Vetorep CR520

High-strength structural repair mortar

Uses

- To repair broken structural concrete elements.
- For vertical concrete repairs (up to 75 mm in a single layer).
- For overhead concrete repairs (up to 20 mm in a single layer).
- For horizontal & patch repairs (up to 100 mm in a single layer).
- For honeycomb & general concrete repairs.

Product Description

Vetorep CR520 is a single-component, polymer-modified, fiber- reinforced, & cementitious structural repair mortar. The product is ready to use on site & only requires adding water.

Once mixed, the product becomes a thixotropic mortar that can be hand-applied to make demanding structural repairs while being compatible with almost all host concrete. Vetorep CR520 is composed of a blend of hydraulic cement, carefully selected & graded aggregates, fibers, and special additives (to 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 host concrete.
- Thixotropic properties allow high build-up in vertical & overhead repairs.

Standards Compliance

- EN 1504-3, Class R4

Technical Data

Vetorep CR520	Typical Values
Color (Appearance)	Grey Granular
Aggregate Size (mm)	2.4
Pot Life (EN ISO 9514) (Minutes)	30 - 60
Initial Setting Time (EN 196-3) (Hours)	3
Final Setting Time (EN 196-3) (Hours)	4
Application Temperature (°C)	5 - 35
Thixotropic Mortar (EN 13395-1)	N/A
Flow of Mortar (EN 13395-2)	N/A
Restrained Shrinkage/Expansion (EN 12617-4)	N/A
Carbonation Resistance (EN 13295)	N/A
Wet Density EN 1015 - 6 (kg/ltr)	2.1 Approx.
Capillary Absorption / Water Permeability (EN 13057)	N/A
Drying Shrinkage - ASTM C157 @ 28 Days (%)	< 0.03
Water Penetration (DIN 1048) (mm)	< 7
Fresh Mixed Density (kg/ltr)	2 Approx.
Compressive Strength (EN 12190) @ 28 Days (MPa)	> 50
Flexural Strength - ASTM C348 @ 28 Days (MPa)	> 5.5
Tensile Strength - ASTM C307 @ 28 Days (MPa)	> 1.5
Chloride ion Content (EN 1015-17)	Very Low (< 1000 Columbs)
VOC Content - ASTM D2369 (gm/ltr)	< 10 (LEED Compliant)
Adhesive Bond (EN 1542) @ 28 Days (MPa)	> 1.5

Usage Instructions

Surface Preparation

Cut back all damaged & weak concrete until you reach a sound surface. You can also cut back a minimum depth of 10 mm.

Grit blast corroded steel reinforcement to remove all rust traces. In case of significant loss in the steel reinforcement cross-section, replace the steel entirely.

Remove all concrete forms around the exposed steel reinforcements by a thickness of 25 mm. 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.

Priming

To accept Vetorep CR520, prime all grit blasted steel reinforcements within 2 to 4 hours (You can do this by applying one or two coats of Vetoprime CP436, a corrosion inhibitor for steel reinforcement).

Soak the soon-to-be-repaired areas with Vetorep CR520 & clean water before applying the repair mortar.

Remove all excess water before applying one coat of an acrylic bonding agent (Vetobond AB432 for example). Allow Vetobond AB432 to become tacky before applying the repair mortar.

Mixing

To ensure proper mixing, use a mechanical power mixer or drill fitted with a suitable paddle. Add 3.75 - 4.25 liters of clean water to a clean container. Then add the powder to the water slowly while continuously mixing with a low-speed mixer/drill (400 - 600 rpm). Continue mixing until a uniform consistency is obtained.

Placing and Finishing

Apply Vetorep CR520 by a trowel or by hand. Apply the mixed mortar by pressing it firmly to fully compact the mortar and ensure good adhesion with the steel reinforcements and the substrate.

Initially, finish and level the material surface by a wooden or plastic float. Carry out the final finish using a steel float.

For high thickness applications (both vertically & overhead), it is better to gradually apply it by hand in patches while firmly pressing; this ensures the adhesion with the substrate and the subsequent layers.

Curing

Vetorep CR520 is a cementitious-based material; it cures similarly to concrete (by continuous watering and covering with polyethylene sheets).

Cleaning

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

Limitations

Apply Vetorep CR520 in a single application for sections up to 20 mm thick in overhead applications and 75 mm thick in vertical applications. The thickness should not be less than 10 mm deep in all applications.

Packaging & Coverage

Product	Pack Size	Consumption
Vetorep CR520	25 kg Bag	14 Liters Yield
Vetobond AB432	4 Liter Can	6 - 8 m^2 / Liter
Vetoprime CP436	2 kg Kit	1.18 m^2 / 2 kg Kit @ 1mm
	4 kg Kit	2.35 m^2 / 4 kg Kit @ 1mm

***Note:** Vetorep CR520 repaired area should not exceed 2.5 m^2 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 CR520 has a shelf life of 12 months, provided it is stored clear of ground in a dry and shaded place at a temperature between 5 & 35°C.

Health & Safety

Vetorep CR520 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 and seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting. Vetorep CR520 is non-flammable. For more information, please refer to the Product Material Safety Data Sheet.

Additional Information

Saveto manufactures a wide range of construction chemicals and specialty products for various applications.

For further information on these products and systems kindly check our website or contact your local Saveto representative.

Saveto also provides various technical information such as CAD details, detailed method statements, specification clauses, application manuals, product selectors and technical support both in contractors and consultants offices as well as construction sites.

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