

1. PRODUCT NAME

ProSpec® Premium Patch 100

2. MANUFACTURER

Bonsal American
8201 Arrowridge Blvd.
Charlotte, NC 28273-5678 USA

Tech Services: 1.800.334.0784
Fax: 1.704.529.5261
Internet: www.prospec.com

3. PRODUCT DESCRIPTION

ProSpec Premium Patch 100 is a fast-setting, fiber-reinforced, high strength, cement-based repair mortar designed for applications where high early strength gain is needed to reduce down time.

Features and Benefits

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

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

* Call for ProSpec Technical Services for state DOT approvals

Safety

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website www.prospec.com or contact CHEMTREC (24 hours availability) 800-424-9300 for International inquiries +011-703-527-3887, or contact Bonsal American Technical Services at 800-334-0784 (8:00 AM to 5:00 PM Eastern US Time).

4. TECHNICAL DATA

ProSpec Premium Patch 100 Neat			
Set Time (vicat) - ASTM C 191			
Initial Set	37 minutes		
Final Set	46 minutes		
Flow - ASTM C 1437	128		
Compressive Strength - ASTM C 109			
	45°F	73°F	95°F
3 hours	2,980 psi (20.6 MPa)	4,830 psi (33.3 MPa)	4,720 psi (32.5 MPa)
1 day	8,250 psi (56.9 MPa)	6,750 psi (46.5 MPa)	6,890 psi (47.5 MPa)
7 days	10,390 psi (71.6 MPa)	8,330 psi (57.4 MPa)	8,860 psi (61.1 MPa)
28 days	10,810 psi (74.5 MPa)	9,270 psi (63.9 MPa)	9,930 psi (68.5 MPa)
Length Change (%) - ASTM C 157		1" Prism	3' Prism
Air Cured (28 d)		-0.067	-0.044
Water Cured (28 d)		0.027	0.020
Shear Bond Strength - ASTM C 882			
1 day	1,500 psi (10.3 MPa)		
7 days	1,830 psi (12.6 MPa)		
28 days	2,000 psi (13.8 MPa)		
Salt Scaling (25 cycles) - ASTM C 672		0 Scaling	
Freeze/Thaw Resistance (300 cycles) - ASTM C 666 (B)	F/T Durability	% weight loss	
	RDM - 92%	0.4%	

TECHNICAL DATA (cont.)

Freeze/Thaw Durability (50 cycles) - NY 502-3P	0% Loss
Absorption (28 d) - ASTM C 140	9.0%
Chloride Content - ASTM C 1218	0.004% wt
Flexural Strength - ASTM C 78	470 psi (3.2 MPa)
Chloride Penetrability (28 d) - ASTM C1202	2,750 Coulombs
Splitting Tensile Strength (28 d) - ASTM C 496	550 psi (3.8 MPa)
Modules of Elasticity (28 d) - ASTM C469	4.06 x 10 ⁶ psi
Coefficient of Thermal Expansion (28 d) - ASTM C 531	5.9 x 10 ⁻⁶ in/in/°F

Note: TEC Inc. Report number 09-0500 - Test results obtained under controlled water temperature and laboratory conditions at 73° (22.7°C) and 50% relative humidity unless otherwise specified. Tested using 2.5 qt (2.4 L) water per 50 lb (22.7 kg) powder. Reasonable variations can be expected due to atmospheric and job site conditions.

ProSpec Premium Patch 100 Extended 50% with 3/8" Coarse Aggregate	
Slump	3.5"
Compressive Strength - ASTM C 39	
1 hr	2,770 psi (19.1 MPa)
3 hr	3,540 psi (24.4 MPa)
1 day	4,570 psi (31.5 MPa)
7 day	5,550 psi (38.3 MPa)
Flexural Strength (4 hr) ASTM C 78	700 psi (4.8 MPa)
Shear Bond Strength (1 d) - ASTM C882	1,580 psi (10.9 MPa)

Note: TEC Inc. Report number 09-0500 - Test results obtained under controlled laboratory conditions at 73° (22.7°C) and 50% relative humidity unless otherwise specified. Tested using 5.17 qt (4.9 L) water per 150 lb (68.1 kg) powder (100 lb (45.4 kg) Premium Patch 100 + 50 lb (22.7 kg) coarse aggregate). Reasonable variations can be expected due to atmospheric and job site conditions.

LEED Eligibility¹

- Regional Materials (MR-c5)

Product Enhancement



Expansion Stabilization Technology (EST™) - Special additive designed to reduce the potential for cracking and shrinkage.



Rapid Cure Technology (RCT®) - Improves the strength, controls shrinkage and prevents efflorescence of our products without sacrificing workability or working time.

Packaging

Gray: 50 lb (22.7 kg) bag - Product #65510319

Shelf Life

12 months from the date of manufacture when stored in the original, unopened container, away from moisture, under cool, dry conditions and out of direct sunlight.

5. INSTALLATION Preparation

All materials should be stored at 40°F (4°C) to 80°F (27°C) 24 hours prior to installation.

- 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 100 to the adjacent surfaces.
- Do not let this bond coat dry, before covering it with Premium Patch 100. 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.

Note: It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

Application

Ideal application conditions are when air, material and substrate temperature are between 40°F (4°C) and 80°F (27°C). For applications outside this range of temperatures, contact ProSpec Technical Services.

Hot and Cold Weather Applications

Ideal mixed product temperature at placement is 65° - 70°F (18° - 21°C), where the initial setting time is 20 - 30 minutes. Hot temperatures will shorten setting time, while cold temperatures will extend setting time.

Hot Weather 80°F to 100°F (27°C to 38°C):

Keep Premium Patch 100 cool. Pre-soak and then remove standing water from the repair area, resulting in a saturated surface dry (SSD) surface. Mix Premium Patch 100 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 20°F to 40°F (-7°C to 4°C):

Do not use antifreeze or accelerators and keep Premium Patch 100 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](#)

Job Mockups

Bonsal American, Inc. requires that when its ProSpec products are used in any application or as part of any system that includes other manufacturers' products, the contractor and/or design professional shall test all the system components collectively for compatibility, performance and long-term intended use in accordance with pertinent and accepted industry standards prior to any construction. Written documentation of the tests performed shall be satisfactory to the design professional and contractor. Test results must include the means and methods of application, products used, project-specific conditions being addressed, and standardized tests performed for each proposed system or variation.

Mixing

- Mix as close to the area being repaired as possible. Premium Patch 100 requires only the addition of water. Use 2.5 qts (2.4 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 100 can be mixed in a mortar mixer or by using a paddle attached to a heavy duty 1/2" drill (650 rpm). Mix for 2 - 3 minutes to a lump free consistency. Do not re-temper or overwater.
- Place immediately after mixing, working Premium Patch 100 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 100 may 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 100 as outlined and then during the last minute of mixing (after 2 minutes) add the pea gravel, blend for one more minute and place.

Curing

Premium Patch 100 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.

Cleaning

Use water to clean all tools immediately after use.

Limitations

- Do not use for applications less than 1/2" (13 mm) thick.
- Do not retemper after mixing.
- Do not overwater or add other cements or additives.
- Protect from premature drying.

Coverage

50 lbs (22.7 kg) yields approximately 0.4 ft³ (0.01 m³).
50 lbs (22.7 kg) extended with 30 lbs (13.6 kg) of 3/8" (10 mm) pea gravel yields approximately 0.7 ft³ (0.02 m³).

6. TECHNICAL SERVICES

Technical assistance:

Information is available by calling ProSpec Technical Services Hotline (Hours - 8:00 AM to 5:00 PM EST):

Toll Free: 1.800.334.0784

Fax: 1.704.945.0309

Technical and safety literature:

To acquire technical and safety literature, please visit our website at www.prospec.com.

¹ ProSpec products can contribute to LEED credits within the Material Resource, (Recycled Content & Regional Materials) and Indoor Environmental Quality (Low Emitting Materials).

DANGER

Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Do not eat, drink or smoke when using this product. Wash skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust. If swallowed: Immediately call a poison center/doctor. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

This product contains Crystalline Silica, Quartz and may also contain trace amounts of other chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

32 % of the mixture consists of ingredient(s) of unknown acute toxicity.

ENVIRONMENTAL ADVISORY

Uncured or crushed cured cement is an environmental hazard, which may adversely affect fish and wildlife. Dispose of construction debris containing cement, including empty bags, at a permitted municipal disposal firm. Do not use crushed concrete as a fill near an aquatic habitat.

Bonsal American, Inc. (Bonsal) warrants that this product is free from defects in material and workmanship, and will perform per the Bonsal American® product literature in effect at the time of purchase. This warranty is for one (1) year from the date of purchase. Any implied warranty of merchantability or fitness for a particular purpose is limited to the duration of this express warranty. This warranty applies only if the product is used, in strict accord with Bonsal American published instructions. The sole and exclusive remedy under this warranty is replacement of the defective product or refund of the purchase price, at Bonsal's option. **CONSEQUENTIAL, SPECIAL AND INCIDENTAL DAMAGES ARE NOT RECOVERABLE UNDER THIS WARRANTY.** All claims under this warranty must be submitted to Bonsal by calling (800) 334-0784. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

PROSPEC
Floor Preparation • Concrete Repair • Tile Setting



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8201 Arrowridge Blvd. Charlotte, NC 28273 • www.prospec.com • E-Mail: prospec@oldcastle.com