

STRUCTUROC V-ULTRA

Rapid setting mortar for vertical repairs

STRUCTUROC V-ULTRA is a polymer-based, two-component, cement-based, polymer-inhibiting mortar migratory corrosion. Designed for repairing concrete structures either vertically or on the underside. **STRUCTUROC V-ULTRA** allows the placement and carving of appropriate shapes in a single operation for thicknesses as small as 5 mm (1/4 ") and may exceed 50 mm (2").

USES

All vertical or overhead repairs.

TYPICAL USES:

- Bridges, viaducts and tunnels
- Multi-Level parking structures
- Parapets, columns and beams repairs

PRODUCT FEATURES

- Two (2) components
- Easily placed
- Tenacious bond strength
- Reduced shrinkage
- Resistant to crack development
- Excellent compressive and flexural strength
- Freeze / thaw resistant
- Rapid setting
- Can be overcoated within 124hours after placement

SURFACE PREPARATION

Proper repairs depend upon a solid bond between mortar and base surface. Thoroughly clean and roughen subject area. Remove any curing compound, grease, oil, loose carbonated concrete, dirt, dust, rust, etc... from exposed slab. Surface must be mechanically prepared to obtain sound concrete. The concrete surface that will receive the product must be sufficiently saturated with water before the application can begin. Saturate water the concrete surface to be repaired for at least 12 hours before application mortar. Remove any excess water before starting the patch. Do not apply on a surface where ponding water is present. Follow the I.C.R.I recommendations for repairs to structures having exposed rebars.

PRIMING

No primer required.

PRODUCT MIXING

Place mixing equipment near the workplace. Always do it mixing by adding the dry product to the liquid **POLYMER V-ULTRA**. For each quantity 3.4 l. at 3.7 l. (0.89 to 0.98 US gal) of **POLYMER LIQUID VULTRA** add 1 bag of 22.7 kg (50 lbs) of **STRUCTUROC V-ULTRA**. Use a mortar mixer or a 1/2 "drill equipped with a paddle mixer. Place 3.4 l. (0.89 US gal) **POLYMER LIQUID V-ULTRA** in a container kneading. Add the powder slowly while mixing uniform. Add the rest of the amount of **POLYMER LIQUID V-ULTRA** (never exceed 3.8 l (1 US gal) total per bag). **STRUCTUROC V-ULTRA** should be mixed according to the consistency required on site. If mixing should be done manually, mix vigorously. knead until a uniform consistency is obtained.

PRODUCT APPLICATION

VERTICAL SURFACES

Apply a thick layer of **STRUCTUROC V-ULTRA** using a trowel, a rubber trowel or even gloves to allow the product to penetrate each crevice, crack or ledge and to eliminate any pocket of air and ensure complete contact with the surface to be repaired as well as good adhesion. Apply all material from the same batch so to build to the desired thickness. The minimum thickness is 5 mm (1/4 "). A second layer of **STRUCTUROC V-ULTRA** can be applied after the initial take 30 minutes of the first.

APPLICATIONS OVER 50MM (2") THICKNESS

Place one or two layers not more than 50 mm (2 ") thick, leave the surface rough and ripen with water. After 6 hours, apply 1 or 2 layers not more than 50 mm (2 ") each Smooth last layer with a trowel or even a sponge. Discard any product that has started taking it before being put in place. Do not try to remix a product that started taking it. **STRUCTUROC V-ULTRA** can be carved to the profile required during its taking.

PHYSICAL MATERIAL PROPERTIES @ 25°C (77°F)

COMPRESSIVE STRENGTH ASTM C109-93 2" (50 MM) CUBES			BOND STRENGTH ASTM C882		
3 hours	12,8 MPa	(1860 psi)	7 days	22,4 MPa	(3250 psi)
1 day	24,0 MPa	(3500 psi)	HARDENING		
7 days	31,0 MPa	(4500 psi)	Working time	25 minutes	
28 days	37,0 MPa	(5370 psi)	Initial set time (Vicat)	40 minutes	
TENSILE STRENGTH ASTM C496			Final set time (Vicat)	65 minutes	
28 days	4.7 MPa	(680 psi)	LENGTH CHANGE ASTM C157 WITH C928 MODIFICATION		
FREEZE/THAW RESISTANCE ASTM C666 B MODIFIED			Time	Air cure	
Cycles	Durability factor (RDF)	Loss	7 Days	- 0.045 %	
300	92.1%	0.93%	28 Days	- 0.071%	

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CURING

The curing must begin as soon as the final set is attained. The final set will vary depending on site conditions. Immediately after application (i.e. as soon as the patch feels warm to the touch, looks dry and feels hard), saturate the surface with clean potable water being careful not to erode the surface with water pressure.

Apply water until it runs down the whole face (for vertical surfaces) or until freshly sprayed surfaces continue to look and feel wet for 2 minutes (for overhead surfaces). Continue this curing for at least 4 to 6 hours or tack rags over patch and keep wet for first 2 hours and leave rags for 4 more hours. Follow ACI 309 recommendations for curing.

ESTIMATING/YIELD

A **STRUCTUROC V-ULTRA** bag weighing 22.7 kg (50 lbs) gives a performance 13.1 l. (0.46 cu. Ft.) When mixed with 3.7 liters (0.98 US gal.) of **POLYMER LIQUID V-ULTRA**. It will cover about 2.0 m² (22 sq. Ft.) At a thickness of 6 mm (1/4").

Coverage: Per 22.7 kg (50 lbs) bag.

Nominal Thickness	Approximate Coverage
6 mm (1/4")	2.0 m ² (22.0 ft ²)
12 mm (1/2")	1.0 m ² (11.0 ft ²)
25 mm (1")	0.5 m ² (5.5 ft ²)

PRECAUTIONS/RESTRICTIONS

Minimum application temperature 5°C. If you have hot weather and rapid drying conditions including one or more of the following:

1. Temperature of the air, the surface being worked on or the material is above 32°C.
2. Where the air flow is frequently continuously above 8 km/h
3. Where relative humidity is very low, then take the following precautions:
 - Store materials where they will remain cool
 - Use cool water for mixing
 - Add ice to mixing water if necessary
 - Protect from rapid dry out

PACKAGING

STRUCTUROC V-ULTRA 22.7 kg (50 lbs) bags
Qty: 56 units per pallet

POLYMER LIQUID V-ULTRA 3.8 L (1 US gal) unit
(Ready-to-use) Qty: 4 units per case

RECOMMENDED TOOLS

The following tools will assure a cost effective, satisfactory installation:

- Steel, Wooden or Magnesium Trowels
- Rubber Float Trowel
- 1/2" Heavy Duty drill with mixing paddles
- Mortar mixer (for large volume)

CLEANING

Use water to clean all tools immediately after use.

STORAGE

Store in cool dry area avoiding all moisture. Can be kept in unopened bags for 12 months.

SECURITY

See Material Safety Data Sheet. Contains Portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. Avoid breathing dust.

ELIGIBLE LEED® CREDITS: 3

Regional Materials (MR 5.1 & 5.2)
2 Points
Low Emitting Materials (EQ 4.1)
1 Point

SOLHYDROC WARRANTS that the product conforms to its chemical description and is reasonably fit for the purpose stated on its Technical Bulletin when used in accordance with its directions. SOLHYDROC makes NO OTHER WARRANTY either expressed or implied. Buyer assumes all risk in handling.

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