours to special order

Clarification of property values: The typical properties given above are derived from laboratory testing. Results derived from field applied samples may vary.

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Application instructions

All coating work to be carried out in accordance with the relevant sections of BS6150:2006, Painting of Buildings – Code of Practice.

Preparation

Bare concrete

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.

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 A Plus.

It is essential to produce an unbroken coating of Dekguard A Plus. To ensure this is achieved, surfaces containing blowholes or similar areas of pitting should first be filled using Renderoc FC, a cementitious fairing coat. Depending on the thickness required, rougher substrates can be levelled using Renderoc ST05, a protective cementitious coating, or Renderoc RP252 cementitious reprofiling and protection mortar. Refer to the relevant product datasheets for further details about application of these materials.

Overcoating

The Dekguard A Plus system is formulated for application to clean, sound concrete or masonry. When applied over existing coatings or paints, the performance characteristics of Dekguard A Plus may be impaired and its fire rating invalidated. Trial areas should be conducted to ensure compatibility and bond of Dekguard A Plus to the existing coating and also to validate retention of the bond between the underlying coating and the substrate after overcoating. Only after successful test panels are completed should application proceed over large areas.

Dekguard A Plus should not be applied over elastomeric coatings.

The existing coating should be cleaned with a sponge and dilute detergent then rinsed with clean water and allowed to thoroughly dry. Any areas of flaking or crazing in the existing coating should be removed back to an area soundly bonded. Any bare concrete exposed should be prepared as described above.

Upon completion of preparation & validation testing, proceed with priming and Dekguard A Plus application as described below.

Application

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

Where more than one batch of material is to be used, restrict use of each batch to whole separate elevations. Contact local Fosroc Office for further details.

It is important that Dekguard A Plus is only applied during appropriate ambient conditions, refer to the limitation section of this datasheet for further information.

Any areas of glass and window frames should be masked. Plants, grass, joint sealants, asphalt and bitumen-painted areas should be protected during application.

A priming coat is made up on site by diluting Dekguard A Plus as follows. Stir material before use then using suitable volumetric containers, measure 1part Dekguard A Plus and 1 part drinking water by volume into a clean bucket. Mix with a paint stirrer until a uniform thinconsistency is obtained.

Apply this priming coat to the prepared substrate (or existing coating) by brush or roller. The primer should be remixed periodically to re-disperse any settlement. Ensure any unused primer is stored in a sealed container. It is suggested that only sufficient primer to complete the upcoming day's work is made up at a time.

The primer should be allowed to dry for a minimum of 6 hours (at 20°C), longer at lower temperature. Under no circumstances should the primer be overcoated until the surface is fully dry.

All primed substrates should then be treated with two undiluted coats of Dekguard A Plus. Stir material before use. Application may be by brush, roller or airless spray. The first coat should be applied to achieve a uniform coating with a wet film thickness not less than 180 microns. This coat should be allowed to dry until firm to the touch. Typically, this will be after 6 hours in dry weather at 20°C.

The second coat of Dekguard A Plus should be applied as detailed above, again achieving a wet film thickness not less than 180 microns.

Rough surfaces

Where Dekguard A Plus is to be applied to rough substrates, e.g. exposed aggregate surfaces, apply the priming coat as described above. After drying, apply 3 coats of diluted Dekguard A Plus, made up of 3 parts Dekguard A Plus to 1 part water by volume at a wet film thickness of 150 microns. Between coats the typical drying time is 6 hours in dry weather at 20°C.

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Cleaning

Dekguard A Plus should be removed from tools and equipment with clean water immediately after use.

Limitations

Application of Dekguard A Plus (or the diluted primer coat) should not proceed if the air or substrate temperature is 5°C and falling (at a steady 5°C, or 5°C and rising, application may commence).

Dekguard A Plus should not be applied at less than 3°C above the dew point or at >85% RH, or in windy conditions, where early-age dust adhesion may occur, where rain is likely within 2 hours at 20°C or 20 hours at 5°C, or where there is a likelihood of exposure to frost within 48 hours of application.

Dekguard A Plus should not be considered for areas subjected to exposure to ponded water. Dekguard S should be considered where occasional ponded water is anticipated.

The manufacture of Dekguard coatings is a batch process and despite close manufacturing tolerances variation may occur between batches. Fosroc recommends using material from one batch only as the finish topcoat.

Estimating

Supply

Dekguard A Plus:	10 litre drums
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Coverage

Dekguard A Plus:	5.5 m ² per litre per coat
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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

Store in cool, dry conditions, away from sources of heat and naked flames, in the original, unopened packs. Dekguard A Plus should be protected from frost.

Dekguard products have a shelf life of 18 months if kept in a dry store in the original, unopened packs. Material from different batches should be stored separately.

If stored at high temperatures and/or high humidity conditions the shelf life may be reduced.

Precautions

Health and safety

Ensure appropriate PPE is used at all stages during preparation and application.

For further information refer to appropriate Product Safety Data Sheet available at www.fosroc.com

Fire

Dekguard A Plus is non-flammable. For further information, refer to the Product Safety Data Sheet.

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Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by basis. All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.

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