



# Standard Specification for Asphalt for Undersealing Portland-Cement Concrete Pavements<sup>1</sup>

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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 Materials<sup>2</sup>
- D 6 Test Method for Loss on Heating of Oil and Asphaltic Compounds<sup>3</sup>
- D 36 Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)<sup>3</sup>
- D 92 Test Method for Flash and Fire Points by Cleveland Open Cup<sup>4</sup>
- D 113 Test Method for Ductility of Bituminous Materials<sup>2</sup>
- D 140 Practice for Sampling Bituminous Materials<sup>2</sup>
- D 312 Specification for Asphalt Used in Roofing<sup>3</sup>
- D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene<sup>2</sup>

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.03.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.04.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 05.01.

## 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

**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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