



Standard Specification for Asphalt for Undersealing Portland-Cement Concrete Pavements¹

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1. Scope

1.1 This specification covers asphalt suitable for undersealing portland cement concrete and overlaid concrete pavements by pumping hot asphalt under the slabs.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

D5 Test Method for Penetration of Bituminous Materials

D6 Test Method for Loss on Heating of Oil and Asphaltic Compounds

D36 Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)

D92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester

D113 Test Method for Ductility of Bituminous Materials

D140 Practice for Sampling Bituminous Materials

D312 Specification for Asphalt Used in Roofing

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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.

D2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene

D7553 Test Method for Solubility of Asphalt Materials in N-Propyl Bromide

3. Material

3.1 An asphalt of suitable consistency for pumping when heated to a temperature from 204 to 232°C [400 to 450°F] and for resistance to displacement in the pavement when cooled; for sealing the underside of the slabs and joints, to fill cavities; and to correct vertical alignment by raising the slab.

4. Properties

4.1 The asphalt shall be homogeneous and free of water and shall conform to the requirements in Table 1.

5. Methods of Sampling and Testing

5.1 The asphalt 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 D140.

5.1.2 *Softening Point*—Test Method D36.

5.1.3 *Flash Point*—Test Method D92.

5.1.4 *Penetration*—Test Method D5.

5.1.5 *Ductility*—Test Method D113.

5.1.6 *Loss on Heating*—Test Method D6.

5.1.7 *Bitumen Soluble in Trichloroethylene*—Test Method D2042.

6. Keywords

6.1 asphalt cement; portland-cement concrete; undersealing

**TABLE 1 Requirements for Asphalt for Undersealing Portland Cement Concrete Pavements**

NOTE 1—These requirements are the same as for Type III asphalt in Specification **D312**.

	min	max
Softening point, °C [°F]	85 [185]	96 [205]
Flash point, °C [°F]	260 [500]	...
Penetration, units:		
at 0°C [32°F]	6	...
at 25°C [77°F]	15	35
at 46°C [115°F]	...	90
Ductility at 25°C [77°F], cm	2.5	...
Solubility, % ^A	99	...

^A Use Test Method **D2042** or Test Method **D7553**.

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