

HFRS-2M

Anionic High Float Polymer Modified Rapid Setting Chip Seal Emulsion



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DESCRIPTION

HFRS-2M is an anionic high float polymer modified rapid set asphalt emulsion of moderate to high viscosity used for chip seal pavement preservation applications.

HFRS-2M provides a high float gel structure to the residual binder that resists flow at high temperatures when compared to RS-2M and the polymer provides elasticity, higher flow resistance, and reduced temperature susceptibility than unmodified emulsion.

HFRS-2M adheres well to aggregates high in P-200's** due to a strictly thermal break mechanism, allowing for better wetting of the aggregate under these P-200 conditions. **HFRS-2M** requires more time to break and allow for sweeping and traffic than its cationic counterparts but is faster than HFRS-2*.

*Weather, aggregate, and application conditions can play a factor in sweeping, return to traffic time, and chip retention.

**Large quantities of fines or P-200's (> 3 – 4%) on the aggregate can reduce adhesion.

FEATURES/BENEFITS

- Rapid breaking
- Works well with dirty aggregates
- Polymer modification for enhanced performance
- Provides water resistant seal

APPLICATION

Recommended application conditions of **HFRS-2M** are 55° F and rising with roadbed temperatures of 55° F to 130° F. Do not apply in foggy or rainy weather. Chip retention can be compromised if placed after August in northern states' climates. **HFRS-2M** should be applied at the recommended rates; however, variances must be made for the size and gradation of the aggregate (Typical aggregates for single layer chip seals range from 1/4" to 3/8") and the absorption characteristics of the pavement being treated. Surfaces should be clean, swept, and dry before application of the **HFRS-2** binder. The chips must be placed before a significant portion of the emulsion has started to break.

SPECIFICATIONS – TECHNICAL DATA

HFRS-2M

<u>Emulsion Tests</u>	<u>Specification</u>	<u>Typical Results</u>
Viscosity, SFS @ 50°C, sec	75 – 300	200
Sieve, %	< 0.10	<0.05
Residue by distillation, %	≥ 65.0	65.5
Pen, dmm	80 - 150	90
Demulsibility, %	≥ 50.0	60 - 90
Elastic Recovery @10°C, min, %	60.0	65 - 75
Float, sec	1,200	>1,200
Toughness and Tenacity, 25°C, Nm,	≥4.5/3.5	7.5/5.5

Product Handling Guidelines

- Emulsion must **not** be blended with other emulsions.
- Direct contact heat should only be done when absolutely necessary. This should be done sporadically and with recirculation or agitation if possible. Note: Emulsion which directly contacts any heat source above 210°F will experience break and separation.
- Contact your technical representative for instructions regarding storage and handling of rapid set polymer modified emulsions.
- Emulsion separation will occur if frozen or boiled.

APPLICATION RECOMMENDATIONS

HFRS-2M should be applied between 0.39 and 0.46 gallons/SY depending on the texture, porosity etc. of the surface and at emulsion temperatures 170° - 190°F (77° - 88°C).



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