



# Con-Spec Industries Ltd.

## RAPID REPAIR ULTRA PATCH

### DESCRIPTION:

Con-Spec's Rapid Repair Ultra Patch is a polymer modified, cementitious patching and repair material requiring only potable water for mixing. **Rapid Repair Ultra Patch is designed for patching featheredge to 3 cm (1") thick in one application.** It achieves initial set in approximately 60 minutes and can be opened to foot traffic within six hours at 24°C (75°F). Rapid Repair Ultra Patch develops high strength, a tenacious bond, excellent resistance to freeze thaw cycles & weathering, and exhibits excellent sulphate resistance. **Rapid Repair Ultra Patch is ideal for patching floors before the application of an epoxy coating.**

### USES:

Rapid Repair Ultra Patch is well suited for repair and patching of chipped, spalled or broken concrete, floors, walls, curbs, loading docks and ramps. Rapid Repair Ultra Patch can also be used for resetting floor tiles, repairing stucco, enhancing formed concrete surfaces and repairing surface imperfections. It can be used in vertical or horizontal, interior or exterior applications. The finished repair is dense, crack resistant, durable, and has exceptional strength.

### CHARACTERISTICS:

Rapid Repair Ultra Patch is a versatile patching material with improved flexural, tensile and reduced permeability characteristics. Ultra Patch can be modified with various ingredients to alter its characteristics. A retarder or accelerator is available to control setting characteristics in hot or cold conditions.

### LIMITATIONS:

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. For applications over 3 cm (1") in thickness use Rapid Repair Blue-Line Grout or Rapid Repair Mortar.

### COMPOSITION:

Rapid Repair Ultra Patch 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 Ultra Patch 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 ft<sup>2</sup> at 1/4" thick.

### PROPERTIES: (@23°C)

(@3.5L/25Kg Bag)

#### Compressive Strength (ASTM-C109)

|                   |             |
|-------------------|-------------|
| 1 Day Mpa (psi)   | 22 (3,200)  |
| 7 Days Mpa (psi)  | 29 (4,200)  |
| 28 Days Mpa (psi) | 34.4(5,000) |

#### Direct Tensile Strength (ASTM-C1583)

|                                    |                        |
|------------------------------------|------------------------|
| 7 Days                             |                        |
| with Water Mpa (psi)               | 1.7 (246)              |
| with Latex Mpa (psi)               | 3.7 (530)              |
| with Latex & Slurry Coat Mpa (psi) | >4.0 (580)             |
|                                    | exceeded test capacity |

#### Rapid Chloride Permeability (ASTM-C1202)

|                                      |               |
|--------------------------------------|---------------|
| 28 Days (Coulombs)                   | 1942 (Low)    |
| With Latex Bonding Admix (1:1 water) | 294(Very Low) |

### 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 Rapid Repair Ultra Patch.

### MIXING INSTRUCTIONS:

Rapid Repair Ultra Patch will require approximately 3.0-3.75 liters of potable water per 25 kg bag. 3 liters of liquid will provide a low slump material where 3.75 liters of water provides a flowable consistency. Add the Rapid Repair Ultra Patch to the water and thoroughly mix to the desired consistency, mix for 3 minutes minimum but no more than 5 minutes in total. If desired a 50:50 blend of water and Latex Bonding Admixture can be used in place of water or use 4 liters of Rapid Repair Mixing Liquid.

### WORKING CHARACTERISTICS:

Rapid Repair Ultra Patch has a 60 minute initial set, and can be opened to traffic within six hours at 24°C (75°F). The mixed material trowels easily and has an easily workable consistency at all water contents. Keep the working time of Ultra Patch in mind; it is important to organize the placement operation within the time limitation. After placement, the Ultra Patch will gain strength quickly and finishing operations may be difficult.

The working time may be extended by using cold materials and/or Rapid Repair Retarder.

**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:**

The Ultra Patch is mixed to a creamy consistency and firmly placed into the prepared area with a trowel. Apply sufficient force to fill all holes and voids, and then trowel to a smooth finish. On large areas, use a squeegee or screed to obtain a uniform level. It may be applied up to 3 cm (1") thick in one application. For critical applications to ensure complete bond with the entire surface, a prime coat of Rapid Repair Ultra Patch mixed with water or our Latex Bonding Admixture as a slurry coat may be scrubbed into the concrete surface.

### **CURING TECHNIQUES:**

Rapid Repair Ultra Patch does not require wet curing, unless exposed to wind or direct sun. When Ultra Patch is applied in areas exposed to wind and/or direct sunlight the water saturated burlap should be applied to the concrete surface and then covered with a polyethylene sheet. The burlap can be applied as soon as the product has set firm and the surface won't be marred. **Do not use solvent based curing compounds.**

### **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 Ultra Patch 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%.

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

### **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 Ultra Patch requires 32 grams of fiber.

The fibers should be added to the mixing liquid and thoroughly blended **before** adding the Ultra Patch to the mixing liquid. If possible, continue to stir the liquid-fiber mix while slowly adding the dry mix to the liquid-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 as hardened product is difficult to remove.

### **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.