

CARBOSHIELD

PROTECTIVE WATER-BASED COATING
FOR THE LONG-TERM PROTECTION



DESCRIPTION

CARBOSHIELD is a protective, consolidating, water-based coating specifically formulated for the long-term protection of reinforced concrete structures. Its acrylic-elastomeric polymer matrix provides excellent breathability, high resistance to carbonation and outstanding durability against aggressive atmospheric agents.

The product forms a continuous, flexible protective film capable of accommodating micro-movements of the substrate while preventing the ingress of CO₂, water and chlorides, the main causes of reinforcement corrosion.

CARBOSHIELD is suitable for both new structures and restoration works.

FIELDS OF APPLICATION

- Protection of reinforced concrete structures exposed to weathering
- Prevention of carbonation penetration
- Protective treatment after repair cycles with mortars or restoration compounds
- Protection of prefabricated concrete elements
- Protection of balconies, parapets, beams, columns and façades
- Protective finish on cementitious substrates subjected to atmospheric pollutants
- Industrial and civil engineering structures
- Structural maintenance cycles in marine or de-icing salt environments

PRODUCT FEATURES (UNAPPLIED PRODUCT)

Appearance	Coloured liquid (water-based acrylic dispersion)
Density	1.35–1.45 g/cm ³ (depending on colour)
Viscosity	Thixotropic, ready-to-use
Solids content	55–60% by weight
VOC content	< 30 g/L (compliant with EU Directive 2004/42/CE)
pH	8–9
Colour	Various, as per colour chart

TECHNICAL PERFORMANCE (APPLIED PRODUCT)

CO ₂ diffusion resistance (μCO ₂)	> 50,000 - EN 1062-6
CO ₂ equivalent thickness (Sd)	> 50 m (anti-carbonation class) - EN 1062-6
Water vapour permeability (Sd)	Class I or II depending on consumption - EN ISO 7783
Water absorption w	< 0.1 kg/m ² ·h ^{0.5} - EN 1062-3
UV resistance	No visible degradation
Adhesion to concrete	> 1.0 MPa - EN 1062-11
Elastic behaviour	Micro-crack bridging
Weathering resistance	Excellent - EN 1542

PACKAGING

- 5 kg pails
- 20 kg pails



Date 15/10/2025

Str, Via Piero Gobetti, 8,
15057 Tortona AL
Tel. 0131 866312

info@btechitalia.eu
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APPLICATION

SUBSTRATE PREPARATION

Substrates must be sound, cohesive and fully cured, free from dust, oils, form-release agents, efflorescence, old flaking paints and friable material. Concrete surfaces must be prepared by pressure washing, light sandblasting or mechanical abrasion to completely remove loose particles and contaminants. Cracks must be opened, cleaned and restored using suitable repair mortars prior to application.

Any existing coatings incompatible with acrylic systems must be removed.

PRODUCT FEATURES (UNAPPLIED PRODUCT)

Depending on substrate absorption:

- Highly absorbent substrates: apply an acrylic primer diluted with water
- Normal absorbency substrates: apply one coat of universal acrylic primer
- Restoration cycles: follow the recommendations of the specific repair system
- The primer must be completely dry before applying CARBOSHIELD.

PRODUCT APPLICATION

CARBOSHIELD is ready-to-use. Mix gently before use.

Application methods:

- Brush
- Short/medium-pile roller
- Airless spray

Application temperature: from +5°C to +35°C. Avoid direct sunlight, strong wind and application on overheated substrates.

Recommended consumption: approximately 250–350 g/m² per coat, depending on substrate roughness and porosity. Apply at least 2 coats to achieve anti-carbonation performance.

Drying time at 20°C and 60% RH:

- Touch-dry: about 1 hour
- Recoating interval: 4–6 hours

Protect the surface from rain for at least 24–48 hours after application.

CLEANING EQUIPMENT

Clean tools immediately after use with water. Once hardened, the product can only be removed mechanically.

STORAGE

Store in original sealed containers between +5°C and +35°C, away from frost, direct sunlight and heat sources.

Shelf life: 12 months in unopened packaging and under suitable storage conditions.



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WARNINGS

- Do not apply on hot or sun-heated surfaces.
- Do not apply if rain is expected or in conditions of fog or high humidity.
- Do not apply at temperatures below +5°C.
- Ensure the substrate is properly prepared for maximum adhesion and durability.
- Do not dilute with solvents; dilute with water only if strictly necessary and within the limits specified by the manufacturer.

HEALTH AND SAFETY

Use suitable personal protective equipment (gloves, goggles, protective clothing) during application. Ensure adequate ventilation in confined or enclosed spaces. Avoid contact with skin and eyes; in case of contact rinse immediately with plenty of water. Do not ingest. Keep out of reach of children. Do not discharge residues into drains or the environment. Dispose of the product and packaging in accordance with local regulations. Always refer to the Safety Data Sheet (SDS) before use.

For PROFESSIONAL USE ONLY.

LEGAL NOTICE

The information and recommendations given above, although they correspond to our best experience, must in any case be considered purely indicative and must be confirmed by exhaustive practical applications. Therefore, before using the product, anyone who intends to make use of it must determine whether it is or is not suitable for the intended application and, in any case, assumes all responsibility that may arise from its use. Always refer to the latest updated version of the technical data sheet, available on the website btechitalia.eu.



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