

# Conpro Set

Trowel applied, single component, polymer modified cementitious repair mortar with ECB-Tech corrosion protection.

**WHERE TO USE**  
Structural and protective repairs to vertical, overhead and horizontal concrete.

## PERFORMANCE CHARACTERISTICS

### Low shrinkage

- Maintains integrity of repair, resists cracking.

### Thermal compatibility

- Prevents delamination due to temperature change.

### Corrosion protection

- Protects reinforcing steel in repair zone and suppresses ring anode effect.

### Durable

- Resistant to weathering action, excellent freeze/thaw stability and abrasion resistance.

### Very low permeability

- Resistant to deicing salts, carbonation, chloride, and chemical attack.

### Shaveable

- Recreate sharp edges and architectural details.

### Single component

- Easy to batch in less than full bag quantities.

## SURFACE PREPARATION

- Remove loose and deteriorated material, laitance, dirt, dust, oil and any surface contaminants that will inhibit proper bond.
- Saw cut edges with a diamond blade at a 90° angle to eliminate feather edging. Avoid polishing the edges, as this will inhibit bond.
- Avoid bruising or micro cracking during surface preparation. Refer to ICRI Surface Preparation Guide 03732.
- Repair zone must be a minimum of 1/4 inch deep, of simple geometry, with no complex edge conditions.
- Avoid long narrow repairs; these have a greater tendency to crack.
- Apply *Conpro Start* where a consolidant is of benefit (soft, powdery surfaces).

- Saturate substrate with clean water, (saturated surface dry/SSD), with no standing water during *Priming* or *Application*.
- Remove concrete from corroded steel and several inches beyond to expose non-corroded steel.
- Provide a 3/4 inch clearance between the concrete and steel.
- Damaged reinforcing steel should be inspected by a qualified engineer and appropriate action taken.

## PRIMING Concrete

- Prime the prepared substrate including all edges with a slurry coat of the repair mortar. Work the slurry into the substrate to ensure intimate contact and establish bond. The repair material must be applied while slurry is wet. If the slurry dries, remove and recoat.
- Alternatively, use *Conpro Primer* or *ECB* as a bonding primer. Refer to the individual product technical data bulletin for information.

### Reinforcing Steel

- Remove all scaling rust from reinforcing steel.
- Apply *ECB* anti-corrosion coating.

## MIXING

- Mechanically mix using a low speed drill (400 - 600 rpm) and mixing paddle or mortar mixer.
- Pour 3-1/2 quarts of potable water into a clean mixing vessel and slowly add all 50 lbs. of material.
- Maintain the same water to *Conpro Set* ratio when mixing less than full 50 lbs. units.
- Mix continuously for 3 minutes to a uniform, lump-free, stiff mortar consistency.
- Add up to 1 pint of additional water if needed.
- Allow to "breathe" for 1 minute and remix for 1 minute. This will improve workability and open time.

- Mix only as much material as can be placed in 10 - 15 minutes.
- Do not over mix, as this will entrain excess air.
- Do not re-temper, this will damage the cross-linking of the polymer and cause cracking and loss of bond.

## APPLICATION

- At the time of application, surfaces should be saturated surface dry (SSD) but hold no standing water.
- Follow instructions for *Priming*.
- Force the material against the edges of the repair, working toward the center.
- Material may be applied in multiple lifts of not less than 3/8 inch and no greater than 2 inches.
- Consolidate each lift and allow to stiffen to thumb-print hard before continuing.
- Scratch (cross-hatch) each lift to prepare surface for subsequent lift.
- Over-build final lift by 1/4 inch and allow to take initial set.
- Shave to final form with trowel edge up to 2 hours after application.
- Finish with a sponge float or trowel.
- Do not overwork the finish.
- For applications over 2 inches add a maximum of 30 lbs. of 3/8 inch aggregate per 50 lbs. bag. Aggregate must be non-reactive, low absorption, graded and high density.

## CURING

- Dampen the repair with a fine mist of water for 24 hours or moist cure with wet burlap and polyethylene. Alternatively, apply *Conpro C309 Cure & Seal*.
- Protect repair from direct sunlight, wind, rain and frost during curing period.

## CLEAN UP

- Clean tools and equipment with water immediately after use. Cured material must be removed mechanically.

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## COVERAGE/YIELD

- 0.42 ft.<sup>3</sup>/50 lbs.
- 0.65 ft.<sup>3</sup> when extended with 30 lbs. of 3/8 inch aggregate.

## PRODUCT HANDLING

### Packaging

- 50 lbs. multi-wall, poly lined bags;
- 10 lbs. and 50 lbs. plastic pails.

### Shelf Life

- Bag – 12 months when properly stored.
- Pail – 18 months when properly stored.

### Storage

- Transport and store in cool, clean, dry conditions in unopened containers.
- High temperature or high humidity will reduce shelf life.

## LIMITATIONS

- Do not apply unless substrate and ambient temperature can be maintained at a minimum of 40°F for 24 hours. Refer to ACI Cold Weather Application Guidelines.
- Cold mixing water and low temperature will retard set. Hot water and high temperature will accelerate set.
- Protect application from precipitation and high wind for at least 8 hours.
- Do not add more water than specified – this will lower strengths and cause shrinkage cracking.
- Do not re-temper polymer modified materials.
- Avoid overworking material during placement and finishing – this will produce surface (map) cracking.
- Surface whitening can occur when polyethylene is in contact with the material during the first 24 hours of curing.

## HEALTH AND SAFETY

- Product is alkaline.
- Do not ingest.
- Avoid breathing dust.
- Avoid contact with skin and eyes.
- Refer to Material Safety Data Sheet (MSDS) for additional information.

## FIRST AID

- In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with a high volume of water for at least 15 minutes and contact a medical professional. For respiratory problems, remove person to fresh air.

## DISPOSAL

- Dispose of material in accordance with local, state or federal regulations.

## TECHNICAL DATA

Physical state and appearance		Fine, gray powder				
Base		Portland cement				
pH	Wet mix	>12				
Water/cement ratio		0.43				
Density	Wet mix	130 lbs./ft. <sup>3</sup>				
Durometer hardness	ASTM D2240	80 - 85%				
Percent air	Wet mix	5.3%				
Resistance to deicing chemicals under freeze/thaw	ASTM C672	Passed 50 cycles – visual rating 0				
Length change	ASTM C157	500 µstrains @ 28 days				
Modulus of elasticity	ASTM C469	2.7 x 10 <sup>6</sup>				
Extended*		3.2 x 10 <sup>6</sup>				
Slant shear bond strength – latex	ASTM C1042	1605 psi – 14 days				
			<b>1 Day</b>	<b>7 Days</b>	<b>14 Days</b>	<b>28 Days</b>
Compressive strength – psi	ASTM C109			3210	6500	6525
Flexural strength – psi	ASTM C348		590	845	880	930
Tensile strength – psi	ASTM C307		360	550	600	680
Tensile bond strength – psi	ASTM C932			210	250	400
Splitting tensile strength – cylinders – psi	ASTM C496					660

\*Extend with 30 lbs. of 3/8 inch aggregate per 50 lbs. of material.

### FOR PROFESSIONAL USE ONLY

Conproco Corp. warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current technical data sheet if used as directed within shelf life. User determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. January 2005.

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