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SPECIFICATION FOR APPLYING PRIME COAT AND TACK COAT

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SPECIFICATION FOR APPLYING PRIME COAT AND TACK COAT

806. 1 SCOPE

This Specification covers the requirements for application of prime and tack coat.

806. 2 DEFINITIONS

Prime Coat: Application of emulsified asphalt cement on a Granular Course surface

Tack Coat: Application of emulsified asphalt cement on existing asphalt, Portland cement concrete pavement or Granular Course surface prior to overlay, or between layers of new bituminous pavement.

Tack Coat Break: The moment when water separates enough from the emulsified asphalt to show a color change from brown to black.

806. 3 MATERIALS

3.1 Asphalt Products

The Contractor shall supply one of the following undiluted emulsified asphalt for Tack Coat;

- SS1
- SS1-h
- CSS1
- CSS1-h

The Contractor shall supply the following undiluted emulsified asphalt for Prime Coat;

- SS1

All asphaltic materials shall be supplied from pre-approved Suppliers and meet current Manitoba specifications as outlined in the *Grading and Surfacing Approved Products List* at <http://www.gov.mb.ca/mit/mateng/product.html>.

806. 4 EQUIPMENT

4.1 Inspection of Equipment

Equipment required for this Work shall be in satisfactory working condition and maintained for the duration of the Work.

Equipment shall be on site and available for inspection and acceptance before the Work commences.

4.2 Distributor

The distributor shall be capable of applying the product continuously at a specified rate to the full lane width.

The distributor shall be equipped with the following:

- Pressure gauge.

- Adjustable length spray bar.
- Positive displacement asphalt pump with separate power unit.
- Heating coils and burner capable of applying even heat to the asphalt material.
- Thermometer for measuring temperature of tank contents.
- Hand sprayer attachment for areas inaccessible to the distributor spray bar.
- Volume measuring device with tachometer to determine application rate.

The Contractor shall ensure that the distributor meets the following adjustments and requirements:

- All spray bar nozzles are of the same manufacture, type, and size.
- Clogged nozzles have been removed and cleaned with solvent.
- All nozzles have been set in the spray bar so that the nozzle slots make the same angle (15° to 30°) with the longitudinal axis of the spray bar.
- The spray bar has been adjusted to the correct height to ensure uniform application without streaking.
- The metering system shall be accompanied by documentation confirming that it was calibrated within the past 12 months by the manufacturer or its authorized representative. Calibration system may be checked by the Contract Administrator before being used on the Work.

806. 5 CONSTRUCTION

5.1 Prime Coat

Application of Prime Coat shall consist of flushing the final accepted Granular Course surface with water and undiluted emulsified asphalt, followed by a train of pneumatic tired rollers. The application rate of undiluted prime shall be between 0.4 to 0.8L/m² as determined by the Contract Administrator.

When traffic flow must be maintained, this operation shall be done on one-half of the roadway at a time. No prime coat shall commence on the second half of the roadway until the first half has sufficiently cured to accommodate vehicular traffic.

5.2 Tack Coat

Existing surface shall be clean, dry and free from dust, dirt and other unacceptable material prior to the application of tack coat.

Tack coat shall be applied ahead of the paver to accommodate no more than one-half day paving operation.

The tack coat shall not have streaks, bare spots, puddles, or other irregular patterns.

Paving and construction equipment shall not be permitted on tack coated areas until the tack coat breaks.

Areas missed by the distributor or inaccessible to the distributor shall be treated using a hand sprayer.

Application rate ranges are specified in Table 5.1. Actual application rate shall be determined by the Contract Administrator.

Table 5.1 Application Rate for Tack Coat

Surface Type	Application Rates (L/m ²)
New Bituminous Pavement	0.18 to 0.27
One Year or Older Bituminous Pavement	0.23 to 0.41
Portland Cement Concrete	0.23 to 0.41
Milled Surface	0.27 to 0.41
Granular Course	0.27 to 0.41

5.3 Weather Limitations

Prime and Tack Coat shall only be permitted if the atmospheric temperature is at least 5°C and rising and when the weather is not foggy or rainy.

If atmospheric temperatures are less than 5°C, the product used for Prime and Tack Coat shall be approved by the Contract Administrator.

5.4 Joint Coating

Vertical faces shall be coated with a thin and uniform layer of asphalt product.

5.5 Protection of Curbing

The Contractor shall protect concrete curbing prior to priming granular base course or tacking adjacent pavement. The protection shall be in the form of plastic sheeting fastened securely over the curbing or by some other approved method. If plastic sheeting is used it shall be left in place until the prime coat has cured.

806. 6 QUALITY ASSURANCE

6.1 General

The Contract Administrator will conduct Quality Assurance testing and inspection of the Prime Coat, Tack Coat and joint coating to determine its acceptability.

Quality Assurance testing and inspection will be performed at no cost to the Contractor.

The Contractor will be provided with results from the completed tests.

6.2 Quality Assurance Testing and Inspection

Sampling and Quality Assurance testing will be in accordance with the following:

6.2.1 Emulsified Asphalt Cement Quality

The Contractor shall be responsible for sampling the emulsified asphalt cement from the distributor in accordance with MEB P031 Sampling and Testing Asphalt Binder Materials and providing all samples to the Contract Administrator for Quality Assurance testing.

The Contract Administrator shall determine sampling location and will be present during the sampling process unless otherwise authorized by the Contract Administrator in writing.

6.2.2 Prime Coat, Tack Coat and Joint Coating

The Contract Administrator may inspect the Prime Coat, Tack Coat and joint coating to determine its acceptability.

Areas of insufficient or non-uniform Prime, Tack Coat and joint coating coverage shall be re-applied by the Contractor at no additional cost.

806. 7 METHOD OF MEASUREMENT

7.1 Prime Coat

Prime Coat will be measured by volume in Litres. The volume will be taken from the metering system on the distributor.

806. 8 BASIS OF PAYMENT

8.1 Prime Coat

The Unit Price per Litre for Prime Coat will be payment in full for supplying, applying and maintaining the Prime Coat and for performing all operations described herein and those incidental thereto.

8.2 Tack Coat

Tack coat will not be paid for as a separate item but will be considered as an incidental operation to Bituminous Pavement.

8.3 Joint Coating

Joint coating will not be paid for as a separate item but will be considered as an incidental operation to Bituminous Pavement.