



Vetotop AC441

Elastomeric, pigmented acrylic, anti-chloride ion and carbonation protective and decorative coating for concrete and masonry

Uses

- To protect atmospherically exposed reinforced concrete structures from attack by acid gases, chloride ions, oxygen and water.
- Suitable to protect all cementitious substrates and masonry including those in coastal environments.

Product Description

Vetotop AC441 is a single component penetrating silane-siloxane primer and a single component elastomeric pigmented coating, both ready for immediate site use. Vetoprime AP443 is supplied as a clear liquid and is based on an acrylic resin and a silane-siloxane dissolved in a penetrating organic carrier. Vetoprime AP443 is reactive and capable of producing a chemically-bound hydrophobic barrier, thus inhibiting the passage of water and water-borne contaminants. Vetotop AC441 is a crack-accommodating, water based protective coating based on a special acrylic polymer, providing outstanding elongation and recovery, resistance to aggressive elements, UV light and rain.

Advantages

- Can accommodate substrate cracking up to 2 mm and cyclic movement up to 0.3 mm
- True elastomeric coating with excellent elongation and recovery properties
- Excellent barrier to carbon dioxide, chloride ions, oxygen and water
- Allows water vapour to escape from the structure
- UV-resistant with high resistance to the effects of long-term weathering
- Wide range of decorative colours
- Fast dry; it can be recoated within 2 hours thus reducing dirt pickup and down-time

Design Criteria

Vetotop AC441 should generally be applied in two coats to achieve a total dry film thickness of not less than 200 microns in order to accommodate substrate cracking up to 2 mm and cyclic movement up to 0.3 mm. It is possible to achieve the total dry film thickness in one coat however, this depends on the substrate type and the finish required. Trials are recommended prior to full application to ensure the finish meets the clients requirements. To achieve the correct protective properties, Vetotop AC441 must be applied on to the substrate at the coverage rates recommended.

Technical Data

Vetotop AC441	Typical Values
Volume Solids	50% approx.
Elongation at Break (ASTM D412)	> 300%
Carbon Dioxide Diffusion Resistance (AS/NZS 4548.5-1999)	
Equivalent thickness of air (R), m:	>96 meters
Equivalent thickness of 30 MPa concrete cover (Sc):	>240 mm
CO ₂ Diffusion Coefficient, cm ² / sec:	3.7 x 10 ⁻⁰⁷
Water vapour transmission resistance (AS/NZS 4548.5-1999):	
Vapour Transmission Rate:	55.7g/m ² /24 hours
Equivalent thickness of Air (Sd)m:	<1
Vapour Diffusion Coefficient cm ² /sec:	1.1x10 ⁻⁰⁴
Chloride ion diffusion coefficient @ 147 days:	2.3 x 10 ⁻¹⁴ m ² / sec
Incipient crack spanning capability @ 200 microns dft; After 2000 hours accelerated weathering	2 mm
Water Transmission Resistance	14g/24h/m ² /KPa
Fire testing Spread of flame	Class 1

Usage Instructions

Preparation

All surfaces should be dry and free from any contamination 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.

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. It is essential to produce an unbroken coating of Vetotop AC441. Surfaces containing blow-holes or areas of pitting should first be filled using Vetorep CR523, a cementitious fairing coat. Rougher substrates can be levelled using a cementitious product from Saveto Concrete Repair Range.

Priming

Vetoprime AP443 should be applied first. It 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. A uniform surface appearance (sheen) should be achieved.

The primer should be allowed to dry for a minimum of two hours (at 20°C) before overcoated with Vetotop AC441.

Application

In order to obtain the protective properties of the Vetotop AC441 system, it is important that the correct rates of application and overcoating times are observed.

Vetotop AC441 should be applied in two coats. First coat can be thinned with clean water depending on the substrate. Recoat time for second coat is two hours. If necessary, a third coat can be applied to achieve a hiding power.

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.

Vetotop AC441 may be applied by the use of suitable brushes, rollers or airless spray equipment.

Cleaning

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Vetotop AC441 should be removed from tools and equipment with clean water immediately after use.

Packaging & Coverage

Product	Pack Size	Consumption
Vetoprime AP443	5 Liter Can	0.4 Liter/m ²
Vetotop AC441	20 Kg Pail	4 m ² / kg @200 mic WFT

Stated consumptions data are for general guidance. Actual consumption depends on the nature of substrate, method of application and wastage.

Shelf Life & Storage

Original sealed buckets of Vetotop AC441 and Vetoprime AP443 has a shelf life of 12 months provided it is stored clear of ground in a dry and shaded place below 35°C.

Limitations

- Vetotop AC441 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.
- Application of Vetotop AC441 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.
- The use of Vetotop AC441 should not be considered for areas subjected to exposure to ponded water. Vetotop AC442 should be considered in this occasion.

Health & Safety

Vetotop AC441 should not come in contact with the skin and eyes, or be swallowed. 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.

Vetotop AC441 is non-flammable.