TECHNICAL DATA SHEET

HYDROSEAL CR

Chemical Resistant Waterproofing Coating



PREMCRETE

HYDROSEAL CR



DESCRIPTION

HYDROSEAL CR is a high-performance two-component, water-based epoxy and polymer modified cementitious coating developed for the waterproofing and protection of concrete and steel substrates in aggressive environments.

The formulation combines advanced cement chemistry with microsilica, reinforcing fibres, epoxy resins and styrene acrylic copolymer technology to provide a multifunctional protective coating with excellent waterproofing, abrasion resistance and chemical resistance characteristics.

Once cured, HYDROSEAL CR forms a dense, highly alkaline coating possessing both polymeric and resinous properties. The coating exhibits extremely low permeability to water together with exceptional resistance to the diffusion of oxygen, carbon dioxide and chloride ions, providing long-term protection to reinforced concrete and steel structures.

HYDROSEAL CR is suitable for application by brush or spray and can be reinforced using HYDROBAND 2000 around movement joints, construction joints, service penetrations and areas subject to cracking.

USES

HYDROSEAL CR is specifically designed for the waterproofing and protection of concrete and steel structures where enhanced chemical resistance and durability are required.

Typical applications include:

- Wastewater treatment facilities.
- Pumping stations.
- Sewage tanks and chambers.
- Water retaining structures.
- Marine and coastal structures.
- Basements and below-ground structures.
- Culverts and tunnels.
- Bridge substructures.
- Concrete structures exposed to aggressive chemicals.
- Corrosion protection of steel and ferrous metal substrates.

The product may be used as a stand-alone anti-corrosion coating for steel or as a waterproof protective coating for concrete where resistance to chloride ingress, oxygen diffusion and aggressive chemicals is required.

HYDROSEAL CR

ADVANTAGES

- Excellent abrasion resistance
- Outstanding impact resistance
- Resistant to a wide range of aggressive chemicals including hydrogen sulphide
- Excellent adhesion to concrete, masonry and steel substrates
- Water-based formulation
- Solvent free during curing
- Easy to clean using water
- Suitable for application by brush or spray
- Resistant to both positive and negative water pressure up to 10 bar
- Exceptional resistance to chloride ion penetration
- Very high resistance to oxygen and carbon dioxide diffusion
- Supplied in pre-weighed units for accurate site mixing
- Suitable for use in conjunction with HYDROBAND 2000 for crack and joint detailing
- Suitable for ductile filling of cracks and voids in accordance with EN 1504-5.

TECHNICAL & PERFORMANCE PROPERTIES

Property	Test Method	Value
Colour	N/A	Concrete Grey
Pot Life @ 20°C	N/A	30 Minutes
Application Thickness	N/A	2mm in 1–2 Coats
Application Temperature	N/A	5°C to 35°C
Drying Time	N/A	2–3 Hours @ 20°C
Mixed Density	N/A	1850 kg/m³
Compressive Strength	N/A	50–60 MPa @ 28 Days
Adhesion to Concrete	N/A	2 MPa
Adhesion to Steel	N/A	3 MPa
Water Permeability Coefficient	N/A	1.43×10^{-17} m/sec (DIN 1048 Part 1)
Oxygen Diffusion Coefficient	N/A	4.4×10^{-5} cm²/sec (Taywood Test)
Water Pressure Resistance	N/A	10 Bar Positive & Negative Pressure

INSTALLATION PROCEDURE

Surface Preparation

Correct surface preparation is essential to the successful performance of the coating system. All surfaces must be structurally sound and free from dust, dirt, oil, grease, laitance, corrosion products, curing compounds, release agents and any other contaminants that may impair adhesion.

Concrete substrates should possess a minimum compressive strength of 20MPa and should be prepared using suitable mechanical methods such as wet grit blasting or high-pressure water jetting to remove contaminants and provide an open textured surface.

Any defects within the substrate should be repaired using a suitable PREMCRETE REPAIR MORTAR prior to coating application.

Steel substrates should be prepared to bright metal and coated immediately following preparation to minimise the risk of flash rusting.

Priming

When applied to steel substrates, HYDROSEAL CR is self-priming and should be applied directly onto the prepared steel surface.
Concrete substrates should be thoroughly pre-soaked with clean water until uniformly saturated. Any standing water should be removed prior to application.
Where HYDROSEAL CR is being applied to floors, decks or horizontal surfaces, the substrate should first be primed using EPOPRIME AC.

Mixing

Mixing should be undertaken using a slow-speed drill fitted with a suitable mixing paddle designed to minimise air entrainment.
Shake Part A (Liquid Component) thoroughly before use and pour into a clean mixing vessel. Slowly add Part B (Powder Component) whilst continuously mixing.
Continue mixing for a minimum of five minutes until a smooth, homogeneous consistency is achieved.
The product is supplied in pre-weighed units and components should not be part mixed.

Detail Work

On steel substrates, apply a 100mm stripe coat of HYDROSEAL CR by brush to all welds, cut edges and fixings prior to the main application.
HYDROBAND 2000 should be embedded into the coating over welds and cut edges where additional reinforcement is required.
For concrete structures, apply a 100mm stripe coat over movement joints, construction joints, service penetrations and cracks prior to application of the full coating system.

Application

HYDROSEAL CR may be applied by brush or suitable spray equipment.
Apply the first coat at approximately 1mm thickness to the prepared substrate.
A second coat should be applied after approximately 60 minutes when the first coat is stable but not fully cured. The second coat should be applied at right angles to the first wherever practicable to ensure complete coverage.
The completed coating system should achieve a total dry film thickness of approximately 2mm.
For structures located within tidal or splash zones, HYDROSEAL CR should be applied as a single 2mm coat in order to eliminate the risk of inter-coat contamination.
Upon completion of application, inspect all coated surfaces carefully and repair any pinholes, voids or missed areas.

Curing

Protect newly applied coatings from rapid drying, strong sunlight and excessive wind exposure.
Suitable curing methods include the application of CUREAID AC curing membrane or the use of damp hessian and polythene sheeting.
Curing procedures should commence within 10–15 minutes of completion of application.
At 20°C, HYDROSEAL CR will typically become touch dry within 2–3 hours.

Equipment Cleaning

All tools and equipment should be cleaned immediately after use with clean water.
Material allowed to cure on equipment may require mechanical removal.

HYDROSEAL CR

PACKAGING & COVERAGE



Pack Size

HYDROSEAL CR is supplied in 30kg units.

Yield

One 30kg unit produces approximately 16.2 litres of mixed material.

Coverage

At the recommended application thickness of 2mm, one 30kg unit will cover approximately 8.1m^2.

STORAGE & SHELF LIFE

HYDROSEAL CR should be stored in clean, dry conditions in unopened original packaging. Protect from frost, excessive humidity and direct sunlight. When stored correctly, the product has a shelf life of 12 months from the date of manufacture.

HEALTH & SAFETY

HYDROSEAL CR should be handled in accordance with good industrial hygiene and safety practices. Suitable protective gloves, eye protection and protective clothing should be worn during mixing and application.

Avoid contact with skin and eyes. In the event of accidental contact, rinse immediately with plenty of clean water and seek medical attention if necessary.

Refer to the separate Material Safety Data Sheet for full health and safety information.

44 Macadam Way | West Portway | Andover | Hampshire | SP10 3XW
www.premcrete.com | 02380 276166 | sales@premcrete.com

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