

CSS-1

CATIONIC SLOW SETTING ASPHALT EMULSION

PRODUCT DESCRIPTION

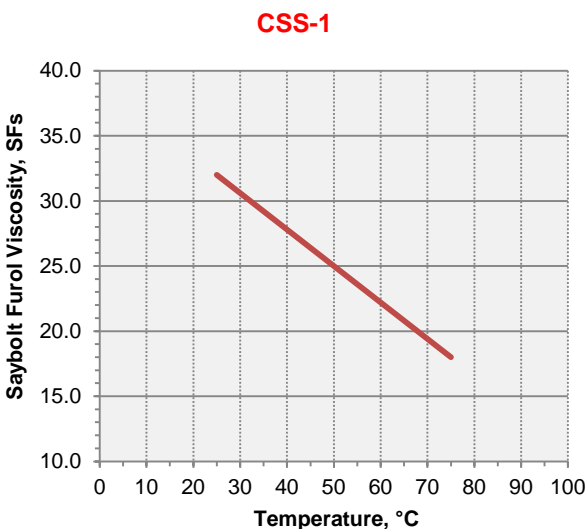
CSS-1 is a slow setting cationic asphalt emulsion that is designed for various paving and industrial uses.

Asphalt emulsions are classified according to the electric charge that surrounds the asphalt particles (i.e. cationic, anionic emulsions) and how quickly the suspended asphalt particles break (i.e. the water will evaporate, leaving the asphalt cement). A slow setting emulsion is designed for maximum mixing time with aggregates. Longer workability times ensure good coating with dense graded, high fines content aggregates.

RECOMMENDED USE

CSS-1 can be used successfully for tack coats, fog seals, and as a dust suppressant. Long workability times make it ideal for dense graded emulsion base mixes and base stabilization. A non-paving use has been in mulch treatment of soil that has been seeded and fertilized.

TEMPERATURE-VISCOSITY CHART



SPECIFICATIONS AND TYPICAL RESULTS

TEST	TYPICAL DATA	SPEC RANGE	
		Min	Max
Tests on Emulsion			
SF Viscosity, 25°C, SFs	28	20	100
Sieve Test, 850 µm, %	0.04	...	0.1
Settlement, 5 days, %	1.3	...	5.0
Dist. Residue, 260°C, %	60.8	57	...
Oil Portion of Dist., %	trace	...	5
Particle Charge	(+)	(+)	
Tests on Residue			
Penetration, 25°C, dmm	120	100	250
Solubility in TCE, %	99.55	97.5	...
Ductility, 25°C, cm	88.9	60	...

APPLICATION GUIDELINES

- May be further diluted with potable water (max 50%)
- **Do Not** apply if precipitation is anticipated
- **Do Not** dilute product with any cutter stock
- Contact your local **MCA Marketing** representative for guideline application temperatures



McASPHALT INDUSTRIES LIMITED

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 ISO 9001/14001, 18001

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CSS-1 - CATIONIC SLOW SETTING ASPHALT EMULSION

APPLICATION GUIDELINES CON'T.

TACK COATS

CSS-1 is applied to an existing surface to eliminate slippage planes and to provide a bond between the new surfacing and the existing surface. Spray rates range from 0.25 to 0.70 l/m² (0.05 to 0.15 gal/yd²).

FOG SEALS

CSS-1 is applied to renew an existing old asphalt surface that has become oxidized with age and to seal narrow cracks and surface voids. A spray rate in the order of 0.45 to 0.70 l/m² (0.1 to 0.15 gal/yd²) is usual depending on the surface texture and degree of cracking.

DUST CONTROL

CSS-1 is ideal for spraying on low volume, unpaved roads as a means of dust control. This emulsion is usually diluted with water to further decrease its viscosity to enhance its penetration into the surface. The diluted CSS-1 is sprayed in repeated light applications at a rate of 0.45 to 2.25 l/m² (0.1 to 0.5 gal/yd²) depending on the condition of the existing surface.

DENSE GRADED EMULSION MIXES

Dense graded emulsion mixes are produced at a central plant or in-place by mixing CSS-1 with dense graded aggregates with relatively high fines content. CSS-1 provides a mix that is workable on the job site right after mixing or when the mix is produced at a plant and trucked to the site. Application rates will vary depending on aggregate type and gradation. A mix design is highly recommended.

BASE STABILIZATION

Base stabilization is an insitu rehabilitation process for pavements composed of asphalt concrete over granular base. The process involves the pulverization of the asphalt concrete and mixing with the base course followed by stabilization of the resulting granular material with CSS-1. A mix design is highly recommended to determine the appropriate asphalt emulsion content.

PACKAGING, STORAGE AND HANDLING

- CSS-1 should be stored in bulk tanks, vertical if possible to minimize surface area.
- Do not allow CSS-1 to either freeze or boil – it will break. Storage temperature should not be allowed to fall below 10°C or exceed 85°.
- In all bulk storage, mix the CSS-1 every 1–2 weeks (more frequently in cold weather). Mixing may be by paddle agitator (slow), loose gear pump, slow centrifugal pump, or other suitable low shear pump.
- Do not bubble air through CSS-1 to agitate it, this creates excessive foam and may cause the emulsion to break.
- Always use clean containers. Make sure prior contents are compatible with CSS-1 or the emulsion may break.

CERTIFICATION OF QUALITY

McAsphalt Industries Limited is accredited to the quality standard ISO 9001 and to the environmental standard ISO 14001.

Each lot of CSS-1 is produced using the strictest quality, safety and environmental guidelines. Each production lot is tested to ensure it meets or exceeds all performance requirements, and it is delivered with a Certificate of Analysis.

PRODUCT SUPPORT

With the **MCA Advantage**, you get a partner and advisor who will consult with you about designs, specifications, technical services, processes and material selection. By developing innovative, custom-designed products that offer additional benefits, such as peak performance in unique conditions, improved field performance, greater environmental and health benefits, the **MCA Advantage** provides significant long-term cost savings, resulting in lower “total cost of ownership.”



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