

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
EQUIPMENT AND PROCUREMENT DIVISION  
BID INVITATION**

Contract Number:                     H-17-274J                    

**BID OPENING LOCATION:**  
AHTD Equipment and  
Procurement Division  
11302 West Baseline Road  
Little Rock, AR 72209

**MAIL TO:**  
AHTD Equipment and  
Procurement Division  
P.O. Box 2261  
Little Rock, AR 72203

**DELIVER TO:**  
AHTD Equipment and  
Procurement Division  
11302 West Baseline Road  
Little Rock, AR 72209

Bid Opening Date: February 7, 2017 Time: 11:00 A.M.

Sealed bids for furnishing the commodities and/or services described below, subject to the Conditions on page 2 of this Bid Invitation will be received at the above-noted mail and delivery locations until the above-noted bid opening date and time, and then publicly opened at the above-noted bid opening location. **Bids must be submitted on this form, with attachments when appropriate, or bids will be rejected. Late bids and unsigned bids will not be considered.**

In compliance with this Bid Invitation and subject to all the Conditions thereof, the undersigned offers and agrees to furnish any and all items upon which prices are quoted, at the price set opposite each item.

Company Name: \_\_\_\_\_

Name (Type or Print): \_\_\_\_\_

Address: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

E-Mail: \_\_\_\_\_

Federal Tax ID or Social Security No.: \_\_\_\_\_

**Signature:** \_\_\_\_\_  
Signature must be legible, original (not photocopied) and in ink.  
Unsigned bids will be rejected.

Supply Contract for furnishing to the Arkansas State Highway and Transportation Department requirements of various **High Performance Cold Mix** at pricing set forth on the attached Bid Form for the period from **April 1, 2017 thru September 30, 2017 (6 month term)**.

**FOB - STATEWIDE**

The Bid Invitation, Bid Form and Bid Information are parts of the contract and by this reference are incorporated herein as fully and effectively as if set forth in detail herein.

For a bid to be accepted, the bidder must furnish specification material in accordance with the Certification Agreement.

It shall be understood that by submission of bid that bidder agrees to these conditions herein specified and, if bid is found acceptable by the Department either in whole or in part, shall consider this bid a contract agreement bound under these conditions. The parties hereto agree that this contract in all things shall be governed by the Laws of the State of Arkansas.

**Bid Bond** in the amount of \$500.00 required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 3 on page 2 of this bid invitation. **Performance Bond** in the amount of \$2,000.00 will be required of successful bidder prior to providing goods/services. **Personal and company checks are not acceptable as Performance Bonds.** See Condition 3 on page 2 of this bid invitation.

Bids and Specifications are available on-line by going to the AHTD Web Site – www.arkansashighways.com and clicking on “Commodities and Services Bids/Contracts Information”. Tabulations will also be available at this site after award of bid/contract. If you have any questions, call this office at 501-569-2667.

**TWO SIGNED COPIES OF BID INVITATION AND BID FORM MUST BE SUBMITTED.**

## STANDARD BID CONDITIONS

## H-17-274J

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. When a bidder claims and can show clear and convincing evidence that a material mistake was made in the bid and was not the bid intended, the bidder may be permitted to withdraw their bid prior to award without forfeiture of bid bond. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). These bonds shall not only serve to guarantee the completion of the work, but also to guarantee the excellence of both workmanship and material until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled. In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidder's expense. Samples from successful bidders may be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

# **ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT NOTICE OF NONDISCRIMINATION**

The Arkansas State Highway and Transportation Department (Department) complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the Department does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in the Department's programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to Joanna P. McFadden Section Head – EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501)569-2298, (Voice/TTY 711), or the following email address: [joanna.mcfadden@ahtd.ar.gov](mailto:joanna.mcfadden@ahtd.ar.gov)

Free language assistance for Limited English Proficient individuals is available upon request.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
SUPPLY CONTRACT FOR HIGH PERFORMANCE COLD MIX MATERIALS  
BID FORM

CONTRACT NO.: **H-17-274J**

BIDDER: \_\_\_\_\_

Separate Bid Form must be submitted for each separate plant location.

Plant Location \_\_\_\_\_ Telephone \_\_\_\_\_

Prices shall be bid per ton - FOB State Trucks at plant location. Prices bid are subject to discount of \_\_\_\_\_% for payment of invoices within \_\_\_\_\_ days.

Item (2) is the price per ton per mile (excluding material price) for bidder to haul material to AHTD designated location. Delivery time is negotiable. AHTD reserves the right to select delivery option.

- |    |   |              |
|----|---|--------------|
| 1. | High Performance Cold Mix – Special Provision | _____        |
|    |   | per ton      |
| 2. | Haul Price                                    | _____        |
|    |   | per ton/mile |

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
SUPPLY CONTRACT FOR HIGH PERFORMANCE COLD MIX MATERIALS  
BID INFORMATION

CONTRACT NO.: **H-17-274J**

1. The Arkansas State Highway and Transportation Department, hereinafter referred to as “the Department,” will enter into a term contract with the successful bidder(s) to furnish High Performance Cold Mix for the period set forth in the Bid Invitation.
2. Bid shall be submitted on the form furnished herewith. Bid envelope shall be sealed and marked so as to clearly indicate its contents and will be received at the locations noted on the Bid Invitation. Bids received after the date and time set for opening will be returned unopened to the bidder.
3. A bid may be withdrawn, modified, or corrected by the bidder after it has been submitted provided written request to do is filed with the Equipment and Procurement Division prior to the time set for opening bids. Telegrams, faxes or letters received before time set for opening bids will be accepted and attached to the unopened bid, and the bid will be considered withdrawn, modified, or otherwise changed accordingly. No proposal may be withdrawn, modified, corrected, or otherwise changed after the time set for opening bids.
4. The Department reserves the right to enter into agreement with as many bidders as may be necessary to assure an adequate supply of material to meet statewide requirements.
5. Under terms of this contract, the Department is not obligated to purchase any specific quantity or to make purchases at any specific time during the contract period.
6. Transportation cost and/or length of haul will be taken into consideration in placing individual orders.
7. Where awards are made to corporations organized in states other than Arkansas, bidders shall at their own expense furnish a certified copy of certificate of authority and license to do business in Arkansas, which will remain on file with the Department. No contract will be executed in favor of such corporation until certificate shall have been furnished.
8. Material must be certified as meeting applicable specifications, in accordance with subsection 102.14 of the Standard Specifications, prior to acceptance.

CONTRACT NO.: **H-17-274J**

9. If a contract supplier is unable to load and start shipment of materials within seventy-two (72) hours after receipt of an individual order, he shall immediately notify the ordering District and the Department's Equipment and Procurement Division in Little Rock. In such event, the Department shall have the right to cancel the order and purchase the material on the open market. Any increase in cost occasioned by purchasing the material from other than the contract supplier may be billed to the contract supplier or deducted from payments due. This provision is not intended to allow any supplier 72 hours to make shipments of material ordered where immediate shipment is designated and required to avoid loss to the State.
10. Invoices for material furnished should be submitted to the headquarters of the District ordering the material. Invoices submitted to the Little Rock Central Office will cause delay in payments.
11. The Department reserves the right to cancel this contract, or any part thereof, upon giving the vendor fifteen days notice of its intent to terminate. The contract shall automatically terminate as of the date given in said notice. Otherwise, prices bid shall remain in effect for the contract term.
12. Cooperative Purchasing. Other tax-supported entities\* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase commodities covered in this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing minimum order quantities, etc.) as agreed by both parties, but could not be raised above the contract bid price under any circumstances. Vendors would not be required to sell to any such entity under this Contract, and those entities would not be obligated to purchase from the Contract.

Each entity wishing to purchase from the Contract would make contact directly with the appropriate vendor(s). The Highway Department would remain "out of the loop" for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department would be held harmless of any and all liability arising from such transactions.

\*Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
1. High Performance Cold Mix – Special Provision	Ton

**ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT  
SPECIAL PROVISION  
HIGH PERFORMANCE COLD MIX**

Materials furnished must meet the requirements of Specifications for QPR Pavement Repair, UPM, ProLine All Weather Mix, Ergon RM-90, or equal, attached to and made a part of this bid.

Materials supplied under this specification will be accepted on receipt and approval of a certification prepared and signed by the Contractor indicating the material complies with the requirements of this specification.

The mixture shall be capable of stockpiling for not less than one year, and when taken from a stockpile, shall be capable of being shoveled, raked, spread and compacted.

The Department reserves the right to sample and test any materials produced under this specification and to reject any material which does not meet the requirements of the specification. Rejected material shall be replaced or otherwise removed at the expense of the Contractor.

The Contractor will be responsible for manufacturing the High Performance Cold Mix in a hot mix asphalt plant, furnishing the aggregate, liquid asphalt and mix design.

**METHOD OF MEASUREMENT:** High Performance Cold Mix will be measured by the ton of mix based upon truck scale weights.

The Contractor's scale printout will be used to certify the weight of mix produced. Final weights of mix may be subject to verification.

**BASIS OF PAYMENT:** Work completed and accepted and measured as provided above, will be paid for at the contract unit price bid per ton for High Performance Cold Mix, which price shall be full compensation for liquid asphalt; for asphalt hot plant mixing; and for all labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

<b>PAY ITEM</b>	<b>PAY UNIT</b>
High Performance Cold Mix	Ton

# **QPR<sup>®</sup>** High Performance Permanent Pavement Repair Material **MATERIAL SPECIFICATION**

## DESCRIPTION

This material shall be a plant or pug mill mixed high performance pavement patching material capable of storage in an uncovered outdoor stockpile for a minimum of 12 months. It shall be composed of laboratory approved mineral aggregates and modified bituminous QPR<sup>®</sup> Liquid Oil Blend capable of coating wet aggregates without stripping and have stripping resistance of retained coating of not less than 95%. The permanent asphalt repair shall be uniform, remain flexible and cohesive to -15° F. and be capable of retaining adhesive qualities in wet applications. The patching material shall be able to repair asphalt, concrete, surface treated roads and shall not require removal and replacement if ever the pavement repair area is overlaid.

## ENVIRONMENTAL IMPACT

The modified bituminous asphalt repair must have an independent test conducted by a certified laboratory as to toxicology results in a Static Acute Bio Assay Procedures for Hazardous Materials which determines effect of run-off into waterways, lakes, ponds, and ground water. Furthermore, results of analysis for the toxicity should indicate a 0% mortality rate of *Daphnia magna* at 100% effluent concentration. Further, the repair material must be classified as non-hazardous, and biologically non-toxic. Laboratory results must be available for review.

## MATERIALS

### A) Aggregate

The aggregate shall consist of 100% crushed stone or a laboratory approved equivalent under ASTM C-136. All aggregate is to be from approved sources, and representative samples of both fine and coarse aggregate shall be from the plant site and laboratory tested. Sampling and testing methods shall be in accordance with accepted local practice.

Gradation analysis to comply with all local requirements. Recommended gradation analysis is as follows:

<u>SCREEN SIZES</u>	<u>PERCENTAGE PASSING</u>
3/8"	100
#4	20 - 85
#8	2 - 40
#16	0 - 10
#50	0 - 6
#200	0 - 2

All aggregate percentages are based on the total weight of aggregate.

ASTM	C-88	Soundness Loss	12.0% Max.
ASTM	C-131	Los Angeles Abrasion	40.0% Max.
ASTM	C-117	-200 Sieve (by wash)	2.0% Max.
ASTM	C-127, 128	Absorption	1.0 - 2.0% Max.
ASTM	C-127, 128	Specific Gravity	2.55 - 2.75% Max
ASTM	C-123	Soft Aggregates	3.0% Max.





Aggregate Acceptance

Aggregate compatibility approval must be obtained from the QPR quality control facility in Charleston, South Carolina prior to material production at any mixing plant.

**B) Bituminous Material**

The modified bituminous liquid oil blend shall be QPR® which meets the following requirements:

ASTM D-1310	Flashpoint (TOC):	200° F (94° C.) minimum
ASTM D-2170	Kinematic Viscosity at 60° C (140° F):	300-4000
ASTM D-95	Water:	0.2% maximum
ASTM D-402	Distillate Test (Volume of original sample):	
	To 437° F (225° C)	None
	To 500° F (260° C)	0 - 5%
	To 600° F (315° C)	0 - 25%
	Residue from distillate at 680° F (360° C)	72 - 95%

**RESIDUE TESTS**

ASTM D-2171	ABS. Viscosity at 140° F (60° C):	125-425 poises
ASTM D-5	Penetration:	200 Minimum
ASTM D-113	Ductility at 39° F (4° C) 0.4 in. /Min:	100 Minimum
ASTM D-2042	Solubility in Tricloroethylene:	99% Minimum

QPR® Liquid Oil Blend shall be shipped from authorized blending terminal locations. Liquid shall be completely blended at terminal under supervision of authorized Quality Control personnel. No additives, modifiers, or extra ingredients are to be introduced into the liquid oil blend at any time after shipment from terminal. A copy of bill of lading and material certification shall accompany every shipment. Liquid Oil Blend shall be shipped in insulated tankers to maintain oil temperature during transportation.

**PLANT MIX**

The cold mix shall consist of aggregates meeting material as specified in Section A) *Aggregate*, and the bituminous liquid oil blend meeting material specified in section B) *Bituminous Material* as indicated in the proposed job mix formula. Bituminous material shall be accepted at the supplier's source and at the plant site on the basis of a supplier material certification.

The preferred mixing ratio shall be 4.5% to 6% liquid oil blend per finished ton (2000 lbs) of mixed material. Continuous on-site testing will determine exact final mixing ratio which will be identified in the final job mix formula. All aggregate percentages are based on the total weight of the aggregate. The bituminous liquid oil blend content is based on the total weight of the mix.

The job mix formula information shall provide:

- Aggregate gradation band and aggregate type.
- Bituminous material - amount and type including any additives used.
- Temperature ranges for material preparation.

**MANUFACTURING PREPARATION & OPERATION**

**Asphalt Plant Production**

The mixture is to be produced through a conventional asphalt plant only under the direct supervision of a qualified QPR sales representative and finished product will not exceed 180°F. The bituminous liquid oil blend shall not be heated above 220°F. The final mixture must be tested in accordance with QPR on-site quality control requirements. When producing in an asphalt plant with heat, the finished



QPR material must be left in dump truck size loads for a minimum of 48 hours prior to pushing the material up into a large cone shaped stock pile, thus allowing the QPR material to cool off to ambient temperature.

#### Pug mill Production

The mixture can be produced through a cold manufacturing process (PUG MILL). The QPR® Bituminous Liquid Oil Blend shall be heated between 200°F to 220°F. The QPR® Liquid Oil Blend temperature is elevated to help with the adhesion process between the bituminous liquid and the aggregate. The finished mix will not exceed 180°F when produced through the Pug mill. The final mixture must be tested in accordance with the QPR on-site quality control requirements.

#### STOCKPILE INSPECTION

Prior to production, the stockpile site is to be inspected for any contaminants that may affect the quality of the QPR® High Performance Permanent Cold Patch. The stockpile area should be a hard clean surface, preferably paved with concrete, or a bituminous surface and have proper retention.

#### SPECIFICATION SAMPLING

A one quart sample of the QPR® Liquid Oil Blend will be retained at the asphalt blending terminal prior to shipment. Upon delivery of the transport tanker, an additional one-quart sample will be taken at the production site by the QPR sales representative and will be performed at the half way point of the load and is to be retained by the customer / producer for a period of one year, or until the stock pile is depleted.

#### QPR® QUALITY CONTROL

On each load, a Quality Control Report will be prepared by the QPR quality control technician. All phases of production of the plant operation and the material testing on each 150 tons of production will be prepared and entered accordingly in each category. Site tests will be completed which include Spot Test, Strip Resistance, Coating Observation and Roll Test.

#### HEATING OF FINISHED PRODUCT

QPR® should not be heated above 70°F (21°C) when utilizing a hot box.

#### TRAINING OF INSTALLATION CREWS

Lafarge will make available a complete training program for all road crews to ensure correct patching methods, along with updates on this subject.

#### STOCKPILING

One (1) year shelf life. QPR® may be stockpiled up to 12 months in an uncovered outdoor stockpile.

QPR® High Performance Pavement Repair, when applied according to our directions to deteriorated concrete or bituminous pavement surfaces, is guaranteed to adhere permanently to the repaired area for the life of the repair or until the surrounding pavement area fails. Lafarge will replace actual volumes of QPR® at no charge for any QPR® High Performance Pavement Repair that should ever ravel or release from a properly repaired area.

QPR® is a registered trademark of QPR.  
A Division of Lafarge, North America



**DETAILED SPECIFICATIONS  
FOR  
BITUMINOUS COLD PATCH MATERIAL  
UPM**

**GENERAL**

These bituminous patching mixes are designed in various seasonal grades for use when the outside ambient temperature is in the range of -15°F (-26°C) to 100°F (38°C). Each grade shall be manufactured specifically to accommodate anticipated climatic conditions.

The bituminous patching mix shall consist of asphalt and aggregate within prescribed quantities to make a mixture which will provide satisfactory coating, workability and adhesion characteristics. The patching mixture will be available in grades to function as a patch during cold and damp or during hot weather in bituminous and concrete pavement. The asphalt blend and aggregate shall conform to the following requirements.

**LIQUID ASPHALT**

The bituminous material shall be UPM Liquid Asphalt Blend, from Unique Paving Materials Corporation. When prepared from a base stock of asphalt cement and blended in accordance with an approved UPM blending formula as prepared by Unique Paving Materials Corporation, the blend shall meet the following requirements:

Kinematic Viscosity @ 140°F (60°C)	ASTM D 2170	350 to 4000 cSt (mm <sup>2</sup> /s)
Flash Point, Tag Open Cup	ASTM D 1310	200°F (93°C) minimum
Percentage of Water	ASTM D 95	Less Than 0.2%
Distillation to 680°F (360°C)	ASTM D 402	See Values Below

Temperature	Volume % Total Distillate		Volume % Original Sample	
	Minimum	Maximum	Minimum	Maximum
to 437°F (225°C)	0	0	0	0
to 500°F (260°C)	0	0.5	0	0
to 600°F (316°C)	10	65	0	18
Residue from distillation to 680°F (360°C)% Volume by Difference			73	95

**TESTS ON RESIDUE FROM DISTILLATION**

Absolute viscosity @ 140°F (60°C)	ASTM D 2171	75 to 425 Poise (10 <sup>-1</sup> Pa × s)
Penetration, Modified with Cone	ASTM D 5*	180 minimum
Ductility, 39°F (4°C), 1 cm/minute	ASTM D 113	100 minimum
Solubility in Trichlorethylene	ASTM D 2042	99.0% minimum

Make this test in accordance with ASTM Method D 5, except utilize a penetration cone in place of the standard penetration needle. The cone shall conform to the requirements given in ASTM Method D 217, except that the interior construction may be modified as one desires. The total moving weight of the cone and attachments must be 150 ± 0.1 gram. Also the level of water in the transfer dish shall be lowered to less than the height of the sample and decant water from the top of the sample before transferring from the bath to the penetrometer.

**AGGREGATE**

The aggregate shall be crushed stone and shall meet the following requirements:

**SIEVE ANALYSIS**

**ASTM C 136**

Sieve	#9 ASTM D 448 Percent Passing	COMBINATION #9 & #89 Percent Passing	#89 ASTM D 448 Percent Passing
1/2" (12.5 mm)	-	100	100
3/8" ( 9.5 mm)	100	90 - 100	90 - 100
# 4 (4.75 mm)	85 - 100	55 - 85	20 - 55
# 8 (2.36 mm)	10 - 40	5 - 40	5 - 30
# 16 (1.18 mm)	0 - 10	0 - 10	0 - 10
# 50 (0.30 mm)	0 - 5	0 - 5	0 - 5

Soundness Loss (Sodium, 5 cycles)	ASTM C 88	12.0 maximum
Los Angeles Abrasion Loss	ASTM C 131	45.0% maximum
Specific Gravity	ASTM C 127	2.45-2.85
Absorption	& 128	3.0% maximum
Minus 200 Sieve (0.075mm) Wash Loss	ASTM C 117	2.5% maximum

**PREPARATION OF MIXTURE**

The producer will provide a paved stockpile pad or an established material base of the same product as bid in the specifications. The pad or material base shall be solely committed to this product during the contract period. The asphalt shall be heated to a temperature between 185° - 265°F (85° - 130° C).

The mixture shall consist of an aggregate and asphalt combined in a pug mill in the following proportions:

Asphalt	5.0 to 6.5%
Aggregate	95.0 to 93.5%

The mixture may be prepared with no heat to the aggregate when determined as acceptable by laboratory testing.

Heat should be applied to the aggregate when determined as necessary by Unique Paving Materials' laboratory testing prior to production of the mixture or by a technical representative of Unique Paving Materials.

Under any of the above conditions the minimum amount of heat necessary to obtain coating or facilitate the operation of the plant may be utilized not to exceed under any circumstance 175°F (80°C).

When producing in a batch plant, wet mix time in the pug mill should be typically in the range of 30 to 45 seconds or until the aggregate is uniformly coated (greater than 95%) ASTM D 2489.

**PRODUCTION SUPERVISION**

A technical representative from Unique Paving Materials Corporation will be present at every production for quality assurance of the mix. This supervision shall be at the expense of Unique Paving Materials Corporation.

**MIXTURE**

The UPM asphalt cold mix shall meet the following requirements:

Coating	ASTM D 2489	Greater than 95%
Stripping in distilled water <sup>1</sup>	Visual	Less than 5%
Extraction of Bituminous Material	ASTM D 2172	3.5 min. 9.0% max.
Sieve Analysis of Extracted Aggregate	ASTM C 136	See Aggregate Specification
Minus 200 (0.075mm) Of Extracted Aggregate	ASTM C 117 & ASTM C 136	4.0% Maximum <sup>2</sup>
Shelf Life of 100 Tons or more		One Year Minimum

**Note 1:** Place approximately 100 grams in a 250 ml glass beaker and cover with distilled water for 24 hours before observation.

**Note 2:** This value shall not be confused with the 2.5% maximum allowed for the Minus 200 (0.075mm) Wash Loss on the raw aggregate before the production of UPM. That value is necessary to minimize the effect of the plant when producing the finished UPM Cold Mix.

**CONTRACT**

Before being awarded a contract, a successful bidder will be required to furnish an affidavit that this product meets or exceeds the above specifications. The affidavit shall have attached, an analysis done by an independent testing laboratory, certifying that the material conforms to these specifications. If the successful bidder does not submit the affidavit of the lab analysis, they will not be awarded the contract.

The material tested shall be obtained from a stockpile with a minimum 100 ton quantity.

**PERFORMANCE GUARANTEE**

The supplier of the material shall guarantee the performance of the patching mix to meet the following requirements.

- A. The material shall remain workable to accommodate climatic conditions, in an uncovered stockpile of 100 tons or more, if applicable, for a period of not less than 12 months. Smaller quantities must be reasonably covered.
- B. Repaired potholes shall not show any significant signs of shoving, rutting, tracking, kick-up or ravel-out within a period of 12 months from the time of repair.

In the event the material furnished does not meet all of the above requirements, the supplier shall replace the unsatisfactory with acceptable material. The acceptable material shall be provided and delivered at no extra charge to the Department.

**Specifications for ProLine ® Cold Asphalt  
Polymer Modified Cold Asphalt Patching Material  
All Weather Mix**

**GENERAL**

This bituminous polymer modified cold patching material is designed to be applied in the ambient temperature range of 0°F to 100°F. The mixture will provide satisfactory coating, workability, adhesive and cohesive characteristics while functioning during cool to hot and / or wet to dry climatic conditions. Once in place and compacted, ProLine ® Polymer modified cold asphalt is virtually unaffected by changes in weather conditions or exposure to weighted and / or continuous traffic flow.

**LIQUID ASPHALT BLEND**

The liquid asphalt component used shall be polymer modified PG 64-22 ProLine ® blend and be capable of passing AASHTO T-182 as modified herein.

**AGGREGATE**

The gradation should comply with the following limits except in the case where other studied and approved aggregates are required by the agency and approved by ProLine ® producer. Aggregate type is limestone.

**PERCENT PASSING**

<b>Sieve</b>	<b>ProLine ® All Weather Mix</b>
3/4"	100
1/2"	100
3/8"	100
No. 4	70-100
No. 10	28-40
No. 40	0-10
No. 80	0-6
No.200	0-3.5

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<b>Extraction</b>	ASTM D2172	0.5%
<b>Gradation</b>	AASHTO T-30	Tolerance within <b>ProLine®</b> Range
<b>Resistance to Water Damage</b>	AASHTO T-182 modified*	+ 95%
<b>Outdoor Shelf Life</b>	Visual	One Year., 50 ton min. @ 6' height

\*Note #1: The modification of T-182 consists of immersion of sample at 140°F for 24 hours.

#### **SHELF LIFE**

Depending on handling and stockpiling practices (minimum 50 ton stockpile), ProLine® Polymer modified cold asphalt bulk material can be stored outdoors unprotected for extended periods of up to one (1) year while still retaining its performance characteristics. Pro Line® Polymer modified cold asphalt packaged material is guaranteed fresh for one (1) year if unopened.

#### **PERFORMANCE**

ProLine® Polymer modified cold asphalt material is guaranteed to perform adequately under normal circumstances in its intended use for a minimum period of six (6) months. This guarantee is limited to the replacement of any material determined by Pro Line® producer to be defective and does not cover any consequential damages resulting from the use of the product.

#### **AVAILABILITY**

ProLine® Polymer modified cold asphalt shall be available in both bulk and packaged form. ProLine® Polymer modified cold asphalt shall be available FOB at plant at all times and capable of delivery within seventy-two (72) hours of request (delivery available within twenty-four (24) hours when required).

#### **PACKAGING**

ProLine® Polymer modified cold asphalt package shall be of a flexible poly type material treated with UV protectant and sealed by heat. Bags shall be palletized on wooden pallets measuring approximately 40" x 48" with cardboard pallet box, plastic pallet shroud, and plastic stretch wrap. Package weight shall be 35 lb. or 50 lb (Unless otherwise specified).

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**ERGON ASPHALT AND EMULSIONS**  
**RM-90**  
**High Performance Cold Mix Specification**

**DESCRIPTION**

The following specifications are for a high performance cold mix to be used in repairing potholes and utility cut repairs on both asphalt and concrete pavements. The aggregate and bituminous material will be mixed by using a hot mix plant or pugmill.

**MATERIALS**

**Aggregate**

The aggregate shall be crushed stone, crushed gravel, coarse sand and/or combination thereof and shall meet the following requirements:

Sieve	% Passing	% Passing
3/8"	100	90 - 100
#4	85 - 100	20 - 55
#8	10 - 40	5 - 30
#16	0 - 10	0 - 10
#50	0 - 5	0 - 5
#200	0 - 2.5	0 - 2.5
ASTM C 88	Soundness Loss	12.0% max
ASTM C 131	Los Angeles Abrasion	40.0% max
ASTM C 127-28	Absorption	3.0% max
ASTM C 127-28	Specific Gravity	2.45 - 2.85
ASTM C 123	Soft Aggregates	3.0% max
ASTM C 117	Minus 200 Sieve Wash	2.5% max

**Bituminous Material**

The modified bituminous material shall meet the following requirements:

**Tests on Emulsion**

AASHTO T59	Viscosity, Saybolt Furol, 122°F, sec	400 min
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**Tests on Residue**

AASHTO T59	Residue by distillation, % by weight	80 min
AASHTO 59	Oil Distillate by volume, %	2 min
AASHTO 59	Water Distillate by volume, %	6 min

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### **PREPARATION OF MIXTURE**

The mixture shall consist of an aggregate and a bituminous material combined in a plant mixer or pugmill. The preferred mixture shall be:

Asphalt	5.0% - 6.5 %
Aggregate	95% - 93.5%

The finished mix will not exceed 180 F when produced either through a hot mix plant or pugmill.

### **TESTING OF MIXTURE**

The high performance cold mix shall meet the following requirements:

ASTM D 2489	Coating	95% min
Visual	Stripping in distilled water <sup>1</sup>	5% max

<sup>1</sup>Place a suitable size test sample of finished mixed material in a glass jar or beaker and cover with distilled water, and fitted with a tight cover. The contents shall be allowed to sit for a period of 24 hours at normal laboratory temperatures and then agitated for a period of 60 seconds. Pour excess water from beaker or jar and remove sample to surface after which it will be visually examined for stripping of the bituminous material from the aggregate.

### **STOCKPILING**

RM-90 may be stockpiled up to 12 months in an uncovered outdoor stockpile.

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