

ALDOT-463-23

CERTIFICATION PROGRAM FOR LIQUID ASPHALT TECHNICIANS

1. Scope

- 1.1. This program establishes the compliance requirements for Liquid Asphalt Technician certifications required for personnel sampling, testing, inspecting, and managing the production and quality control of Liquid Asphalt materials and operations for the Alabama Department of Transportation, herein referred to as ALDOT or as the Department.
- 1.2. The intent of this program is to improve the quality and performance of hot mix asphalt pavements through knowledge and understanding of the product. This program is applicable to the Department, its consultants, and industry personnel.
- 1.3. This Procedure will outline the requirements for certification as an ALDOT Liquid Asphalt Technician.

2. Program Administration

2.1 The Certification Board (CB) and a Working task Force (WTF) will administer the Certification program.

2.1.1 Certification Board – Membership of the CB will consist of the following:

- Materials and Tests Engineer, Chairman
- Deputy Director of Operations
- Construction Engineer
- Area Operations Engineer appointed by the Deputy Director of Operations
- Industry Representative appointed by the Alabama Asphalt Pavement Association

2.1.2 Working Task Force – Membership of the WTF will consist of the following:

- HMA/Liquid Asphalt Specifications Engineer, Chairman
- Assistant Construction Engineer
- Industry Representative appointed by the Alabama Asphalt Pavement Association

3. Certification Requirements for Performance Graded Asphalt Binder (PGAB) Technicians Emulsion Technicians, and Cutback Technicians

- 3.1. The company shall make requests for technician certification to the Materials and Tests Bureau by [BMT-100](#). The request shall include specific information such as experience, length of training, subject matter, instructors, location of training, and category of certification being requested.
- 3.2. Materials and Tests Bureau personnel will monitor and observe all "hands-on" tests performed by the applicant. The technician will be allowed to use notes, checklists, or specifications to perform the required tests. Materials and tests personnel will determine whether or not each technician has demonstrated the level of competency required for certification by watching each technician perform the laboratory tests necessary for each certification as indicated in Table 1 below.

3.3. A technician may be certified for more than one category, provided that all requirements have been met.

3.4 Technician types:

3.4.1. Cutback Technician - A certified technician who performs tests on cutback asphalts as required by Table I, Cutback Asphalts.

3.4.2. Emulsion Technician - A certified technician who performs tests on emulsified asphalts as required by Table I, Cationic Emulsions.

3.4.3. Performance Graded Asphalt Binder (PGAB) Technician - A certified technician who performs tests on performance graded asphalt binders at refineries as required by Table I, Performance Graded Asphalt Binders.

3.4.4. Terminal Performance Graded Asphalt Binder (PGAB) - A certified technician who performs high temperature tests on performance graded asphalt binders at a terminal as required by Table I, Performance Graded Asphalt Binders.

Table I

METHODS OF TESTS		
Material	Test	Method to Use
Performance Graded Asphalt Binder Technician	Flash Point, (COC), FC	AASHTO T48
	Viscosity, (Brookfield)	AASHTO T316
	Dynamic Shear Rheometer (DSR)	AASHTO T315
	Rolling Thin Film Oven (RTFO)	AASHTO T240
	Loss on Heating, %	AASHTO T240
	Flexural Creep Stiffness (BBR)	AASHTO T313
	Accelerated Aging Using Pressure Aging Vessel (PAV)	AASHTO R28
	Polymer Content (FTIR) *	ALDOT 408-01
Elastic Recovery**	AASHTO T301	
Terminal Performance Graded Asphalt Binder Technician	Flash Point, (COC), FC	AASHTO T48
	Viscosity, (Brookfield)	AASHTO T316
	Dynamic Shear Rheometer (DSR)	AASHTO T315
	Rolling Thin Film Oven (RTFO)	AASHTO T240
	Loss on Heating, %	AASHTO T240

* FTIR results will be submitted for all Polymer Modified Binders quarterly or upon request of the Department.

** Elastic Recovery will be performed according to ALDOT Standard Specifications for Highway Construction Section 804.

Table I (continued)

METHODS OF TESTS		
Material	Test	Method to Use
CATIONIC EMULSION AASHTO T59 (ASTM D244)	Viscosity, Saybolt Furol at 25°C, s	AASHTO T59
	Viscosity, Saybolt Furol at 50°C, s	AASHTO T59
	Storage Stability Test, 24-hr, %	AASHTO T59
	Demulsibility, 35 ml 0.8%	AASHTO T59
	Sodium Dioctyl Sulfosuccinate, %	AASHTO T59
	Classification Test	AASHTO T59
	Particle Charge Test	AASHTO T59
	Sieve Test, %	AASHTO T59
	Distillation:	
	Oil Distillate, by Volume of Emulsion, %	AASHTO T59
	Residue, %	
	Tests on Residue from Distillation Test:	
Penetration 25°C, 100 g, 5 s	AASHTO T49	
Ductility, 25°C, 5 cm/min, cm	AASHTO T51	
Solubility in Trichlorethylene, %	AASHTO T44	
CUTBACK ASPHALT AASHTO M-81 (RAPID CURING) AASHTO M-82 (MEDIUM CURING)	Kinematic Viscosity at 60°C	AASHTO T201
	Flash point (Tag, open-cup), °C	AASHTO T79
	Water, %	AASHTO T55
	Specific Gravity	AASHTO T295
	Distillation Test:	
	Distillate, Percentage by Volume of Total Distillate to 360°C, %	AASHTO T78
	Residue from Distillation to 360°C, Volume Percentage of Sample by Difference, %	AASHTO T78
	Tests on Residue from Distillation:	
	Absolute Viscosity at 60°C, Poises	AASHTO T202
	Ductility, 5 cm./min. at 25°C, cm	AASHTO T51
Solubility in Trichlorethylene, %	AASHTO T44	

Note 1: Other tests may be required at the discretion of the Materials and Tests Engineer.

Note 2: All samples forwarded to the Department will be accompanied by a Certificate of Analysis if from a manufacturing facility on the appropriate BMT Form.

Note 3: All testing and equipment will be in compliance with the methods listed in Table 1.

3.8. Technician Training

- 3.8.1. Liquid Asphalt Suppliers Shall ensure their technicians are trained to perform all tests relating to asphalt materials (see Table I). The required training may be accomplished in-house, through academia, or through private companies.
- 3.8.2. Each Liquid Asphalt Supplier shall have all Superpave Binder Technicians maintain Superpave Binder Technician Certification.

- 3.8.3. A **required** training course for “Superpave Binder Technician” may be arranged through the Asphalt Institute, The National Center for Asphalt Technology (NCAT), or other institution with a refresher course required every Three (3) years.

4. Certification

- 4.1. Personnel meeting all the qualifications for any of the Liquid Asphalt Technician certifications will be certified as such upon approval of the Working Task Force.
- 4.2. Certification shall be contingent upon the technician signing BMT-100 Liquid Asphalt Technician certifications are valid for a period of three (3) years provided all prerequisite certifications are maintained current.

5. Decertification of Qualified Laboratories and Certified Technicians

- 4.1. The Working Task Force shall review technicians who fail to comply with the above requirements as reported by a representative of the Department. Disciplinary actions shall be taken upon recommendation of the Working Task Force and approval of the Certification Board and will range from a minimum 60 day suspension to permanent revocation.