



Standard Specification for Graded Trinidad Lake Modified Asphalt Binder¹

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1. Scope

1.1 This specification covers graded Trinidad Lake modified asphalt binders. Grading designations are related to the average seven-day maximum pavement design temperature, °C, the intermediate pavement design temperature, °C, and minimum pavement design temperature, °C.

NOTE 1—For asphalt cements graded by penetration at 25 °C, see Specification D 946. For asphalt cements graded by viscosity at 60 °C, see Specification D 3381.

NOTE 2—AASHTO Guide PP5 provides information on the evaluation of modified asphalt binders.

1.2 The values stated in SI units are to be regarded as standard.

2. Referenced Documents

2.1 ASTM Standards:

- D 8 Terminology Relating to the Materials for Roads and Pavements²
- D 92 Test Method for Flash and Fire Points by Cleveland Open Cup³
- D 95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation³
- D 140 Practice for Sampling Bituminous Materials²
- D 946 Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction²
- D 1754 Test Method for Effects of Heat and Air on Asphaltic Materials (Thin-Film Oven Test)²
- D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene²
- D 2170 Test Method for Kinematic Viscosity of Asphalts (Bitumens)²
- D 2171 Test Method for Viscosity of Asphalts by Vacuum Capillary Viscometer²
- D 2872 Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test)²
- D 3381 Specification for Viscosity—Graded Asphalt Cement for Use in Pavement Construction²
- D 4402 Test Method for Viscosity Determinations of Un-

filled Asphalts Using the Brookfield Thermosel Apparatus⁴
D 6521 Standard Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)²

P 245 Proposed Test Method for Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)⁵

P 246 Proposed Test Method for Determining the Rheological Properties of Asphalt Binder for Specification Purposes Using a Dynamic Shear Rheometer (DSR)⁵

P 252 Proposed Test Method for Determining the Fracture Properties of Asphalt Binder in Direct Tension (DT)⁵

2.2 AASHTO Standards:

PP5 Guide for the Laboratory Evaluation of Modified Asphalt Systems⁶

3. Terminology

3.1 Definitions:

3.1.1 Definitions for many terms common to asphalt cement are found in Terminology D 8.

4. Ordering Information

4.1 When ordering under this specification, include in the purchase order the grade of Trinidad Lake modified asphalt binder required from Table 1 (for example, TLG 52-16 or TLG 64-34).

5. Materials and Manufacture

5.1 Trinidad Lake modified asphalt binder shall be prepared by the addition of Trinidad Lake Asphalt modifier to base asphalt produced from the refining of petroleum crude, with or without the inclusion of organic or inorganic modifiers.

5.2 Modifiers may be any suitable form of Trinidad Lake Asphalt that may include also organic or inorganic modifiers of suitable manufacture and preparation, and that is dissolved, dispersed or reacted in asphalt cement to enhance its performance.

5.3 The base asphalt binder shall be homogeneous, free from water and deleterious materials, and shall not foam when heated to 175 °C.

5.4 The base asphalt binder shall be at least 99.0 % soluble in trichloroethylene as determined by Test Method D 2042.

¹ This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.45 on Modified Asphalt Specifications.

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² *Annual Book of ASTM Standards*, Vol 04.03.

³ *Annual Book of ASTM Standards*, Vol 05.01.

⁴ *Annual Book of ASTM Standards*, Vol 04.04.

⁵ Discontinued; see 1995 *Annual Book of ASTM Standards*, Vol 04.03.

⁶ Available from the American Association of State Highway and Transportation Officials, 444 N. Capitol St. NW., Washington, DC 20001.