

1. PRODUCT NAME

ProSpec® Premium Patch 100

2. MANUFACTURER

TEC Specialty Products LLC
1105 South Frontenac Street
Aurora, IL 60504-6451 U.S.A.
1-800-832-9002 Customer Service
1-800-832-9023 Technical Support
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 & BENEFITS

- Interior/exterior
- High early strength – over 2,000 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" (13 mm to 51 mm)
- 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 C928, Standard Specification for Packaged, Dry, Very Rapid, Hardening Cementitious Materials for Concrete Repair

* Call for ProSpec® Technical Services 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

SAFETY

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT.

SDS Sheets are available on our website prospec.com or contact Medical Emergency Phone Number (24 Hours): 1-888-853-1758, Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300 or contact ProSpec® Technical Services at 800-832-9023 (7:00AM to 5:00PM M-F, Central US Time).

CAUTIONS

Read complete cautionary information printed on product container prior to use. For medical emergency information, call 1-888-853-1758. This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered ProSpec® brand product(s) under normal environmental and working conditions. Because each project is different, TEC Specialty Products LLC cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

LEED® Eligibility¹

- Regional Materials (MR-c5)

PRODUCT ENHANCEMENTS



Rapid Cure Technology (RCT®)

Improves the strength, controls shrinkage and prevents efflorescence of our products without sacrificing workability or working time.



Expansion Stabilization Technology (EST™)

Special additive designed to reduce the potential for cracking and shrinkage.

PACKAGING

Gray: 50 lb (22.7 kg) bag

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.

4. 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

JOB MOCKUPS

The manufacturer 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 qt (2.4 L) per 50 lb (22.7 kg). Place the potable water into the mixing container and then while mixing add the repair material.
- 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 retemper or overwater.
- Place immediately after mixing, working Premium Patch 100 firmly into the sides and bottom eliminating air pockets and ensuring bond. This is best done working from one side of the cavity to the other and then screeding toward the adjoining concrete.
- For repairs deeper than 2" (5 cm), Premium Patch 100 can be extended 60% by weight using clean 3/8" (10 mm) dry pea gravel. Mix the Premium Patch 100 as outlined and then during the last minute of mixing (after 2 minutes) add the pea gravel, blend for 1 additional 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 lb (22.7 kg) yields approximately 0.4 ft³ (0.01 m³).

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

5. AVAILABILITY

To locate ProSpec® products in your area, please contact:

Phone: 800-832-9002

Website: prospec.com

6. WARRANTY

For warranty details, see your sales associate or prospec.com

7. MAINTENANCE

Not applicable

8. TECHNICAL SERVICES

Technical Assistance Information is available by calling the Technical Support Hotline.

Toll Free: 800-832-9023

Fax: 630-952-1235

Technical and Safety Literature

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

9. FILING SYSTEM

Division 3

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

10. TECHNICAL DATA

ProSpec® Premium Patch 100 - Neat	
Set Time (vicat) ASTM C191	
Initial Set	37 minutes
Final Set	46 minutes
Flow - ASTM C1437	128

Compressive Strength ASTM C109			
	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 C157		
	1" Prism	3' Prism
Air Cured (28 days)	-0.067	-0.044
Water Cured (28 days)	0.027	0.020

Shear Bond Strength ASTM C882	
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 ASTM C672	
25 cycles	0 scaling

Freeze/Thaw Resistance ASTM C666 (B)		
	F/T Durability	% Weight Loss
300 cycles	RDM - 92%	0.4%

Freeze/Thaw Durability NY 502-3P	
50 cycles	0% loss

Absorption ASTM C140	
28 days	9.0%

Chloride Content ASTM C 1218	0.004% wt
Flexural Strength ASTM C 78	470 psi (3.2 MPa)

Chloride Penetrability ASTM C1202	
28 days	2,750 Coulombs

Splitting Tensile Strength ASTM C496	
28 days	550 psi (3.8 MPa)

Modules of Elasticity ASTM C469	
28 days	4.06 x 106 psi

Coefficient of Thermal Expansion ASTM C531	
28 days	5.9 x 10-6 in/in/°F

Greater than: > Greater than or equal to: ≥ Less than: < Less than or equal to: ≤

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 When Extended 50% with 3/8" Coarse Aggregate	
Slump	3.5"
Compressive Strength - ASTM C39	
1 hour	2,770 psi (19.1 MPa)
3 hours	3,540 psi (24.4 MPa)
1 day	4,570 psi (31.5 MPa)
7 days	5,550 psi (38.3 MPa)

Flexural Strength - ASTM C78	
4 hours	700 psi (4.8 MPa)

Shear Bond Strength - ASTM C882	
1 day	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.

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Data Sheets are subject to change without notice.
For the latest revision, check our website
at prospec.com



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