GAP|MASTIC™ & GAP|PATCH™

DON'T JUST REPLACE FAILED PAVEMENT: UPGRADE IT.



USER MANUAL / SOLUTION GUIDE

MAXWELLPRODUCTS.COM
1.800.266.2090

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REQUIRED EQUIPMENT

MELTER / KETTLE

GAP-Mastic and GAP-Patch are thermo-plastic materials sold in solid form and must be melted/heated to application temperature before use. GAP-Mastic and GAP-Patch are compatible with all major brands of mastic melters that employ a double boiler/indirect heating method.

IMPORTANT NOTICE: A Helix Flow Controller is strongly recommended [shown equipped] for **GAP-Patch 500 series materials**. While the products in the 500 series line can be dispensed from standard mastic melters without a Helix installed, the auger system ensures consistent flow and reduces valve clogging. To further investigate the advantages of a Helix Flow Controller, contact your Maxwell Products representative.



PAVEMENT PREPARATION TOOLS

Masonry Moisture Meter:
Masonry moisture meters are used to measure the dryness of the pavement in question.

Infrared Thermometer:
Sometimes called laser thermometers (as a laser is used to help aim the device), the infrared thermometer is used to measure the temperature of the material inside the melter from a safe distance.

WARNING: Never attempt to measure the material temperature until the agitator has ceased turning and the heated material inside the melter is allowed to settle. This avoids splashing dangerous, heated material on nearby personnel.



REQUIRED EQUIPMENT

PAVEMENT PREPARATION TOOLS

Air Compressor or Blower:
Use an air compressor or blower to remove dirt, dust, debris, and loose, broken pavement from the repair area.

Wire Broom:
The wire broom is used to clean the surfaces of the repair area, removing dirt, dust, debris, and loose, broken pavement.

Propane Torch or Heat Lance:
The propane torch or heat lance is used to dry pavement that is past acceptable moisture limits (see Moisture Meter).

Hand-pumped, Solvent-resistant Tank Sprayer:
The tank sprayer delivers primer evenly across the surface of the repair area.







APPLICATION TOOLS

Material Distribution:
Manual box screed, flat iron, drag box, pour pot, wheeled mastic applicator (buggy or pour pot).

Leveling / Finishing:
Flat Iron / Screed**
Tools must be heated in a tool oven (standard on some melters) or by using a propane torch.

Topping Stone:
Use a bucket, shovel, and broom to evenly distribute topping stone across the surface of the repair material.

** To best work with the GAP-Mastic and GAP-Patch materials, keep tools clean and heated. Yellow smoke indicates tools are too hot and burning the materials.

HEATING MATERIAL

Follow the melter manufacturer's instructions for starting and heating the machine. Be sure to stop agitator before opening melter lid to add material. Be sure workers adding material to the melter wear a face shield, gloves and long sleeves. Gently place blocks of GAP material into the melter to avoid splashing heated material onto yourself or nearby personnel. **DO NOT TOSS OR THROW BLOCKS OF MATERIAL INTO THE MELTER.** Heat material to the specific product's recommended temperature, agitating throughout the heating process. Add more material as necessary, allowing time for temperature recovery before dispensing material.

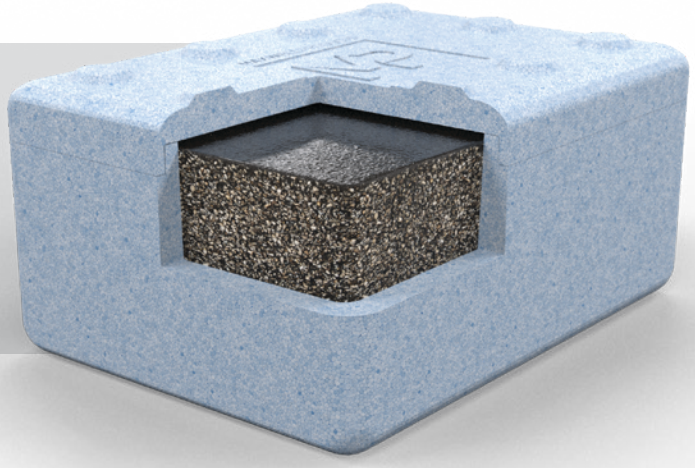


WARNING: Exceeding maximum application temperature may adversely affect the product's properties and performance.

Appropriate safety gear should be worn at all times when working near heated materials. This includes wearing protective gloves with gauntlets, protective clothing (including long-sleeved shirts, long pants, and steel-toed boots), head and face protection. A respirator is suggested for extended exposure to exhaust or other fumes.



GAP-Mastic and GAP-Patch materials are shipped in blue PolySkin™ containers and should never be used in a crack sealant melter, as the products contain aggregate and will ruin the melter's pump. GAP-Mastic and GAP-Patch are for use only in mastic melters.



HAZARDS

Precautions:

- Do not handle until all safety precautions have been read and understood. Refer to the individual product's Safety Data Sheet (SDS) for all current information.
- Wear protective gloves with gauntlets, protective clothing (including long-sleeved shirts, long pants, and steel-toed boots), eye protection, and face protection.
- As these materials are applied at dangerously hot temperatures, be very careful to avoid splashing the material or ejecting the material into the air.
- If material contacts eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If eye irritation persists, seek medical advice/attention.
- If skin contact occurs, immediately wash with soap and water and rinse thoroughly. Seek medical advice/attention if necessary.
- Do not ingest the material. If swallowed, immediately seek medical attention.

APPLICATION STEPS/PROCEDURES

CLEAN AND DRY

WHY: The surfaces of the pavement to be repaired need to be clean to facilitate a strong bond between the material and the surrounding pavement, as well as improve the moisture seal.

HOW: Where permitted, use compressed air or a blower and wire broom to remove organics, dirt, dust, debris, and loose, broken pavement from the breach. In regulated areas, sweeping and vacuuming should be used to clear debris. Do not use a heat lance for cleaning, only drying (see below).

MOISTURE: The surfaces of the pavement to be repaired also need to be dry (less than 12% moisture, which you gauge with a masonry moisture meter). Heating pavement with a heat lance dries it where necessary, softens the asphalt binder (if applicable), and exposes fresh binder with which the repair can bond. **CARE MUST BE TAKEN TO NOT BURN THE PAVEMENT. This will deplete asphalt oils or scorch the pavement, and damage it.**

PRIME

WHY: Priming neutralizes remnant dirt and dust and provides better bonding to asphalt or concrete pavement. (Note: Priming is required when used with concrete pavement and in wet climates.)

HOW: Using a solvent-resistant tank sprayer, spray enough primer to lightly cover all exposed surfaces (walls, floor, upper edges, etc) of the pavement to be repaired. Be careful not to over-spray, and more than one coat is unnecessary. Wait for primer to set before continuing.

FILL DISPENSING / DISTRIBUTION / LIFTS / BULKING

HOW: Pour the material into a drag box, a manual box screed, or directly into the pavement breach. With heated box tool or heated, flat iron, slowly and steadily distribute material across entire area to be repaired. Deep repairs should be filled in lifts and bulking stone can be added to increase stability.

APPLICATION STEPS/PROCEDURES

FILL DISPENSING / DISTRIBUTION / LIFTS / BULKING

DISPENSE: Follow the melter manufacturer's instructions for safely opening the material door to allow the material to flow from the machine.

DISTRIBUTE: The pavement preservation material is delivered across the length and breadth of the pavement damage. A 1- to 2-inch overband at the edges of the repair is recommended.

LIFT: For repairs deeper than 1 inch, the repair is best divided into 1-inch "lifts" or stages to ensure the aggregate remains in suspension. Allow each lift to set before proceeding with the next lift.

BULK: For deeper GAP-Mastic repairs that will regularly be subjected to standing traffic or heavy vehicles, bulking stone can be added into each lift to increase the load-bearing capacity of the finished repair. Approved, cleaned, dried bulking stone should be worked into each lift with a hot, flat iron until thoroughly coated to ensure that bulking stone does not create a separation between lifts. **Bulking is not necessary and not recommended with GAP-Patch repairs.**

LEVEL

WHY: The leveling procedure distributes and smooths the material evenly across the entire surface of the repair. This creates a final, even, level, and smooth finish over the entire repair and provides a smooth ride for traffic.

HOW: Using the flat surface of the manual box screed or heated, flat iron tools, smooth away any material imperfections, redistributing material and leveling where necessary.

FINISH TOPPING STONE

WHY: Small, specialized aggregate is spread across the top of the repair, enhancing the surface friction layer and more aesthetically blending with the surrounding pavement. Topping stone improves time to traffic, provides a wearing course, and protects the surface from oxidation and UV exposure.

HOW: While the surface is still warm (285-300 degrees Fahrenheit), spread approved, cleaned, dried topping stone evenly across the surface of the repair. If topping stone sinks below the surface of the repair, wait until it cools more to distribute the topping stone. For best results, place the topping stone in a wheelbarrow and pre-heat with a propane torch prior to distribution.



FILL THE GAP IN YOUR MAINTENANCE PROGRAM

The traditional pavement maintenance cycle has a well-known gap between crack sealing and repaving. GAP-Mastic and GAP-Patch, hot-applied, pavement maintenance products, fill this gap with material that delivers both the adhesion and flexibility of sealants and the durability and load-bearing capacity of pavement. GAP-Mastic and GAP-Patch materials greatly reduce cost and time to traffic, restore the pavement ride, and effect strong, stable, weather-sealed repairs.

FLEXIBLE: These pavement preservation products employ a proprietary, polymer-modified, thermoplastic, asphalt binder, which creates a flexible repair that moves with the surrounding pavement.

ADHESIVE: With proprietary inteliBond™* active-bonding technology, these innovative materials create a solid, thermal bond with the existing pavement, sealing out water and ensuring a long-lasting repair.

DURABLE: Both products employ high-strength, engineered aggregates for a stable, impact-resistant, load-bearing repair.

INNOVATIVE: GAP-Mastic and GAP-Patch are formulated with advanced, high-grade components, ensuring reliable, consistent, and exceptional performance.

PROVEN: Contractors, municipalities, and state and local agencies have employed these materials to fix roads, highways, freeways, and parking lots across the United States.

***inteliBond:** Proprietary chemistry which allows pavement maintenance materials to flow smoother (to quickly and completely fill cracks and pavement distress), bond to pavement surfaces longer, stretch farther (with less pavement stress at the bonding point), set up quicker, and resist tracking better.

CREW SAFETY

Because GAP-Mastic and GAP-Patch are permanent solutions and not temporary fillers, repair crews are exposed to fewer road and traffic hazards.

- Crews are able to fix the next problem on their list, rather than returning to the previous problem again and again.
- Requires less traffic control, hence fewer angry motorists.



MIXING MATERIALS: Mixing Maxwell Products GAP-Mastic or GAP-Patch with other mastics or patching material may adversely alter the properties and performance of our products.

GAP|MASTIC™

Best for asphalt and concrete pavement distress requiring extreme flexibility and adhesion.

Pros: Extremely flexible and performs well in high movement repairs. Easy to feather and apply in thin layers for surface repairs and ride improvement. Penetrates narrower cracks. The high binder content also functions as a crack sealant for wide cracks, alligators, etc.

Cons: Bulking stone required for deep repairs. Not ideal for full depth repairs. Standing traffic is more likely to leave tire marks or deformation than GAP-Patch.

Ideal for: wide cracking, cupped cracking, fatigue cracking (alligatored areas/crocodiles/spider-web cracking), slippage cracking, raveling, shallow depressions, shoulder cracking, leveling or repairing pavement around drains, manholes, gutters, etc., utility cuts, rumble strip removal, pavement seams.

GAP|PATCH™

Best for asphalt and concrete pavement distress requiring structural repair.

Pros: Higher aggregate content for greater load-bearing capacity. True asphalt replacement up to full depth.

Cons: Less flexible than GAP-Mastic, which reduces adhesion in repairs with extensive movement. Material is thicker, making it more difficult to keep level in shallow repairs and keeping it from penetrating narrow repairs as well as GAP-Mastic.

Ideal for: very wide cracks (greater than 3 inches wide and 1 inch deep), voids, potholes/chuckholes, skin patching, deep depressions, utility trenching, rutting, and full-depth repairs.

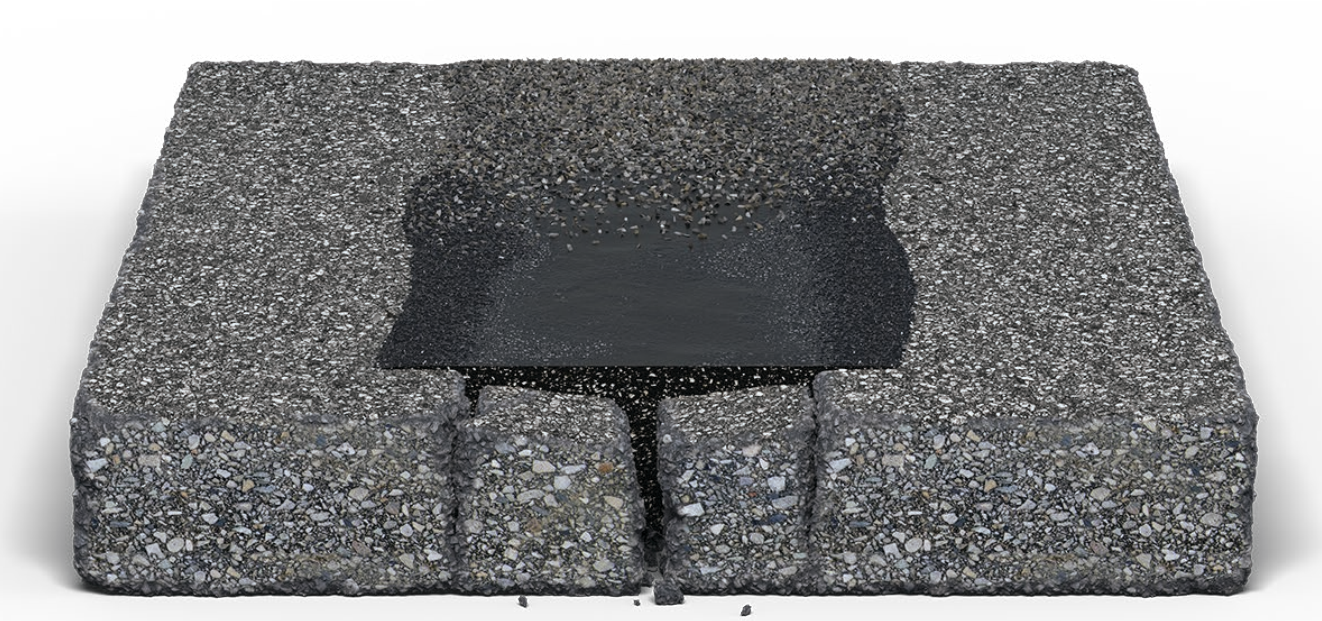


GAP-Patch 300 series: A robust, permanent repair material designed for very cold climates and able to be applied in winter weather under imperfect conditions.

GAP-Patch 500 series: A robust, permanent repair material designed for cold to very hot climates and able to be applied in winter weather under imperfect conditions.

GAP | MASTIC™

A budget-saving, hot-pour, pavement maintenance product, GAP-Mastic combines engineered aggregate with asphalt-based, polymer-modified, thermoplastic binder. The resulting material is flexible, easy to apply, adhesive, moisture sealing, and handles pedestrian and rolling vehicle traffic, snowplows, and weathering. Like a pavement repair multi-tool, GAP-Mastic can be used to fix wide cracks, cupping, depressions, shoving, fatigue cracking (alligator cracking), shoulder deterioration, small voids and potholes, open seams, and more.



GAP-Mastic for flexibility and versatility

- Developed for repairs with excessive movement.
- Delivers increased flexibility to accommodate expansion and contraction cycles.
- Feathers nicely and can be applied thinly where necessary.
- Delivers a moisture-sealed repair.
- Designed to handle rolling traffic conditions.
- Ideal for repairs requiring significant surface coverage, such as fatigue cracking (alligator cracking), depressions, deterioration around concrete structures (drains, manhole covers, gutters, catch basins, etc), as well as skin patching or thin overlay repairs.

What makes GAP-Mastic different from other mastics on the market?

- **Homogeneity:** GAP-Mastic material features uniform aggregate suspension and dispersion throughout the mixed product, delivering consistent, reliable performance.
- **Adhesion:** GAP-Patch bonds tightly to surrounding pavement and remains firmly in place.
- **Binder specificity:** The GAP-Mastic binder is specifically formulated for local climates in order to deliver optimal ductility, flexibility, and tensile adhesion.
- **Ease of application:** Because of its proprietary formulation, crews can easily manipulate, level, and adjust GAP-Mastic prior to setup.

WIDE CRACKS

Dispense mastic material into an appropriately sized, manual box screed or wheeled mastic applicator and slowly drag material across the surface of the cracked pavement to allow for maximum coverage and penetration. To prevent settling, fill the crack first with a tool just slightly wider than the crack. After the initial application settles, apply a second pass with a tool wide enough to form an overband.
NOTE: GAP-Mastic is designed for pavement distress averaging greater than 2 inches wide and 2 inches deep.











CLEAN | **PRIME** | **FILL** | **LEVEL** | **FINISH**

RECOMMENDATION: Routing the crack will allow GAP-Mastic to better adhere to crack walls and helps the material better accommodate drastic movement

FATIGUE CRACKING (ALLIGATOR, CROCODILE, SPIDER-WEB CRACKING)

Dispense mastic material into a drag box or appropriately sized manual box screed and slowly drag thin layer of the material across the surface of the fatigue cracking.



CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Remove loose or detached pieces of surface pavement. Fill any holes thus created with material and level with surrounding pavement.

CUPPED CRACKING

Follow the installation procedure for wide cracks (previous page).





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

RECOMMENDATION: For repairs deeper than 1 inch, the repair is best divided into 1-inch "lifts" or stages to ensure the aggregate remains in suspension. Allow each lift to set before proceeding with the next lift.

UTILITY CUTS

Dispense patching material into an appropriately sized manual box screed tool and slowly drag the material across the breach left by the removed pavement until the repair is level with the surrounding pavement, or dispense the material directly into the breach and use a heated, flat iron tool to evenly distribute the material.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Fill areas of repair deeper than 1 inch in multiple lifts to allow for most consistent and stable distribution of aggregate in mastic material.

SLIPPAGE CRACKING

Dispense patching material into an appropriately sized manual box screed tool and slowly drag the material across the slippage cracking until the distress is covered and level with the surrounding pavement, or dispense the material directly across the slippage cracking and use a heated, flat iron tool to evenly distribute the material.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Remove loose or detached pieces of surface pavement layer until edges of repair are bonded to pavement below. This will ensure that GAP-Mastic is able to bond with the underlying pavement and help restrict further movement of top layer.

RAVELING

Dispense mastic material into a drag box or appropriately sized manual box screed and slowly drag a thin layer of the material across the surface of the distress.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Avoid dispensing too much material to deliver a more level repair concentrated in the target area.

RUMBLE STRIP REHABILITATION

Dispense mastic material into an appropriately sized manual box screed tool and slowly drag the material across the rumble strip to repair the deterioration. Be careful not to fully fill, or you'll remove the rumble strip entirely.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Be sure the selected manual box screed is wider than the rumble strip or repair area to ensure a level, smooth repair.

SHALLOW DEPRESSIONS

Dispense mastic material into an appropriately sized manual box screed tool or directly into the depression and drag the material to level it with the surrounding pavement.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Fill areas of repair deeper than 1 inch in multiple lifts to allow for most consistent and stable distribution of aggregate in mastic material.

PAVEMENT SEAMS

Dispense mastic material into a 2-foot drag box or appropriately sized manual box screed and slowly drag thin layer of the material across the deteriorating pavement seam.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

RECOMMENDATION: If the deteriorating pavement seam extends for more than 20 feet, we highly recommend using a 2-foot drag box to improve the speed of the application process.

MICROTRENCH REINSTATEMENT

Dispense mastic material into an appropriately sized manual box screed or drag box tool and slowly drag the material across the trench until the repair is level with the surrounding pavement, or dispense the material directly into the breach and use a heated, flat iron tool to evenly distribute the material.








CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

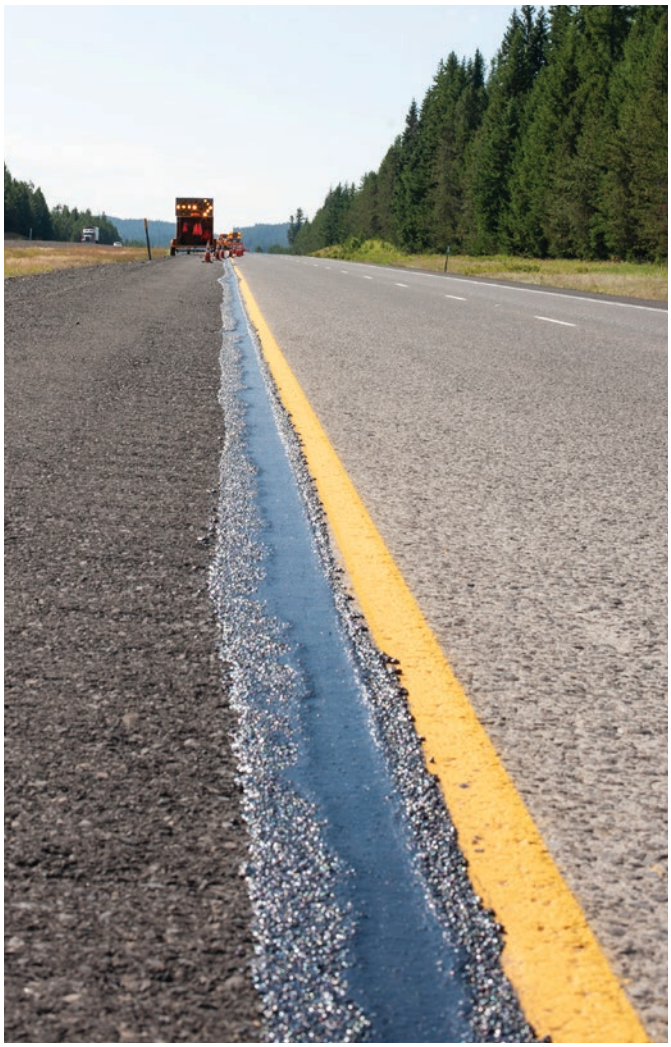
CONSIDERATIONS: Overheating material to lower viscosity and increase penetration is not recommended and may adversely affect the product's performance.

SHOULDER DETERIORATION/TRANSITIONS

Dispense mastic material into an appropriately sized manual box screed tool and slowly drag the material across the surface of the cracked pavement to allow for maximum coverage and sub-surface penetration.







CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Fill areas of repair deeper than 1 inch in multiple lifts to allow for most consistent and stable distribution of aggregate in mastic material.

GAP|PATCH™

Replacing failed pavement with the same or similar material only courts a similar outcome. Instead, upgrade the pavement with a better material, GAP-Patch. The pothole powerhouse, GAP-Patch is a robust, durable, hot-pour solution engineered to effect full-depth, load-bearing, permanent repairs (from 1/8 inch to 12 inches deep). GAP-Patch can be installed year round, even in cold to moderate climates and in less than ideal conditions.



GAP-Patch for stability and durability

- Developed for pavement distress requiring structural repair.
- Provides greater strength and higher load-bearing capacity.
- Employs advanced, engineered aggregates to provide long-term performance under heavy traffic conditions.
- Delivers a moisture-sealed repair.
- Designed to withstand the weight and wear of standing or rolling traffic.
- Ideal for larger, deeper repairs, including voids, potholes/chuckholes, and full-depth pavement repair.

What makes GAP-Patch different from other patching products?

- **Adhesive strength:** GAP-Patch bonds tightly to surrounding pavement and remains firmly in place.
- **Cohesive strength:** Because of the polymer-modified, thermoplastic, asphalt binder, GAP-Patch material doesn't come apart or ravel out, leaving dangerous debris, which may cause vehicle damage.
- **Impact resistance:** GAP-Patch employs high-strength, engineered aggregate that suspends well, creating a more homogeneous material. The applied product disperses impact energy, extending the service life of the repair.
- **Engineered aggregate:** In addition to special preparation, GAP-Patch aggregate is specifically selected for geological properties which maximize strength, durability, and load-bearing capacity.
- **Homogeneity:** GAP-Patch material features uniform aggregate suspension and dispersion throughout the mixed product, delivering consistent, reliable performance and optimal degree of interlock.
- **Binder specificity:** GAP-Patch's asphalt-based, polymer-modified, thermoplastic binder is specifically tailored to local climates in order to deliver optimum ductility, flexibility, and tensile adhesion.

WIDE CRACKS (GREATER THAN 3 INCHES WIDE AND 1 INCH DEEP)

Dispense patching material into an appropriately sized, manual box screed and slowly drag the tool across the surface of the cracked pavement to allow for maximum coverage and penetration. Material within the crack may settle after the first application, so a second overband pass may be necessary.



CLEAN | **PRIME** | **FILL** | **LEVEL** | **FINISH**

RECOMMENDATION: For optimal moisture seal, dispense patching material into an appropriately sized, manual box screed to create a 2- to 3-inch overband along the edge of the void or pothole.

VOIDS AND POTHOLES

Dispense patching material directly into the void or pothole. Use a heated, flat iron tool to evenly distribute the material within the breach.









CLEAN | **PRIME** | **FILL** | **LEVEL** | **FINISH**

RECOMMENDATION: For optimal moisture seal, dispense patching material into an appropriately sized, manual box screed to create a 2- to 3-inch overband along the edge of the void or pothole.

SKIN PATCHING

Dispense patching material into an appropriately sized, manual box screed or drag box and slowly drag the material in a thin layer across the area to be repaired. Use a heated, flat iron tool to smooth and level any seams that may be created from multiple passes.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Immediately smooth and level any seams with a heated, flat iron to deliver a smooth surface. And be careful not to cover utility holes.

DEEP DEPRESSIONS

Dispense patching material into an appropriately sized, manual box screed and slowly drag the material across the depression until the repair is level with the surrounding pavement, or dispense the material directly into the depression and use a heated, flat iron tool to evenly distribute the material.





CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Carefully level the depression to the surrounding pavement to avoid creating a hump.

LEVELING AND SEALING AROUND DRAINS, MANHOLES, GUTTERS, ETC.

Dispense patching material into an appropriately sized manual box screed tool and slowly drag the material to level it with the top of the concrete structure and the surrounding pavement.









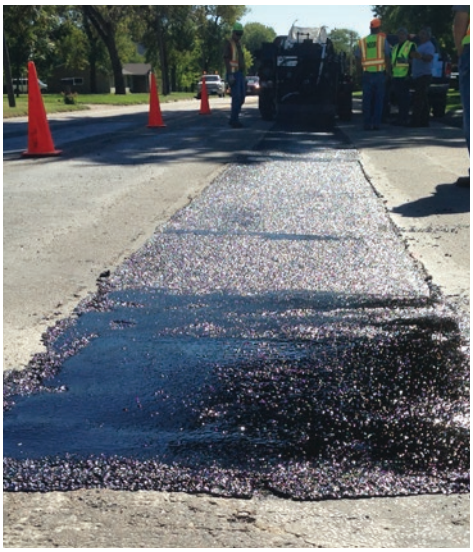


CLEAN | **PRIME** | **FILL** | **LEVEL** | **FINISH**

CONSIDERATIONS: Remove loose or detached pieces of surface pavement layer.

RUTTING

Dispense the patching material into an appropriately sized, manual box screed or drag box and drag the material along the wheel path. Use a heated, flat iron tool to evenly distribute the material.




CLEAN **PRIME** **FILL** **LEVEL** **FINISH**

CONSIDERATIONS: Select a distribution tool wide enough to span the rutting and ensure proper leveling with surrounding pavement.

REMOVE AND REPLACE, FULL-DEPTH REPAIRS

Dispense the patching material directly into the breach until completely filled, using a heated, flat iron tool to evenly distribute the material.













CLEAN | **PRIME** | **FILL** | **LEVEL** | **FINISH**

CONSIDERATIONS: An overband is recommend to ensure a proper moisture seal.


IDEAL FOR:
WIDE CRACKS,
FATIGUE CRACKING
(ALLIGATORS),
CUPPING,
RUTTING,
RAVELING,
SHOVING,
UTILITY CUTS,
TRENCHES,
POTHOLES,
DEPRESSIONS,
AND MORE.
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