Section 821—Cutback Asphalt

821.1 General Description

This section includes the requirements for asphalt cements that have been fluxed with petroleum distillates.

821.1.01 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

AASHTO T 44

AASHTO T 48

AASHTO T 49

AASHTO T 51

AASHTO T 55

AASHTO T 78

AASHTO T 79

AASHTO T 201

821.2 Materials

821.2.01 Cutback Asphalt

A. Requirements

1. Type: Use an asphalt cement that is uniformly consistent and shows no separation or curbing.
2. Grade: Use various grades of cutback asphalts that meet the requirements shown in Table 1 and Table 2.

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test as follows:

Test	Method
Water	AASHTO T 55
Flash point	AASHTO T 79 & T 48
Viscosity	AASHTO T 201
Distillation	AASHTO T 78
Ductility	AASHTO T 51
Solubility	AASHTO T 44
Penetration	AASHTO T 49

D. Materials Warranty

General Provisions 101 through 150.

Table 1—Properties of Medium Curing Cutback Asphalts

Requirements		Viscosity Grade									
		MC-30		MC-70		MC-250		MC-800		MC-3000	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Water percent			0.2		0.2		0.2		0.2		0.2
Flash point, Cleveland Open Cup, ^{o}F (°C)		100 (38)		100 (38)		150 (65)		150 (65)		150 (65)	
Kinematic viscosity at 140 ^{o}F, centistokes (60 °C, mPa·s)		30	60	70	140	250	500	800	1600	3000	6000
Distillation test: Distillate, percentage by volume of total distillate to 680 ^{o}F (360 °C)											
	to 437 ^{o}F (225 °C)		25		20		10				
	to 500 ^{o}F (260 °C)	40	70	20	60	15	55		35		15
	to 600 ^{o}F (315 °C)	75	93	65	90	60	87	45	80	15	75
Residue from distillation to 680 ^{o}F (360 °C) Volume percentages of sample by difference		50		55		67		75		80	
Tests on residue from distillation:											
	Penetration, 100g, 5 sec., at 77 ^{o}F (25 °C), (dmm)	80	250	80	250	80	250	80	250	80	
	Ductility at 77 ^{o}F (25 °C), at 5 cm per min., (cm)	100		100		100		100		100	250
	Solubility in trichloroethylene, percent by weight	99.5		99.5		99.5		99.5		99.5	

Table 2—Properties of Rapid Curing Cutback Asphalts

Requirements	Viscosity Grade									
	RC-30		RC-70		RC-250		RC-800		RC-3000	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Water percent		0.2		0.2		0.2		0.2		0.2
Flash point, Tagliabue Open Cup, °F (°C)					80 (25)		80 (25)		80 (25)	
Kinematic viscosity at 140 °F (60 °C, mPa·s)	30	60	70	140	250	500	800	1600	3000	6000
Distillation test: Distillate, percentage by volume of total distillate to 680 °F (360 °C)										
to 374 °F (190°C)	15		10							
to 437 °F(225 °C)	55		50		35		15			
to 500 °F (260 °C)	75		70		60		45		25	
to 600 °F (315 °C)	90		85		80		75		70	
Residue from distillation to 680 °F (360°C): Volume percentages of sample by difference	50		55		65		75		80	
Tests on residue from distillation:										
Penetration, 100g, 5 sec., at 77 °F (25 °C), (dmm)	60	120	60	120	60	120	60	120	60	120
Ductility at 77 °F (25 °C), at 5 cm per min., (cm)	100		100		100		100		100	250
Solubility in trichloroethylene, percent by weight	99.5		99.5		99.5		99.5		99.5	