



VERTIPAVE C1

*One-Component,
Vinyl Fortified Repair Mortar for
Vertical/Overhead Repairs*

1. Product Description

a. **Basic Use:** Vertipave C1 is a one-component vinyl fortified concrete repair mortar for vertical and overhead repairs. It is designed at a packable, trowel grade consistency along with special additives that prevent sagging and slumping. Vertipave C1 is ideal for hard-to-form repairs both inside and outside and can be used from featheredge to a 4 in. (102 mm) thickness.

b. **Features/Benefits:**

- Requires addition of water only.
- Eliminates the need for forming on vertical and overhead repairs.
- Excellent bond to rough, sound concrete.
- Tough and strong with high compressive and flexural strength.
- Provides structural grade repairs.
- Good for indoor or outdoor applications.
- Resistant to freeze/thaw cycling and de-icing salts.
- Quick setting and high early strength.
- Similar in color to plain concrete.
- Can be coated, painted, or sealed after curing.

c. **Typical Applications:** Beams, columns, walls, cradles, haunches, parking garages, bridges.

d. **Limitations:** Do not use Vertipave C1 at temperatures below 40°F (4°C). Vertipave C1 is not designed as a floor topping or pavement overlay. Use Thinpave and Thickpave for these applications.

e. **Composition:** Vertipave C1 is a one-part system consisting of a special blend of aggregate, cement, and vinyl powder along with special additives to provide non-sag characteristics. Vertipave C1 contains no calcium chloride.

f. **Color/Appearance:** Similar to plain concrete.

2. Packaging

Vertipave C1 is packaged in 50-lb. (22.7 Kg) plastic pails or polyethylene lined, multi-layered paper bags.

3. Estimating/Yield

One pail or bag of Vertipave C1 yields 0.48 cu. ft. (0.014 cu. m) and will repair 5.75 sq. ft. (0.53 sq. m) at a 1 in. (25.4 mm) depth. Extending with aggregate is not recommended since it will affect the non-sag characteristics.

4. Technical Data

a. **Applicable Standards:** ASTM C 1059, Standard Specifications for Latex Agents for Bonding Fresh to Hardened Concrete (Type II, non-re-emulsifiable).

b. **Compressive Strength:** ASTM C 109, 2 in. (50 mm) cubes at 72°F (22°C).

Age	Strength
4 hours	500 psi (3.4 MPa)
1 day	3,500 psi (24 MPa)
3 days	5,000 psi (34 MPa)
7 days	6,000 psi (41 MPa)
28 days	7,000 psi (48 MPa)

c. **Flexural Strength:** ASTM C 78, 28 days; 1,450 psi (10 MPa).

d. **Bond Strength:** ASTM C 1042, 28 days; 1,700 psi (12 MPa).

e. **Final Set Time:** ASTM C 191; 20 minutes.

f. **Working Time:** 15 minutes.

5. Directions for Use

a. **Preparation:** Base concrete must be sound and clean. Chip, chisel, bushhammer, or shotblast damaged surface down to sound concrete. Any oil soaked concrete must be removed. Blow surface clean with water and compressed air. The bonding surface must be free of any coatings, paints, sealers, or curing compounds.

b. Special Notes on Exposed Reinforcing Bars: Many vertical and overhead repairs are the direct result of corrosion of the reinforcing steel in the column, beam, or wall. The steel is attacked by water and/or salt and expands against the surrounding concrete to produce a spall. When rebar is exposed on one edge only and there is still the appearance of deformations on the bar, sandblast the exposed area to bare steel. If the majority of the circumference of the bar is exposed, chip out the concrete around the entire rebar to give at least a 1/2 in. (12.7 mm) clearance around the bar. Sandblast to bare metal and coat the bar with either Metco Hi-Mod MV or Gel Epoxy. This will protect the bar from salt and water attack indefinitely. In those cases where the cross-section of the bar has undergone significant section loss, consult a structural engineer to determine if replacement or additional reinforcing is required.

c. Bonding: Pre-wet the concrete surface so that water is not rapidly removed from the Vertipave C1 repair mortar. Brush in a loose mixture of Vertipave C1 as a bond coat. Do not allow bond coat to dry out before Vertipave C1 application.

d. Mixing: For most repairs mix Vertipave C1 one pail or bag at a time using a mechanical drill and Metco Jiffy mixing blade. Mix 50-lbs. (22.7 Kg) of Vertipave C1 with 3 to 3.5 quarts (2.9 to 3.3 liters) of clean water. Mix for 2 to 3 minutes to provide a uniform, lump-free mixture. Adjust workability by varying the water. Mix to a packable consistency.

e. Placement: After mixing, Vertipave C1 will start to gel in about 3 minutes. This material is somewhat sticky by nature. Keeping the water addition low will aid in placement of material. Wetting the trowel with water will help keep material from sticking on the surface of the trowel. Pack and trowel the material into the repair area, making sure to get behind any reinforcing steel. Proper compaction of the material is the key to a successful repair. Build up to desired thickness and shape to match configuration of the concrete member being repaired. Working time is about 15 minutes.

f. Finishing: Finish to desired texture with a trowel, brush or other suitable tool. Apply final finish within 20 minutes since Vertipave C1 will start to set. It is helpful to wet finishing trowel with water to achieve a smooth finish.

g. Protection: On hot windy days, protect the repair from rapid drying. Use wet burlap, polyethylene, or a fog spray of water to prevent cosmetic plastic shrinkage cracking at the surface.

h. Curing: Vertipave C1 is a self-curing system requiring no separate curing compound. However, on hot or windy days, hold the moisture in the patch for 4 to 6 hours using wet burlap or polyethylene for best results.

i. Maintenance: Vertipave C1 is intended to be free of maintenance once properly installed. Standard concrete sealers and coatings may be applied, if desired.

6. Availability

Vertipave C1 is normally available immediately from your local distributor or it will be shipped within 5 working days upon receipt of order. Please contact your local Metalcrete representative or call Metalcrete directly for more information.

7. Warranty

Vertipave C1 is manufactured in strict accordance with the quality control standards of Metalcrete Industries. It is guaranteed to perform as indicated on this data sheet when applied by competent applicators.

8. Technical Service

Metalcrete technical service representatives are available to provide on-site assistance with a minimum three day notice.



Metalcrete Industries

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