



BONDCRETE EP-ACI

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Moisture-Tolerant Structural Epoxy Bonding Agent & Active Corrosion-Inhibiting Reinforcing Steel Primer

Product Description:

Hydrobloc® Bondcrete EP-ACI is a premium, two-component, solvent-free, moisture-tolerant structural epoxy bonding agent incorporating an active zinc phosphate corrosion inhibitor. It is designed to provide high-strength adhesion between hardened concrete and fresh cementitious repair materials while simultaneously protecting exposed reinforcing steel against corrosion caused by chlorides, carbonation, and moisture ingress. Its non-sag, moisture-tolerant formulation allows application to SSD concrete and is suitable for horizontal, vertical, and overhead structural repair applications.

Key Features & Benefits:

- Active zinc phosphate corrosion-inhibiting technology
- Excellent adhesion to concrete and reinforcing steel
- Moisture tolerant for application to SSD concrete
- 100% solids and solvent free
- High structural bond and mechanical strength
- Excellent chloride and sulphate resistance
- Excellent resistance to carbonation
- Excellent water and chemical resistance
- Non-sag formulation for vertical and overhead applications
- Excellent abrasion resistance and long-term durability
- Long open time with excellent workability
- Suitable as both bonding agent and reinforcing steel primer

Areas Of Application:

- Structural concrete repairs
- Beam, column and slab repairs
- Structural strengthening
- Precast concrete repairs
- Concrete-to-concrete bonding
- Reinforcing steel corrosion protection
- Repair mortars and polymer-modified screeds
- Fresh concrete overlays
- Bridges, flyovers and tunnels
- Parking structures and airports
- Marine and coastal structures
- Jetties, ports, sea walls and wharves
- Chemical plants and refineries
- Power plants and cooling towers
- Wastewater treatment plants
- Water reservoirs and concrete tanks
- Pump stations and sewage treatment structures



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Surface Preparation:

Concrete

Concrete must be structurally sound and free from laitance, oil, grease, dust, curing compounds, loose particles, and other contaminants that could impair adhesion.

Mechanical preparation by grinding, grit blasting, or scarifying is recommended. The prepared concrete should preferably be in a Saturated Surface Dry (SSD) condition before application, with no standing water.

Reinforcing Steel

Remove rust, mill scale, chloride contamination, loose corrosion products, and other contaminants from exposed reinforcement.

Prepare reinforcement to: SA 2½ — Abrasive Blast Cleaning or ST 3 — Mechanical Cleaning

Mixing Instructions:

- Pre-mix Part A thoroughly and add the complete contents of Part B into Part A
- Mixing ratio: 2 Parts A : 1 Part B by weight
- Mix using a slow-speed electric drill at 300–500 rpm
- Mix for approximately 3 minutes
- Continue mixing until a uniform colour and consistency are obtained
- Avoid excessive air entrapment
- Do not mix partial quantities unless accurately weighed

Application Guidelines:

As a Structural Bonding Agent

- Apply HYDROBLOC Bondcrete EP-ACI to the prepared SSD concrete using a stiff brush or roller. Work the material thoroughly into the surface to ensure complete contact and wetting.
- Place fresh repair mortar while Bondcrete EP-ACI remains tacky.
- If the epoxy has completely cured before placement, mechanically abrade the surface and apply a fresh coat.

As a Reinforcing Steel Primer

- Apply one continuous coat by brush to properly prepared reinforcement. Ensure complete encapsulation and coverage of the reinforcing steel.
- Allow the coating to become tack-free before applying the repair mortar.
- **Application conditions:** Ambient temperature: +10°C to +45°C
Substrate temperature: +10°C to +45°C
Maximum relative humidity: 85%



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Coverage/ Consumption:

Approx. 0.40–0.70 kg/m²

Consumption varies depending on substrate profile and porosity.

Typical dry film thickness: 250–500 microns

Curing & Protection:

Pot life @ 25°C: 35–40 minutes

Pot life @ 35°C: 20–25 minutes

Initial cure: 6–8 hours

Full cure: 7 days

Repair mortar should be applied while HYDROBLOC Bondcrete EP-ACI remains tacky.

Where environmental conditions shorten the open time, mix smaller batches.

Protect freshly applied material from rain until initial cure. Fully cured Bondcrete EP-ACI must be mechanically abraded before recoating.

Packaging:

BONDCRETE EP-ACI is available in sets of 3kg and 9kg.

Custom packaging is available on request.

Storage & Shelf life:

Store for up to 12 months in unopened packaging. Keep in cool, dry conditions away from frost and moisture and direct sunlight. Recommended storage temperature: 10°C–35°C

Health & Safety:

Avoid contact with skin and eyes. Wear suitable protective gloves, safety glasses, and protective clothing during handling and application. Wash hands thoroughly after use. Refer to the relevant Safety Data Sheet before use.

Do not dilute with solvents and do not apply over standing water. Cured material can only be removed mechanically.



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Technical Data:

Property	Value
Type	Two-component structural epoxy bonding agent
Mixed Color	Brown
Solids Content	100%
VOC	Nil
Mixing Ratio	2A : 1B by weight
Density	Approx. 1.65–1.75 kg/L
Pull-off Adhesion to Concrete	>3.5 MPa — concrete failure expected
Slant Shear Bond Strength	>18 MPa
Tensile Strength	>35 MPa
Compressive Strength	>75 MPa
Flexural Strength	>30 MPa
Shore D Hardness	80–85
Water Absorption	Very Low
Moisture Tolerance	Excellent
Chloride Resistance	Excellent
Sulphate Resistance	Excellent
Corrosion Protection	Excellent
Chemical Resistance	Excellent against dilute acids, alkalis and salts
Vertical Sag Resistance	Excellent
Adhesion to Reinforcing Steel	Excellent
Resistance to Carbonation	Excellent
Long Term Durability	Excellent
Typical Dry Film Thickness	250–500 microns
Application Temperature	+10°C to +45°C
Maximum Relative Humidity	85%