PRO SPEC®

3 Contributes LEED Points

PREMIUM PATCH 200

Description

ProSpec® Premium Patch 200 is a fast setting, fiber reinforced, polymer modified high strength cement based repair mortar designed for applications where high early strength gain is needed to reduce down time.

Features

- Over 2000 psi (14 MPa) in one hour allows repairs to be opened to traffic within 60 minutes
- Cement based, non-corrosive – not a chemical concrete
- Meets ASTM C 928, Standard Specification for Packaged, Dry, Very Rapid, Hardening Cementitious Materials for Concrete Repair
- Excellent bond – no bonding agent needed
- High performance cement technology and alkali resistant fibers help improve impact, flexural and tensile strengths
- Contains corrosion inhibitor
- Interior/exterior
- Polymer modified
- Wide temperature range from 20º F to 100º F (-6º C to 38º C)
- Apply 1/2" to 2"
- Can be extended up to 60% by weight for repairs greater than 2" (51 mm) deep
- Contains no chlorides or magnesium phosphates
- Compatible with portland cement formulated concrete
- Suitable for DOT horizontal concrete repair*

* Call for state DOT approvals

Uses

Concrete repair mortar designed to repair heavy duty surfaces such as:

- Highway repairs and overlays
- Bridge decks and parking structures
- Airport runways
- Freezer rooms
- Heavy industrial and warehouse repairs
- Loading docks and wastewater treatment facilities

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Technical Data

Working Time @ 70º F (21º C)	
15 minutes	
Set Time ASTM C 191 @ 70º F (21º C)	
Initial Set	Approx. 18 min.
Final Set	Approx. 20 min.
Compressive Strength ASTM C 109 @ 75° F (24° C)	
1 hour	2,650 psi (18.3 MPa)
3 hours	3,800 psi (26.2 MPa)
1 day	5,400 psi (37.2 MPa)
7 days	7,800 psi (53.8 MPa)
28 days	9,100 psi (62.7 MPa)
Compressive Strength ASTM C 109 @ 40° F (4° C)	
1 hour	–
3 hours	3,000 psi (20.7 MPa)
1 day	5,000 psi (34.5 MPa)
7 days	7,500 psi (51.7 MPa)
28 days	9,100 psi (62.7 MPa)
Compressive Strength ASTM C 109 @ 100° F (38° C)	
1 hour	3,000 psi (20.7 MPa)
3 hours	5,500 psi (37.9 MPa)
1 day	5,600 psi (38.6 MPa)
7 days	7,800 psi (53.8 MPa)
28 days	9,100 psi (62.7 MPa)

Test Length Change of Hardened Cement Mortar and Concrete ASTM C 928

Change	Water storage	Air storage	Differential
28 days	+0.038%	-0.094%	0.132%
ASTM C 928 requirement	Max. to 0.15%	Max. to -0.15%	Max. to 0.20%

Scaling Resistance (Freeze/Thaw) ASTM C 672 Average of 3 specimens

No. of Cycles	Rating	Condition of surface
5	0	No scaling visible
10	0	No scaling visible
15	0	No scaling visible
20	0	No scaling visible
25	0	No scaling visible

Bond Strength ASTM C 882	
1 day	1,500 psi (10.3 MPa)
7 days	3,000 psi (20.7 MPa)
Flexural Strength ASTM C 348	
7 days	1,100 psi (7.5 MPa)
28 days	1,200 psi (8.3 MPa)

Rapid Freeze/Thaw Test ASTM C 666 B

At 300 cycles there was no sign of spalling and an average weight loss of approximately 0.4% occurred

Test results obtained under controlled laboratory conditions. Reasonable variations can occur due to atmospheric and job site conditions. Water Used: 3.25 qts. (3.1 L) clean potable water per 50 lb. (22.7 kg) bag.

Preparation

Surfaces must be solid, clean, free of all bond breakers such as oil, grease, dirt etc. Weak concrete surfaces must be cleaned down to solid sound concrete by mechanical means.

The base concrete should be roughened to enhance mechanical bond and repair areas should be in a saturated surface dry (SSD) condition with all standing water removed. Using a stiff broom or brush apply a bond scrub coat of thinly mixed Premium Patch 200 to the adjacent surfaces. Do not let this bond coat dry, before covering it with Premium Patch 200. A minimum patch repair depth of 1/2" (13 mm) is required. This is best accomplished by saw cutting the patch area perimeter to the minimum 1/2" (13 mm) depth.

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Mixing

Mix as close to the area being repaired as possible. Premium Patch 200 requires only the addition of water. Use 3.25 qts. (3.0 L) per 50 lbs. (22.7 kg). Place the potable water into the mixing container and then while mixing add the repair material. The Premium Patch 200 can be mixed in a mortar mixer or by using a paddle attached to a heavy duty 1/2" drill (650 r.p.m.). Mix for 2-3 minutes to a lump free consistency. Do not re-temper or over water. Place immediately after mixing, working Premium Patch 200 firmly into the sides and bottom eliminating air pockets and insuring bond. This is best done working from one side of the cavity to the other and then screeding toward the adjoining concrete.

Premium Patch 200 must be extended 60% by weight using clean 3/8" (10 mm) dry pea gravel on repairs deeper than 2" (51 mm). Mix the Premium Patch 200 as outlined and then during the last minute of mixing (after 2 minutes) add the pea gravel, blend for one more minute and place.

Hot and Cold Weather Applications

Ideal mixed product temperature at placement is 65-70º F (21º C), where the initial setting time is 15-20 minutes. Hot temperatures will shorten setting time, while cold temperatures will extend setting time.

Hot Weather 80º F to 100º F (27º C to 38º C):
Keep Premium Patch 200 cool. Pre soak and then remove standing water from the repair area, resulting in a saturated surface dry (SSD) surface. Mix Premium Patch 200 using ice water to extend working time. The repair must be protected from rapid dry out with wet burlap or a water based curing compound.

Cold Weather 20º F to 40º F (-7º C to 4º C):
Do not use antifreeze or accelerators and keep Premium Patch 200 warm. Heat the surrounding concrete until warm. Combine the warmed repair material with warm mixing water. After placing use a construction insulating blanket for at least 2-3 hours and keep material from freezing.

Refer to

- ACI 305 Standard on Hot Weather Concreting
- ACI 306 Standard on Cold Weather Concreting

Best Performance

- Minimum application thickness is 1/2" (12 mm)
- Do not re-temper after mixing
- Do not over water or add other cements or additives
- Ideal ambient, surface and material temperatures are in the range of 40º F to 100º F (4º C to 38º C) for mixing and placing. Temperatures outside of this range refer to ACI Standards 305 and 306 or call ProSpec Technical Service
- Protect from premature drying

Curing

Premium Patch 200 should be moist cured for 1 hour after final set (approximately 20 minutes) or the application of a water based curing compound is acceptable. Prolonged wet curing minimizes the chances of cracking and improves physical properties.

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Yield

50 lbs. (22.7 kg) yields approximately 0.43 ft^3 (0.01 m^3)
50 lbs. (22.7 kg) extended with 30 lbs. (13.6 kg) of 3/8" (10 mm) pea gravel yields approximately 0.61 ft^3 (0.02 m^3)

Packaging

50 lbs. (22.7 kg) moisture resistant bag

Storage

Keep in cool/dry place unexposed to sunlight and tightly reseal container.

Shelf Life

One year when stored properly in original unopened container.

Caution

KEEP OUT OF REACH OF CHILDREN AND ANIMALS. WARNING!

Contains Portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. The wearing of gloves and safety goggles is recommended.

In case of eye contact, flood eyes with potable water and call physician. DO NOT RUB EYES. Do not take internally. Crystalline silica sand may cause serious lung problems. Avoid breathing dust and wear a respirator in dusty areas.

Consult Material Safety Data Sheet for further information.

First Aid

Inhalation: Remove to fresh air.

Eye Contact: Irrigate eye with water or consult physician if irritation persists.

Skin Contact: Washed exposed skin area with soap and water; consult a physician if irritation persists.

Ingestion: Immediately consult a physician.

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REV 12/08