



RAPID REPAIR PM

DESCRIPTION:

Rapid Repair PM is a unique preblended polymer modified cementitious patching and repair material requiring only potable water for mixing. Rapid Repair PM can be used for patching ½cm (¼") to 7cm (3") thick in one application. It can achieve initial set in 30 minutes and be opened to traffic within four hours at 24°C (75°F). Rapid Repair PM develops high strength, a tenacious bond, and excellent resistance to freeze thaw cycles and weathering. For thin patching (¼" or less) it is recommended that the product be mixed with a Latex Bonding Admixture for better bond and flexural strength. Rapid Repair PM contains a migrating corrosion inhibitor to protect the reinforcing steel embedded in the concrete.

USES:

Rapid Repair PM is well suited for repair and patching of floors prior to coating, filling small holes, leveling of floors, structural repair of pavement, masonry, loading docks, warehouse and freezer floors, sewers, tunnels and all horizontal or vertical, interior or exterior, above or below grade applications.

CHARACTERISTICS:

Rapid Repair PM is a fast setting and versatile patching material that can be modified with various ingredients to alter its characteristics. Addition of fibres will improve the patch flexibility, and early curing performance. The addition of latex modifications will increase bond strength, flexibility and reduce permeability. A retarder or accelerator is available to control setting characteristics in hot or cold conditions.

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 25 kg (55 lb) bag. Do not apply this material in areas where the temperature is or will be below 5°C (40°F) or over 35°C (95°F) within 24 hours of application.

COMPOSITION:

Rapid Repair PM contains a proprietary cement formulation with special polymer modifiers. It has specially selected blended aggregates and admixtures which are used to increase adhesion and aid curing.

COVERAGE:

Rapid Repair PM is packaged in 25 kg. (55 lb) bags and will yield approximately 0.5 cubic feet or 0.014 cubic meters per bag. The area of coverage per bag is roughly 24 ft² at ¼" thick. Rapid Repair PM with 9 kg pea gravel will yield 0.6 cubic feet or 0.017 cubic meters.

APPROVALS AND TESTS:

ASTM C157 Shrinkage ~ 0.0
ASTM C928 Very Rapid Hardening Materials for Concrete Repair
ASTM C666 Freeze Thaw Resistance:
1000 cycles: weight loss 1.07%
Dynamic Modulus 91%
Sulphate Resistance: Better than type 50 Portland Cement
Contains less than 2% C₃A.

PROPERTIES: (@20°C) (@3.5L/25Kg Bag)

Compressive Strength (ASTM C39 / C109)

3 hour Mpa (psi)	27 (3,900)
24 hour Mpa (psi)	40 (5,800)
7 Days Mpa (psi)	50 (7,250)
28 Days Mpa (psi)	56 (8,150)

Bond Strength (ASTM C882)

24 hours Mpa (psi)	14 (2,000)
28 days Mpa (psi)	18 (2,600)

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. Absorb excess water and puddles to prevent dilution of the patching material.

MIXING INSTRUCTIONS:

Rapid Repair PM will require approximately 3-4 litres of potable water per 25 kg. bag, to achieve the proper mix consistency. Add the Rapid Repair PM to the water and thoroughly mix to a stiff, no slump, putty-like consistency, mix for 3 minutes minimum but no more than 5 minutes in total.

To fill patches 7 cm (3") deep or greater, add clean, dry 1 cm (3/8") size pea rock or chip stone to the Rapid Repair PM. The mix ratio must not exceed 9 kg. (20 lbs) of rock to each 25kg. bag of Rapid Repair PM.

Mixing procedure: 1) Start mixer, 2) load water, 3) load rock, and 4) load the Rapid Repair PM.

WORKING CHARACTERISTICS:

Rapid Repair PM has a fast 30 minute initial set, and can be opened to traffic within three hours at 24°C (75°F). The mixed material trowels easily and has an easily workable consistency at all water contents. Due to the short working time of Rapid Repair PM it is important to organize the placement operation within this time limitation. After placement, the Rapid Repair PM will gain strength quickly and finishing operations may become difficult.

The working time may be extended by using cold materials and/or retarder. In cold weather, warm materials and/or an accelerator may be used to hasten the set and strength development.

APPLICATION TECHNIQUES:

To ensure complete bond with the entire surface, a prime coat of Rapid Repair PM mixed with water or our Latex Bonding Admixture as a slurry coat may be scrubbed into the concrete surface. The Rapid Repair PM is then mixed into a no slump consistency and firmly placed into the prepared area by hand or with a trowel. Apply sufficient force to fill all holes and voids, and then trowel to a smooth finish. On large areas, use a screed to obtain a uniform level before trowelling. It may be applied up to 7 cm (3") in one application.

For thin patching under 1cm (3/8") modification with an integral bonding additive according to manufacturer's specifications is highly recommended.

CURING TECHNIQUES:

Rapid Repair PM MUST be cured using water for first hour. Wet curing of all patches and exposed grout areas with saturated burlap or fine water mist is highly recommended. When Rapid Repair PM is applied in areas exposed to wind and/or direct sunlight the saturated burlap should be covered with a polyethylene sheet. The saturated burlap can be applied as soon as the product has set firm and surface won't be marred.

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 PM 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%.

FIBERS:

Polypropylene fiber reinforcement is used to make Rapid Repair Products even stronger while reducing plastic shrinkage cracking.

Polypropylene fibers are non-corrosive and alkali resistant. They are designed to reinforce Rapid Repair products. One bag of Rapid Repair PM requires 32 grams of fiber.

The fibers should be added to the mixing water and thoroughly blended **before** adding the Rapid Repair to the mixing water. If possible, continue to stir the water-fiber mix while slowly adding the dry mix to the water-fiber mixture. This will maximize the distribution of the fibers in the mix. All other standard procedures and practices for the use of grout or concrete should be followed. Fibers may stick up in the finished top surface but will wear off with time.

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.