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Standard Specification for Cutback Asphalt (Medium-Curing Type)¹

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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 cutback petroleum asphalts of the medium-curing type for use in the construction and treatment of pavements.

2. Referenced Documents

2.1 ASTM Standards:

D 5 Test Method for Penetration of Bituminous Materials²

D 95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation³

D 113 Test Method for Ductility of Bituminous Materials²

D 140 Practice for Sampling Bituminous Materials²

D 402 Test Method for Distillation of Cut-Back Asphaltic (Bituminous) Products²

D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene²

D 2170 Test Method for Kinematic Viscosity of Asphalts (Bitumens)²

¹ This specification is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.40 on Asphalt Specifications.

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

³ *Annual Book of ASTM Standards*, Vol 05.01.

D 3143 Test Method for Flash Point of Cutback Asphalt with Tag Open-Cup Apparatus²

3. Properties

3.1 The cutback asphalt shall not foam when heated to application temperature and shall conform to the requirements prescribed in Table 1.

4. Test Methods

4.1 The materials shall be sampled in accordance with Practice D 140, and the properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

4.1.1 *Flash Point (Tag Open-Cup)*—Test Method D 3143.

4.1.2 *Viscosity, Kinematic*—Test Method D 2170.

4.1.3 *Distillation*— Test Method D 402.

NOTE 1—If a 100-mL graduate does not permit sufficiently close readings to determine conformity to this specification with the desired accuracy, receivers graduated with 0.1-mL divisions shall be used.

4.1.4 *Penetration*— Test Method D 5.

4.1.5 *Ductility*—Test Method D 113.

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

4.1.7 *Water*—Test Method D 95.

TABLE 1 Requirements for Cutback Asphalt (Medium-Curing Type)

NOTE 1—If the ductility at 25°C (77°F) is less than 100, the material will be acceptable if its ductility at 15°C (59°F) is more than 100.

Designation	MC-30		MC-70		MC-250		MC-800		MC-3000	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Kinematic viscosity at 60°C (140°F), mm ² /s	30	60	70	140	250	500	800	1600	3000	6000
Flash point (Tag open-cup), °C (°F)	38 (100)	...	38 (100)	...	66 (150)	...	66 (150)	...	66 (150)	...
Distillate test:										
Distillate, volume percent of total distillate to 360°C (680°F):										
to 225°C (437°F)	...	25	...	20	...	10
to 260°C (500°F)	40	70	20	60	15	55	...	35	...	15
to 316°C (600°F)	75	93	65	90	60	87	45	80	15	75
Residue from distillation to 360°C (680°F), percent volume by difference	50	...	55	...	67	...	75	...	80	...
Tests on residue from distillation:										
Viscosity at 60°C (140°F), Pa · s ^A	300	1200	300	1200	300	1200	300	1200	300	1200
Ductility at 25°C (77°F), cm	100	...	100	...	100	...	100	...	100	...
Solubility in trichloroethylene, %	99.0	...	99.0	...	99.0	...	99.0	...	99.0	...
Water, %	...	0.2	...	0.2	...	0.2	...	0.2	...	0.2

^A Instead of viscosity of the residue, the specifying agency, at its option, can specify penetration 100 g: 5 s at 25°C (77°F) of 120 to 250 for Grades MC-30, MC-70, MC-250, MC-800, and MC-3000. However, in no case will both be required.

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