

South Carolina  
Department of Transportation

QUALIFIED PRODUCTS POLICY FOR  
ASPHALT MATERIALS  
(QUALITY LISTINGS 37 & 38)

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 asphalt binders, emulsified asphalts and cut-back asphalts.

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 cement, emulsified asphalt or cutback asphalt.

INITIAL SOURCE APPROVAL

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

Cliff Selkinghaus  
Asphalt Materials Manager  
SCDOT Office of Materials and Research  
P.O. Box 191  
Columbia, SC 29202  
Phone: (803) 737-6700  
E-mail: selkinghcb@scdot.org

Prior to being listed as a supplier of asphalt material, each supplier shall submit their quality control program to the AME for review and approval. The supplier shall 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 shall furnish the temperature recommendations for the following uses:

- a. Mixing temperature range:  $0.170 \pm 0.020$  Pa-s
- b. Compaction temperature range:  $0.280 \pm 0.030$  Pa-s

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

All temperatures must be converted to degrees Fahrenheit (F).

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 shall 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 "Asphalt Materials Qualified Products List," which is located on the internet at [www.scdot.org](http://www.scdot.org). The guidelines for initial acceptance are outlined in Table 3.

### ANNUAL SOURCE

During each calendar year, personnel from the Office of Materials and Research will visit each source of asphalt materials listed on the current "Asphalt Materials Qualified Products Listing." 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 biannually of each type of material produced for Department projects. Source listing samples for each type of material shall be submitted to the AME between April 1<sup>st</sup> and April 30<sup>th</sup> (if an on-site inspection is not made) and August 1<sup>st</sup> and August 31<sup>st</sup> of each year. The manufacturer's test results for the same materials must be submitted with the samples. Required tests can be found in Table 1. Samples shall be properly labeled and marked as a "Qualified Product Listing 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 “Asphalt Materials QPL” for the following year.

Prior to the beginning of each new construction season, on or before December 31 of each calendar year, each supplier of asphalt binder shall furnish the AME the temperature recommendations for as noted earlier.

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 shall state the type and grade of asphalt materials to be supplied for Department projects. Annual certification letters are due on or before December 31 of each calendar year. Guidelines for annual approval can be found in Table 3.

QUALITY CONTROL TEST REPORTS

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

Each manufacturing facility producing asphalt materials for Department work shall 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
	Gel permeation chromatography (GPC) *	
<u>Type Material</u>	<u>Test</u>	<u>AASHTO Designation</u>
Emulsified Asphalt	Viscosity	T-59
	Distillation	T-59
	Residue	T-59
	Penetration	T-49

Cut-back Asphalt	Viscosity	T-59
	Distillation	T-78
	Residue	T-78

Terminal facilities engaged in receiving, storing and shipping materials without changing the properties, other than temperature, shall 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
	Gel permeation chromatography (GPC) *	
Emulsified Asphalt	Viscosity	T-59
	Residue	T-59
Cut-back Asphalt	Viscosity	T-59
	Residue	T-78

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. 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 HMA producer to prove compatibility with the LASA binder and their job mix formula.

CERTIFICATION OF TECHNICIANS

All suppliers must be enrolled in the AASHTO Materials Reference Laboratory Assessment (AMRL) 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 is 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 AMRL and the proficiency programs, you may visit the AMRL website at [www.amrl.net](http://www.amrl.net) or call them at 301-975-5450.

### DELIVERY TICKETS

The information required on each delivery ticket shall 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 is 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.

**Table 3. Guidelines for Initial Listing**

1. Notify the AME in writing requesting approval of materials.
2. Submit a detailed quality control program to the AME for review.
3. Submit samples of materials for testing. Manufacturers' test results will be submitted with samples. See Tabel 1.
4. Source inspection conducted by personnel from the Office of Materials and Research.
5. Certification letter from source certifying that all materials produced for Department work will meet specifications.
6. Producer to provide temperature range for Superpave Gyratory mixing and compaction with certification letter. Temperatures will be reported in deg. F. \*\*

**Table 4. Guidelines for Annual Listing**

1. Producer to provide copies of all quality control tests immediately upon completion of the tests.
2. Source inspection conducted by personnel from the Office of Materials and Research.
3. Certification letter from source designating a person as Quality Control Manager and certifying that all materials produced for Department work will meet specifications. Certification letter due on or before December 31 of each year.
4. Producer to provide temperature range recommendations for Superpave Gyratory mixing and compaction. Temperatures will be reported in deg. C. Due on or before December 31 of each year. \*\*
5. Submit biannual source approval samples for each type of material supplied for Department projects. Producers test results should accompany samples. Samples due between April 1<sup>st</sup> and April 30<sup>th</sup> and August 1<sup>st</sup> and August 31<sup>st</sup> of each year. See Table 1.
6. Submit AMRL results within 3 weeks of receipt. Attach explanation of any ratings less than 3.

\* To be performed by Clemson Univeristy once a year on each material produced.

\*\* Asphalt binders only