

Technical
Data Sheet



Willamette Valley Company

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Partnering through service,
innovation, and integrity

FastPatch Biobased MDGC

Flexible spall repair product

DESCRIPTION

FastPatch Biobased MDGC is flexible, two-component urethane designed to be a fast curing repair product for concrete roadways. It is a 100% solids product comprised of 40% biobased materials and supplied in ready-to-use kits or drum for meter applied applications. It has excellent adhesion to concrete. Concrete repaired with FastPatch Biobased MDGC can be opened to traffic in about an hour.

WHERE TO USE

- **Roadways**—fill voids or patch defects
- **Parking Lots**—repair damaged areas
- **Warehouse**—transitions or spalls
- **Sidewalks**—broken or damaged areas

FEATURES AND BENEFITS

- **Easy to Use**—most anyone can apply it
- **Fast Curing**—reopen to traffic quickly
- **Flexible**—absorbs impact and stress
- **Excellent Adhesion**—restores damaged areas
- **Adjustable Set Times**—faster or slower set times available upon request
- **Renewable Resources (Biobased)** — product is composed of materials derived from renewable natural oil products

PACKAGING

5-gallon kit
High Yield kit
50-gallon drums

COLORS

Gray, Black

YIELD

5-gal kit = 1.25 gal resin mixed (0.167ft³)
With gravel volume = 2.25 gal (0.3ft)

High Yield Kit = 3.75 gal resin mixed (0.5ft³)
With gravel volume = 7 gal (0.9ft³)

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 to 90° F (15 to 32° C).

TECHNICAL INFORMATION

Typical Properties

VOC , lbs/gal (g/L), ASTM D 2369	0
Viscosity , cps, ASTM D 4878, mixed	2000
Service temperature , ° F (° C)	-30 to 170 (-34 to 77)
Potlife , min., 70° F (21° C)	5
Set Time , min., 70° F (21° C)	15
Tack-free time , min., 70° F (21° C)	60
Hardness , Shore A, ASTM D 2240	85
Concrete adhesion , psi (MPa), ASTM D 4541	520 (3.6) 100% substrate (primed)

Processing Parameters

Ratio by volume	4 to 1 (Resin to Iso)
Application temp , ° F (° C)	38 to 100 (10 to 37)
Recommended Thickness	Greater than 1"
Recommended Repair Size	Less than 10 ft ² (1m ²)
Mixer dimensions , meter dispensed (MD)	13 mm diameter with 30 elements

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. 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.
3. Remove any contaminants before profiling surface.
4. It is recommended to profile surface according to ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting.
5. Saw cut spall area in shape of a square 1-3 inches (2.54-7.6cm) deep, hammer (15 lb) spall area and remove debris. Recommend repair size is less than 10 ft² (1m²).
6. Use a minimum 150 PSI continuously dry compressed air to blow out 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.
7. Use a steel bristle brush to remove dirt on vertical and horizontal concrete surfaces and use compressed air to blow out prior to applying product.
8. As necessary, plug all gaps or joints surrounding the spall area with foam backer rod and choose a rod width that fits tightly in the area.
9. Priming all concrete surfaces is recommended. Prime with POLYPrime or contact WVCO for proper primer selection.
10. For spall areas, honor all joints or moving cracks in spall area by saw-cutting after FastPatch has cured.

OTHER MATERIALS

1. Previously installed polymer materials must be tested to determine the best method of preparation to achieve acceptable adhesion. Consult manufacturer for recommendation. Typically, methods will include solvent cleaning, abrading, and vacuuming surface.
2. FastPatch is not typically recommended for use in asphaltic roadways. Exceptions do occur; contact Willamette Valley Co. for more details.

GRAVEL INFORMATION

1. Gravel may be purchased from multiple sources. Gravel should be approximately 3/8" round rock that is washed and dried.
2. Gravel makes up 40-50% of the repair volume. Typically 20-lbs (9 kg) of gravel is required for each gallon of mixed resin/iso.
3. Gravel can be approved by WVCO. Contact WVCO for gravel testing and approval.

FastPatch Biobased - KITS

PROCESSING

1. Precondition the RESIN, ISO and GRAVEL to 70°F (21°C) for 24 hours before using. Gravel must be dry and free of dust.
2. Resin, iso, and gravel can be heated up to 100°F (38°C) to speed cure at colder temperatures. It is recommended to heat all components when the temperature is below 50°F (10°C).
3. Use entire kit and do not divide.
4. Check that primed surfaces are ready for application of FastPatch before applying mixed material.
5. 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.
6. For kit applications, 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.**

APPLICATION

1. Protect the surfaces around the application area to prevent contamination during the installation.
2. Open the 5-gallon kit. Inside are two containers (1 gal – RESIN, 0.25 gallon – ISO), and gravel. Do not divide the kit; each kit is made for one application.

3. Remove all the contents from the 5-gallon bucket: the two containers and the gravel. Check that primed surfaces are ready for application of FastPatch before applying mixed material.
4. Place gravel in spall below surrounding surface by 0.25 inches (0.60 cm). Discard excess gravel and use the 5-gal bucket for mixing the RESIN and ISO.
5. Shake the 1-gallon RESIN container for 30-seconds and pour the contents into the 5-gallon bucket.
6. Add the ISO (1 quart) to the 5-gallon 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 Isocyanate (ISO) must be thoroughly incorporated in the resin before adding it to the spall. **THE MATERIAL WILL 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. Use a plastic trowel to level FastPatch and 0.25 inch (0.60 cm) below surrounding surface until it cures. Avoid overfilling spall area.
9. Add the topping sand as necessary when the material has gelled. Add topping sand to refusal.

TABLE 1: Effect of temperature on pot life and set time.

Temp. °F (°C)	Pot Life (Kits)	Set Time (min.)
100 (37)	4	10
77 (25)	6	15
50 (10)	8	45

FastPatch Biobased MD (Meter Dispensed)

PROCESSING

1. For meter applied applications contact Willamette Valley Company Precision Technologies Division for equipment recommendations.
2. Precondition the RESIN, ISO and GRAVEL to 70°F (21°C) for 24 hours before using. Gravel must be dry and free of dust.
3. 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.
4. 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 color is uniform and the material sets up in less than 15 minutes.

APPLICATION

1. Dispense FastPatch on the walls and ENTIRE floor of spall area.
2. Place gravel in spall below surrounding surface by 0.25 inches (0.60 cm). For multiple spall repairs, dispense FastPatch in next spall while gravel is being placed in first spall.
3. Insert mix tube nozzle in the lowest elevation of the gravel and dispense until FastPatch floats on the gravel. Move the mixing tube to higher elevation while dispensing until the entire spall is flooded with FastPatch.
4. Trowel (plastic) FastPatch to level with surrounding surface. Avoid overfilling spall area.
5. Add the topping sand as necessary when the material has gelled to the repair surface to refusal.
6. A subsequent skim coat may be applied within 1-hour after the initial repair has solidified. Use skim coat to apply additional topping sand for desired texture.

NOTE: Material is workable for approximately 5-minutes at 70°F. Material will be ready for traffic in 1-hour at 70°F. Colder temperatures and cold gravel will slow the cure. Warmer temperatures will speed the cure. Return to service time is typically 1-hour at 70°F.

CLEANING & MAINTENANCE

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

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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.

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