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Standard Specification for Asphalt Used in Dampproofing and Waterproofing¹

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

~~^{ε1} Note—Editorially switched from English dominant to SI dominant.~~

¹ This specification is under the jurisdiction of ASTM Committee ~~D-8 D08~~ on ~~Roofing, Waterproofing, Roofing and Bituminous Materials~~ Waterproofing and is the direct responsibility of Subcommittee D08.03 on Surfacing and Bituminous Materials for Membrane Waterproofing and Built-up Roofing.

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1. Scope

1.1 This specification covers three types of asphalt suitable for use as a mopping coat in dampproofing; or as a plying or mopping cement in the construction of membrane waterproofing systems with felts ~~conforming to in accordance with~~ Specification D 226; fabrics ~~conforming to in accordance with~~ Specifications D 173 or D 1668 (asphalt types); asphalt-impregnated glass mat ~~conforming to in accordance with~~ Specifications D 2178; and with primer ~~conforming to in accordance with~~ Specification D 41.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *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 Materials²

~~D 41—Specification 36 Test Method for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing Softening Point of Bitumen (Ring-and-Ball Apparatus)³~~

D 41 Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing³

D 92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester⁴

D 113 Test Method for Ductility of Bituminous Materials²

D 140 Practice for Sampling Bituminous Materials²

D 173 Specification for Bitumen-Saturated Cotton Fabrics Used in Roofing and Waterproofing³

D 226 Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing³

D 1668 Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing³

D 2042 Test Method for Solubility of Asphalt Materials in Trichlorethylene²

D 2178 Specification for Asphalt Glass Felt Used in Roofing and Waterproofing³

~~D 2398—Test 3461 Test Method for Softening Point of Bitumen in Ethylene Glycol (Ring-and-Ball) Asphalt and Pitch (Mettler Cup-and-Ball Method)⁵~~

3. Classification

3.1 Asphalts covered by this specification include three types:

3.1.1 *Type I*—A soft, adhesive, “self-healing” asphalt that flows easily under the mop and is suitable for use below grade under uniformly moderate temperature conditions both during the process of installation and during service.

NOTE 1—Type I asphalt is suitable for foundations, tunnels, subways, ~~etc.~~ and so forth.

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.

⁵ Discontinued—See 1984 Annual

⁵ Annual Book of ASTM Standards, Vol 04.04, 05.02.

3.1.2 *Type II*—A somewhat less susceptible asphalt than Type I, with good adhesive and “self-healing” properties, suitable for use above grade where it will not be exposed to temperatures exceeding 50°C (122°F).

NOTE 2—Type II asphalt is suitable for railroad bridges, culverts, retaining walls, tanks, dams, conduits, spray decks, etc. and so forth.

3.1.3 *Type III*—An asphalt less susceptible to temperature than Type II, with good adhesive properties, and suitable for use above grade on vertical surfaces exposed to direct sunlight or temperatures above 50°C (122°F).

4. Materials and Manufacture

4.1 The asphalt shall be prepared from crude petroleum by suitable refining processes to conform to the applicable physical requirements for each type.

5. Physical Requirements

5.1 The asphalt shall be homogeneous and free of water.

5.2 Each type shall conform to the appropriate requirements prescribed in Table 1.

TABLE 1 Physical Requirements of Asphalt Used in Dampproofing and Waterproofing

	Type I		Type II		Type III	
	Min	Max	Min	Max	Min	Max
Softening point (ring-and-ball), °C (°F)	46 (115)	60 (140)	63 (145)	77 (170)	82 (180)	93 (200)
Flash point (Cleveland open cup), °C (°F)	232 (450)	...	232 (450)	...	246 (475)	...
Penetration:						
0°C (32°F), 200 g, 60 s; 0.1 mm	5	...	10	...	10	...
25°C (77°F), 100 g, 5 s; 0.1 mm	50	100	25	50	20	40
46°C (115°F), 50 g, 5 s; 0.1 mm	100	130	...	100
Ductility at 25°C (77°F), cm	30	...	10	...	2	...
Solubility in trichloroethylene, %	99	...	99	...	99	...

6. Sampling and Test Methods

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

6.1.1 *Sampling*—Practice D 140.

6.1.2 *Softening Point*—Test Methods D 23986 and D 3461.

6.1.3 *Flash Point*—Test Method D 92.

6.1.4 *Penetration*—Test Method D 5.

6.1.5 *Ductility*—Test Method D 113.

6.1.6 *Solubility in Trichloroethylene*—Test Method D 2042.

7. Inspection and Certification

7.1 Inspection and certification of the material shall be as agreed upon between the purchaser and the seller. Specific requirements shall be made part of the purchase contract.

8. Rejection and Rehearing

8.1 If the results of any test do not conform to the requirements of this specification, retesting to determine conformity may be performed as agreed upon between the purchaser and the seller.

9. Packaging and Marking

9.1 The material shall be suitably packaged to permit acceptance by the carrier and to afford adequate protection from the normal hazards of handling and shipment.

9.2 Each container shall be plainly marked with the name and brand of the manufacturer or seller.

10. Keywords

10.1 asphalt; dampproofing; fabrics; waterproofing

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