



STRUCTUROC V-PLUS

Rapid setting mortar
for vertical repairs

STRUCTUROC V PLUS is a cement based, two components, polymer modified, shrinkage compensated rapid setting repair mortar. Designed for vertical and overhead concrete repairs. STRUCTUROC V PLUS is able to be easily placed and sculpted to proper shape at thicknesses from 5 mm (1/4") and exceeding to 50 mm (2") in one single operation.

■ USES

All vertical or overhead repairs.

TYPICAL USES:

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

■ 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 during 12 hours before the application can begin. 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 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

■ PRODUCT MIXING

- Place mixing equipments close to repair area.
- Always mix by adding the dry product to the V PLUS LIQUID POLYMER.
- For every 2.8 L to 3.5 L (0.76 to 0.92 US gal) of V PLUS LIQUID POLYMER add a 22.7kg (50lbs) bag of STRUCTUROC V PLUS.
- Use a mortar mixer or 1/2" drill with mixing paddles.
- Place 3.3L (0.87 US gal) of V PLUS LIQUID POLYMER in a clean mixing container.
- Measure water with reliable volume measure.
- Slowly add the powder while mixing until uniform.
- If the mixing should be performed manually, it must be done vigorously.
- Add the remainder of the V PLUS LIQUID POLYMER (never exceed 3.5 L (0.92 US gal) total per bag).
- STRUCTUROC V PLUS should be mixed to the proper consistency depending upon project requirements.
- Mix until a smooth uniform consistency is obtained.

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

COMPRESSIVE STRENGTH ASTM C-109-93, 2" (50 MM) CUBES		
3 heures	27.6 MPa	(4,000 psi)
1 day	41.4 MPa	(6,000 psi)
3 days	51.7 MPa	(7,500 psi)
7 days	55.2 MPa	(8,000 psi)
28 days	66.6 MPa	(9,600 psi)

FREEZE/THAW RESISTANCE ASTM C666 B MODIFIED		
Cycles	Durability factor (RDF)	Loss
300	96.6 %	0.93 %

SPLITTING TENSILE RESISTANCE ASTM C496		
28 days	4.7 MPa	(680 psi)

CHLORINE ION PERMEABILITY ASTM C-1202	
28 days	≤1,000 coulombs

HARDENING	
Working time	25-35 minutes
Initial set time (Vicat)	40 minutes
Final set time (Vicat)	65 minutes

BOND STRENGTH ASTM C-882		
7 days	32.4 MPa	(4,700 psi)

DENSITY	
	2,060 kg/m ³

ABSORPTION ASTM C 882	
	4.8 %

LENGTH CHANGE ASTM C157 WITH C928 MODIFICATION	
Time	Air cure
7 days	- 0.031 %
28 days	- 0.049 %



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■ PRODUCT APPLICATION

VERTICAL SURFACES

Apply a tight coat of STRUCTUROC V PLUS to surface using trowel, rubber float trowel or gloved hands to force material into all crevices, cracks and edges to eliminate all air pockets and ensuring complete contact for a good bond. Apply material from same batch to build to desired thickness. Minimum thickness is 5 mm (1/4"). Two layers of STRUCTUROC V PLUS may be applied in as little as 30 minutes after set time.

APPLICATIONS GREATER THAN 50 MM THICKNESS

Place one or two layers totalling not more than 50 mm (2») thickness, leave surface rough, then damp cure. After 6 hours, apply an additional 1 or 2 layers totalling not more than 50 mm (2») each. Finish final layer with steel trowel or sponge float. If material has begun to set prior to placing, discard it. Do not retemper. Can be sculpted for proper profile as STRUCTUROC V PLUS sets.

■ 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

STRUCTUROC V PLUS in 22.7 kg (50 lbs) bag yields 12.5 L (0.44 ft³) of material when mixed with 3.3 L (0.87 gal US) of V PLUS LIQUID POLYMER and will cover approximately 2 m² (22 ft²) at a thickness of 6 mm (1/4").

COVERAGE PER 22.7KG (50LB) BAG:

Nominal Thickness	Approximate Coverage
6 mm (1/4")	2.0 m ² (20,0 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 in a cool place
 - Temper V-PLUS LIQUID POLYMER container
 - Use cold water to mix
 - Add ice to mixing water if necessary
 - Protect surface from rapid dry out

■ PACKAGING

STRUCTUROC V-PLUS:

Bags 22.7 kg (50 lbs)

Qty: 56 bags per pallet

STRUCTUROC LIQUIDE V-PLUS:

3.7 L (0.98 gal US) Unit

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.

■ SAFETY

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

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

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