



Designation: ~~D946-82~~(Reapproved2005) Designation: D 946 – 09

Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction¹

This standard is issued under the fixed designation D 946; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers asphalt cement for use in the construction of pavements.

1.2 This specification covers the following penetration grades:

40–50,	120–150, and
60–70,	200–300.
85–100,	

2. Referenced Documents

2.1 *ASTM Standards:*²

D 5 [Test Method for Penetration of Bituminous Materials](#)

D 36 [Test Method for Softening Point of Bitumen \(Ring-and-Ball Apparatus\)](#)

D 92 [Test Method for Flash and Fire Points by Cleveland Open Cup Tester](#)

D 113 [Test Method for Ductility of Bituminous Materials](#)

D 140 [Practice for Sampling Bituminous Materials](#)

D 1754 [Test Method for Effects of Heat and Air on Asphaltic Materials \(Thin-Film Oven Test\)](#)

D 2042 [Test Method for Solubility of Asphalt Materials in Trichloroethylene](#)

3. Manufacture

3.1 Asphalt cement shall be prepared by the refining of crude petroleum by suitable methods.

4. Properties

4.1 The asphalt cement shall be homogeneous and shall not foam when heated to 347°F (174°C).

4.2 The various grades of asphalt cement shall conform to the requirements prescribed given in Table 1 or Table 2, as specified by the purchaser. Table 2 requirements limit the temperature susceptibility of asphalt over Table 1 requirements. Asphalts that meet Table 2 requirements will also meet Table 1 requirements of the same grade.

5. Methods of Sampling and Testing

5.1 The material shall be sampled and the properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

5.1.1 *Sampling*—Practice D 140.

5.1.2 *Penetration*— Test Method D 5.

5.1.3 *Softening Point*— Test Method D 36.

5.1.4 *Flash Point*— Test Method D 92.

~~5.1.4~~

5.1.5 *Ductility*—Test Method D 113.

~~5.1.5~~

5.1.6 *Thin Film Oven Test*—Test Method D 1754.

~~5.1.6~~

¹ This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.40 on Asphalt Specifications.

Current edition approved Dec 1, 2005-2009. Published Dec 2005-2009. Originally approved in 1947. Last previous edition approved in 1999 as ~~D946-82(1999)~~ D 946 – 82 (2005).

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.