The makers of UPM® mix

Unique Paving Materials Corp.

UPM® COLD MIX FREQUENTLY ASKED QUESTIONS

UPM® Permanent Pavement Repair Material

How long will UPM® bulk mix last in a stockpile?
Sufficient quantities (100+ tons) have a 1-year shelf life, smaller quantities last several weeks to several months depending on storage conditions.

The **UPM** mix stockpile will form a protective barrier on the outside of the pile, which keeps the interior of the stockpile fresh. Do not disturb protective barrier until ready to use. Load from one end of the stockpile only. Stockpile on a clean, paved pad away from dusty areas.

What is the shelf life of *UPM* mix in bags?
Sealed 50-lb bags have a minimum shelf life of 18 months.

Are there seasonal grades of *UPM* mix?
Yes! UPM mix is available in winter, spring, fall, and summer formulas. These grades are designed for optimum performance during the various temperatures of application. Winter grade 2 (40F and below), Spring/Fall grade 3 (40F to 60F), and Summer grade 4 (60F to 80F). Proper installation including compaction maximizes **UPM** mix survivability in the repair.

How long does it take *UPM* mix to set up?
Upon compaction, the aggregate and asphalt interlock making the repair stable enough for immediate traffic. The surface of the patch will cure to the hardness of the surrounding pavement. Depending upon the depth of the patch, **UPM** mix below the surface will cure at a very slow rate. This slow curing process allows the patch to move with the pavement during weathering, expansion and contraction. The **UPM** liquid film on the aggregate is self-tacking, meaning **UPM** mix will partially dissolve the pothole wall, gluing **UPM** mix into the pothole in addition to profiling the pothole wall.

How soon can sealer be applied to a *UPM* mix repair?
Wait at least 30 day prior to sealing.

Is a primer or tack coat needed when applying *UPM* mix?
No! UPM mix is self-priming. The proprietary liquid asphalt used in manufacturing **UPM** mix provides tenacious binding properties to the surrounding walls of the repair.

What methods of compaction are suitable?
Hand tamper, vibratory plate compactors, rollers or compaction by wheel rolling with a vehicle are acceptable. Sufficient compaction of **UPM** mix after installation will increase initial surface stability of the repair and prevent rutting, pushing and raveling. **UPM** mix can be opened to traffic immediately following compaction.

Can *UPM* mix be used to patch in extremely wet conditions?
Yes! UPM mix is designed for permanent performance in wet holes. Simply remove loose debris or ice, any amount of water is acceptable. Apply **UPM** mix to repair area and compact.

Can *UPM* mix be used for concrete repairs?
Yes! UPM mix is ideal for repairing concrete pavements – including roadways, bridge decks, parking lots, etc.

What is the coverage rate of *UPM* mix?
One 50 Lb. bag covers 0.48 ft^3 compacted; 105 Lbs./ft^3; always reference compacted amount to customers.

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Examples:

A. 3 ft. x 3 ft. x 2 inches. First convert dimensions to a single unit; 2 inches equals 2 inch/12inch or 0.17 ft. 3 ft. x 3 ft. x 0.17 ft. = 1.5 ft^3; 1.5 ft^3 x 105 Lb. /ft^3 = 181 Lb.; or 4-50 Lb. bags. (105 Lb. /ft^3 is compacted)

B. On web 3 ft. x 3 ft. x 2 inches = 3.15 bags; 3.15 bags x 50 Lb. bags = 158 Lbs. volume of pothole only. Adding 15% for compaction; 3.15 bags x 0.15 = 0.5 bags; 3.15 bags + 0.5 bags = 3.65 bags; 185 Lbs. or 4 bags.

C. 1 cubic yard = (3 ft. x 3 ft. x 3 ft.) x 105 Lb./ft^3 = 2,835 Lb.; or 2,835 Lb./2,000 Lbs./ton or 1,4 tons.

D. 4 ft. x 5 ft. x 4 inches; 4 x 5 x .3 ft. = 6.7 ft^3; 6.7 ft^3 x 105 Lb. /ft^3 = 704 Lbs.; 704 Lbs. / 50 Lbs. per bag = 14 bags.

E. Listed on bag: One 50 Lb. bag covers 5ft^2 x 1 inch =0.42 ft^3: there exist minor discrepancies due to loose material or compacted. Always round bags up to whole bag.

F. The web is based on volume only. Need to add additional 15% for compaction. Multiply the web values by 1.15 to determine needed material (compacted) example: 3.15 bags x 1.15 = 3.6 bags or 180 Lbs.

What is the approximate density of *UPM* mix?
105 pounds per cubic foot (compacted).
2,835 pounds per cubic yard (compacted).
50 pound bag per 0.42 ft^3 (compacted, 5ft x 1ft x 1 inch = 0.42 ft^3)**.**

What is the difference between *UPM* mix and other asphalt patching materials?
UPM mix works…guaranteed! Properly installed, **UPM** permanent pavement repair material will outlast surrounding pavement.

Can *UPM* mix patches be overlaid with hot mix asphalt?
Yes! Contractors, municipalities, and Departments of Transportation have successfully overlaid **UPM** patches without "bleed-through", pushing or rutting. Wait at least 30 days prior to overlaying.

Features and Advantages:

Year Round Use - Use **UPM** Permanent Pavement Repair Material to repair asphalt or concrete pavement in any weather.

Ready-to-Use - No primer or tacking materials are required prior to patching.

Permanent Repairs - UPM mix repairs have been proven* to outlast the surrounding pavement. (*Strategic Highway Research Program - SHRP-H-106 Report plus other independent studies)

All Weather Application - Permanent repairs under wet or dry weather conditions.
Seasonal Grades - Specific formulations to accommodate year-round patching requirements.

Easy to Use - Pour or shovel **UPM** mix into the pothole using our 3-step method; cleanout-install-compact.

Readily Available - No waiting for hot mix in long lines at the plant.

Emergency Patching - Always ready for repairs 24 hours a day from your inventory.
Immediate Access - Repaired jobsite can immediately be opened to traffic.

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PREPARE: Scrape or sweep the loose fragments and debris from the hole providing a solid base and clean edges.

APPLY: Shovel **UPM** mix into the hole and level out 25% higher than desired depth to allow for compaction. For deep potholes, apply and compact **UPM** mix in separate 2" layers. Apply only over solid base material.

COMPACT: Compact **UPM** mix with a hand tamper, roller, plate compactor or roll over with vehicle wheel.

Additional Information:
Do not seal coat over new **UPM** mix patches for at least 30 days (preferably 6 months to 1 year) to allow for proper curing.

Packaging:
All units sold by the pound and are available in:

Bulk tons	2000# Super Sacks	660# 55-gallon steel drums
50# plastic bags	60# 5-gallon plastic pails	24# 2-gallon plastic pails

Is *UPM* mix different from other cold mixes?
YES! **UPM** mix is an engineering designed high performance cold mix made following a custom recipe for each production. Each production is sampled, tested and certified in the UNIQUE lab. Certificates of compliance are issued for each production. The QC production procedures including; pre-component qualification, production design, safety procedures, on-site analysis and post analysis and certification, are what keep **UPM** mix Best-In-Class. In comparison, conventional cold mixes are not controlled by a QC program and as a result do not perform like **UPM** permanent pavement repair material. **UPM** mix is designed for survivability. It stays in the repair for "Once and Done" performance. UNIQUE designs **UPM** mix for maximum survivability and verifies performance through continuous lab and field testing.

Is *UPM* mix a cutback or emulsion based cold mix?
UPM mix is a cutback because a viscosity modifier is used to control workability. **UPM** blend is delivered to the production site at approx. 180 (degrees symbol missing)F. Combined with the viscosity modifier, the material is mixed with local aggregate to make **UPM** mix. Emulsions use water and a viscosity modifier to make lower performing cold mix. The water replaces the heat when delivering the blend to the aggregate. Once the emulsion is applied to the aggregate, the water in the emulsion either evaporates or flows to ground water collection drains. The viscosity modifier is essentially the same for both cutbacks and emulsified cold mixes. The viscosity modifier provides the needed shelf life for cold mix. In cold weather emulsions are susceptible to freezing, cutbacks are produced year round.

Is *UPM* mix compliant with state VOC laws i.e. is UPM mix green? (Volatile Organic Carbon emissions into air)
VOC state laws vary across the nation. **UPM** mix is compliant in 49 of the 50 states? (Connecticut) Nearly all states exempt cold mix if long life storage characteristics are incorporated into engineering design. The reason is the viscosity modifiers (hydrocarbon solvents) required for long life storage do not significantly contribute to VOC. **UPM** mix has a VOC of less than 0.1%, the limit in many states is 3%.

Is *UPM* permanent pavement repair material competitively priced with conventional cold mix?
Yes! In fact, the SHRP study (Strategic Highway Research Program) and every other study comparing cold mixes concluded that using the best performing or highest survivability cold mix available is the best and most cost effective means to repair pavement. The three cost contributors to pothole repair are labor, equipment and material. The material is less than 10% of the overall cost. Inexpensive, poor performing cold mixes requiring multiple repairs are significantly more expensive.

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