KingCoat ® A

One component water based acrylic elastomeric protective anti carbonation coating system.

DESCRIPTION

KingCoat A is a high build elastomeric, microporous coating exhibiting excellent resistance to attack from carbon dioxide, airborne chlorides and acid rain, with exceptional weathering resistance.

KingCoat A has excellent crack bridging properties, yet provides a smooth protective, decorative coating for concrete and other masonry surfaces. For effective anti-carbonation protection a two-coat treatment is recommended after the application of the silane siloxane based impregnating primer. The product is formulated to give a tough flexible and coloured coating which will give a waterproofing coating to a wide variety of substrates. A textured finish may be obtained if required.

APPLICATIONS

- Bridge abutments.
- External concrete surfaces of storage tank and masonry surfaces.
- Multistory building and villas.
- Where a high external tough coating is required.
- Concrete cladding.

ADVANTAGES

- High build elastomeric, microporous coating.
- Excellent resistance to carbon dioxide, airborne, chlorides and water borne.
- Exceptional weathering resistance.
- Excellent crack bridging properties.
- Protective and decorative coating.
- Excellent waterproofing characteristics.

STANDARDS

KingCoat A complies with the requirements of EN 1504-2 Surface Protection Systems Principles 1.3, 2.2 and 8.2.

METHOD OF USE

Surface Preparation

The substrate should be sound clean and free from dust and all loose or flaking material. All holes and deep cracks should be filled with a suitable filler. All traces of oil, grease, chemical contaminants and extraneous matter should be removed.

TECHNICAL PROPERTIES

Colour:	White, grey, and can be available in different colours
Density:	1.35 ± 0.05 g/cm^3
Solid content: By weight By volume	 64 ± 2% 53 ± 2%
Touch dry time:	30 - 60 min @ 25^{o}C
Overcoating time between consecutive coats of KingCoat A*:	2 hr @ 35^{o}C 4 hr @ 25^{o}C
Application temperature:	5 to 38^{o}C
Elongation at break: ASTM D412	≥ 350% @ 7 days
Tensile strength: ASTM D412	≥ 1.5 MPa @ 7 days
Carbonation depth: TM:NT Build 372:1991-02 700 hr @ severe conditions of humidity & 20% CO_2	No penetration in coated sample 0.7 mm penetration in control
Chloride ion diffusion coefficient:TM:NT Build 492:1999-11	7.3 x 10 $^{-15}$ m^2/sec
Reduction in chloride Ion penetration in severe environment with focused applied voltage as per ASTM C1202	98%
Surface burning characteristics ASTM E84 Flame spread index (FSI): Smoke development index (SDI):	 10 10
VOC:	< 50 g/ltr

**If more than one coat is needed.*

Any traces of mould or algae must be removed and the area treated with a suitable anti-fungicide or bleach solution. KingCoat A can be applied over green dry concrete, as long as KingCoat Primer is used.

Mixing

Stir KingCoat A thoroughly prior to use.

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PRIMING

KingCoat A Primer is a ready for use, single component primer based on a silane/siloxane and an acrylic resin providing protection from rebar corrosion, efflorescence, freeze-thaw damage, water penetration, oil penetration, mold and mildew.

KingCoat A Primer should only be applied over clean and sound substrates that are free from oil, grease and curing compounds. KingCoat A primer should be applied only on dry, clean, sound and free from oil, grease, curing compound substrates. KingCoat A primer is applied at a rate between 0.1 - 0.2 litre/m2 depends on the porosity of the substrates. It is important to wait for a minimum of 12 hours before the application of KingCoat A.

KingCoat A Primer will not only improve the adhesion of KingCoat A on the substrates, but also it will reduce the CO2 permeability and capillary water absorption of the system. The application of KingCoat A Primer becomes more important when the system is applied over weak substrates such as cement board or non-structural repair mortar.

Application

KingCoat A can be applied normally at temperatures between 5ºC and 38ºC. Apply evenly with roller, brush or airless spray. A one coat or two-coat system may be used. Two coats should always be used on dark, absorbent and heavily textured surfaces and when full carbonation protection is required. Porous, rough and irregular surfaces will reduce coverage rates.

CLEANING

Tools and equipment can be cleaned with water.

PACKAGING

KingCoat A is available in 5, 18 and 120 litre drums. KingCoat A primer is available in 5, 20 and 200 litre drums.

COVERAGE

KingCoat A: 0.38 litre/m^2 per coat to achieve 200 microns dry film thickness.
KingCoat Primer: 0.1 - 0.2 litre/m^2, depending on the substrate porosity.

Performance characteristics	EN 1504-2 requirements	Measured value
Permeability to CO_2: EN 1062-6	SD > 50 m	> 60 m
Permeability to water vapour: ISO 7783-1 ISO 7783-2	Class I: SD < 5 m (Permeable) Class II: 5 ≤ SD ≤ 50 m Class III: SD > 50 m (Not Permeable)	S_D ≤ 0.5 m (Permeable to water vapour)
Capillary water absorption: EN 1063-3	< 0.1 kg/m^2.$h^{0.5}$	≤ 0.03 kg/ m^2.$h^{0.5}$
Adhesion strength: EN 1542	≥ 1.5 MPa	≥ 2.0 MPa (Flexible systems with trafficking)

STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

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NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative. KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from KingKrete's manufacturing facilities are manufactured under a management system independently certified to conform to the requirements of the quality standard ISO 9001.

* Properties listed are based on laboratory-controlled tests.

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