



## RAPID REPAIR VERTICAL

### DESCRIPTION:

Con-Spec's Rapid Repair Vertical is a unique preblended cementitious material for patching overhead and vertical concrete surfaces. It can be used for interior and exterior applications. Rapid Repair Vertical has a working time of approximately 15-20 minutes at 24°C (75°F). Rapid Repair Vertical contains a migrating corrosion inhibitor to protect the reinforcing steel embedded in the concrete. Rapid Repair Vertical is non-metallic, non-staining, non-toxic and is as safe to handle and work with as ordinary portland cement. Rapid Repair Vertical develops high strength, a tenacious bond, excellent resistance to freeze thaw cycles & weathering, and exhibits excellent sulphate resistance. Rapid Repair Vertical is mixed with water to a no slump consistency.

### USES:

Rapid Repair Vertical is well suited for structural repair of concrete and masonry structures such as pre-cast vertical panels, columns, parking structures, bridges, loading docks, sewers, tunnels, concrete bunkers and all interior and exterior above or below grade applications.

### BENEFITS:

Rapid Repair Vertical is a fast setting versatile, fiber reinforced patching material. A one component material requiring just potable water for mixing, it has a thick, no slump consistency for overhead and vertical applications. It is high strength with excellent flexural and tensile properties and has excellent bonding capabilities. It is non-toxic, non-staining, non-corrosive and non-metallic. It contains an integral corrosion inhibitor.

### LIMITATIONS:

Applications over 7 cm (3") in thickness require the addition of 1 cm (3/8") stone to a maximum of 9 kg (20 lbs) by weight per 20 kg (44 lb) bag. Do not apply below temperatures of 5°C (40°F) or when temperature is expected to fall below 5°C (40°F) within 48 hours. Do not apply over any active faults or cracks in the substrate without addressing any movement that may occur.

### COMPOSITION:

Rapid Repair Vertical contains a proprietary cement formulation with special polymer modifiers. It has specially selected aggregates and admixtures which are used to increase adhesion and aid curing. No chlorides are used in Rapid Repair products.

### COVERAGE:

Rapid Repair Vertical is packaged in 20kg (44 lb) bags and will yield approximately 0.4 cubic feet or 0.0115 cubic meters per bag at 4L of water per bag.

### PROPERTIES: (@23°C)

3.75 L / 20 Kg Bag

#### Compressive Strength (CAN/CSA 3004-C2)

4 hours MPa (psi)	17.0(2465)
24 hours MPa (psi)	23.7(3435)
7 Days MPa (psi)	29.5(4275)
28 Days MPa (psi)	32.7(4740)

#### Shear Bond Strength (ASTM C882-99 Modified)

24 hours MPa (psi)	7 (1015)
28 days MPa (psi)	11 (1595)

Linear Shrinkage (ASTM C157, 28 days) 0.042%

Moisture Content (ASTM F2659, 24 hours) 3.8%

Working Time 20 minutes

Initial Set (ASTM C191) 40 minutes

Final Set (ASTM C191) 60 minutes

### SURFACE PREPARATION:

Surface must be structurally sound, free of loose or deteriorated concrete, dust, dirt, and other contaminants. Clean and prime exposed steel and reinforcing. When substrate is not absorptive, abrade as necessary to ensure proper bonding. Prewet the prepared area with potable water to achieve a saturated surface dry condition before application.

### MIXING INSTRUCTIONS:

Rapid Repair Vertical will require 3.75 - 4 liters of potable water per 20 kg (44 lb) bag, to achieve the proper no slump mix consistency. Add the Rapid Repair Vertical to the water and mix thoroughly for 3 minutes with a slow speed drill to a stiff, no slump consistency. For small amounts mix in a clean pail with a hand trowel.

### WORKING CHARACTERISTICS:

Rapid Repair Vertical has a 40 minute initial set. Placement of mixed product must occur within 15-20 minutes. Due to the short working time of Rapid Repair Vertical it is important to organize the placement operation within this time limitation. After setting, the Rapid Repair Vertical will gain strength quickly and finishing operations may become difficult.

**Notice to User** - Con-Spec Industries Ltd. warrants that the product described on the face hereof has been manufactured of selected raw materials by skilled technicians. Con-Spec Industries Ltd. shall not be responsible for any claims resulting from the failure to utilize the product in the manner in which it was intended and in accordance with instructions provided for use of product. The only obligation of Con-Spec Industries Ltd. shall be to replace any quantity of this product which proved to be defective. Con-Spec Industries Ltd. assumes no liability, loss, or damage resulting from use of this product. **Your use of this product constitutes your acknowledgment and acceptance of these terms and limitations.**

**APPLICATION TECHNIQUES:**

All areas to be patched must be predampened with water and a slurry bond coat applied. To ensure complete bond with the entire surface, scrub the bond coat into the substrate filling all pores and voids. Allow bond coat to become tacky prior to application of the mortar. If multiple lifts are required allow each lift to set before the next lift is applied. Force the Rapid Repair Vertical firmly into the predampened area by hand or with a trowel. Apply sufficient material to fill all holes and voids, and then trowel to a smooth finish. Do not overwork, minimize trowelling. Any material placed the previous day must be roughened to ensure proper bond with new placement.

**CURING TECHNIQUES:**

Apply a quality waterbased curing compound, (ie Super Diamond Clear VOX) immediately after final set. Note: a solvent based curing compound should not be used on this product. Under hot, windy or direct sunlight situations, apply a second coat of curing compound after the first has dried.

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**SET CONTROL:**

**Retarder:** To lengthen the setting time, Rapid Repair Retarder may be used. It is available in bulk lots and small individual packets. The dry Rapid Repair Retarder powder should be mixed into the mixing water first. **One packet of Rapid Repair Retarder will extend the setting time of a bag of Rapid Repair Vertical for approximately 15 to 30 minutes at normal temperatures 24°C (75°F).**

Rapid Repair Retarder acts as a water-reducing agent and improves fluidity. Concrete strength is improved by about 5%.

**TRIAL BATCHES ARE RECOMMENDED TO DETERMINE EXACT HARDENING TIME IN SITUATIONS OF EXTREME TEMPERATURE.**

**CLEAN UP:**

Clean application tools and mixing equipment with water immediately following use.

**SAFETY PRECAUTIONS:**

Product contains cement and is alkaline on contact with water. Wear dust, skin, and eye protection. Irritating to eyes and skin. Avoid splashing into eyes. Avoid contact with skin. In case of eye contact, flood eyes repeatedly with water and call a physician immediately. **DO NOT RUB EYES!** Wash hands thoroughly with soap and clean water after handling. Do not take internally. Keep out of reach of children. Consult Safety Data Sheet for further information.