

## Asphalt Binder, Cutback Asphalts, and Emulsion Asphalts

### Asphalt Binder

APAC-Central, Inc Springfield, MO	PG64-22
Asphalt & Fuel Supply, LLC Catoosa, OK	PG64-22
Coastal Energy Corporation Miller, MO	PG64-22
Coastal Energy Corporation Willow Springs, MO	PG64-22, PG70-22, PG76-22
Ergon Asphalt and Emulsion, Inc. Memphis, TN	PG64-22, PG67-22, PG70-22, PG76-22
Ergon Asphalt and Emulsion, Inc. Vicksburg, MS	PG64-22, PG67-22, PG70-22, PG76-22
Heartland Asphalt Materials New Madrid, MO	PG64-22
HollyFrontier Refining & Marketing LLC Catoosa, OK	PG64-22, PG70-22, PG76-22
Lion Oil Company (Delek US) El Dorado, AR	PG64-22
Lion Oil Company (Muskogee Plt) Muskogee, OK	PG64-22, PG70-22, PG76-22
Lion Oil Company (Port of Muskogee Plt) Muskogee, OK	PG64-22, PG70-22, PG76-22
Lion Oil Company Henderson, TX	PG64-22, PG70-22, PG76-22
Lion Oil Company Memphis, TN	PG64-22, PG70-22, PG76-22
Marathon Petroleum Company, LP Memphis, TN	PG64-22, PG67-22, PG70-22, PG76-22
Northwood Asphalt Terminal, LLC. Tulsa, OK	PG64-22
Phillips 66 (APEX Terminal) Granite City, IL	PG64-22, PG70-22, PG76-22

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Valero Marketing & Supply Company Ardmore, OK	PG64-22, PG76-22
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### Asphalt Emulsions

Blackledge Emulsions, Inc. Gulfport, MS	NTSS-1HM (Trackless Tack), SS-1h
Coastal Energy Corporation Miller, MO	CRS-2, CRS-2P (latex), SS-1, SS-1h
Ergon Asphalt and Emulsion, Inc. Catoosa, OK	SS-1
Ergon Asphalt and Emulsion, Inc. Little Rock, AR	CRS-2, CRS-2P (solid), CSS-1, eTac BC-1HT (Trackless Tack)
Ergon Asphalt and Emulsion, Inc. Memphis, TN	CRS-2, CSS-1h, eTac BC-1HT (Trackless Tack)
Ergon Asphalt and Emulsion, Inc. Mt. Pleasant, TX	CRS-2, CSS-1, SS-1
Ergon Asphalt and Emulsion, Inc. Vicksburg, MS	CRS-2, CSS-1, CSS-1h, CSS-1H(Mod) meets 2003 Standards Section 418
Heartland Asphalt Materials New Madrid, MO	CRS-2, CRS-2P (latex), CSS-1, CSS-1h, SS-1h, SS-1VH (Trackless Tack)

### Cutback Asphalts

Asphalt & Fuel Supply, LLC Tulsa, OK	MC-30
Coastal Energy Corporation Miller, MO	MC-250, MC-30, MC-800
Ergon Asphalt and Emulsion, Inc. Memphis, TN	MC-250, MC-30, MC-800
Heartland Asphalt Materials New Madrid, MO	MC-250, MC-30, MC-3000, MC-800

**Note: If a PG 64-22 mix is specified in the contract, an approved PG67-22 mix design may be submitted in lieu of the PG64-22 mix. Mix designs with PG67-22 must be accepted by ARDOT before use.**

**PG67-22 must meet the following specification:**

**PG 67-22 asphalt binder shall be production straight run binder.  
Original Binder**

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FlashPointTemperature - Minimum 230°C (AASHTO T 48)  
 Rotational Viscosity - Maximum 3 Pa•s@ 135°C (AASHTO T 316)  
 Dynamic Shear  $G^*/\sin d$  - Minimum 1.00 kPa @ 67°C @ 10 rad/sec (AASHTO T 315)

Rolling Thin Film Oven Residue (AASHTO T 240)  
 Mass Change - Maximum 1.00% (AASHTO T 240)  
 Dynamic Shear  $G^*/\sin d$  - Minimum 2.20 kPa @ 67°C @ 10 rad/sec (AASHTO T 315)

Pressure Aging Vessel Residue (AASHTO R 28)  
 PAV Aging Temperature - 100°C (AASHTO R 28)  
 Dynamic Shear  $G^* \times \sin d$  - Maximum 5000 kPa @ 26.5°C @ 10 rad/sec (AASHTO T 315)  
 Creep Stiffness, S - Maximum 300 MPa @ -12°C (AASHTO T 313)  
 m-value - Minimum 0.300 @ -12°C (AASHTO T 313)

### Method of Documentation of Acceptance:

The above asphalt companies have adopted the Department's procedure to supply products from their respective refineries and material from them can be accepted for immediate use when accompanied by a certified shipping ticket for each separate shipment load.

Bills of Lading shall be kept on file at the asphalt plant.

The plant inspector shall note the following in the "Asphalt Plant Inspector's Workbook" program:

- The manufacturer's lab/certification number of the test represented by that specific load
- The manufacturer's tank number
- The manufacturer's trailer number
- Bill of Lading number and the source and grade of the asphalt binder.

The manufacturer's material certifications are on file at the Materials Division.

To provide proper documentation of the use of certified liquid asphalts (emulsions, primes, tack, and cutbacks) the roadway inspector shall note the following in the DWR Template in Sitemanager (If Sitemanager is not required, note on applicable form 19-208 or 19-209 in "Remarks"):

- Liquid asphalt supplier
- Asphalt type
- Manufacturer's tank number
- Manufacturer's lab/certification number (entered in the "seal number" area of the template)

### Method of Approval:

Asphalt materials are accepted for use on Arkansas Department of Transportation projects

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based on certification by the producer. The listed producers have agreed to requirements for certification acceptance as follows:

### **CERTIFICATION AGREEMENT PERFORMANCE GRADED (PG) ASPHALT BINDER, CUTBACK ASPHALTS AND ASPHALT EMULSIONS**

Asphalt materials are accepted for use on Arkansas Department of Transportation projects based on certification by the supplier. Suppliers are the entities that have responsibility for the final asphalt material properties. This may include refineries, terminal operators, manufacturers and distributors of asphalt modifiers, asphalt hot mix plant operators, job prime contractors, or others. In order to supply asphalt materials by certification agreement the supplier must have a qualified laboratory or employ a qualified laboratory capable of performing quality control testing. The following information must be provided:

- Documentation of the laboratory's AASHTO accreditation or participation in AASHTO re:source reference sample program/s and inspections, or other approved accreditation program.
- A copy of the quality control (QC) program for each facility. This information shall include in detail the types and frequency of QC testing. The QC program shall include provisions for testing of asphalt materials modified by the supplier at a refinery or at a terminal or at an asphalt hot mix plant. All changes to the QC program must be approved by the Department before they are implemented.
- Historical data showing conformance with specification requirements.
- Submittal of a split sample (one quart for asphalt binders and cutbacks; one gallon for emulsified asphalts) and manufacturer's test data for each grade of product submitted for approval.
- Results of on-site inspections of the facility and testing laboratory by Arkansas Department of Transportation personnel or approved agencies.

The preliminary requirements listed above must be approved by the Department prior to acceptance of the agreement.

### **CERTIFIED SUPPLIER HAS AGREED TO REQUIREMENTS FOR CERTIFICATION ACCEPTANCE AS FOLLOWS**

Material for use on highway projects will be sampled and tested by the supplier as defined by the supplier's Department approved Quality Control Plan. One copy of all quality control tests results shall be promptly forwarded to the Materials Division. The supplier shall immediately notify the Department and the purchaser(s) of out of specification material and of the steps taken to determine the extent of the problem and of actions to bring the material back into compliance.

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One copy of the Bill of Lading for each shipment is to be sent with the driver for Arkansas Department of Transportation field personnel. In addition to the information normally furnished on the Bill of Lading (such as Producer name, date, net weight, carrier) the following must be included:

- The location of the asphalt hot mix / cold mix plant shall be designated on all performance graded asphalt binder shipments. For shipments of performance graded asphalt binder, the specific gravity at 16° C (60°F) is to be shown.
- The state job number or purchase order number shall be shown on all emulsified asphalts, cutback asphalt and performance grade asphalt shipments. On shipments of cutback asphalts, the weight per gallon (liter) and the quantity must also be shown.
- The identification of the storage tank (if applicable) from which the material was loaded.
- The location where the trailer was loaded or the hot mix plant where the binder was blended
- The identification of the hauling trailer and its contents.
- Laboratory number/identifier of the laboratory tests that are the basis of the certification of the material
- A certification statement reading substantially as follows must appear on or accompany the Bill of Lading, "This certifies that this material complies with Arkansas Department of Transportation specifications for \_\_\_\_\_. " The statement is to be signed by an authorized representative of the company.
- Residual asphalt percentage (%) for emulsified asphalt grades SS-1, SS-1h, CSS-1 or CSS-1h.

The supplier will submit a monthly summary report from each facility of all QC results for each type and grade of asphalt material approved by the Department under this listing. The monthly summary report shall be in a tabular form, preferably, in a digital spreadsheet format which can be e-mailed to the Materials Division ([materials@ardot.gov](mailto:materials@ardot.gov)). The Department will review these summary reports and make suggested changes to the supplier's QC program if warranted.

The Department will visit the supplier's facilities as necessary to review the QC program, inspect facilities and/or sample materials. As determined by the Department, the supplier will periodically test split samples. The Department will take field samples, as necessary, to verify results of the supplier's QC program.

Acceptance by this method is subject to withdrawal for failure to comply with the supplier's Quality Control Program and the above requirements, if unsatisfactory results are obtained in the field or if samples taken at the job site indicate non-compliance with the specifications. In the event of the withdrawal of certification acceptance, it will be necessary that material be sampled at the job site, samples transported to the Materials Division and tests performed prior to release or continued use of the material.