

## CCM-5

### CATIONIC COLD MIX ASPHALT EMULSION

#### PRODUCT DESCRIPTION

**CCM-5** is a low viscosity, high residue cationic asphalt emulsion specifically designed and formulated for use in the production of plant mixed **CCM-5 COLD PATCH**.

Asphalt emulsions are classified according to the electric charge that surrounds the emulsion's asphalt particles (i.e. whether it is a cationic or an anionic emulsion) and how quickly the suspended asphalt particles separate from the surrounding water ("breaking"). **CCM-5** emulsion is designed to produce mixes that remain workable for extended periods. The setting speed of any emulsion is relative to atmospheric conditions at the time of construction.

#### GENERAL PRODUCT FEATURES

- To be mixed in hot mix plants (drums, batch, or pugmill)
- Unique formulation resists stripping and bleeding
- High residual binder content
- Remains workable in stockpiles for up to one year
- Excellent workability and cohesion at low temperatures

#### RECOMMENDED USE

**CCM-5** emulsion is used to make **CCM-5 COLD PATCH**, used for repairing asphalt pavement, driveways, and parking lots.

#### APPLICATION GUIDELINES

##### DESIGN CRITERIA

A coating test should be run on job aggregate to determine compatibility and, in the case of cold mixing, to determine mixing ability.

Contact your local **MCA Marketing** representative for application temperature guideline.

Designs should be formulated prior to initial production and each time aggregate sources are changed. Testing of the final product is highly recommended to ensure a quality seal. **MCA Technical Services** offers complete design services and product quality analysis.

#### MIXING PROCEDURES

Please refer to **McAsphalt Industries Limited's "CCM-5 COLD PATCH** Technical Bulletin" in regards to mixing procedures for drum, batch, and pugmill plants.

#### TYPICAL AGGREGATE GRADATION

Mineral aggregates used should consist of clean, hard, durable particles conforming to the following physical requirements:

SIEVE SIZE	% PASSING (BY WEIGHT)
16.0 mm (5/8")	100
13.2 mm (1/2")	98 - 100
9.5 mm (3/8")	85 - 98
4.75 mm (#4)	50 - 85
2.36 mm (#8)	35 - 65
1.18 mm (#16)	25 - 50
600 µm (#30)	15 - 40
300 µm (#50)	7 - 25
150 µm (#100)	2 - 13
75 µm (#200)	0 - 7

#### SPECIFICATIONS AND TYPICAL RESULTS

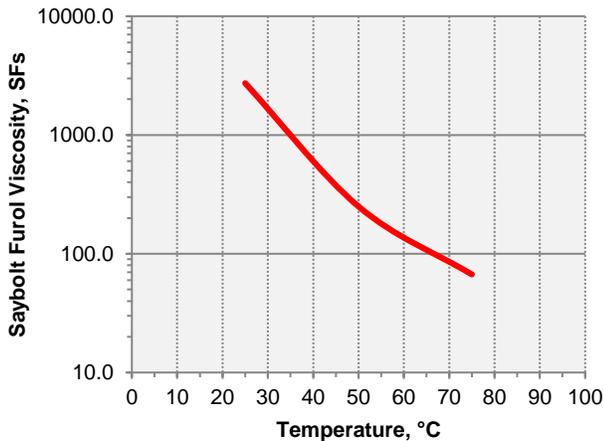
TEST	TYPICAL DATA	SPEC.	
		Min	Max
<b>Tests on Emulsion</b>			
SF Viscosity, 50°C, SFs	140	100	300
Sieve Test, 850 µm, %	0.04	-	0.1
Settlement, 5 days, %	0.6	-	3.0
Distillation Residue, 260°C, %	89.0	85	-
Oil Portion of Distillation, %	3.8	2	7
Particle Charge	(+)	(+)	
<b>Tests on Residue</b>			
Penetration, 25°C, dmm	500+	500	-



#### MCASPALT INDUSTRIES LIMITED

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 ISO 9001/14001/45001

**CCM-5****CATIONIC COLD MIX ASPHALT EMULSION****TEMPERATURE VISCOSITY CHART****PACKAGING, STORAGE AND HANDLING**

- **CCM-5** should be stored in bulk tanks, ideally vertical to minimize surface area
- Do not allow **CCM-5** to either freeze or boil: it will break. Safe storage temperatures range from 10°C (50°F) to 85°C (185°F).
- In bulk storage, mix the **CCM-5** every 1 to 2 weeks (more frequently in cold weather). Mixing may be done by paddle agitator (slow), loose gear pump, slow centrifugal pump, or other suitable low shear pump.
- Do not bubble air through **CCM-5** to agitate it: this creates excessive foam and may cause the **CCM-5** to break
- Always use clean storage containers. Make sure prior contents are compatible with **CCM-5** or the emulsion may break
- Only use approved and sealed containers for sampling the emulsion.

**CERTIFICATION OF QUALITY**

**McAsphalt Industries Limited** is accredited to the quality management standard **ISO 9001**, the environmental management standard **ISO 14001**, and the occupational health and safety standard **ISO 45001**.

Each lot of **CCM-5** 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 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, and 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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