

INSTALLATION GUIDELINE: FastPatch DPR Bulk Applied

Overview

- Description
- Material Equipment Requirements
- Surface Preparation
- Material Handling
- Installation
- Customization Options
- Troubleshooting

Description

FastPatch DPR is an easy-to-apply, durable material supplied in bulk containers for rapid deployment. It is a polymer binder based on a blend of recycled and renewable materials designed to be installed in clean, dry, and sound areas. There are three color options of Black, Gray or Tan, and topping sand (Black or Natural) is applied to provide a textured surface. It can be applied in warm conditions, or in cooler conditions with the aid of FastPatch Kicker accelerator, to form a fast return-to-service material.

Material & Equipment Requirements

The following materials and equipment are typically used during bulk application of FastPatch DPR.

Materials	
	FastPatch DPR (Bulk) Resin (Black, Gray, Tan); 250-gal totes, 50-gal drums
	FastPatch DPR (Bulk) Iso; 250 gal totes, 50-gal drums
	FastPatch Aggregate: 50 lb. of 3000 lb-bags.
	FastPatch Kicker: Accelerator, case of 12 bottles (1.0 oz.)
	FastPatch Topping Sand: Black or Natural, 50 lb or 2000 lb-bags
Equipment	
	WV-410 1:1 METER with compressor
	Mixers-Plastic, 50 count
	Bulk aggregate mixer; 6 cubic ft.
	Agitator: Drum or tote
	High velocity and CFM Blower or compressed air (120 CFM / 90 psi)
	Other tools: (may be required to prepare area)
	<ul style="list-style-type: none"> • Dry concrete saw • Angle grinder with wheel suitable for concrete and/or steel • Chipping hammer/chisel, electric or pneumatic

Surface Preparation

1. Pavement must be structurally sound (200psi or greater according to
2. ASTM D7234), clean (ASTM D4258), and dry (less than 5%, ASTM E1907).
3. Moisture or oil in areas will result in poor adhesion. Apply product only if surface is dry and ambient temperature is 5° F (3° C) above dew point. Product may expand if it comes in contact with soil due to presence of moisture.
4. Remove all contaminants (e.g., oil, dust, sand, moisture) from surface for proper adhesion.
5. For maximum adhesion, profile surface according to ICRI Guide 03732, to a minimum of CSP 3, by abrasive blasting.
6. Use a minimum 120 PSI continuously dry compressed air to blow out loose debris, dirt and dust prior to applying product. Moist pavement can be torched dry. If moisture returns immediately after torching, stop and do not install in this area.
7. Use a steel bristle brush to remove dirt on vertical and horizontal pavement surfaces. Use a minimum 120 PSI continuously dry compressed air to blow out repair area, prior to applying product.
8. As necessary, plug all gaps or joints surrounding the repair area with foam.
9. Protect surrounding surfaces to the repair area with tape to prevent contamination.
10. Priming all surfaces with POLYPrime is recommended to strengthen bonding surface and maximize adhesion. Refer to primer TDS sheets for detailed instructions.

11. Honor all moving joints or moving cracks in the area by saw-cutting after FastPatch has cured or installing form board during application.
12. OTHER MATERIALS
13. Previously installed polymer materials must be tested to determine best method of preparation for acceptable adhesion. Typically, methods will include solvent cleaning, abrading, and vacuuming surfaces.
14. Avoid installing FastPatch on bare ground, dirt, grass or other non- structural surfaces. Applications surfaces must be dry.

Material Handling

1. Always wear appropriate PPE when working with FastPatch DPR (e.g. safety glasses and gloves).
2. Precondition all materials to 70°F (21°C) for 24 hours before use and store between 60- 90° F (15-32° C).
3. Ensure that FastPatch DPR material in bulk containers is thoroughly mixed before application starts.
4. For colder temperature conditions, use FastPatch Kicker to shorten cure time.
5. Check that surfaces are ready for application before mixing and applying FastPatch.
6. Protect surfaces around the area with tape to prevent contamination of surrounding surface.
7. Place mixing station a short distance from the application area.
8. Wear gloves and safety glasses while mixing and applying material.
9. Follow the proper start-up procedure for operating the meter. Refer to manufacturer's recommendations.
10. Test the operation of meter and verify set time of FastPatch by dispensing 400ml in a cup and recording set time before beginning application.
11. Test the operation of the aggregate mixer

Installation

1. Load the aggregate mixer with FastPatch Aggregate and turn on mixer at a low RPM.
2. Add Kicker to the mixer. Refer to manufacturer's recommendation.
3. Dispense FastPatch at the recommended 1: 1.60 of equal Part A & Part B volume to Aggregate volume, ratio into the mixer while running at a low RPM. Volume ratio can vary according to the needs of the application.
4. Only mix a batch volume that can be deployed in less than the work-life of FastPatch. Typical volumes are between 6-12 gallons.
5. Once dispensing is complete, run mixer for 1-2 minutes or until mixture is uniform in appearance. Visually inspect the consistency and don't install if it appears to be incorrect.
6. Turn off mixer and unload into a hopper or similar deployment equipment for placing FastPatch into application area.
7. Install FastPatch at an even, steady rate that matches the dispensing rate of the deployment device. Install FastPatch in less than 4" (10 cm) layers and repeat the application if thicker layers are required.
8. Install FastPatch to the lowest surrounding elevation and when applying on grade of uneven surfaces more time, handling, and aggregate may be required to install material. Test different method to identify the most efficient and effective technique for the application area.
9. Apply Topping Sand to surface are 10 minutes or when more than 50% remains on the surface and doesn't sink into the material.
10. Typical return-to-traffic time is 1-hour at 70°F (21°C). Colder temperatures will slow cure. Warmer temperatures will speed cure.
11. Honor all joints by sawcutting or installing form board before installing product.
12. In areas where material comes in contact with different materials such as concrete, asphalt, sealant, etc., movement or thermal cycling may negatively affect adhesion and hairline cracks may form in surrounding material or at the bond interface. If desired, a sealant may be applied over the material to seal these areas.
13. SKID RESISTANCE: It is the responsibility of the Applicator to ensure product meets minimum skid resistance requirements. Refer to the agency or end-user friction management policy or specifications to determine minimum skid resistance and test method requirements. Aggregate (Sand, pumice, flint) can be added topically at the gel stage or FastPatch can be ground, sanded or abraded to achieve any necessary skid resistant texture.

Customization Options:

1. **Increase Self-leveling / Flow-ability**
 - a. Lower the volume ratio of DPR to Aggregate by 10%.
2. **Faster Curing Time (useful for applications at colder temperatures)**
 - a. Add Kicker to FastPatch Aggregate. As a starting point, add 1 bottle for every 2 gallons of FastPatch DPR. Test set time to ensure material has enough time to be places in application area. Increase the number of bottles of Kickers

3. **Slower Curing Time (useful for applications in hotter temperatures)**
 - a. Store containers and aggregate in cool location until time of use (65-75F) to maximize working time.
 - b. When containers and aggregate are very warm, material will be difficult to work with and can cause failure to adhere.
4. **Decrease Flowability to Give Slope Grade / Trowel Grade Consistency**
 - a. Increase the volume ratio of Aggregate by 10% until consistency increases as desired
 - b. It is not recommended to increase aggregate loading beyond approx. 10% above normal, if too much aggregate is added, the material will be overloaded and have trouble adhering to surface.

Troubleshooting

- **Cures too fast**
 - Cause:**
 - Material, aggregate or liquids, are too warm.
 - Mix time is too long or left too long in the bucket.
 - **Corrective Action:**
 - Store materials in a cool (65-75F), dry, shaded area for at least 24 hours before use.
 - While working, keep in cool location until needed to maximize working time.
 - Make sure mix time is 1- 2 minutes and install immediately.
- **Cures too slowly.**
 - Cause:**
 - Material is cold and repair area is cold. Store in a dry area at 65-75F.
 - Center of the repair area will cure faster than the sides in cooler conditions.
 - Corrective Action:**
 - Use the KICKER in cooler conditions.
 - Warm repair area with a heating source.
- **Color is 'greenish', not gray or black.**
 - Cause:**
 - Poor mixing of the aggregate and liquids.
 - Not scraping sides and bottom mixing container.
 - Corrective Action:**
 - Make sure mix times are followed. Scrape sides and bottom while mixing.
- **Not curing or hardening after several hours.**
 - Cause:**
 - Poor mixing of the aggregate and liquids.
 - Not scraping sides and bottom while mixing.
 - Wrong style of mixer was used.
 - Entire amount of liquids was not used.
 - Corrective Action:**
 - Use correct mixer. Scrape sides and bottom while mixing. Other mixer styles, "Mortar Mixer or Blade/Fin Mixers" will result in poor mixing and unmixed material.
 - Verify set time in a test cup before beginning application. Do not use if set time is incorrect.
- **Repair area cracked.**
 - Cause:**
 - Repair area had an existing crack or joint that is moving after being repaired.
 - Corrective Action:**
 - Honor active cracks or joints by installing a foam board during installation of repair material or saw cut the active crack/joint after repairing. Install a joint sealant material in moving crack/joint to seal area.

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W07-R&D-GUI-001REV 01
Revised: April 2016