



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.

2. Referenced Documents

2.1 *ASTM Standards*:

- D 5 Test Method for Penetration of Bituminous Materials²
- D 6 Test Method for Loss on Heating of Oil and Asphaltic Compounds³
- D 36 Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)³
- D 92 Test Method for Flash and Fire Points by Cleveland Open Cup⁴
- D 113 Test Method for Ductility of Bituminous Materials²
- D 140 Practice for Sampling Bituminous Materials²
- D 312 Specification for Asphalt Used in Roofing³
- D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene²

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 D 140.
- 5.1.2 *Softening Point*—Test Method D 36.
- 5.1.3 *Flash Point*—Test Method D 92.
- 5.1.4 *Penetration*—Test Method D 5.
- 5.1.5 *Ductility*—Test Method D 113.
- 5.1.6 *Loss on Heating*—Test Method D 6.
- 5.1.7 *Bitumen Soluble in Trichloroethylene*—Test Method D 2042.

6. Keywords

6.1 asphalt cement; portland-cement concrete; undersealing

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

³ *Annual Book of ASTM Standards*, Vol 04.04.

⁴ *Annual Book of ASTM Standards*, Vol 05.01.

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 D 312.

	min	max
Softening point, °C (°F)	85 (185)	96 (205)
Flash point, °C (°F)	246 (475)	...
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 in trichloroethylene, %	99	...

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