Talrakote® XE (Aqua)

Advanced elastomeric formulation designed for superior performance providing protective barrier against carbonation for both concrete and masonry structures

The Construction Alchemists

Description

Talrakote® XE (Aqua) presents an elastomeric, water-based anticarbonation protective coating produced from acrylic polymer. This innovative formulation not only offers elongation but also ensures resilience against environmental aggressors such as carbon dioxide, UV light, and rain. With a diverse range of available colors, Talrakote® XE (Aqua) is a versatile solution. The comprehensive system includes a film-forming stabilizing primer, Talrakote® Primer, delivered as a white liquid and based on an acrylic emulsion. This primer establishes a thin film of hydrophobic barrier, effectively impeding the passage of water and water-borne contaminants. The result is a consolidating and stabilizing effect on porous substrates, achieved through the production of a thin surface film. The Talrakote® XE (Aqua) system consists of a single-component acrylic primer and a single-component elastomeric pigmented coating, both can be conveniently used for on-site application.

Features & Benefits

- Provides comprehensive barrier against carbon dioxide, water, and sulfates and prevents corrosion of rebars.
- Long terms durability of the system imparted by high elastic properties that provides resistance against structural deformation under loading and unloading cycles.
- Facilitates water vapour transmission through the coated membrane which is essential for long term durability ensuring a breathable protective barrier.
- Long term resistance against UV Exposure.

Primary Applications

Applications of Talrakote® XE (Aqua) encompass its use as an anticarbonation, water-based acrylic, elastomeric exterior protective and decorative coating. This formulation is specifically engineered to safeguard reinforced concrete structures exposed to atmospheric conditions above potential splash zones. Its protective attributes extend to defending against carbon dioxide, chloride ions, oxygen, and moisture ingress, especially in scenarios where the risk of subsequent substrate cracks is a concern. Common applications include, but are not limited to:

- Industrial r c Structures
- Marine Structures
- RCC and PSC Bridges in Road and Railways
- High rise industrial structures, cooling towers, Chimneys, Silos etc.

Technical Properties

Solid Content	70% + 3%
Specific Gravity	1.40 + 0.05
Dry film thickness	200 - 300 microns in 2 coats
Adhesion Strength (ASTM D4541)	>2MPa
Co_2 Resistance	5.831 g/m^3/day
Elongation (ASTM D638)	60%
Water absorption	1.25%
Water vapour permeability	0.86g/m^3/day
UV Resistance (ASTM D4581)	No colour change
Touch Dry	1 hour
Re-coatable Time	4-16 hours

Design Criteria

To achieve the desired protective properties, the Talrakote® XE (Aqua) system must be applied to the substrate at the correct coverage rates. The coating should thus be applied in two coats to achieve a total dry fi lm thickness of 200 - 300 microns.

Specification Clauses

As specified in the contract documents, the prescribed protective coating system is to include the following components:

- A penetrating water-based acrylic primer [Talrakote® XE (Aqua) primer], and
- A single-component elastomeric aliphatic acrylic coating designed for exterior use, providing anticarbonation protection [Talrakote® XE (Aqua)].

The cumulative dry film thickness of the entire protective coating system shall be between the range of 200 and 300 microns.

Talrakote® XE (Aqua)

The Construction Alchemists

Application Instructions

Substrate Preparation

Ensure all surfaces are thoroughly dry and devoid of contaminants, including oil, grease, loose particles, decayed matter, moss, algae growth, laitance, and any remnants of mold release oils or curing compounds that may compromise adhesion. Optimal preparation involves a gentle grit blasting of the surface. In cases of moss, algae, or similar growth, application of a proprietary biocide post grit blasting is recommended. Achieving an uninterrupted coating of Talrakote® XE (Aqua) is crucial. Address any blow holes or surface irregularities by using Rendercem SC, allowing proper curing before the application of Talrakote® XE (Aqua).

Priming

A primer coat is necessary to penetrate and seal the substrate pores. The depth of primer penetration and coverage rate depend on substrate profile, porosity, and overall condition. In low permeability concretes, the primer's penetration will be limited, leading to a higher area covered per litre. Permeability may vary due to factors like cement replacements (e.g., microsilica). It is advisable to maintain a general coverage rate of 8-10m²/liter, noting that this may be adjusted based on substrate condition. Mask off any glass areas. Protect plants, grass, joint sealants, asphalt, and bitumen-painted areas during the application process.

Application

Follow the specified application rates and overcoating times to fully leverage the protective properties of Talrakote® XE (Aqua), unless substrate conditions necessitate different primer application rates.
Talrakote® XE (Aqua) is best applied using a spray, although brush or roller methods are also acceptable. Ensure all primed surfaces receive two coats of Talrakote® XE (Aqua), aiming for a seamless finish without any gaps or 'raw edges.' Take special care to maintain an unbroken coating on external corners and similar protrusions.
Begin with the first coat, striving for a uniform application with a wet film thickness ranging from 175 microns (for a 113-micron dry film thickness) to 230 microns (for a 150-micron dry film thickness). Allow this coat to dry until it becomes firm to the touch, typically around 12 hours in dry weather at 35°C. Follow up with the second coat applied perpendicular to the first, ensuring a final, complete, and unbroken coating. The second coat should also target a uniform application with a wet film thickness within the specified range.
To maintain a comprehensive record of coating activities, keep a coating log. After use, promptly clean tools and equipment used with Talrakote® XE (Aqua) and Talrakote® XE (Aqua) Primer with clean water.

Cleaning

Talrakote® XE (Aqua), Talrakote® XE Primer should be removed from tools and equipment with clean water immediately after use.

Limitations

When applying over existing sound coatings or paints, conduct trials to confirm compatibility and the retention of the bond between the underlying coating and the substrate. Evaluate compatibility and soundness through trial areas before full application.

Estimating

Packaging

Talrakote® XE Primer : 5 & 20 litre cans.
Talrakote® XE (Aqua) : 5 & 20 litre cans.

Coverage

Talrakote® XE Primer : 10 m²/litre
Talrakote® XE (Aqua) : 400 - 600 g/m²@ 200 - 300 microns DFT.

Note : The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced.

Application rates and coverage of Talrakote® XE (Aqua) may be varied according to particular service conditions. However, to ensure that the desired performance properties of the material are attained, it is important to observe correct application procedure.

Storage

When stored in cool, dry conditions, away from sources of heat and naked flames, in the original, unopened packs, all products have a shelf life of 12 months.
If stored at high temperatures and/or high humidity conditions the shelf life may be reduced. Talrakote® XE (Aqua) should be protected from frost.

Precautions

Health & Safety Instructions

Contact with the skin should be avoided as certain sensitive skins may be affected by contact. In such cases of contact occurs, the skin should be washed immediately with soap and water-not solvent. Gloves and barrier creams should be used when handling these products. Eye contamination must be immediately washed with plenty of water and medical treatment sought.

Talrakote® XE (Aqua)

The Construction Alchemists

Fire

Talrakote® XE Primer & Talrakote® XE (Aqua) are nonflammable.

Additional Information

Hot weather working practices whilst the performance properties of Talrakote® XE (Aqua) at elevated temperatures are assured, application under such conditions can sometimes be difficult. It is therefore suggested that, for temperatures above 35°C, the following guidelines are adopted as a prudent working regime.

- → Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- → Keep application equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- → Try to eliminate application in the middle of the day, when ambient temperature is high.

Talrak Construction Chemicals Pvt. Ltd.

An ISO 9001:2015 Certified Company

Works:
Plot No. 115-A, 1st Phase. Harohalli Industrial Area,
Kanakapura Taluka - 562 112. Ramanagar Dist.
www.talrak.in

Important note :
Talrak products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Talrak endeavours to ensure that any advice, recommendation specification or 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 or information given by it.