

Polymer Modified Rejuvenating Emulsion (PMRE) For Chip and Scrub Seals

The asphalt emulsion shall be a polymer modified rejuvenating emulsion with a latex polymer, rejuvenating agent and asphalt and shall meet the following specifications.

Test on Emulsion	Method	Specification
Viscosity @122° F (SFS)	ASTM D244	50 - 400
Residue, w%, minimum.	ASTM D244	65
pH	ASTM E70	2.0-5.0
Sieve, w%, max.	ASTM D244	0.1
Oil distillate, w%, max.	ASTM D244	0.5
Test on Residue⁽¹⁾		
Viscosity @ 140°F, (P), maximum.	ASTM D2171	5000
Penetration @ 39.2°F, minimum.	ASTM D5	40
Elastic Recovery on residue by distillation, %, minimum ⁽³⁾	AASHTO T59, T301 (1,2)	60
OR		
Modified Torsional Recovery, % minimum ⁽³⁾	California Test 332 (4)	45
Test on rejuvenating agent:		
Flash point, COC , °F	ASTM D92	> 380
Viscosity, 140F, CST	ASTM D92	50-175
Flash Point, F, COC	ASTM D2170	380 Min.
Saturate, % by wt.	ASTM D2007	30 Max
Asphaltenes	ASTM D2007	1.0 Max.
Test on rejuvenating agent RTFOT Residue		
Weight Change, %	ASTM D2872	6.5 Max.
Viscosity Ratio	ASTM D2170	3 Max

⁽¹⁾ Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350° F plus or minus 10° F. Maintain at this temperature for 20 minutes. Complete total distillation in 60 plus or minus 5 minutes from first application of heat.

⁽²⁾ Elastic Recovery @ 10° C (50° F): Hour glass sides, pull to 20 cm, hold 5 minutes then cut, let sit 1 hour.

⁽³⁾ Choose either Elastic Recovery or Torsional Recovery as a test.

⁽⁴⁾ Torsional Recovery shall include the first 30 seconds.