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**Standard Specification for**  
**Cutback Asphalt**  
**(Rapid-Curing Type)**

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**AASHTO Designation: M 81-92 (2012)**

**AASHTO**

**American Association of State Highway and Transportation Officials**  
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**Washington, D.C. 20001**

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## Standard Specification for

# Cutback Asphalt (Rapid-Curing Type)

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### 1. SCOPE

- 1.1. This specification covers liquid petroleum products, produced by fluxing an asphalt base with suitable petroleum distillates, to be used in the treatment of road surfaces.
- 1.2. The values stated in SI units are to be regarded as the standard.

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### 2. GENERAL REQUIREMENTS

- 2.1. The cutback asphalt shall show no separation or curdling prior to use and shall not foam when heated to the application temperature.

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### 3. PROPERTIES

- 3.1. Cutback asphalt of the grade designated shall conform to the requirements shown in Table 1.

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### 4. METHODS OF SAMPLING AND TESTING

- 4.1. Sampling and testing cutback asphalt (rapid-curing type) shall be in accordance with the following AASHTO and ASTM standards:
  - R 66, Sampling Asphalt Materials
  - T 44, Solubility of Bituminous Materials
  - T 49, Penetration of Bituminous Materials
  - T 51, Ductility of Asphalt Materials
  - T 72, Saybolt Viscosity
  - T 78, Distillation of Cutback Asphalt Products
  - T 79, Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Point Less Than 93°C (200°F)
  - T 102, Spot Test of Asphaltic Materials
  - T 201, Kinematic Viscosity of Asphalts (Bitumens)
  - T 202, Viscosity of Asphalts by Vacuum Capillary Viscometer
  - ASTM D95, Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation

**Table 1—Minimum and Maximum Cutback Asphalt Grade Requirements**

	RC-70		RC-250		RC-800		RC-3000	
	Min	Max	Min	Max	Min	Max	Min	Max
Kinematic viscosity at 60°C (140°F), mm <sup>2</sup> /s <sup>a</sup>	70	140	250	500	800	1600	3000	6000
Flash point (tag open-cup), °C (°F)	—	—	27 (80)	—	27 (80)	—	27(80)	—
Water, %	—	0.2	—	0.2	—	0.2	—	0.2
Distillation test:								
Distillation, percentage by volume of total distillate to 360°C (680°F)								
to 190°C (374°F)	10	—	—	—	—	—	—	—
to 225°C (437°F)	50	—	35	—	15	—	—	—
to 260°C (500°F)	70	—	60	—	45	—	25	—
to 315°C (600°F)	85	—	80	—	75	—	70	—
Residue from distillation to 360°C (680°F), volume percentage of sample by difference	55	—	65	—	75	—	80	—
Tests on residue from distillation:								
Absolute viscosity at 60°C (140°F), Pa·s (P) <sup>b</sup>	60 (600)	240 (2400)	60 (600)	240 (2400)	60 (600)	240 (2400)	60 (600)	240 (2400)
Ductility, 5 cm/min at 25°C (77°F), cm	100	—	100	—	100	—	100	—
Solubility in trichloroethylene, %	99.0	—	99.0	—	99.0	—	99.0	—
Spot test <sup>c</sup> with:								
Standard naphtha	Negative for all grades							
Naphtha-xylene solvent, % xylene	Negative for all grades							
Heptane-xylene solvent, % xylene	Negative for all grades							

<sup>a</sup> As an alternate, Saybolt-Furol viscosities may be specified as follows:  
 Grade RC-70—Furol viscosity at 50°C (122°F)—60 to 120 s.  
 Grade RC-250—Furol viscosity at 60°C (140°F)—125 to 250 s.  
 Grade RC-800—Furol viscosity at 82.2°C (180°F)—100 to 200 s.  
 Grade RC-3000—Furol viscosity at 82.2°C (180°F)—300 to 600 s.

<sup>b</sup> In lieu of viscosity of the residue, the specifying agency, at its option, can specify penetration at 100 g, 5 s at 25°C (77°F) of 80 to 120 for Grades RC-70, RC-250, RC-800, and RC-3000. However, in no case will both viscosity and penetration be required.

<sup>c</sup> The use of the spot test is optional. When specified, indicate whether the standard naphtha solvent, naphtha-xylene solvent, or heptane-xylene solvent will be used in determining compliance with the requirement, and also, in the case of the xylene solvents, the percentage of xylene to be used.