# CATIONIC (CRS, CMS & CSS) EMULSIONS

## Rapid, medium & Slow Setting Cationic Emulsions

Complies to ASTM D 2397 & MOT Specification for Cationic Emulsified Asphalt, Table 4.01-5 ans SASO 2056/2002

## INTRODUCTION

Rapid, Medium & Slow Setting, Cationic Emulsified Asphalts for use in the construction and maintenance of pavement.

## FEATURES

- CRS grades are ideal for tack coat layer
- CMS grades are ideal for cold mix, tack coat, crack treatment.
- CSS grades are ideal for sllury seal, tact coat, prime coat and fog seal.
- Non flammable
- Easy to apply since the product is emulsified and can be used without heating
- Conforms to SASO 2056
- Conforms to ASTM D 2397

## USES

CRC grades are typically used for tack coat and seal coat. CMS grades are used for cold mix, crack treatment and tact coat. CSS grades are typically used in slurry seal applications. These grades are used in the construction and maintenance of the pavements as designated in ASTM D 3628.

## INSTRUCTIONS FOR APPLICATION

*Surface Preparation:* The area to be sealed and must be dried. It must be swept with a power broom to remove dirt, sand, gravel and other debris.
*Application:* Apply the asphalt emulsion to the clean surface with a distributor spray bar. Application temperature should be between 20 to 70°C . CRS grades should never be diluted with water. CMS and CSS grades can be diluted with water, if needed, for example in fog seal application. However water should be added slowly to the emulsion. Diluting emulsion by adding it to a tank of water should never be done, Traffic must controlled according to a traffic control plan and kept off the sealed area until the emulsion breaks or until it does not adhere to vehicle tires. More details about application are available upon request.

## CLEANING

Emulsions can be removed from equipment and tools with water when it is wet. When dried, it can be removed by any suitable solvent such as gasoline or kerosene.

## COVERAGE

Depends on the surface treatment technique selected.

## HEALTH & SAFETY

Workers should wear protective masks, gloves and goggles during application.

## PRECAUTIONS

No special precautions are needed since these are water based, non flammable material.

## PACKING

Supplied in bulk, 200 kg drums or 18 kg cans. Other weights are available upon request.

## STORAGE

Store in a dry and shaded area in original packing.

CL031604

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# CATIONIC EMULSIONS (CRS, CMS & CSS)

## RAPID, MEDIUM & SLOW SETTING CATIONIC EMULSIONS

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## TECHNICAL DATA

| Properties | CRS-1 | | CRS-2 | | CMS-2 | | CMS-2h | | CSS-1 | | CSS-1h | | Test Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. | |
| Saybolt Furol Viscosity at 25°C sec. | --- | --- | --- | --- | --- | --- | --- | --- | 20 | 100 | 20 | 100 | ASTM D 244<br>ASTM D88 |
| Saybolt Furol Viscosity at 50°C sec. | 20 | 100 | 100 | 400 | 50 | 450 | 50 | 450 | --- | --- | --- | --- | ASTM D 244<br>ASTM D88 |
| Storage Stability test, 24 hours, % | --- | 1 | --- | 1 | --- | 1 | --- | 1 | --- | 1 | --- | 1 | ASTM D 244 |
| Classification test | Passes | | Passes | | --- | --- | --- | --- | --- | --- | --- | --- | ASTM D 244 |
| Coating Ability and water resistance: | --- | --- | --- | --- | Good | | Good | | --- | --- | --- | --- | ASTM D 244 |
| Coating, dry aggregate | | | | | | | | | | | | | |
| Coating, after spraying | --- | --- | --- | --- | Fair | | Fair | | --- | --- | --- | --- | |
| Coating, wet aggregate | --- | --- | --- | --- | Fair | | Fair | | --- | --- | --- | --- | |
| Coating, after spraying | --- | --- | --- | --- | Fair | | Fair | | --- | --- | --- | --- | |
| Particle charge test. | Positive | | Positive | | Positive | | Positive | | Positive | | Positive | | ASTM D 244 |
| Cement Mixing test, % | --- | --- | --- | --- | --- | --- | --- | --- | --- | 2.0 | --- | 2.0 | ASTM D 244 |
| Sieve test, % | --- | 0.1 | --- | 0.1 | --- | 0.1 | --- | 0.1 | --- | 0.1 | --- | 0.1 | ASTM D 244 |
| Oil Distillation<br>Distillate, by volume of emulsion, % | --- | 3 | --- | 3 | --- | 12 | --- | 12 | --- | --- | --- | --- | ASTM D 244 |
| Residue by distillation, % | 60 | --- | 65 | --- | 65 | --- | 65 | --- | 57 | --- | 57 | --- | ASTM D 244 |
| Test on residue from distillation: | | | | | | | | | | | | | |
| Penetration at 25°C, 0.1 mm | 100 | 250 | 100 | 250 | 100 | 250 | 40 | 90 | 100 | 250 | 40 | 90 | ASTM D 5 |
| Ductility at 25°C, cm | 40 | --- | 40 | --- | 40 | --- | 40 | --- | 40 | --- | 40 | --- | ASTM D 113 |
| Solubility in trichloroethylene, % | 97.5 | --- | 97.5 | --- | 97.5 | --- | 97.5 | --- | 97.5 | --- | 97.5 | --- | ASTM D 2042 |