

PROTECTIVE COATING



Vetotop AC441

Elastomeric and pigmented acrylic protective and decorative coating for concrete and masonry (anti-chloride, ionization, and carbonation)

Uses

- To protect atmospherically exposed reinforced concrete structures from attacks by acid gasses, chloride ions, oxygen, and water.
- Can protect all cementitious substrates and masonry (including those in coastal areas).

Product Description

Vetotop AC441 is a single-component, elastomeric, and pigmented coating that is ready for immediate use on site. It is also a crack-accommodating, water-based protective coating based on a special acrylic polymer, allowing it to provide outstanding elongation and recovery, resistance to aggressive elements, UV light, and rain.

Vetoprime AP443 is supplied as a clear liquid and is based on an acrylic resin dissolved in a penetrating organic carrier. It is reactive and capable of producing a chemically bound hydrophobic barrier, thus inhibiting the passage of water and water-borne contaminants.

Advantages

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

Standards Compliance

- EN 1504-2 Surface Protection System Principles 1.3, 2.2, 8.2

Technical Data

Vetotop AC441	Typical Values @ 25 °C
Color & Appearance	Colored liquid
Density (kg/liter)	1.4
Solid Content (weight %)	60 ± 2
Number of Coats	2
Over Coating Time (Hours)	24
Full Cure Time (Days)	7
Application Temperature (°C)	10 to 40
Carbon Dioxide Diffusion Resistance (Taywood Method)	
Equivalent thickness of air (Sd) (Meters)	> 250
Diffusion Equivalent Thickness of Concrete (Sc) (cm)	> 65
CO ₂ Diffusion Coefficient (cm ² /sec)	1.16 x 10 ⁻⁰⁷
CO ₂ Diffusion Resistance No.	1.28 x 10 ⁰⁶
Water Vapour Transmission Resistance (AS/NZS 4548.5-1999/ ISO 7783)	
Vapour Transmission Rate (g/m ² /hours)	61.1/1/24
Equivalent Thickness of Air (Sd) (m)	0.33
Water Vapor Permeability g.cm/ cm ² .spa	1.51x10 ⁻⁰⁵
Water Vapor Resistance Factor (μ)	952
Chloride ion Diffusion after 35 Days (cm ² /s) (Taywood Method)	Nil
Crack Bridging Ability @ 200 microns DFT (BS EN 1062-7:2004) (mm)	> 2.0
Scrub Resistance Test - ASTM D2486-06	Passed 6000 strokes (3000 cycles)
Fire Testing (Flame Spread)	Class 1

Design Criteria

Vetotop AC441 should generally be applied in two coats to achieve a total dry film thickness of 200 microns or more. This will help the substrate to accommodate 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 before the full application to ensure the finish meets the client's requirements. Vetotop AC441 must be applied to the substrate at the coverage rates suggested to properly activate its protective properties.

Usage Instructions

Surface Preparation

All surfaces should be dry and free (preferably by light grit blasting) from contamination, traces of mold-release oils, and curing compounds. Where there are moss, algae, or similar growths, you must treat them with a proprietary biocide after grit-blasting them.

If you need to apply the product over existing sound coatings, it is recommended to conduct trials to ensure the compatibility and retention of the bond between the underlying and substrate layer.

It is essential to produce an unbroken coating of Vetotop AC441. Use Vetorep CR523 (a cementitious fairing coat) to fill surfaces that contain blow-holes or pitting areas.

Level rougher substrates using a cementitious product from Saveto Concrete Repair Range.

Priming

Use portable spraying equipment to apply Vetoprime AP443 in one or more coats until the recommended application rate of 20 m²/liter/coat @50 micron thickness. Conduct a uniform surface appearance (sheen). Allow the primer to dry for a minimum of two hours (at 20°C) before overcoating it with Vetotop AC441.

Application

To activate the Vetotop AC441 system's protective properties, the correct rates of application and overcoating times must be strictly adhered to.

Apply Vetotop AC441 in two coats. The first coat can be diluted with clean water depending on the substrate. The recoat time for the second coat is two hours. If necessary, apply a third coat to achieve a hiding power.

No gaps or 'raw edges' must appear in the finished coating. Take special care to provide an unbroken layer

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at the external corners and similarly exposed protrusions. Vetotop AC441 may be applied using suitable brushes, rollers, or airless spraying equipment.

Cleaning

Remove Vetotop AC441 from tools and equipment with clean water immediately after use.

Packaging & Coverage

Product	Pack Size	Coverage
Vetoprime AP443	20 liter	20 m ² /liter/coat @50 micron thickness
Vetotop AC441	20 kg	100 m ² /20 kg @ 2 coats

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

Shelf Life & Storage

The original sealed containers of Vetotop AC441 and Vetoprime AP443 have a shelf life of 12 months, provided it is stored clear off the ground, in a dry and shaded place at a temperature below 35°C.

Limitations

- Vetotop AC441 is formulated for applications on clean and sound concrete or masonry. If you need to apply it over existing sound coatings or paints, conduct trials to ensure compatibility and retention of the bond between the underlying and substrate layers.
- Do not begin applying Vetotop AC441 if the temperature of the substrate is below 5°C.
- Do not apply the product in windy conditions (where early-age dust adhesion may occur) or where rain is likely within 2 hours at 20°C, or within 20 hours at 5°C.
- Do not consider the use of Vetotop AC441 for areas subjected to exposure to ponded water.

Health & Safety

Vetotop AC441 should not come in contact with your skin and eyes. It should not be swallowed as well. In case of skin contact, rinse with plenty of clean water, then cleanse with soap and water.

If it comes in contact with your eyes, rinse immediately with plenty of clean water and seek medical attention. If swallowed, seek medical attention immediately and do not induce vomiting.

Vetotop AC441 is non-flammable.