Chip Seal Emulsion Specification Standardization Task Group

RMWPPP Meeting 2013

Scope

- Recommend standardized chip seal emulsion specifications for agencies in the region – Completed 2011.
- Recommend chip seal emulsion best practice guidelines – Completed 2013.

Specification Survey

- Review of chip seal emulsion requirements.
- Only universal requirement is demulsibility.
- Decision to use existing established test procedures available to all DOTs.

	AASHTO Test Method	CRS-2	CRS-2H	LMCRS-2	CRS-2P
Tests					
Saybolt @50°C, SFS	T59	100-400	100-400	50-400	50-400
Particle Charge	T59	Positive	Positive	Positive	Positive
Storage, Stability, %*1	T59	1.0 Max	1.0 Max	1.0 Max	1.0 Max
Sieve, %*1	T59	0.10 Max	0.10 Max	0.30 Max	0.30 Max
Polymer Percentage, %	--	--	--	3.0 Min	3.0 Min
Residue Tests					
Residue by Distillation, %*2	T59	65 Min	65 Min	65 Min	65 Min
Oil Distillate, %*2	T59	2.0 Max	2.0 Max	2.0 Max	2.0 Max
Penetration @25°C, dmm	T49	100-175	40-90	100-250	100-250
Ductilty @25°C, cm	T51	40 Min	40 Min	40 Min	40 Min
Elastic Recovery @25°C, %	T301	--	--	55 Min	55 Min

Notes

*1 These requirements may be waived upon successful application.

*2 Distillation Temperature of 350°F for modified emulsions and 500°F for unmodified emulsions.

Chip Seal Best Practices

- Arizona ADOT/AGC
- Caltrans
- FHWA-NHI
- FP2
- ISSA
- Minnesota DOT
- NCHRP
- NCPP
- Texas DOT

Chip Seal Emulsion Standardization

- Work Completed
- This work needs to be revisited as new testing procedures are established.