



## Vetorep CR521

High-strength, structural, non-shrink, & self-compacting micro concrete

### Uses

- To repair broken structural concrete elements (where large segments are of concern).
- For concrete repairs where high steel congestion is present.
- For repairs with thicknesses between 50 & 400 mm.

### Product Description

Vetorep CR521 is a single-component, polymer-modified, fiber-reinforced, & cementitious structural and non-shrink micro concrete. The product is ready to use on site & only requires adding water.

Once mixed, the product becomes a self-compacting micro-concrete that can be applied by pouring it into a prepared form-work to repair structures. It is also compatible with all host concrete types.

Vetorep CR521 is composed of a special blend of hydraulic cement, selected & graded aggregates, fibers, and additives that give it its unique properties.

### Advantages

- Easy to use (a single component product).
- High physical & mechanical properties.
- Extremely low permeability (providing reinforcement protection against corrosion as well as resistance to ingress of contaminants).
- Non-Shrink properties (This ensures dimensional stability for the repair work).
- Suitable for internal & external applications.
- Breathable & compatible with all host concrete types.
- Self-priming (no need for an independent primer).
- Self-compacting (it requires no vibration & flows freely in congested reinforcement steel situations).

### Standards Compliance

- EN 1504-3, Class R4

### Technical Data

Vetorep CR521	Typical Values
Color (Appearance)	Grey Granular
Aggregate Size (mm)	12
Pot Life (EN ISO 9514) (Minutes)	30
Initial Setting Time (EN 196-3) (Hours)	3
Final Setting Time (EN 196-3) (Hours)	4
Application Temperature (°C)	5 - 35
Chloride ion Content (EN 1015-17)	Very Low (< 1000 Columbs)
Adhesive Bond (EN 1542) (N/mm <sup>2</sup> )	> 3
Capillary Absorption / Water Permeability (EN 13057) (mm)	< 10
Fresh Mixed Density (EN 1015 - 6) (kg/ltr)	2.2 Approx.
Compressive Strength (EN 12190) @ 28 Days (MPa)	< 65
Flexural Strength (BSEN 6319 Part.3 & ASTM C580 @ 28 Days (MPa)	< 7
Tensile Strength (ASTM C1583/1583M-13) @ 28 Days (MPa)	< 3
VOC Content - ASTM D2369 (gm/ltr)	< 10 (LEED Compliant)

## Usage Instructions

### Surface Preparation

Cut back all damaged & weak concrete until you reach a sound surface. You can also cut back the application's minimum depth.

Grit blast corroded steel reinforcements to remove all rust traces. Compensate steel loss with up to 25% of the original section; Replace the steel reinforcement for section losses that exceed 25%.

Remove all concrete forms around at least 25 mm of the exposed steel reinforcements. Saw cut the perimeters of the repair area to a minimum depth of 10 mm. Clean the prepared area thoroughly using a brush and/or compressed air.

Use a water-tight form-work to avoid material loss. Soak the areas to be repaired with Vetorep CR521 with clean water for several hours before applying the Vetorep system. Remove all excess water.

### Priming

For the steel reinforcement to accept Vetorep CR521, it must be primed ( with one or two coats of Saveto corrosion inhibitor for steel reinforcement Vetoprime CP436) & grit blasted within 2 to 4 hours.

Normally, a primer is not required, provided the substrate is soaked thoroughly in clean water (and it is damp when applying the product).

For concrete that's highly contaminated with soluble salts, it is recommended to use Vetobond EB430 (an epoxy bonding agent) to prevent migration of salts (such as chloride ions and sulfate) to the repair patch. It also provides an enhanced bond for The Vetorep CR520 to host concrete.

### Mixing

Mix properly using a mechanical power mixer or drill fitted with a suitable paddle. Add 2.75 - 3.25 liters of clean water to a clean container. Then add the powder slowly to the water while continuously mixing (with a low-speed mixer/drill, 400 - 600 rpm). Mix for 3 minutes until a uniform consistency is achieved.

### Placing and Finishing

Pour Vetorep CR521 in a single continuous operation within 25 minutes of mixing. Pour the mixed material slowly to prevent air entrapment.

### Legal Disclaimer

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Hard copies of TDSs are printed once or twice a year. Our technical data sheets are continuously updated as per R&D improvements and new 3rd party testing; kindly refer to our website for the latest updated TDSs.

### Curing

Vetorep CR521 is a cementitious-based material and can be cured like concrete by continuous watering and covering with polyethylene sheets. Alternatively, you can use Vetobond AB432 for curing.

### Cleaning

Clean all tools with freshwater immediately after application. Clean hardened materials mechanically.

## Packaging & Coverage

Product	Pack Size	Consumption
Vetorep CR521	25 kg Bag	12.5 Liters (Approx.)
Vetobond AB432	4 Liter Can	6 - 8 m <sup>2</sup> / Liter
Vetobond EB430	1 Liter Kit	8 m <sup>2</sup> / Liter
Vetoprime CP436	2 kg Kit	1.18 m <sup>2</sup> / 2 kg Kit @ 1mm
	4 kg Kit	2.35 m <sup>2</sup> / 4 kg Kit @ 1mm

**\*Note:** Vetorep CR521 repaired area should not exceed 2.5 m<sup>2</sup> in a single application.

Stated consumption data are for general guidance. Actual consumption depends on the nature of substrate, method of application, and wastage.

### Shelf Life & Storage

The original sealed bag of Vetorep CR521 has a shelf life of 12 months, provided it is stored clear of ground in a dry and shaded place at a temperature less than 35°C.

### Health & Safety

Vetorep CR521 contains resins (which may cause sensitization via skin contact). Avoid contact with your skin and eyes and do not inhale vapor. Wear suitable protective clothing, gloves, and eye/face protection.

Barrier creams provide additional skin protection.

Should accidental skin contact occur, remove immediately with a resin-removing cream, followed by soap and water. Do not use solvents. In case of contact with your eyes, rinse immediately with plenty of clean water & seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting. Vetorep CR521 is non-flammable. For more information, please refer to the Product Material Safety Data Sheet.