



Pilipinas Shell Petroleum Corporation

SPRAMUL CSS-1h

BITUMEN EMULSION

1. Description

Spramul CSS-1h are cationic type of asphalt emulsions manufactured according to specifications of ASTM D2397 - "Standard Specifications for Cationic Emulsified Asphalt."

2. Uses

2.1 Tack Coat - a very light application of diluted asphalt emulsion. It is used to ensure a bond between a surface being paved and the new course. It is used to guarantee adhesion of hot mix or cold mix asphalt overlay to existing asphalt paved roads.

Method of application: by spray (distributor)

2.2 Fog Seal - a light application of asphalt emulsion diluted with water, similar to tack coat. It is used to renew old asphalt road surfaces that have become dry and embrittled with age, to fill tiny cracks and surface voids and to inhibit ravelling. No other surface treatment is applied after fog sealing.

Method of application: by spray (distributor)

Spramul Typical Properties

	Test Method	CSS-1h
Type		Cationic Slow-Setting
Tests on emulsion:	ASTM D244	
Viscosity, Saybolt Furol @ 25 °C, s		20 - 100
Storage stability test, 24 hr., % wt.		1.0 max
Cement mixing test, % wt.		2.0 max
Sieve test, % wt.		0.10 max.
Residue by distillation, % wt.		57 min.
Particle Charge Test		positive
Tests on residue from distillation:		
Penetration @ 25 °C, 100 g, 5 s	ASTM D5	40 - 90
Ductility @ 25 °C, 5 cm/min, cm.	ASTMD113	40 min
Solubility in trichloroethylene, % wt.	ASTM D2042	97.5 min

3. Storing and Handling

- Emulsions are stored between 10°C and 60°C, depending on the temperature required for application. When stored at higher temperatures, the tanks must be insulated. Hot water or steam can be used as the heating medium. Oil burners are also used.
- Spramul should not be heated to above 60°C or else the material can no longer be used as intended. While heating during transport and in tanks or distributors it should be agitated to eliminate or reduce skin formation.
- At tank storage, a light agitation is performed to avoid settlement (forced air is not recommended as it will cause the emulsion to break). At drum storage it is recommended to roll the drums before use to ensure homogeneity.
- Before diluting Spramul the compatibility of the water with the emulsion must be checked. The water should always be added to the emulsion, not the emulsion to the water.
- Spramul CSS-1h must not be mixed with cationic asphalt emulsions or other types of products in storage tanks, tank transports, or distributors.

4. Packaging

Shell Spramul CSS-1h is available in bulk and 200 kg. drums.