

# BITUMEN SUPPLIES & SERVICES

THE BITUMEN PROFESSIONALS



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[www.bsspty.com](http://www.bsspty.com)

## CMS 60

Premix Grade Cationic Bitumen Emulsion

### DESCRIPTION

**CMS 60** is a low viscosity cationic medium set bitumen emulsion used for the manufacture of the cold asphalt mixes.

### USES

**CMS 60** is used for the manufacture of open graded cold asphalt mixed by hand or concrete mixer. **CMS 60** can only be used with aggregates containing a limited amount of fines. The coldmix is ideal for repairing damaged surfaces and edge breaks. Can also be used for surfacing sidewalks, driveways or parking areas.

### PROPERTIES

**CMS 60** is ideal for manufacturing cold asphalt mixes by hand. **CMS 60** relies primarily on the chemical attraction between the emulsified bitumen droplets and the aggregate surface to break/cure. These mixes can therefore be placed and compacted directly after mixing.

### SPECIFICATIONS

**CMS 60** conforms to SABS 548 specification for cationic bitumen road emulsions.

EMULSION PROPERTIES	REQUIREMENT		TEST METHOD
	MIN	MAX	
Binder content, % m/m	60	63	ASTM D244
Viscosity @50°C, SFs	20	50	ASTM D244
Fluxing agent content, % m/m of binder	5	10	ASTM D244
Residue on sieving, g/100ml	-	0.25	SABS548
Sedimentation after 60 rotations	Nil		SABS548
Particle charge	Positive		SABS548

### DIRECTIONS FOR USE

1. **CMS 60** can be stored and mixed with aggregates at ambient temperature.
2. **CMS 60** can be stored for up to three months at ambient temperature without risk of settlement. It is, however, recommended that bulk product is occasionally agitated and drummed product is rolled during prolonged storage.
3. If the mix is to be stockpiled, cover the stockpile to protect from dust/ rain.



# CRS 60

Cationic Spray Grade Bitumen Emulsion

## DESCRIPTION

**CRS 60** is a low viscosity cationic rapid-set bitumen emulsion.

## APPLICATIONS

**CRS 60** is used mainly as a hand applied tack coat or penetration spray in the construction of single, double or Cape seals. It is favoured over hot binders when resealing roads in cold/wet climates or small areas which require hand application. It is also used in new construction where traffic accommodation is not a problem.

## PROPERTIES

**CRS 60** has a low viscosity, which improves the flow of the binder allowing it to readily wet aggregates. The positive electrical charges of the emulsifier on the bitumen droplets are attracted to the free negative ions of the aggregates resulting in a chemical break, thus improving the binder adhesion to the stone.

## SPECIFICATIONS

**CRS 60** conforms to SABS 548 specification for cationic bitumen road emulsions.

1. No precoating of stone necessary. Can be used with slightly damp/dusty stone.
2. Apply with a handsprayer 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 emulsion.

Emulsion Properties	REQUIREMENTS			TEST METHOD
	MIN	MAX		
Binder content, % m/m		60	63	ASTM D244
Viscosity @ 50°C, SFs		20	50	ASTM D244
Residue on sieving, g/100ml		-	0.25	SABS 548
Particle charge		Positive		SABS 548
Sedimentation after 60 rotations		Nil		SABS 548
Fluxing agent content, % m/m of binder		-	5	ASTM D244



## CRS 65

### Cationic Spray Grade Bitumen Emulsion

#### DESCRIPTION

CRS 65 is a medium viscosity cationic rapid-set bitumen emulsion.

#### USES

CRS 65 is used mainly as a tack coat or penetration spray in the construction of single, double or Cape seals. It is favoured over hot binders when resealing roads in cold/wet climates or new construction where traffic accommodation is not a problem.

#### PROPERTIES

The low viscosity of CRS 65 allows the binder to readily wet aggregates. The positive electrical charges of the emulsifier on the bitumen droplets are attracted to the free negative ions of the aggregates, resulting in a chemical break thus improving the binder adhesion to the stone.

CRS 65 can also be diluted with water and applied as a cover spray on a newly constructed seal.

#### SPECIFICATIONS

CRS 65 conforms to SABS 548 specification for cationic bitumen road emulsions.

Emulsion Properties	REQUIREMENTS			TEST METHOD
	MIN	MAX		
Binder content, % m/m		65	68	ASTM D244
Viscosity @ 50°C, SFs		51	200	ASTM D244
Residue on sieving, g/100ml		-	0.25	SABS 548
Particle charge		Positive		SABS 548
Sedimentation after 60 rotations		Nil		SABS 548
Fluxing agent content, % m/m of binder		-	5	ASTM D244
Binder deposit on the cathode after 30min, g		1.0	-	SABS 548

#### DIRECTIONS FOR USE

1. No precoating of stone necessary. Can be used with slightly damp/dusty stone.
2. Apply with a conventional distributor at a hinder spray temperature of 65°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 emulsion.



## CRS 70

### Cationic Spray Grade Bitumen Emulsion

#### DESCRIPTION

**CRS 70** is a high viscosity cationic rapid-set bitumen emulsion.

#### APPLICATIONS

**CRS 70** is used mainly as a tack coat or penetration spray in the construction of single, double or Cape seals. It is favoured over hot binders when resealing roads in cold/wet climates or in new construction where traffic accommodation is not a problem.

#### PROPERTIES

Although **CRS 70** is a high binder content emulsion, its viscosity is sufficient for the binder to readily wet aggregates without the risk of run-off on steep inclines. The positive electrical charges of the emulsifier on the bitumen droplets are attracted to the free negative ions of the aggregates resulting in a chemical break, thus improving the binder adhesion to the stone.

#### SPECIFICATIONS

**CRS 70** conforms to SABS 548 specification for cationic bitumen road emulsions.

Emulsion Properties	REQUIREMENTS			TEST METHOD
	MIN	MAX		
Binder content, % m/m		70	73	ASTM D244
Viscosity @ 50°C, Sfs		51	400	ASTM D244
Residue on sieving, g/100ml		-	0.25	SABS 548
		-		
Particle charge		Positive		SABS 548
Binder deposit on cathode after 30min,g		-		SABS 548
Sedimentation after 60 rotations		Nil		SABS 548
Fluxing agent content, % m/m of binder		-	5	ASTM D244

#### DIRECTIONS FOR USE

1. No precoating of stone necessary. Can be used with slightly damp/dusty stone.
2. Apply with a conventional distributor at a binder spray temperature of 75°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.
4. Open to traffic once sufficient cohesion development has occurred between binder and stone.



## CSS60

### Stablemix Bitumen Emulsion

#### DESCRIPTION

**CSS60** is a low viscosity cationic slow set bitumen emulsion.

#### USES

**CSS60** is used mainly as a cold applied binder for the manufacturer of slow set slurry mixtures which can be batch mixed and applied by hand or with a continuous mix and lay machine.

**CSS60** can be used for mixing with natural gravels or crushed aggregates for stabilisation of bases.

**CSS60** can also be diluted with water and applied onto aged seals as an enrichment spray or as a tack coat for an asphalt overlay.

#### PROPERTIES

The slow setting nature of **CSS 60** makes it ideal for mixing and applying slurries by hand. Slurry mixtures prepared by batch mixing can be kept workable in transit mixes for 1 hour before setting.

The positive electrical charges of the emulsifier on the bitumen droplets are attracted to the free negative ions of the aggregates resulting in a chemical break thus improving the binder adhesion to the store, therefore making this emulsion more suitable for use with acidic aggregates.

#### SPECIFICATIONS

**CSS 60** conforms to SABS 548 specification for cationic bitumen road emulsions.

EMULSION PROPERTIES	REQUIREMENT		TEST METHOD
	MIN	MAX	
Binder content, % m/m	60	63	ASTM D244
Viscosity @50°C, SFs	-	50	ASTM D244
Residue on sieving, g/100ml	-	0.25	SABS 548
Sedimentation after 60 rotations	Nil		SABS548
Particle charge	Positive		SABS548
Fluxing agent content % m/m of binder	Nil		ASTM D244
Coagulation value when mixed with silica flour, % m/m	-		SABS 548

#### DIRECTIONS FOR USE

1. CSS60 can be stored and mixed with aggregates at ambient temperature.
2. Can be stored for up to three months at ambient temperature without risk of settlement.
3. The binder should be heated to 60°C for spray application.
4. If diluting with water, check the compatibility with the water before adding to the emulsion



## CSS65

### Stablemix Bitumen Emulsion

#### DESCRIPTION

**CSS65** is a low viscosity cationic slow set bitumen emulsion.

#### USES

**CSS65** is used mainly as a cold applied binder for the manufacturer of slow set slurry mixtures which can be batch mixed and applied by hand or with a continuous mix and lay machine.

**CSS65** can be used for mixing with natural gravels or crushed aggregates for stabilisation of bases.

**CSS65** can also be diluted with water and applied onto aged seals as an enrichment spray or as a tack coat for an asphalt overlay.

#### PROPERTIES

The slow setting nature of **CSS 65** makes it ideal for mixing and applying slurries by hand. Slurry mixtures prepared by batch mixing can be kept workable in transit mixes for 1 hour before setting.

The positive electrical charges of the emulsifier on the bitumen droplets are attracted to the free negative ions of the aggregates resulting in a chemical break thus improving the binder adhesion to the store, therefore making this emulsion more suitable for use with acidic aggregates.

#### SPECIFICATIONS

**CSS 65** conforms to SABS 548 specification for cationic bitumen road emulsions.

EMULSION PROPERTIES	REQUIREMENT		TEST METHOD
	MIN	MAX	
Binder content, % m/m	65	68	ASTM D244
Viscosity @50°C, SFs	-	50	ASTM D244
Residue on sieving, g/100ml	-	0.25	SABS 548
Sedimentation after 60 rotations	Nil		SABS548
Particle charge	Positive		SABS548
Fluxing agent content % m/m of binder	Nil		ASTM D244
Coagulation value when mixed with silica flour, % m/m	-		SABS 548

#### DIRECTIONS FOR USE

1. CSS60 can be stored and mixed with aggregates at ambient temperature.
2. Can be stored for up to three months at ambient temperature without risk of settlement.
3. The binder should be heated to 60°C for spray application.
4. If diluting with water, check the compatibility with the water before adding to the emulsion



## K1 60

### Cationic Spray Grade Bitumen Emulsion

#### DESCRIPTION

**K1 60** is a low viscosity cationic rapid-set bitumen emulsion.

#### APPLICATIONS

**K1 60** is used mainly as a hand applied tack coat or penetration spray in the construction of single, double or Cape seals. It is favoured over hot binders when resealing roads in cold/wet climates or small areas which require hand application. It is also used in new construction where traffic accommodation is not a problem.

#### PROPERTIES

**K1 60** has a low viscosity, which improves the flow of the binder allowing it to readily wet aggregates. The positive electrical charges of the emulsifier on the bitumen droplets are attracted to the free negative ions of the aggregates resulting in a chemical break, thus improving the binder adhesion to the stone.

#### SPECIFICATIONS

**K1 60 conforms** to BS EN 13808

Emulsion Properties	REQUIREMENTS			TEST METHOD
	MIN	MAX		
Binder content, % m/m		58	62	ASTM D244
Viscosity @ 50°C, SFs		20	50	ASTM D244
Residue on sieving, g/100ml		-	0.1	ASTM D 244
Particle charge		Positive		SABS 548
Sedimentation after 60 rotations		Nil		SABS 548
Fluxing agent content, % m/m of binder		-	5	ASTM D244

1. No precoating of stone necessary. Can be used with slightly damp/dusty stone.
2. Apply with a handsprayer 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 emulsion.



# SS60

## Anionic Stable Grade Bitumen Emulsion

### DESCRIPTION

**SS60 stable grade** is a low viscosity anionic *slow set* bitumen emulsion.

### APPLICATIONS

**SS60 stable grade** is used mainly as a cold applied binder for the manufacture of *slow set slurry mixtures* which can be batch mixed and applied by hand or with a continuous mix and lay machine.

### PROPERTIES

The slow setting nature of **SS60 stable grade** makes it ideal for mixing and applying slurries by hand. Slurry mixtures prepared by batch mixing can be kept workable in transit mixers up to 2 hours before setting.

Slow set slurry mixtures prepared with **SS60 stable grade**, rely on the evaporation of the water component to cure.

### SPECIFICATIONS

**SS60 stable grade** conforms to SABS 309 specification for anionic bitumen road emulsions.

EMULSION PROPERTIES	REQUIREMENT		TEST METHOD
	MIN	MAX	
Binder content, % m/m	60	62	ASTM D244
Residue on sieving, g/100ml	-	0.25	SABS 309
Sedimentation after 60 rotations	Nil		SABS 309
Coagulation value when mixed with cement, %m/m	-	2	SABS 309

### DIRECTIONS FOR USE

1. **SS60 stable grade** can be stored and mixed with aggregates at ambient temperature.
2. Can be stored for up to six months at ambient temperature without risk of settlement.
3. If diluting with water, check the compatibility of the water with the emulsion.
4. The binder should be heated to 60°C for spray application.



# SCE 1

## Elastomer Modified Bitumen Emulsion

### DESCRIPTION

**SCE 1** is a medium viscosity cationic spray grade bitumen emulsion modified with 3 % net SBR latex..

### APPLICATIONS

**SCE 1** is used mainly in cold/wet climates for resealing lightly cracked roads with surface cracks < 3 mm without pre-treatment. Also ideal for spraying as a tack coat for geofabric membranes or prime for a crack sealant.

### PROPERTIES

**SCE 1** has enhanced residual binder properties, while the lower viscosity of the emulsion improves the flow of the binder into lightly cracked surfaces. Can be stored for long periods without risk of polymer thermal degradation.

### SPECIFICATIONS

**SCE 1** conforms to the SC-E1 specification for modified emulsion for surface seals.

Emulsion Properties MIN	REQUIREMENTS		TEST METHOD	
	MAX			
Binder content, % m/m	65	68	MB – 22	
Viscosity @ 50°C, SFs	51	200		
Residue on sieving, g/100ml	710µm	-	0.1	MB - 23
	150µm	-	0.5	
Particle charge	Positive		MB - 24	
Sedimentation after 60 rotations	Nil		SANS 309	
<b>RECOVERED BINDER PROPERTIES</b>				
Softening point, °C	≥48	-	MB - 17	
Elastic recovery @ 15°C	≥50	-	MB - 4	

### DIRECTIONS FOR USE

1. No precoating of stone necessary. Can be used with slightly damp/dusty stone.
2. Apply with a conventional distributor at a binder spray temperature of 65°C and a minimum road surface temperature of 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. The residue on sieving value will increase with prolonged storage, but should not affect performance of the binder.
4. Open to traffic once sufficient cohesion development has occurred between binder and stone.

