

# Technical Data Sheet



Willamette Valley Company

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Partnering through service,  
innovation, and integrity

# FastPatch XD

## Integrally-Flexible Concrete Spall Repair

### DESCRIPTION

FastPatch XD is a semi-flexible, two-component urethane designed as a fast curing repair product for concrete roadways. It is a 100% solids product supplied in ready-to-use kits or drums/totes for metered applications. FastPatch XD has excellent adhesion to concrete. Concrete repaired with FastPatch XD can be opened to traffic in as little as an hour.

### WHERE TO USE

- **Roadways**—cracks, spalls, broken slabs, construction joints
- **Parking Lots**—repair damaged areas
- **Warehouse**—transitions or spalls
- **Sidewalks**—broken or damaged areas

### FEATURES AND BENEFITS

- **Cold Applied**—easy to use and safe to apply
- **Fast Curing**—reopen to traffic quickly
- **Flexible**—absorbs impact and stress
- **Excellent Adhesion**—restores damaged areas

### PACKAGING

5-gallon buckets  
50-gallon drums

### COLORS

Gray

### YIELD

5-gallon sets = 15 gal mixed (2.0ft<sup>3</sup>).  
With gravel volume = 30 gal (4.0ft<sup>3</sup>)

50-gallon sets = 150 gal mixed (20.0ft<sup>3</sup>).  
With gravel volume = 300 gal (40.0ft<sup>3</sup>).

### SHELF LIFE

1 year when properly stored.

### STORAGE

Store and ship this product in a clean, dry, low-humidity, shaded or covered environment at 60-90°F (15-32°C).

## TECHNICAL INFORMATION

### Typical Properties

<b>VOC</b> , lbs/gal (g/L), ASTM D 2369	0
<b>Viscosity</b> , cps, ASTM D 4878, mixed	2200
<b>Service Temperature</b> , ° F (° C)	-30 to 170 (-34 to 77)
<b>Potlife</b> , min., 70° F (21° C)	8min
<b>Set Time In Mass</b> , 70° F (21° C)	16min
<b>Tack Free Time In Mass</b> , 70° F (21° C)	60min
<b>Tensile Strength</b> , PSI, ASTM D 412	2500
<b>Compressive Strength</b> , ASTM C 579, psi at 1/10"(MPa)	2500 – 3000 (17.2 – 20.7)*
<b>Elongation</b> , %, ASTM D 412 (24hr Cure @ 70°F)	207
<b>Hardness</b> , Shore D, ASTM D 2240	65
<b>Concrete Adhesion</b> , psi (Mpa), ASTM D 7234	500 (3.4 100% concrete (primed))

\*Compression strength using WVCO gravel. Compressive strength varies with aggregate type.

### Processing Parameters

<b>Ratio by Volume</b>	2 to 1 (Resin to Iso)
<b>Application Temp</b> , ° F (° C)	38** to 100 (10** to 37)
<b>Recommended Thickness</b>	Varies, refer to application instructions
<b>Recommended Repair Size</b>	Less than 16 ft <sup>2</sup> (1.49m <sup>2</sup> )
<b>Mix Tube Size for Meter Dispensed</b>	13 mm diameter with 32 elements

\*\*Lower application temperatures possible, contact WVCO for more information.

### FastPatch: Effect of temperature on pot life and set time

Temp. °F (°C)	Pot Life (min.)	Set Time (min.)
100 (38)	5	7
70 (21)	8	16
50 (10)	15	75

## APPLICATION

### SURFACE PREPARATION

#### CONCRETE

1. The concrete surface being repaired must be fully cured 28 days, structurally sound (200psi or greater according to ASTM D7234), clean (ASTM D4258), and dry (less than 5%, ASTM E1907).
2. Contact manufacturer for submersion applications.
3. Concrete surface must be dry and clean. Water or oil present can result in poor adhesion. Apply product only if surface temperature is 5° F (3° C) above the dew point to avoid application over damp surface.
4. Remove any contaminants before profiling surface.
5. It is recommended to profile surface according to ICR1 Guide 03732 to a minimum of CSP 3 by abrasive blasting.
6. Saw cut spall area in shape of a square 1-3 inches (2.54-7.6 cm) deep, hammer (15 lb) spall area and remove debris. Remove all loose rebar, exposed rebar embedded in concrete can remain. Recommended repair size is less than 16 ft<sup>2</sup> (1.49m<sup>2</sup>).
7. Use a minimum 120 PSI continuously dry compressed air to blow out the remaining loose debris, dirt and dust prior to applying product. Moist concrete can be torched dry. If moisture returns immediately after torching, stop and do not install FastPatch in this area.
8. Use a wire bristle brush to remove dirt on the concrete bond surfaces. Use compressed air after wire brushing on all bond surfaces.
9. As necessary plug all gaps, sinkers or joints surrounding the spall area. Use foam backer rod or other suitable filler.
10. Priming all concrete surfaces is recommended. Prime with PolyPrime or contact WVCO for proper primer selection. Refer to primer TDS for detailed instructions.  
NOTE: For spalled areas it is recommended to honor most joints or moving cracks in the area by saw-cutting and or forming FastPatch. Construction joints do not always require saw cutting. Contact manufacturer for more details. Forming areas for bridge header designs using FastPatch can be accomplished using foam board. Contact manufacturer for more details.

#### OTHER MATERIALS

1. Previously installed polymer materials must be tested to determine the best method of preparation to achieve acceptable adhesion. Consult manufacturer for recommendations. Typically, methods will include removal, solvent cleaning, abrading, and or vacuuming surface.
2. FastPatch is not typically recommended for use in asphaltic roadways. Exceptions do occur; contact manufacturer for more details.
3. Avoid placing FASTPATCH on asphaltic patching materials, bare ground, dirt, grass or other non-structural surfaces.

### GRAVEL INFORMATION

1. Use recommended FastPatch Gravel for applications. Gravel may be purchased from multiple sources. Suitability must be determined by the end user. Contact WVCO for recommended tests and evaluation procedures or for gravel approval. Gravel should be approximately 3/8" round rock that is washed and dried. Sourced gravel should have Mohs scale hardness:  $\geq 5$ .
2. Gravel makes up 40-50% of the repair volume.
3. Typically 20-lbs (9 kg) of gravel is required for each gallon of mixed resin/iso.

### KIT PROCESSING

1. Precondition the resin, iso, and gravel to approximately 70°F (21°C) for 24 hours before use. Gravel must be dry and relatively free of dust.
2. Resin, iso, and gravel can be heated up to 90°F (32°C) to speed cure at colder temperatures. It is required to condition to > 70°F (21°C) for all components when the surface temperature is below 50°F (10°C).
3. Check that primed surfaces are ready for application of FastPatch before applying mixed material.
4. Ensure that the mixing station is a short distance from the application area. Multiple kits can be mixed at the same time when repairing large or multiple repairs.
5. Use entire kit and do not divide.
6. Attach a clean mixing blade with a width 1/3 the diameter of the mixing container to a 500RPM drill.
7. POTLIFE IS LESS THAN 5 MINUTES. USE IMMEDIATELY AFTER MIXING. HIGHER TEMPERATURES WILL DECREASE POTLIFE.

### APPLICATION

1. Protect the surfaces around the application area as necessary during installation.
2. Prime all bond surfaces. Allow the primer to extend up to 1" beyond spalled area.

3. Remove all the contents from the bucket: two containers, topping sand and the gravel. Inside are two containers (1 gal – resin, 0.25 gallon – iso), and gravel.
4. Place gravel in spall below surrounding surface by 0.25-0.5 in (0.64-1.3 cm). Gravel should be placed in repairs  $\geq 1$  in. thick. Material can be used neat in cracks, joints, or shallow repairs. Discard excess gravel and use the bucket for mixing the resin and iso.
5. Shake the resin container for 30 seconds and pour the contents into the mixing bucket.
6. Add the iso to the mixing bucket and mix together for 20 seconds. Scrape the SIDES and BOTTOM of the bucket with a wooden straight edge and continue to mix for an additional 20 seconds. All of the iso must be thoroughly incorporated in the resin before adding it to the spall. THE MATERIAL MAY NOT SET-UP IF IT IS IMPROPERLY MIXED. Signs of poor mixing include dark swirls and tacky material that does not solidify.
7. IMMEDIATELY pour mixed FastPatch over the gravel.
8. Trowel (plastic) FastPatch level with surrounding surface. Avoid overfilling spall area.
9. Add the topping sand as necessary when the material has gelled. Add topping sand to refusal.

### METER PROCESSING

1. For meter applied applications contact Willamette Valley Company Precision Technologies Division for equipment recommendations.
2. Precondition the resin, iso and gravel to approximately 70°F (21°C) for 24 hours before using.
3. Resin, iso, and gravel can be heated up to 90°F (32°C) to speed cure at colder temperatures. It is required to condition to > 70°F (21°C) for all components when the surface temperature is below 50°F (10°C).
4. Mechanically mix resin for at least 30 minutes before proportioning begins. Use a mixer fitted with blades that are 1/3 the diameter of the container to redistribute any settled material.
5. Test the meter operation and FastPatch before dispensing in spall area using a 13 mm diameter mixer with 32-elements. Dispense in test area to verify FastPatch material sets up in less than 15 minutes.

### APPLICATION

1. Protect the surfaces around the application area as necessary during installation.
2. Prime all bond surfaces. Allow the primer to extend up to 1" (2.5cm) beyond spalled area.
3. It is recommended to pre-dispense FastPatch on all bond surfaces of the spall.
4. Place gravel in spall below surrounding surface by 0.25-0.5 in (0.64-1.3 cm). Gravel should be placed in repairs  $\geq 1$  in thick. Material can be used neat in cracks, joints, or shallow repairs.
5. Insert mix tube nozzle in the lowest elevation of the gravel and dispense until FastPatch floats on the gravel. Move the mix tube to higher elevations while dispensing until the entire spall is flooded with FastPatch.
6. Trowel (plastic) FastPatch level with surrounding surface. Avoid overfilling spall area.
7. Add desired topping sand as necessary to refusal when the material has gelled. Various sands can be used, contact manufacturer for more details.
8. Sanding Larger Repairs: use skim coat and apply additional topping sand for desired texture. Skim coat must be applied within < 1-hour after the initial repair has solidified.

NOTE: Material is typically ready for traffic in 1-hour at 70°F (21°C). Colder temperatures and cold gravel will slow the cure. Warmer temperatures will speed the cure.

SKID RESISTANCE: It is the responsibility of the Applicator to ensure the product meets the minimum skid resistance requirement. Refer to the Agency or End-user friction policy or specifications to determine the minimum skid resistance and test method requirement. 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.

### CLEANING & MAINTENANCE

- Clean equipment with POLYQuik® Cleaner or acetone immediately after use. Cured material must be removed mechanically.

## HEALTH AND SAFETY

Before handling, you should become familiar with the Safety Data Sheet (SDS) regarding the risks and safe use of this product. To obtain an SDS please call 800 333 9826 or send an email to: [msds@wilvaco.com](mailto:msds@wilvaco.com).

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