

ConProtect RF 100

Highly effective anti-corrosion inhibitor for steel reinforced concrete

PRODUCT DESCRIPTION

Highly effective corrosion inhibitor for steel reinforced concrete based on an organofunctional silane formulation.

TYPICAL APPLICATIONS

- Every type of steel reinforced concrete
- Old and new structures
- Effective in heavily chloride-contaminated concrete
- Effective in marine environments with high relative humidity and areas where deicing salts are used such as jetties, piers, parking decks, walkways, bridge decks, beams, columns
- Reduces corrosion in carbonated concrete steel-reinforced structures

BENEFITS & ADVANTAGES

- Dramatically reduces the chloride induced corrosion rate of concrete steel reinforcement
- Significant reduction of water uptake
- Is highly reactive and resistant to alkaline environment
- Forms colorless and water vapour permeable impregnation
- Is absorbed quickly and penetrates deeply into the concrete
- Effectively inhibits macrocell (mat-to-mat) and microcell (along rebar) corrosion of steel reinforced concrete
- Equalizes the differences in electrochemical potential between polymer concrete and existing concrete when applied to concrete structures repaired with polymer concrete
- Suitable for old and new structures
- Easy to apply and no need to wash off residue
- Meets the requirements of EN 1504-2
- Can be used according to principles 1, 2, 8 and 11 of EN 1504-9

HANDLING & PROCESSING

Concrete must be allowed to cure for a minimum of 28 days. Concrete surface must be clean before application. All traces of dirt, dust, efflorescence, mold, grease, oil, asphalt, paint, coatings, curing compounds, and other foreign materials that would inhibit penetration have to be removed. Acceptable cleaning methods include shotblasting, sand - blasting, water blasting, grinding, and chemical cleaning.

All delaminated, loose or spalled concrete must be removed and repaired. Shrinkage cracks that are dormant, shallow in depth and with no structural significance can be treated with a multiple coat application of ConProtect RF 100. Other cracks should be routed, treated with ConProtect RF 100 and then sealed with a suitable sealant. ConProtect RF 100 does not affect the adhesion of most sealants to concrete.

ConProtect RF 100 may be applied directly to the cleaned rebar prior to placing the repair material. ConProtect RF 100 does not negatively influence the ability of concrete to adhere to the steel rebar. After the repair measurements ConProtect RF 100 should be applied to the whole surface.

Proper application conditions are between -5°C and 40 °C. Do not apply if rain is expected within four hours following application, or if high winds or other conditions prevent proper application. The substrate should be as dry as possible prior to application. Depending on weather conditions allow 24 to 72 hours for the substrate to dry after rain or cleaning with water.

ConProtect RF 100 should be applied to concrete using low-pressure pumping equipment with a wet fan-type spray nozzle. Alternate methods include roller, brush or pouring (into a crack, for example). ConProtect RF 100 should not be atomized.

A liquid film of ConProtect RF 100 must remain in contact with the substrate for several seconds. Horizontal surfaces should have a shiny, wet appearance for 3-5 seconds. Vertical surfaces should exhibit a 30-50 cm shiny curtain of liquid. Apply ConProtect RF 100 to the entire concrete surface, including repaired areas, in a multiple coat application. Allow a minimum of 15 minutes waiting time (or until visibly dry) between coats.

ConProtect RF 100 is best not applied on wet concrete.



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Substrates in tidal or splash zones should dry as long as possible before ConProtect RF 100 is applied. As the substrate will still be wet the ability to absorb is decreased. Therefore, ConProtect RF 100 has to be applied in several coats (6 coats or more) in order to achieve the required amount of corrosion inhibitor in concrete.

Non-absorbent substrates such as window frames, metal, plastic fittings, window glass, etc., should be covered before application. Surfaces which accidentally come in to contact with ConProtect RF 100 can be cleaned with alcohol (spirit) or aqueous soap solution. Cleaning should be carried out as quickly as possible (within a few hours), otherwise formation of a silicone resin film can make cleaning more difficult. Silicone resin films are best removed using ethanol (or spirit). Plant life should be protected from overspray. All equipment and containers must be clean and dry. After use they can be cleaned with any organic solvent (methylated spirit, petrol or thinners).

ConProtect RF 100 should not come in to contact with asphalt as it would dissolve. Applied sealants should be fully cured before ConProtect RF 100 is applied. ConProtect RF 100 should not accumulate on horizontally applied sealants since it could act as a solvent.

DOSAGE

The whole concrete surface including existing repairs should be treated with undiluted ConProtect RF 100. Several consecutive coats should be applied in order to achieve the required consumption rate of minimum 500 g/m².

CONSUMPTION

Suitable Substrates	Approximate Consumption	Application Method:
Concrete (above water level)	Min. 500 g/m ²	Airless spraying, 2-3 coats (180-250 g/m ² per coat)
Concrete (in tidal or splash zone)*	> 600 g/m ²	Airless spraying, ≥6 coats (100-150 g/m ² per coat)

*As surfaces in tidal or splash zones will always be wet the ability to absorb is decreased. Therefore ConProtect RF 100 has to be applied in several coats (6 coats or more) in order to achieve the required amount of corrosion inhibitor inside the treated concrete.

TYPICAL PROPERTIES

Property	Unit	Value
Appearance		Clear to slightly amber liquid, low viscous
Relative density	kg/l	0,882
pH		11
Dry time		Min. 24-72 h

STORAGE

ConProtect RF 100 should be stored at temperatures between -10 °C and +50 °C. ConProtect RF 100 should not come into contact with moisture.

PACKAGING

ConProtect RF 100 (liquid) is available in 1000 L IBC containers. At the customer's request, it can also be packaged in other containers, such as 25 L, 10L, 5L or 3 L canisters.

HEALTH AND SAFETY

Use appropriate personal equipment (chemical resistant gloves, eye protection, overalls, ventilator). For further information refer to appropriate Product Safety Data Sheet.

SHELF LIFE

The product has a shelf life of at least 12 months when stored in originally sealed containers.



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WASTE DISPOSAL

When disposing of waste, follow local waste management regulations and take hazardous waste to an appropriate collection point.

MANUFACTURER CONTACT

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1119-CPR-21225
EN 1504-2:2004

Hydrophobizer for concrete
Anti-corrosion inhibitor for reinforced concrete
ConProtect RF 100

Penetration depth	2. class, ≥ 10 mm
Water absorption coefficient	$< 7,5$ % compared to untreated test piece
Water absorption coefficient	< 10 % after impregnation in alkali solution
Drying speed of the hydrophobizer	2. class > 10 %
Dangerous substances	In accordance with 5.3



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NOTE: All reasonable precautions have been taken in the manufacture of ConProtect RF 100 products to ensure compliance with ConProtect RF 100 high-quality standards. Recommendations and product features are believed to be based on the most reliable information available, and do not constitute recommendations to infringe the rights of other patents. Although all ConProtect RF 100 products undergo rigorous quality testing, no specific guarantee can be given as results depend not only on quality but also on factors beyond our control. Therefore, we are happy to consult with you in case of any doubts regarding the application or the indicators, also pointing out that any oral recommendations other than those given here are not binding without written confirmation from ConProtect RF 100. All transactions are subject to our terms of sale, delivery and service. This data sheet supersedes the previous one, a superseding version can be issued without notice, if necessary. The information on this page is true and reliable to the best of our knowledge. The offered on-site service cannot be taken as responsible supervision. Therefore, our warranty is limited to the quality of the materials supplied.