

Missouri Department of Transportation Specifications

1015.20.5.1 Polymer Modified Asphalt Emulsion - Seal Coat. Bituminous material for polymer modified asphalt shall be in accordance with the following:

Polymer Modified Asphalt Emulsion

TEST ^a	CHFRS-2P	
	Min.	Max.
Viscosity, SFS @ 50 °C	100	400
Storage Stability Test, 24 hour, %	----	1.0
Demulsibility, 35 ml 0.8% dioctyl sodium sulfosuccinate, %	60	----
Sieve Test, %	----	0.10
Particle Charge Test	Positive	
Distillation ^b		
Oil Distillate, by volume of emulsion, %	----	0.5
Residue from distillation, %	65	----
Tests on Residue from Distillation:		
Polymer content, weight, % (solids based)	3.0	
Softening Point, °C	54	----
Float test at 60 °C, s	1800	----
Penetration, 25 C, 100 g, 5 s	80	130
Viscosity @ 60 °C, Poise	1300	----
Solubility in Trichloroethylene, %	95	----
Elastic Recovery ^c @ 10 °C, %	65	----

^aAll tests shall be performed in accordance with AASHTO T-59 except as noted.

^bAASHTO T59 shall be modified to maintain a 177 ± 5 C maximum temperature to be held for 20 minutes. Complete the total distillation in 60 ± 5 minutes from the first application of heat.

^cElastic recovery shall be determined as follows. Condition the ductilometer and samples to be treated at 10 C. Prepare the brass plate, mold, and briquet specimen in accordance with AASHTO T 51. Keep the specimen at the specified test temperature of 10 C for 85 to 95 minutes. Immediately after conditioning, place the specimen in the ductilometer and proceed to elongate the sample to 20 cm at a rate of pull of 5 cm/min. After the 20 cm elongation has been reached, stop the ductilometer and hold the sample in the elongated position for 5 minutes. After the 5 minutes, clip the sample approximately in half by means of scissors or other suitable cutting devices. Let the sample remain in the ductilometer in an undisturbed condition for one hour. At the end of this time period, retract the half sample specimen until the two broken ends touch. At this point note the elongation recovery (X) in cm. Calculate the percent recovery by the following formula:

$$\% \text{ Recovery} = \frac{20 - X}{20} \times 100$$