

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. The emulsion is manufactured by **McAsphalt Industries Limited** to meet rigid quality control standards.

Asphalt emulsions are classified according to the electric charge that surrounds the asphalt particles (i.e. cationic, anionic emulsions) and how quickly the suspended asphalt particles break (i.e. the water will evaporate, leaving the asphalt cement). **CCM-5** emulsion is designed to produce mixes that remain workable for extended periods. The setting speed is relative because it is affected by atmospheric conditions at 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.

SPECIFICATIONS AND TYPICAL RESULTS

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

APPLICATION GUIDELINES

DESIGN CRITERIA

- A coating test should be run on job aggregate to determine compatibility and in the case of cold mixing also determine mixing ability
- Contact your local **MCA Marketing** representative for guideline application temperatures
- Mix designs should be formulated prior to initial production, and each time aggregate sources are changed. Testing of final product is highly recommended to ensure a quality mix. **MCA Technical Services** offers complete mix design service and product quality analyses

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.



McASPHALT INDUSTRIES LIMITED

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 ISO 9001/14001, 18001

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APPLICATION GUIDELINES (CONT'D)

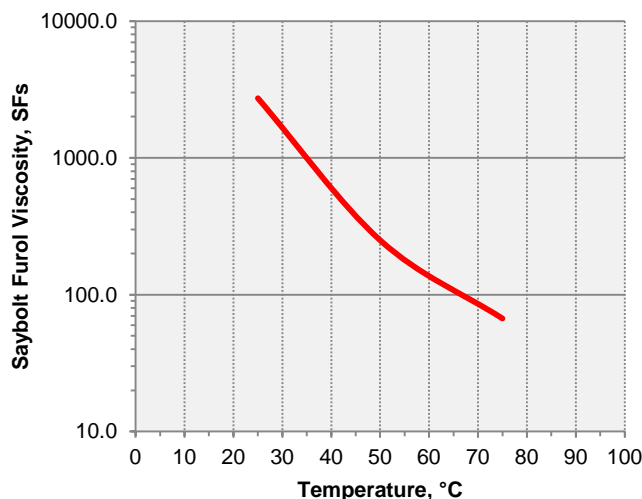
TYPICAL AGGREGATE GRADATION

Mineral aggregates used should consist of clean, hard, durable particles conforming to the blow-listed 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

TEMPERATURE VISCOSITY CHART

CCM-5 EMULSION



PACKAGING, STORAGE AND HANDLING

- **CCM-5** should be stored in bulk tanks, vertical if possible to minimize surface area
- Do not allow **CCM-5** to either freeze or boil – it will break. Storage temperature should not be allowed to fall below 10°C or exceed 85°C
- In all bulk storage, mix the **CCM-5** every 1–2 weeks (more frequently in cold weather). Mixing may be 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, it creates excessive foam and may cause the emulsion to break
- Always use clean containers. Make sure prior contents are compatible with **CCM-5** or the emulsion may break

CERTIFICATION OF QUALITY

McAsphalt Industries Limited is accredited to the quality standard **ISO 9001** and to the environmental standard **ISO 14001**.

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 it 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, 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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