



4000 - SPECIFICATION FOR ASPHALT PRIME, TACK AND FLUSH COAT

4000.1 DESCRIPTION

4000.1.1 The work shall consist of liquid asphalt placed on a prepared surface.

4000.2 MATERIALS

4000.2.1 The Department will select and pay for the asphalt. If emulsified asphalt is used for prime, tack or flush coat, the Contractor shall dilute the emulsified asphalt with water if required by the Engineer.

4000.3 CONSTRUCTION

4000.3.1 Distributor

4000.3.1.1 The Contractor shall supply a self-powered pressure asphalt distributor in accordance with the following requirements:

4000.3.1.1.1 Equipped with a device that measures the truck speed in metres per minute and distance travelled in metres.

4000.3.1.1.2 The distributor is capable of maintaining a uniform speed.

4000.3.1.1.3 The capacity of the distributor shall not be less than 4 500 L.

4000.3.1.1.4 A heating system capable of applying even heat to the asphalt.

4000.3.1.1.5 A device capable of measuring the asphalt temperature in the tank.

4000.3.1.1.6 A positive displacement asphalt pump with separate power unit or hydrostatic drive.

4000.3.1.1.7 Equipped with a gauge that measures spray bar pressure.

4000.3.1.1.8 The spray bar is capable of being maintained at a constant height throughout the entire operation.

4000.3.1.1.9 An adjustable length spray bar on which the nozzles on any portion may be closed off.

4000.3.1.1.10 The spray bar has been provided with a positive shutoff to prevent leaking.

4000.3.1.1.11 Spray bar nozzles are of the same manufacture, type and size.

4000.3.1.1.12 Spray bar nozzles are in good working condition.

4000.3.1.1.13 A device capable of measuring spray nozzle angle.

4000.3.1.1.14 Nozzles have been set in the spray bar so that the nozzle slots make the same angle, 15 to 30 degrees, with the longitudinal axis of the spray bar.

4000.3.2 Inspection and Calibration of Distributor

4000.3.2.1 Prior to commencing seasonal operations, all distributors shall be calibrated in accordance with STP 203-20 For Distributor Application Rate.

4000.3.2.1.1 The Contractor shall provide the Engineer with the approved calibration form. The Contractor shall verify that the distributor's settings and attachments, including but not limited to pumps and spray bars, are in accordance with the approved calibration.

4000.3.2.1.2 The Contractor shall recalibrate the distributor if deemed necessary by the Engineer.

4000.3.3 Preparation of Surface

4000.3.3.1 Before applying the asphalt, the surface shall be swept clean of loose aggregate and other objectionable material.

4000.3.3.2 Prime coat shall only be applied to a slightly damp surface with no water ponding.

4000.3.3.3 Tack and flush coat shall only be applied to dry surfaces.

4000.3.4 Application of Asphalt

4000.3.4.1 Asphalt prime, tack and flush coat shall be applied only after a written authorization has been received from the Engineer.

4000.3.4.2 The asphalt shall be applied in a single application at the rate per square metre specified by the Engineer.

4000.3.4.3 The asphalt shall be applied in accordance with the temperature limits specified in Table 4000.3.T1.

TABLE 4000.3.T1

APPLICATION TEMPERATURE LIMITS

Type of Asphalt		Temperature (Degrees Celsius)
Emulsified Asphalts	Emulsified Primers	25 - 55
	SS - 1	25 - 55
	PE - 90	40 - 55
	Inverted Emulsified Prime 1	40 - 55
Cutback Asphalts	RC - 30, MC - 30	30 - 55
	RC - 70, MC - 70	60 - 80
	RC - 250, MC - 250	75 - 95

- 4000.3.4.4 The Contractor shall be responsible for accidents or damage resulting from the use of excessive temperatures and shall replace any material destroyed.
- 4000.3.4.5 Asphalt for the adjacent lane shall be applied such that half the spray fan from the end nozzle overlaps the joint.
- 4000.3.4.6 Structures, wheel guards, curbs, guardrail, and other roadway appurtenances shall not be splattered by the asphalt. The Contractor shall remove any splattering caused by his operation.
- 4000.3.4.7 Skipped areas or deficiencies shall be corrected by hand spraying or pouring pot.

4000.3.5 Weather Limitations

- 4000.3.5.1 The use of emulsified asphalt for prime coat, excluding emulsified primers, will be allowed only up to September 15.
- 4000.3.5.2 Asphalt for prime coat and tack coat shall not be applied to a prepared surface when:
 - 4000.3.5.2.1 The surface temperature is less than 2°C.
 - 4000.3.5.2.2 The weather is misty, rainy, or if rain is impending.
- 4000.3.5.3 Asphalt for flush coat shall not be applied to a prepared surface when:
 - 4000.3.5.3.1 The surface temperature is less than 10°C.
 - 4000.3.5.3.2 The weather is misty, rainy, or if rain is impending.

4000.3.6 Traffic Control

- 4000.3.6.1 Traffic using the Highway shall be accommodated in accordance with Specification 8400 For Traffic Accommodation And Safety.
- 4000.3.6.2 Traffic will not be permitted to travel on prime coat until 6 hours after application unless otherwise authorized by the Engineer. After 6 hours, excess asphalt remaining on the surface shall be blotted by sand before traffic is permitted to travel on the surface.
 - 4000.3.6.2.1 The Department will supply the source for the blotter sand.
 - 4000.3.6.2.1.1 The blotter sand shall meet the requirements for filler or blender sand in accordance with Specification 3400 For Binder, Filler and Blender Sand.
 - 4000.3.6.2.2 Excess blotter sand shall be removed when the blotter sand is no longer required.
- 4000.3.6.3 Traffic shall not be permitted to travel on tack coat or flush coat until it has cured.

4000.3.7 Additional Asphalt Wearing Course

4000.3.7.1 When the Contractor is required to place an additional asphalt wearing course on the completed prime coat, the following shall apply:

4000.3.7.1.1 Prime coat shall be maintained by the Contractor at his own expense, including but not limited to the cost of materials, until the wearing course is accepted.

4000.3.7.1.2 If work must be carried over from one construction season to the next, the responsibility for maintaining or repairing the prime coat and the supply of materials shall be in accordance with the Specification for the type of material to be primed.

4000.3.7.2 When the Contractor is not required to place an additional asphalt wearing course on the completed prime coat, the following shall apply:

4000.3.7.2.1 The Contractor shall be responsible for repairing any deficiencies which are identified in the underlying structure or the prime coat during the 72 hour period immediately following the priming of the complete width of any section of road surface.

4000.4 MEASUREMENT

4000.4.1 Prime Coat, Tack Coat and Flush Coat will be measured in tonnes of undiluted asphalt applied to the surface.

4000.5 PAYMENT

4000.5.1 Payment for Prime Coat, Tack Coat, or Flush Coat will be at the contract unit price per tonne of asphalt, and will include compensation for all activities except those for which specific provision for payment is made in this section.

4000.5.2 Payment for screening blotter sand, if required, will be at the rate specified in the Special Provisions. Only the screened material applied to the Highway surface will be paid for at the set rate for screening blotter sand.