

MACSEAL M.A.R.S.

HOT-APPLIED POURABLE MASTIC PATCHING MATERIAL – ASTM D8260 TYPE 3

PRODUCT DESCRIPTION

MACSEAL M.A.R.S. is a hot-applied, pourable, polymer-modified patching and repair material used for the preservation, repair, and maintenance of asphalt pavements, concrete pavements, and bridge deck surfaces

MACSEAL M.A.R.S. consists of a blend of a specially engineered, polymer-modified binder using a highly elastic polymer and a carefully selected aggregate fraction. The finished mastic will provide a durable, highly adhesive, highly flexible, and non-tacky material that is suitable for repairing wide cracks and joints, utility cuts, potholes, bridge joints, or any other similar type of pavement distresses.

GENERAL PRODUCT FEATURES

- Cures to a non-tacky finish
- Engineered for all climates
- Adheres well to both hot mix asphalt and Portland cement concrete pavements
- Relatively fine aggregate gradation allows for thin repairs and for an excellent loadbearing and impact-resistant surface finish.
- Effective solution for resurfacing utility cuts in high-traffic, urban environments

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.

SPECIFICATIONS AND TYPICAL RESULTS

TEST	TYPICAL RESULTS	SPEC.	
		Min	Max
Tests on Polymer-Modified Binder			
Cone Penetration (D5329), 25°C (77°F)	53	-	60
Cone Penetration (D5329), 50°C (122°F)	114	-	120
Softening Point (D36), °C (°F)	93 (200)	93 (200)	-
Flexibility (D3111), 25 mm Mandrel, 90° Bend, -25°C (-13°F), 2 seconds	Pass	Pass	-
Tests on Aggregate			
Abrasion Resistance (C131), %	27	-	35
Gradation (C136)			
9.5 mm (3/8"), % passing	100	-	-
4.75 mm (#4), % passing	83	-	-
0.075 mm (#200), % passing	11	-	-
Tests on Blended Product			
Low Temperature Flexibility (D5329), -18°C (0°F)	Pass	Pass	-
Specific Gravity (D2726)	1.4 to 2.0	-	-
Mastic Resilience (D8260), 23.5°C, %	79	50	-
Effects of Rapid Deformation (D8260), -29°C, 8 N-m	Pass	Pass	-
Crack-Bridging Ability (D8260), 3 cycles, -29°C	Pass	Pass	-
Mastic Stability (D8260), 70°C, mm	32	-	40.0

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APPLICATION GUIDELINES

For detailed **MACSEAL M.A.R.S.** joint and crack preparation or specific application instructions, refer to specifying agency publications or contact an **MCA** representative.

Read and follow the application instructions before use.

MACSEAL M.A.R.S. must be heated in an oil jacketed double boiler kettle with constant or full sweep agitation to the material to keep the aggregate suspended evenly.

The pavement to be repaired should be dry and free of dust, dirt, grease, loose materials, and any other matter that could affect the bonding of **MACSEAL M.A.R.S.** If the ambient temperature is colder than 5°C (40°F), the area to be repaired can be dried and warmed with a hot air lance.

MACSEAL M.A.R.S. can be applied directly to the pavement being repaired (in layers, if necessary) and smoothed to the surrounding edges.

APPLICATION TEMPERATURES

Recommended pouring temperature: 177 to 200°C (351 to 392°F)

Maximum safe heating temperature: 200°C (392°F)

TYPICAL AGGREGATE GRADATION

Mineral aggregates used should consist of clean, hard, and durable particles conforming to the below-listed physical requirements.

PACKAGING, STORAGE AND HANDLING

Binder and aggregate are not pre-mixed and must be mixed during heating.

MACSEAL M.A.R.S. is available in the following packaging 2 x 11 kg (25 lb) polybags in a high strength, corrugated cardboard container. **MACSEAL M.A.R.S.** in boxes should kept in a dry environment.

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 **MACSEAL M.A.R.S.** 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.

