

**CATIONIC BITUMEN EMULSION
BITUMENA CRS-1**

BITUMENA CRS1 is a Cationic rapid setting asphalt emulsion which is recommended for use as an adhesion promoter (tack-coat) between the two layers of asphaltic concrete used in road construction.

FEATURES

- Cold applied and no heating required.
- Easy to apply.
- Low temperature curing.
- Environmental friendly.

USES

BITUMENA CRS-1 is recommended for use as tack coat between the two layers of asphaltic concrete in road construction. It's a cold applied product does not requires heating before spraying.

STANDARD COMPLIANCE

The product complies with the specification as per **ASTM D 2397** and **AASHTO M208**

APPLICATION

For large projects, **BITUMENA CRS-1** is usually sprayed directly from the road tanker. The nozzle size and speed of the tanker movement determines the rate of spray. Usually the speed is adjusted in such a way that the spray rate remains between 0.3 – 0.6 Kg/m².

DILUTION

CRS-1 is recommended for spray application as it is supplied and not recommended to dilute it with water.

PACKING

Bulk & 200 Kg. Drum.

STORAGE/SHELF LIFE

The water-based emulsions should not be exposed to freezing temperatures or overheating. The cationic emulsion is a chemically stabilized system, so care should be taken not to upset the chemical balance and cause contamination with chemicals, over exposure to air or adverse mechanical or thermal conditions. Before being filled in tanks and trucks, it should be examined for possible contaminants. The shelf life is up to 12 months, when stored as per manufacturer recommendation.

CLEANING

Tools may be cleaned with water as long as the product is wet. Once dry, by mechanical means only.

TECHNICAL SERVICES

Technical assistance and information is available by calling **MENA ENERGY DMCC** on specific application.

RECOMMENDED TEMPERATURES

TEMPERATURES	MIN	MAX
STORAGE	10°C	60°C
APPLICATION	10°C	55°C

CATIONIC RAPID SETTING BITUMEN EMULSION

BITUMENA CRS-1

TYPICAL PROPERTIES				
CHARACTERISTICS	TEST METHOD	Unit	MIN	MAX
Saybolt Furol Viscosity @ 50°C	ASTM D 7496	Sec	20	100
Storage Stability Test, 24 hours	ASTM D 6930	%	-	1
Sieve Test	ASTM D6933	%	-	0.1
Particle Charge test	ASTM D7402	Positive		
Demulsibility, 35ml, 0.8 % dioctyl sodium sulfosuccinate	ASTM D244	%	40	-
Residue by Distillation	ASTM D 6997	%	60	-
Test on residue from Distillation				
Penetration @ 25°C (100gm) 5 sec.	ASTM D 5	dmm	100	250
Ductility @ 25°C, 5 cm/min	ASTM D 113	cm	40	-
Solubility in Trichloroethylene	ASTM D 2042	%	97.5	-

HEALTH AND SAFETY

Use normal safety precautions. Wear rubber hand gloves, safety shoes and safety goggles while using and handling the product. Avoid contact with skin and eyes. In case of accidental contact with eyes, wash with plenty of water and seek medical treatment immediately. Do not store near food, beverages or smoking materials. Avoid personal contact with hot material. Avoid breathing vapors. Always wear protective equipment and clothing when handling hot asphalt.

LEGAL NOTES: MENA ENERGY reserves the right to change or modify the data without prior notice. All reasonable care has been taken in compiling the data that to the best of our knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with MENA ENERGY recommendations is accurate and true. All recommendations are made in good faith. No responsibility can be accepted by us and no warranty is implied with regards to any recommendations made in this data sheet, since the conditions of actual use, method of application and the labour involved are beyond our control.

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CATIONIC BITUMEN EMULSION BITUMENA C-SS1

BITUMENA C-SS1 is a cationic, low viscosity, slow setting bitumen emulsion designed for use as a tack coat, base stabilization, fog sealing, dust control and specialty applications. It is soluble in water, has faint petroleum odor and is non-flammable.

FEATURES

BITUMENA C-SS1 is an ideal product for road maintenance applications and prime coating on highly porous surface.

-) Cold applied and no heating required
-) Easy to apply
-) Low temperature curing
-) Penetrates the cracks, increases the strength of layers
-) High adhesive property
-) Environment friendly

USES

BITUMENA C-SS1 is mainly used for patching, grouting, sub-base, surface dressing and sealing.

-) Used for fog seal, slurry seal and premix seal coat
-) Used for prime coating of highly porous surface
-) Used for tack coat application

STANDARD COMPLIANCE

This range of cationic emulsions are specially designed and formulated to ASTM D 2397

APPLICATION

For large projects, BITUMENA C-SS1 is usually sprayed directly from the road tanker. The nozzle size and speed of the tanker movement determines the rate of spray.

PACKING

Bulk & 200 Kg. Drum.

STORAGE/SHELF LIFE

The water-based emulsion should not be exposed to freezing temperatures or overheating. The cationic emulsion is a chemically stabilized system, so care should be taken not to upset the chemical balance with contamination by chemicals, over-exposure to air, or adverse mechanical or thermal conditions. Before being filled in tanks and trucks, it should be examined for possible contaminants. The shelf life is up to 12 months, when stored as per the manufacturer's recommendations.

CLEANING

Tools may be cleaned with water as long as the product is wet. Once dry, by mechanical means only.

TECHNICAL SERVICES

Technical assistance and information is available by calling MENA ENERGY DMCC on specific application.

CATIONIC BITUMEN EMULSION

BITUMENA C-SS1

TYPICAL PROPERTIES				
CHARACTERISTICS	TEST METHOD	Unit	MIN	MAX
Viscosity, Saybolt Furol at 25°C	ASTM D-7496	Sec	20	100
Storage stability test, 24-h,% ,max	ASTM D-6930	%		1
Particle charge test	ASTM D-7402	-	Positive	
Sieve test, % ,max	ASTM D-6933	wt%		0.1
Cement mixing test, % ,max	ASTM D-6935	wt %		2.0
Distillation, Residue, % ,min	ASTM D-6997	wt %	57	
Test on Residue from distillation:				
Penetration,25°C[77°F],100g,5s	ASTM D-5	0.1 mm	100	250
Ductility,25°C[77°F],5cm/min, cm	ASTM D-113	cm	40	
Solubility in Trichloroethylene, min	ASTM D-2042	wt%	97.5	

HEALTH AND SAFETY

Use normal safety precautions. Wear rubber hand gloves, safety shoes and safety goggles while using and handling the product. Avoid contact with skin and eyes. In case of accidental contact with eyes, wash with plenty of water and seek medical treatment immediately. Do not store near food, beverages or smoking materials. Avoid personal contact with hot material. Avoid breathing vapors. Always wear protective equipment and clothing when handling hot asphalt.

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**CATIONIC BITUMEN EMULSION
BITUMENA CSS-1H**

BITUMENA CSS-1H is a cationic, low viscosity, slow setting bitumen emulsion designed for use as a tack coat, base stabilization, fog sealing, dust control and specialty applications. It is soluble in water, has faint petroleum odor and is non-flammable.

FEATURES

BITUMENA CSS-1H is an ideal product for road maintenance applications and prime coating on highly porous surface.

- Cold applied and no heating required
- Easy to apply
- Low temperature curing
- Penetrates the cracks, increases the strength of layers
- High adhesive property
- Environment friendly

USES

BITUMENA CSS-1H is mainly used for patching, grouting, sub-base, surface dressing and sealing.

- Used for fog seal, slurry seal and premix seal coat
- Used for prime coating of highly porous surface
- Used for tack coat application

STANDARD COMPLIANCE

This range of cationic emulsions are specially designed and formulated to **ASTM D 2397**

APPLICATION

For large projects, BITUMENA CSS-1H is usually sprayed directly from the road tanker. The nozzle size and speed of the tanker movement determines the rate of spray.

PACKING

Bulk & 200 Kg. Drum.

STORAGE/SHELF LIFE

The water-based emulsion should not be exposed to freezing temperatures or overheating. The cationic emulsion is a chemically stabilized system, so care should be taken not to upset the chemical balance with contamination by chemicals, over-exposure to air, or adverse mechanical or thermal conditions. Before being filled in tanks and trucks, it should be examined for possible contaminants. The shelf life is up to 12 months, when stored as per the manufacturer's recommendations.

CLEANING

Tools may be cleaned with water as long as the product is wet. Once dry, by mechanical means only.

TECHNICAL SERVICES

Technical assistance and information is available by calling MENA ENERGY DMCC on specific application.

CATIONIC BITUMEN EMULSION
BITUMENA CSS-1H

TYPICAL PROPERTIES				
CHARACTERISTICS	TEST METHOD	Unit	MIN	MAX
Viscosity, Saybolt Furol at 25°C	ASTM D-7496	Sec	20	100
Storage stability test, 24-hours	ASTM D-6930	%	-	1
Particle charge test	ASTM D-7402	-	Positive	-
Sieve test	ASTM D-6933	%	-	0.1
Cement mixing test	ASTM D-6935	%		2.0
Residue by Distillation	ASTM D-6997	%	57	-
Test on Residue from distillation:			-	-
Penetration,25°C[77°F],100g,5s	ASTM D-5	0.1 mm	40	90
Ductility,25°C[77°F],5cm/min	ASTM D-113	cm	40	-
Solubility in Trichloroethylene	ASTM D-2042	%	97.5	-

HEALTH AND SAFETY

Use normal safety precautions. Wear rubber hand gloves, safety shoes and safety goggles while using and handling the product. Avoid contact with skin and eyes. In case of accidental contact with eyes, wash with plenty of water and seek medical treatment immediately. Do not store near food, beverages or smoking materials. Avoid personal contact with hot material. Avoid breathing vapors. Always wear protective equipment and clothing when handling hot asphalt.

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CATIONIN BITUMEN EMULSION**BITUMENA K1-60**

BITUMENA K1-60 is a cationic, low viscosity, rapid setting bitumen emulsion designed for use as a tack coat, base stabilization, fog sealing, dust control and specialty applications. It is soluble in water, has faint petroleum odor and is non-flammable.

USES

BITUMENA K1-60 is mainly used for tack coat to provide bond between existing surface and overlays. It could be used for patching, surface dressing and other similar operation.

STANDARD COMPLIANCE

This range of cationic emulsions are specially designed and formulated to **BS 434** and **ASTM D 2397**.

APPLICATION

For large projects, BITUMENA K1-60 is usually sprayed directly from the road tanker. The nozzle size and speed of the tanker movement determines the rate of spray.

DIRECTION FOR USE:

1. No precoating of stone necessary. Can be used with slightly damp /dusty stone.
2. Apply with hand sprayer at ambient temperature or conventional distributor at a binder spray temperature of 60°C. The minimum road surface temperature should be 10°C and rising.
3. No heating of the product during storage: only prior to application. Product should be circulated and agitated from time to time for short periods only. Can be stored for long periods at ambient temperature without risk of settlement.

4. Open to traffic once sufficient cohesion development has occurred between binder and stone.
5. If diluting with water, first check the compatibility of the water with the emulsion.

DILUTION

BITUMENA K1-60 is recommended for spraying as it is supplied and not to be diluted with water.

PACKING

Bulk & 200 Kg. Drum.

STORAGE/SHELF LIFE

The water-based emulsion should not be exposed to freezing temperatures or overheating. The cationic emulsion is a chemically stabilized system, so care should be taken not to upset the chemical balance by causing contamination with chemicals, over-exposure to air, or adverse mechanical or thermal conditions. Before being filled in tanks and trucks, it should be examined for possible contaminants.

CLEANING

Tools may be cleaned with water as long as the product is wet. Once dry, by mechanical means only.

TECHNICAL SERVICES

Technical assistance and information is available by calling **MENA ENERGY DMCC** on specific application.

RECOMMENDED TEMPERATURES

TEMPERATURES	MIN	MAX
STORAGE	10°C	60°C
APPLICATION	20°C	70°C

CATIONIC BITUMEN EMULSION
BITUMENA K1-60

TYPICAL PROPERTIES				
CHARACTERISTICS	TEST METHOD	Unit	MIN	MAX
Residue on 150 µm BS sieve (gm per 100 ml)	BS 434 - 1	gm per 100 ml	-	0.15
Residue on 750 µm BS sieve (gm per 100 ml)	BS 434 - 1	%	-	0.05
Binder Content	BS 434 - 1	%	57	-
Viscosity	BS 434 - 1	Engler 20 °C	6	9
Coagulation of Emulsion at low temperature	BS 434 - 1	-	Nil	
Storage Stability (short period test)	BS 434 – 1	-	-	60
Storage Stability (long period test)	BS 434 – 1	%	-	2
Particle Charge test	BS 434 – 1	-	Positive	

HEALTH AND SAFETY

Use normal safety precautions. Wear rubber hand gloves, safety shoes and safety goggles while using and handling the product. Avoid contact with skin and eyes. In case of accidental contact with eyes, wash with plenty of water and seek medical treatment immediately. Do not store near food, beverages or smoking materials. Avoid personal contact with hot material. Avoid breathing vapors. Always wear protective equipment and clothing when handling hot asphalt.

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