

CARBOSHIELD

Anti-carbonation Exterior Coating

Description:

CARBOSHIELD is an elastomeric, water-based high solid content protective coating based on a special acrylic polymer. It provides excellent elongation and recovery, resistance to aggressive elements, UV light and rain and formulated to provide a barrier to the ingress of Chlorides and Carbon Dioxide and other acid gases, but allows the passage of water vapor from the substrate. The elastomeric nature of CARBOSHIELD ensures good crack bridging properties. CARBOSHIELD is available in a wide range of colors.

CARBOSHIELD is a crack accommodating elastomeric protective coating for reinforced concrete structures. It comprises of a single component, penetrating primer which is supplied as a clear liquid and is based saline-siloxane dissolved in a penetrating organic carrier and a single component elastomeric pigmented coating, both ready for immediate site use.

Applications:

CARBOSHIELD is used as top coat on concrete substrates as:

- Anti-carbonation for Carpark, residential and commercial buildings
- Anti-carbonation for bridges pass ways
- Car parks of malls and mega developments
- Protective coating at facades with high humidity
- Protective integral coating at EIFS thermal insulation system

Advantages:

- Water based, environmentally friendly, low V.O.C.
- Can accommodate substrate cracking up to 2mm and cyclic movement up to 0.3 mm.
- Excellent barrier to carbon dioxide, chloride ions, oxygen and water.
- Special acrylic polymer minimises dirt retention.
- Allows water vapour to escape from the structure.
- Resistant to the effects of ultra-violet light.

- Excellent characteristics of adhesion to the support, with high ageing resistance.
- Protects concrete against acid rains, chloride ions, sulphates and atmospheric gases.
- High UV-resistant, therefore, maintaining color integrity.
- Cured coating can be washed with water and detergents.
- Extremely durable - maintains elastomeric performance, with high recovery, even after long term UV weathering.

Instructions for Use:

Surface Preparation:

Proper preparation for the surface is quite essential in order to achieve a good bonding with the coating. All surfaces should be sound, clean, dry and free from loose material, efflorescence, laitance, curing compounds, dirt, oil and grease. A light grit-blasting for the surface (to reach a fine aggregates exposure only) will provide a perfect surface for application. All static cracks, blow holes, honeycombing voids and similar surface irregularities should be filled using LAVAREP 2P and should be allowed to cure properly before the application of CARBOSHIELD. Consult MATEX Technical Department for further advice.

In case of deep contamination, shuttering oil, or non-degradable curing compound, apply grit blasting to achieve a clean surface, then remove all loose material by blowing off with dry oil free compressed air. If contamination is still existing after blasting, clean the surface with steam using suitable detergent solution. In case of algae, moss or any other similar growth contamination, clean the surface with biocide.

A primer coat is required to penetrate and 'stabilise' the substrate. Apply CARBOSHIELD PRIME using roller or portable spray machine. The depth of penetration of the primer, and thus its coverage rate, are determined by substrate profile, porosity and general condition. In normal cases, a rate of 7 - 8 m²/lt. The primer should be allowed to dry for minimum of 1 hour at 35°C before application of CARBOSHIELD. Window glasses, grass,

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plants, joint sealants, asphalt pavements, painted areas should be well protected during application.

Mixing:

CARBOSHIELD is a single component product, stir the contents of the pail well before application to ensure no settled material.

Application:

CARBOSHIELD should be applied in two coats on the primed surface. It is preferable to use airless spray equipment for application, but can also be applied by roller/brush. The first coat should be applied to achieve a uniform coating with a wet film thickness not less than 200 microns. Allow the coat to dry for approximately 12 hours. Drying time will change depending on weather conditions. Apply the second coat at the same rate in perpendicular direction to the first coat.

Standards:

CARBOSHIELD conforms to:

- ASTM C1305:95, ASTM C1202, ASTM B117

Coverage:

CARBOSHIELD achieves coverage of 1.5 square meters @ 500 micron dry film thickness.

Shelf Life:

CARBOSHIELD can be utilized within 12 months of production date if stored in proper conditions in unopened original packing.

Cleaning:

Clean tools and equipment with water before material harden.

Packaging:

CARBOSHIELD available in 20 kg pails.

TECHNICAL PROPERTIES	
Appearance	: Colored Coating
Color	: Consult MATEX for color range
Density	: 1.45 Kg./Lt.
Elongation at break	: 350%
Permeability to CO ₂	: > 50 m
Flexural Strength	: 40 N / mm ²
Permeability to water vapour Class I	: 0.07%
Crack bridging capacity	: > 2.0 mm
Chloride ion diffusion coefficient	: 7.3 Exp -15 m ² /sec
Reduction in chloride ion penetration in severe environment	: 98%
Tensile Strength	: 1.5 N / mm ²
Static crack capability @ 200 microns dft	: 2 mm
Water Resistance	: 100%
Temp. of application	: +5°C to +40°C
Superficial Drying	: about 30 minutes at 30°C
Carbon dioxide diffusion resistance (Taywood method)	: Equivalent to air thickness 300mm. Concrete thickness (30 N/mm ²) 785mm
Salt Fog Resistance	: >4800 hours
Service Temperature	: -5°C +80°C
Ageing Resistance	: Excellent
Chemicals Resistance	: Excellent against rain, sea salt, diluted acid, sewage, alkalis and atmospheric agents.

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Remarks:

- Do not apply CARBOSHIELD with fog, imminent rain forecast or with the weather humidity more than 85%.
- All the tools used for preparation and application of the product can be washed with water before it dries.
- Do not apply CARBOSHIELD for submerged water conditions.
- For external application during summer season or temperature higher than 45°C, working area should be covered to prevent the direct sun effects.
- CARBOSHIELD should not be applied in windy conditions where early-age dust adhesion may occur, or where rain is likely within 2 hours.

Health and Safety:

- Use goggles and gloves during application.
- Avoid contact with eyes or skin.
- Ensure adequate ventilation and avoid inhalation of vapors.
- Some people are sensitive to alkalis, resins and solvents.
- If working in confined areas, suitable respiratory protective equipment must be used.
- In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water.
- Do not use solvent.
- 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.

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This technical data sheet is not considered as local building codes. It shall be used as general reference for the product, based on our current knowledge and experience. However the company do not accept any liability arising from the use of its products as it has no direct control on how and where the product is applied.

