

Advisory Note 20



Emulsion Primes, Rubber Latex Modified and PMB Emulsion Specifications

This specification has been developed by AAPA members for rubber latex modified emulsions, PMB emulsions and emulsion primes. In the absence of state or national specifications, it is intended to serve as an interim product specification where these special emulsions are used as an alternative to hot PMBs in sprayed sealing applications or cutback primes. The following abbreviations have been used for supplier companies that currently offer the products nominated.

- D – Downer
- FH - Fulton Hogan
- S – SAMI Bitumen Technologies

Other abbreviations used are;

- SAM - Strain Alleviating Membrane
- SAMI - Strain Alleviating Membrane Interlayer
- HSS - High Stress Seal
- XSS – Extreme Stress Seal

Two phase emulsions are those that consist primarily of a polymer modified binder mixed with water e.g. emulsified SBS modified binder. Three phase emulsions consist of a bituminous binder, water and another additive e.g. rubber latex modified emulsion.

Although the information provided in the tables was correct at the time of publication, users are advised to contact suppliers to confirm the currency of the information, to source Safety Data Sheets and any determine any specific handling requirements prior to using a particular product.

Product	Application		Specifications				
			Emulsion			Residual Binder ⁽⁴⁾	
			Binder ⁽¹⁾ Content, w/w % min.	Viscosity ⁽²⁾ mPa.s max.	Sieve ⁽³⁾ Residue % max.	Softening ⁽⁵⁾ Point, min °C	Torsional ⁽⁶⁾ Recovery % min.
Surfix PS (FH)	Primer seal		69	500	0.25	48	6
Surfix 70 (FH) EcoFlex70 (D) SAMiflex E30LX (S)		Seal/Reseal (Aggregate retention)	69	500	0.25	50	6
Surfix 70X (FH) SAMiflex E50LX (S)		Seal/Reseal Crack control (HSS, XSS, SAM ⁷)	69	500	0.25	60	15

(1) AS 2341.23 – Determination of residue from evaporation

(2) AGPT/T111 - Handling Viscosity of Polymer Modified Binders (Brookfield Thermosel), spindle #31, 60°C, 30rpm

(3) AS/NZS 2341.26, 710µm sieve (plant samples) or 850 µm sieve (field samples)

(4) Binder as recovered by AS2341.30 or as agreed between the supplier and customer

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(5) AS2341.18 Determination of softening point (ring and ball method)

(6) AGPT/T122 - Torsional Recovery of Polymer Modified Binders

(7) Environmental type cracking or traffic induced with low severity

Two Phase Emulsion (PMB Emulsions)

The basis of this technology is the manufacturing of constituent PMBs conformant to Austroads Specification Framework for Modified Binders

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			Emulsion			Residual Binder ⁽⁴⁾	
			Binder ⁽¹⁾ Content, w/w % min.	Viscosity ⁽²⁾ mPa.s max.	Sieve ⁽³⁾ Residue % max.	Softening ⁽⁵⁾ Point, min °C	Torsional ⁽⁶⁾ Recovery % min.
SAMIflex E30HR (S)	Primer seal	Seal /Reseal	75	100	0.25	48-64	22-50
		HSS (Aggregate retention)				S10E (AGPT/T190 ⁹)	
SAMIflex E40HR (S)		Seal /Reseal	75	150	0.25	55-75	32-62
		SAM (Crack Control)				S15E (AGPT/T190)	
SAMIflex E50HR (S)		Seal /Reseal	75	200	0.25	62-88	45-74
		SAM/SAMI (Crack Control)				S20E (AGPT/T190)	

(1) – (7) Refer table for three phase emulsion

(8) Brookfield viscosity at 25°C, spindle # 31, 60rpm or 30rpm if over range

(9) Austroads Specification Framework for Modified Binders (<http://www.austroads.com.au/pavements>)

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Emulsion Primes

Product	Binder Content, % min. (AS2341.23)	Viscosity, mPa.s (25°C) max. (AS2341.4)
Emulprime (FH)	18	30
EcoPrime (D)		
SAMprime K2P (S)		

It is recommended that reference is made to the AAPA website for the most current version of this document.

Disclaimer:

Although the information contained in this Advisory Note is believed to be fundamentally correct, the Australian Asphalt Pavement Association does not accept any contractual tortious or other form of liability for its contents or for any consequences arising from its use. Advice should be sought from suppliers prior to selecting, handling, applying or storing products.

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