



**QUALIFIED PRODUCT POLICY FOR
ASPHALT BINDER AND ASPHALT EMULSION SUPPLIERS**

GENERAL

The purpose of this policy is to outline the procedures by which asphalt materials are placed on the Qualified Products Listing (QPL) for use on Department projects. This policy is applicable to all asphalt materials including Performance Graded (PG) asphalt binders and emulsified asphalt products.

In this policy, a source of asphalt material is defined as any facility engaged in the manufacturing, processing, storage or receiving and shipment of asphalt binder and emulsified asphalt products.

INITIAL LISTING OF ASPHALT MATERIAL PRODUCTS

In order for a source to be placed on the applicable QPL for binder or emulsions, a letter must be sent to the Asphalt Materials Manager/Asphalt Materials Engineer (AME). The letter must state the type and grade of asphalt materials to be supplied for Department projects. All correspondence should be directed to:

Kimberly R. Lyons, Ph.D., P.E.
Asphalt Materials Engineer
SCDOT Office of Materials and Research
P.O. Box 191
Columbia, SC 29202
Phone: (803) 737-6700
E-mail: LyonsKR@scdot.org

Prior to being listed as a supplier of asphalt material, each supplier must submit their quality control program to the AME for review and approval. The supplier must designate an individual within their organization responsible for managing their quality control program. The frequency of testing at manufacturing facilities and storage terminals will be proposed by the supplier and included in their quality control program for review by the Department.

In addition to submitting a letter requesting to be placed on the QPL, samples of each type of material must be submitted to the AME at the Office of Materials and Research in Columbia, South Carolina. The manufacturer will also submit their test results for these materials along with the samples. Required tests are listed in Table 1. Each supplier of asphalt binder must furnish the temperature recommendations for the following uses:

- a. Mixing temperature range: 0.170 ± 0.020 Pa-s *
- b. Compaction temperature range: 0.280 ± 0.030 Pa-s*

*Mixing and Compaction ranges above used for PG 64-22 binders only

PG 76-22 binders are required to have a suggested mixing and compaction range listed based on the crude source and the modifiers used in the manufacturing process.

A source inspection will be made by a representative from the Office of Materials and Research. The visit will include inspection of the facility, review and discussion of available test data and specifications, a review of the proposed quality control program, and obtaining samples of materials available at the facility. An initial source inspection may be waived if there is difficulty in arranging an inspection prior to listing. A temporary listing will be given to those sources that have not been initially inspected but have satisfactorily met other required criteria for listing.

After the source visit, the manufacturer will be required to submit a certification letter stating that all materials produced for Department projects will meet applicable specifications. The certification letter must state the type and grade of asphalt materials to be supplied for Department projects.

Upon completion of testing and satisfactory compliance with applicable specifications and Department policy contained herein, each material from each source will be added to the appropriate QPL for either Asphalt Binder Suppliers (QPL 37) or Emulsion Suppliers (QPL 38) located on the internet at www.scdot.org. The guidelines for initial qualification are outlined in Table 3. Hydrated lime will be only permitted from producers that appear on the Department's QPL 39. A producer may request to be included on the list by writing to the Department's Office of Materials and Research. All correspondence should be directed to:

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Asphalt Materials Engineer
SCDOT Office of Materials and Research
PO Box 191
Columbia, SC 29202
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ANNUAL RENEWAL

During each calendar year, personnel from the Office of Materials and Research may randomly visit each source of asphalt materials listed on the current QPLs. These visits will include inspection of the facilities, review and discussion of test data and specifications, a review of the quality control records, and a sampling of materials available at the facility. Additional inspections may be conducted sometime during the construction season if it is deemed necessary to insure the quality of the asphalt materials used in Department work.

Duplicate samples of materials available will be obtained during source inspections. One sample will be tested by the facility's laboratory and the second sample will be tested by the Office of Materials and Research. Required tests are listed in Table 1 for both types of facilities.

Each supplier of asphalt material must submit samples annually of each type of material produced for Department projects. Samples may be randomly requested by the AME at anytime of the year the products are active in the storage tanks. The manufacturer's test results are required when all yearly

samples or any random samples are requested and test results must be forwarded to the AME when tests have been completed. Required tests can be found in Table 1. Samples must be properly labeled and marked as a "QPL ## Sample." Testing will be conducted at the Office of Materials and Research in Columbia, South Carolina. Upon completion of testing and satisfactory compliance with this policy, each material from each source will be evaluated as to its inclusion on the applicable QPL for the following year.

Asphalt material suppliers will be required to submit an annual certification letter designating a person as the Quality Control Manager and stating that all materials produced for Department projects will meet all applicable specifications. The annual certification letter must state the type and grade of asphalt materials to be supplied for Department projects. Annual certification letters are due on or before December 31st of each calendar year. Guidelines for annual approval can be found in Table 3.

MONTHLY INDEXES

SCDOT Policy is to request quotes from all vendors/terminals on the Qualified Product List 37, and use those quotes to determine a monthly index for AC Binder. Quotes will be requested monthly to include the following information:

Terminal Information

Quote Price for AC Binder (PG64-22 only), Effective the 1st of each month

Range in Tons sold and or delivered to South Carolina Contractors in the prior month:

- a) Greater than 1000 tons
- b) 250-100 tons
- c) Less than 250 tons
- d) None

If no quotes are received for 6 months, or the terminal has no South Carolina deliveries for 6 months, the department may consider the vendor inactive and stop requesting quotes from the vendor, The vendors' inclusion on QPL No. 37 may also be reviewed.

All quotes must be sent via email to: ACBinderQuotes@scdot.org

QUALITY CONTROL TEST REPORTS

Appropriate quality control test reports must be kept on file at the facility with copies emailed to the AME immediately upon completion of the tests. The frequency of testing at manufacturing terminal and storage terminal facilities will be stated in the supplier's quality control program.

Each manufacturing facility producing asphalt materials for Department work must provide the following test data for all materials being used by the Department:

Table 1. Required Manufacturing Facility Tests

<u>Type Material</u>	<u>Test</u>	<u>AASHTO Designation</u>
Asphalt Binder	Rotational Viscosity	T-316
	Flash Point	T-48
	Dynamic Shear (Original, RTFO, & PAV Aged)	T-315
	Mass Loss	T-240
	Creep Stiffness	T-313
	MSCR	T-350 (M332 – V Grade)

<u>Type Material</u>	<u>Test</u>	<u>AASHTO Designation</u>
Emulsified Asphalt	Viscosity	T-59
	% Residue (Distillation or Evaporation)	T-59
	Penetration	T-49

Terminal facilities engaged in receiving, storing and shipping materials without changing the properties, other than temperature, must furnish the following test data for all materials being used by the Department:

Table 2. Required Terminal Facility Tests

<u>Type Material</u>	<u>Test</u>	<u>AASHTO Designation</u>
Asphalt Binder	Rotational Viscosity	T-316
Emulsified Asphalt	Viscosity	T-59
	% Residue	T-59

LIQUID ANTI-STRIP ADDITIVES

All suppliers providing liquid anti-strip additives (LASA) must complete a preliminary study proving that the type and grade of LASA is compatible with the crude source being used to manufacture the non-modified binder. LASA will not be permitted in any modified binder, unless the LASA product is used as a WMA additive or a compaction aide. If the crude source is expected to change, a compatibility study must reconfirm that the LASA type and grade will not be detrimental to the binder blend. It will

then be the responsibility of the asphalter materials producer to prove compatibility with the LASA binder and their job mix formula.

NON-TRACKING EMULSION ADDITIVES

All suppliers providing a non-tracking emulsion additive must complete a preliminary study proving that the base emulsion (cationic or anionic) is compatible with the post add non-tracking emulsion additive. The non-tracking emulsion additive can be post added to any base emulsions (cationic and anionic) listed in SCDOT QPL 38. Testing of the base emulsion with the non-tracking emulsion additive must adhere to AASHTO specifications. The AME must be contacted when using a non-tracking emulsion additive. It will be the responsibility of the asphalt materials producer to prove the compatibility of the non-tracking emulsion additive and the base emulsion.

CERTIFICATION OF TECHNICIANS

All suppliers must be enrolled in the AASHTO Proficiency Sample Program and perform yearly proficiency samples for any products that are to be supplied to the Department. All laboratories that perform daily, monthly, or annual sample testing will need to be enrolled in the appropriate proficiency sample program and perform testing on each and all materials that are shipped to Department projects. Test results must be forwarded the AME within 3 weeks of receipt of the results. Any ratings less than 3 must be accompanied by an explanation. For more information on the Proficiency Sample Program, visit the website at www.aashtoresource.org.

DELIVERY TICKETS

The information required on each delivery ticket must include the following:

- a. Purchase order number
- b. Type and grade of material
- c. Batch and tank identification
- d. Specific gravity at 15.6 degrees Celsius (asphalt binder only)
- e. Net volume and/or net weight
- f. Identification of delivery tanker
- g. Type and grade of asphalt material shipped on the previous load
- h. Type, grade and amount of liquid anti-strip additive (when added to binder)
- i. A stamp or mark saying "Certified to Meet South Carolina Department of Transportation Specifications."

ACCEPTANCE/REJECTION OF ASPHALT MATERIALS

Asphalt materials meeting all the requirements stated herein will be allowed to be used in Department work. As long as tests performed by the Department confirm that specifications are being met and performance is satisfactory, the asphalt material will be considered acceptable. Should either of the criteria not be met, the asphalt material will be rejected for use in Department work and the source removed from the QPL.

NONCONFORMING ASPHALT MATERIALS

Permitting the Contractor to use asphalt materials which are on the QPL does not necessarily mean acceptance or implied responsibility by the Department. Defective asphalt materials are the responsibility of the Contractor or supplier. The disposition of work which has defective asphalt material incorporated in it will be solely the Department's decision.