



Designation: ~~D3141/D3141M—15~~ D3141/D3141M – 21

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

This standard is issued under the fixed designation D3141/D3141M; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers asphalt suitable for undersealing ~~portland-cement~~ 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~~ nonconformance with the standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

~~D5~~D5~~D5M~~D5M Test Method for Penetration of Bituminous Materials

~~D6~~D6~~D6M~~D6M Test Method for Loss on Heating of Oil and Asphaltic Compounds

~~D36~~D36~~D36M~~D36M 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 Asphalt Materials

~~D140~~D140~~D140M~~D140M Practice for Sampling Asphalt Materials

~~D312~~D312~~D312M~~D312M Specification for Asphalt Used in Roofing

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~~232 °C [400 to ~~450°F~~450 °F] and for resistance to displacement in the pavement when cooled; for sealing the underside of the slabs and joints, to fill ~~cavities~~cavities, and to correct vertical alignment by raising the slab.

<sup>1</sup> 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.

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<sup>2</sup> 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.



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~~D140/D140M.

5.1.2 Softening Point—Test Method ~~D36~~D36/D36M.

5.1.3 Flash Point—Test Method D92.

5.1.4 Penetration—Test Method ~~D5~~D5/D5M.

5.1.5 Ductility—Test Method D113.

5.1.6 Loss on Heating—Test Method ~~D6~~D6/D6M.

5.1.7 ~~Bitumen~~Asphalt Soluble in Trichloroethylene—Test Method D2042.

5.1.8 Asphalt Soluble in N-Propyl Bromide—Test Method D7553.

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

NOTE 1—These requirements are the same as for Type III asphalt in Specification ~~D312~~D312/D312M.

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

<sup>A</sup> Use Test Method D2042 or Test Method D7553.