



# Standard Specification for Asphalt Used in Roofing<sup>1</sup>

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

## 1. Scope

1.1 This specification covers four types of asphalt intended for use in built-up roof construction, construction of some modified bitumen systems, construction of bituminous vapor retarder systems, and for adhering insulation boards used in various types of roof systems. The specification is intended for general classification purposes only, and does not imply restrictions on the slope at which an asphalt must be used.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

### 2.1 ASTM Standards:

- D 5 Test Method for Penetration of Bituminous Materials<sup>2</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 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials<sup>3</sup>
- D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene<sup>2</sup>
- D 3461 Test Method for Softening Point of Asphalt and Pitch (Mettler Cup-and-Ball Method)<sup>3</sup>

## 3. Materials and Manufacture

3.1 The asphalts shall be prepared from crude petroleum.

## 4. Physical Requirements

4.1 Asphalts shall be homogeneous and free of water.

4.2 Asphalts of each type shall conform to the physical properties prescribed in Table 1.

## 5. Sampling and Test Methods

5.1 Sample the material and determine the properties enumerated in this specification in accordance with the following methods:

5.1.1 *Sampling*—Practice D 140.

5.1.2 *Softening Point*— See Test Methods D 36 or D 3461. In cases where a disagreement exists between the purchaser and the seller, Test Method D 36 shall be used as the referee method.

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 *Solubility*—Test Method D 2042.

## 6. Inspection

6.1 Inspection of the material shall be agreed upon between the purchaser and the seller as part of the purchase contract.

## 7. Rejection and Resubmittal

7.1 Failure to conform to any of the requirements prescribed in this specification shall constitute grounds for rejection. In case of rejection, the seller shall have the right to reinspect the rejected material and resubmit the lot after removal of those packages not conforming to the requirements.

## 8. Packaging and Marking

8.1 Asphalt shall be suitably packaged (if not shipped in bulk) to permit acceptance by the carrier and to afford adequate protection from the normal hazards of handling and shipment.

8.2 Each container or bill of lading on bulk shipments shall be plainly marked with the name of the manufacturer or seller and the ASTM designation and type of product, flash point and the equiviscous temperature (EVT) for mop and for mechanical spreader application.

## 9. Keywords

9.1 asphalt; built-up roof; roofing; softening point

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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.

**TABLE 1 Physical Requirements of Asphalt in Roofing**

Property	Type I		Type II		Type III		Type IV	
	Min	Max	Min	Max	Min	Max	Min	Max
Softening point, °C (°F)	57 (135)	66 (151)	70 (158)	80 (176)	85 (185)	96 (205)	99 (210)	107 (225)
Flash point, °C (°F)	260 (500)	...	260 (500)	...	260 (500)	...	260 (500)	...
Penetration, units:								
at 0°C (32°F)	3	...	6	...	6	...	6	...
at 25°C (77°F)	18	60	18	40	15	35	12	25
at 46°C (115°F)	90	180	...	100	...	90	...	75
Ductility at 25°C (77°F), cm	10.0	...	3.0	...	2.5	...	1.5	...
Solubility in trichloroethylene, %	99	...	99	...	99	...	99	...

## APPENDIX

### (Nonmandatory Information)

#### X1. APPLICATION GUIDE

X1.1 Asphalt should be applied within the EVT application range for asphalt as described in Terminology D 1079.

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