

CIKOproof CRL

Cementitious Crystalline Waterproofing System

Description

CIKOproof CRL is a single component capillary waterproofing system performs by crystallization process that can waterproof new or old sound cement based substrates. It is modified cement based waterproof coating for horizontal and vertical applications on concrete; mortar and cement block masonry surfaces.

CIKOproof CRL is a factory blended cement powder consisting specially graded fine aggregates and special chemicals. CIKOproof CRL reacts with moisture and free lime present on the surface of the substrate and penetrates into the pores to form insoluble crystalline complexes and form an integral part of the substrate. In the process, CIKOproof CRL even seals shrinkage cracks and gains strength to withstand hydrostatic pressure.

Properties

- Single component system.
- Easy to mix and use.
- Non-toxic nonflammable and chloride free.
- Crack filling waterproofing system.
- Excellent bond strength.
- Potable water approved
- Suitable to use below or above ground level applications and interior or exterior applications.
- Can be applied on old or new concrete.
- Resistance to fungal growth.
- Economical and low maintenance costs.
- Self-healing properties of up to 0,4mm static cracks
- Open to foot traffic after 4 hours
- Extreme adhesive strength
- Shrinkage compensated
- Good sulfate resistance
- Good weathering resistance
- Good resistance against aggressive media with a pH range of 3-12 and against soft water with low ion content

Application area

CIKOproof CRL can be used for,

- Water retaining structures such as water tank and retaining walls.
- Sewage treatment and water treatment plants.
- Resistance to hydrostatic pressure when applied on negative side up to 140m head of water.
- Basements and pits.
- Wet area waterproofing.
- Manholes and cementitious pipes.

Physical properties

Form	Powder
Colour	Grey
W/P	0.23-0.28
Density	1.2 kg/l
Pot life	1 hour minimum
Initial set	2-3 hours
Final set	3-4 hours
Service temperature	-18 °C to 97 °C
Toxicity	Non-toxic
Water impermeability EN12390-8	Positive and negative sides: 13 bar
Compressive strength	4 hours: 8 MPa
	1 day: 21MPa
	7 days: 35MPa 28 days: 51MPa
Flexural strength	4 hours: 1 MPa
	1 day: 4MPa
	7 days: 5MPa 28 days: 7MPa
Adhesives strength	>2.5 MPa
Restrained shrinkage	>2.5 MPa
Chloride ions	<0.05%
Carbonation resistance	Passed
Capillary absorption	water 0.4 kg/m ² x h ^{0.5}

Coverage

CIKOpf CRL will provide coverage as follow:

First coat: 0.8kg/m²

Second coat: 0.7 Kg/m²

In general the coverage depends on the substrate condition and finish.

Application instructions

Surface preparation

New concrete substrate:

The new concrete substrate should have a clean surface. The surface should be prepared using mechanical scrubbers to remove loose and unbonded particles.

Old concrete substrate:

All contamination such as oil / chemical spillage or pot holes should be treated. The surface should be prepared using mechanical scrubbers to remove loose and unbounded particles.

Mixing

CIKOpf CRL is a ready to use material requiring only addition of 4.5 to 5.5 liters of water for mixing. Measure the required amount water for each batch mix and dispense into concrete mixer. Slowly add CIKOpf CRL powder into concrete mixer keeping the mixer in running mode. Mix for 5 minutes to get a homogenous and lump free material.

Application method

Apply the mixed material on the cleaned and damped surface using brush, roller or trowel at the rate of 0.8 to 1.0 kg/m². Care should be taken to coat the surface without leaving any gaps. The second coat must be applied in cross direction to the first coat at the same application rate.

Curing is not obligatory. However if used on external areas subject to harsh sunlight and rain, the finished surface shall be cured for three days.

Packaging

CIKOpf CRL is available in 20kg moisture resistant bags.

Shelf life

CIKOpf CRL has a shelf life of 12 months in un-opened bags and if stored in accordance with CIKO instructions.

Storage

CIKOpf CRL should be stored under enclosed shaded area.

Precautions

- Not to use over standing water.
- In any case the total applied thickness shall not exceed 5mm.
- Not to use if the ambient temperature is more than 45° C.
- Do re-temper the material after initial mix

Health & safety

CIKOpf CRL should not come in contact with eyes or be swallowed. 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.

Technical Support

For further 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

TDS/WP18 Rev.:2 Issue:C

Note: The information presented herein based on the best of our knowledge and expertise for which every effort is made to ensure its reliability. Although all the products are subjected to rigid quality tests and are guaranteed against defective materials and manufacture, no specific guarantee can be extended because results depend not only on quality but also on other factors beyond our control

