

CIKOshield 300



Highly Elastomeric acrylic based anti-carbonation and protective coating

Description

CIKOshield 300 is a water based protective coating formulated from a pure acrylic polymer which upon drying provides a highly elastic coating suitable for exposed concrete structure.

The cured film provides a breathable, waterproof, chloride and carbonation resistant coating.

The product is supplied as one component, available in wide range of colours, ready to use and suitable to be applied by roller, brush or sprayer.

Properties & Advantages

- Achieves a smooth and textured decorative finish depending on method of application.
- Durable and water resistant.
- Resistant to heat, frost, de-icing salts, CO₂ and UV radiations.
- High crack bridging ability
- Allow water vapour transmission; Breathable coating
- One component ready to use, requires only slight stirring
- Environmentally friendly; Low VOC
- Fast drying allowing short over-coating time
- High colour stability; UV stable
- Permanently elastic and flexible

Application Area & Uses

CIKOshield 300 is a suitable wall and ceiling protective topcoat that can be applied over concrete and masonry structures such as:

- Bridges
- Residential and commercial buildings
- Coastal environments structures
- Concrete barriers
- Precast concrete blocks
- Concrete structures exposed to environment such as external walls of tanks, masonry surfaces
- Concrete cladding and facades
- Accommodation and residential buildings
- Multi-storey car parks

Physical properties

Form	Medium viscosity liquid
Colour	Available in wide range of Colours.
Density	1.35 ± 0.03 kg/L
VOC Less water USEPA (Method-24)	≤35 g/L
Service temperature	-5°C to 80°C
Solids Content	60-65% (by weight and volume)
Surface touch dry	50-60 minutes @25°C
	30-45 minutes @ 35°C
Overcoating time	Min. 4 hours @25°C
	Min. 2 hours @ 35°C
Recommended dry film thickness	Min. 200 microns
	Max. 400 microns
Pull off bond strength to concrete (full system) ASTM D7234	≥ 1 N/mm ²
Tensile Strength ASTM D412	≥ 1 N/mm ²
Elongation at brake ASTM D412	≥250 %
Reduction In chloride Ion Penetration (system VS control sample) BS 1881-Part 124	≥98%
Chloride Migration Resistance of full coating system NT-Build 492:1999	0 mm penetration
	0 m ² /s migration coefficient
Water vapor Transmission ASTM E96	≥40 g/m ² .24 hrs
Crack Bridging Ability ASTM C1305-08 (3.2 mm crack width, 10 cycles, 250 microns DFT film)	Pass (no sign of cracks)

Application Instructions

Preparation of concrete and masonry surfaces

The surface should be free from dust and loose particles. Remove all traces of formwork, release agent, grease, efflorescence, laitance and other contaminant that may prevent proper adhesion.

Remove organic material by mechanical diamond disk grinding, wire brushing or high-pressure water cleaning.

Concrete repair (If required)

Major repairs to the surface exceeding a depth of 3 mm shall be addressed prior proceeding with the protective coating system. The suitable concrete repair and resurfacing material shall be used depending on encountered site condition. Consult CIKO technical department for further support and recommendations.

Priming

Over the clean sound and dry substrate, apply CIKOprimer AC, an acrylic water-based primer and sealer, using brush, high quality medium nap roller or airless spray machine at a rate ranging between 0.1 and 0.2 L/m² depending on surface absorption. Allow the primer to touch dry prior proceeding with subsequent activities.

Alternatively, highly porous substrates require priming and sealing using either CIKOprime 300 or CIKOrepell WB, silane-siloxane penetrative primers which penetrate deeply into the porous substrates and react to produce an impregnated hydrophobic lining. These primers shall be applied by wet on wet technique at a total consumption rate ranging between 0.15 and 0.25 L/m² depending on substrate type and porosity. Protect the applied the penetrative reactive primers for at least 24 hours prior proceeding with subsequent

Reprofiling/Resurfacing using pure acrylic putty

Ensure that the applied primers are fully dry, and the surface is free of dust or any contamination. CIKOfill AC shall be used for filling small pinholes and levelling minor irregularities. Mix the material using a heavy-duty paddle mixer assembly for 1 to 2 minutes until a homogeneous consistency is achieved. Fresh productions do not require mixing in some cases.

Use a steel trowel, putty knife or scrapper to spread the material over the primed surface. Do not exceed a thickness of 3 mm in a single application layer.

Two coats might be required to achieve a smooth and proper surface with over coating time interval of approximately 1 to 2 hours depending on prevailing ambient temperature. Sanding using a smooth grit size of sanding paper may take place at least 4 to 6 hours after application. Ensure the surface is totally free of sanding debris and dust prior proceeding with the topcoats.

Mixing & Application of CIKOshield 300

CIKOshield 300 should be mixed thoroughly using a heavy-duty slow speed drill-paddle assembly and ensure a homogeneous mix and uniform colour.

The first coat can be diluted by up to 15% with clean potable water depending on method of application.

The second coat can be applied within 2 to 4 hours depending on the ambient temperature and conditions.

Touch ups using CIKOfill AC can be done if deemed necessary between the 2 coats.

Coating can be carried out using airless spray machine, brush, or short to medium nap high quality emulsion roller depending on the desired texture

It is recommended to apply two coats of CIKOshield 300 to achieve minimum 200 microns DFT and maximum 400 microns DFT.

Shelf life

CIKOshield 300 has a shelf life of 12 months if stored in accordance with CIKO instructions.

Packaging

CIKOshield 300 is available in 20 L pails.

Storage

CIKOshield 300 should be stored under enclosed shaded area at temperatures between 5°C and 35°C away from direct sunlight, moisture or rain.

Precautions

- CIKOshield 300 should not be used in submerged or wet conditions.
- CIKOshield 300 should not be applied if rain is expected within 12 hours from application
- During application process, ambient temperature shall be between 5°C and 40°C and substrate temperature should be at least 3°C above the dew point
- Do not apply more than 300 microns wet film thick coat in single application.
- Relative Humidity shall be below 85%

Health & safety

CIKOshield 300 should not come in contact with eyes or to be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Applicator should wear appropriate clothes, gloves and goggles. Use of barrier cream is recommended to provide additional skin protection. If comes in contact with eyes, flush with plenty of fresh water and seek medical advice.

Refer Material Safety Data Sheet for further details.

Coverage

	CIKOshield 300	CIKOprimer AC	CIKOprime 300	CIKOrepell WB	CIKOfill AC
Packaging	20 L pail	20 L pail	20 L pail	20 L pail	25 kg pails
Coverage per package	100 m ²	135 m ²	80-135 m ²	80-135 m ²	28-31m ²
WFT	200 microns	150 microns	N/A	N/A	0.5 mm
DFT	120-130 microns	30-35 microns	N/A	N/A	0.4-0.42 mm

Note: The above given coverage figures are theoretical, actual coverages may vary depending on the substrate condition, required finish and wastage. A test area is recommended before application to ensure proper appearance aesthetics. Consult CIKO technical department for assistance.

Technical Support

For any technical support, do not hesitate to contact CIKO team at any time as CIKO offers on and off-site services to end users, specifier and contractors.

More from CIKO Middle East

A wide range of construction chemical products are manufactured by CIKO Middle East which includes:

- Concrete admixtures and additives
- Waterproofing and damp-proof coatings
- Surface treatments
- Flooring and toppings
- Grouts and anchors
- Tile adhesives and grout
- Concrete repair materials
- Adhesives and bonding agent
- Protective coating
- Joint Sealants and Moulding compounds
- Ancillaries

Legal Notice and Warranty

CIKO warrants this product to be free from manufacturing defects and to meet the technical properties stated in the current Technical Data Sheet, if used as directed within its shelf life. Satisfactory results depend not only on quality of product but also on many factors beyond our control. CIKO makes no other warranty or guarantee, express or implied, including warranties of merchantability or fitness for a particular purpose with respect to its product. The sole and exclusive remedy of purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of CIKO. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by purchaser. CIKO will not be responsible for any special incidental, consequential including lost profits or punitive damages of any kind. Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on CIKO's present knowledge and experience. However, CIKO assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. CIKO reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified expert.

TDS/PC22 Rev.6: Issue:C

All CIKO products are manufactured under a strict management system conforming to and in compliance with requirements of international standards of Quality, Environmental, occupational Health and Safety ISO 9001, ISO14001 and ISO45001.



ص. ب رقم : ٢٩٥ ، الدوحة - قطر
ت : (+974) 4411 4787 / 4411 4790 / 4411 4794
ف : (+974) 4411 4792
فاكس : +٩٧٤ ٤٤١١ ٤٧٩٢

P.O.Box : 295, Doha, Qatar

T: (+974) 4411 4787 / 4411 4790 / 4411 4794

F: (+974) 44114792

E-mail: enquiries@cikome.com