

SPECIFICATIONS FOR APPLYING PRIME COAT, BLOTTER, AND TACK COAT

## 805. 1 SCOPE

These Specifications govern all operations necessary for and pertaining to the spraying of asphalt products on the roadway surface, and the application of blotter sand.

## 805. 3 MATERIALS

## 3.1 Aggregate for Blotter Sand

The Contractor shall supply Blotter Sand in accordance with the following Specifications;

| Passing Standard Sieves | Blotter Sand Type I | Blotter Sand Type II |
|-------------------------|---------------------|----------------------|
| 12.5 mm                 | 100 %               | 100 %                |
| 425 um                  | 0 – 25 %            | 0 – 50 %             |
| 75 um                   | 0 – 5 %             | 0 – 10 %             |

## 3.2 Water

The Contractor shall supply water, when required, to dilute SS-1 emulsified asphalt.

Water will not be paid for directly, as it will be considered an incidental operation to Tack Coat and Prime Coat.

## 3.3 Asphalt Products

When required, the Department will supply the following asphalt products;

- a) For Prime Coat
  - Emulsified Asphalt SS-1
- b) For Tack Coat
  - Emulsified Asphalt SS-1

When asphalt products are transported to the job site storage by means of tank trucks, the Contractor shall perform the following at his own expense and to the satisfaction of the Engineer:

- a) Arrange with the supplying company the points of delivery and the time and quantity to be shipped. Deliveries shall be made during hours when staff of the Department are normally working on the project. When requested, the Contractor shall supply the Engineer with a copy of orders and instructions respecting the shipment.
- b) Provide and maintain a storage area, and upon completion of the work restore the area to a satisfactory condition.
- c) Provide storage facilities of sufficient capacity to store all asphalt products ordered to the job site.
- d) When requested, calibrate storage tanks and make calibration tables or charts available to the Engineer prior to the start of operations, and make convenient provision for samples of asphalt products to be taken from storage tanks by the Engineer.

- e) Make provision for the Department to verify the quantity of asphalt products delivered in trucks, by weighing the truck or dipping the truck tank, before and after unloading. Axle loadings will be permitted for the verification of asphalt products delivered. In the case of dipping, the Contractor shall provide;
  - i) an inspection platform, meeting the requirements of the Workplace Safety and Health Act,
  - ii) a dipstick to verify the level of asphalt in the tank.
- f) Provide suitable unloading facilities and unload the asphalt product.
- g) Pay overtime standby charges for the Supplier's trucks except when the Supplier is responsible for the delay. Overtime standby is defined as the waiting period at the job site unloading point, after a free waiting time allowance of 2½ hours has been exceeded for unloading any delivery of ordered asphalt product.
- h) Pay transportation charges on asphalt products returned to the Supplier for all causes, except in the case of the Supplier making a faulty delivery.

The Contractor will be permitted to order a partial load of prime coat and a partial load of tack coat to complete the work.

If the Contractor arrives on a project, with asphalt products not owned by the Department, the Department will purchase the asphalt by Extra Work providing the asphalt is suitable. The price to be paid will be the price which the Department will pay for asphalt to be used on the project. (Item (vi) of Section 4.5 [c] of the General Conditions (15% overhead) will not be paid.)

When the Contractor completes a project, and will not be proceeding directly to another Department project, the Contractor shall purchase surplus asphalt products from the Department at the unit price shown on the Purchase Order, plus tax. The cost of surplus asphalt products will be deducted from progress payments.

### **3.4 Asphaltic Materials Supplied by Contractor**

**When the asphaltic material is to be supplied by the Contractor it will be identified in the special provision.**

**All asphaltic materials and additives must come from pre-approved suppliers and meet current Manitoba Specifications outlined in the Grading and Surfacing Approved Products List at <http://www.gov.mb.ca/mit/mateng/product.html> .**

## **805. 5 EQUIPMENT**

### **5.1 Inspection of Equipment**

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

Equipment shall be on the site and available for inspection, testing and approval before the work commences.

### **805. 5.2 Asphalt Pressure Distributor**

**The distributor shall be equipped with a metric unit of measurement monitor to determine the application rate and must be capable of providing an accurate, even rate of application at various speeds.**

The distributor used in applying asphalt products shall be constructed and equipped to maintain a sufficient and uniform pressure the full length of the spray bar so as to uniformly and completely cover the road surface at rates approved by the Engineer.

It shall be equipped with:

- A heating unit capable of maintaining the asphalt product in the tank at the specified temperature.
- A thermometer so placed as to accurately measure the temperature of the asphalt product in the tank.
- A spray bar that can be adjusted in increments of 0.6 metres and capable of being raised or lowered.
- Spray nozzles, with quick acting positive shutoff, of a design which will ensure a uniform fan-shaped spray.
- A hose and nozzle attachment to be used for spraying, by hand, areas inaccessible to the distributor spray bar.
- A gauge to indicate volume of product in the distributor.

### 5.3 Aggregate Spreader

A roll type spreader, or rotating disc sander capable of applying aggregate at variable widths and at variable rates, shall be used to apply blotter sand to primed surfaces.

## 805. 7 CONSTRUCTION METHODS

### 7.1 Prime Coat

The Department will supply emulsified asphalt for use as a prime coat.

The prime coat shall be applied to the prepared base at such locations and rates of application as are specified by the Engineer.

SS-1 when used as prime shall be road mixed into the top 25 - 50 mm of the granular base course, unless otherwise stated in the Special Provisions at an approximate rate of 10 l/t (1.1 l/m<sup>2</sup>) of undiluted SS-1. The underlying base shall be well compacted and dried back to optimum moisture content or less prior to the incorporation of the SS-1. In no case shall this material be placed and compacted prior to the addition of the SS-1.

Surface flushing will be an acceptable method of priming areas where only the shoulders are under construction. This operation shall consist of flushing the final accepted surface with water and undiluted SS-1 emulsified asphalt at an approximate rate of 0.7 litre/square meter, followed by a train of compaction equipment.

As a final operation in priming, the surface of the base course shall be flushed with the same SS-1 mixture and compacted. When traffic flow must be maintained, this operation shall be done on one-half of the roadway at a time. No final flushing shall commence on the second half of the roadway until the emulsion sprayed on the first half has sufficiently dried to accommodate vehicular traffic.

### 7.2 Blotter Sand

Blotter sand shall be applied where required on primed surfaces.

Traffic conditions may require sanding to be undertaken immediately. Blotter sand shall be applied lightly at a rate not to exceed 60 m<sup>3</sup> per lane kilometer based on a 4.0 m wide lane (0.015 m<sup>3</sup> per m<sup>2</sup>). No payment will be made for quantities in excess of 60 m<sup>3</sup> per lane kilometer. Blotter sand shall not be rolled.

### 7.3 Tack Coat

A tack coat shall be applied prior to constructing a lift of bituminous pavement on sanded primed surfaces, on unsanded primed base course surfaces that have become dry, dusty or dirty, and on previously paved or concrete surfaces. The tack coat will be left uncovered long enough for the SS-1 to break prior to placing the bituminous pavement.

Existing surfaces shall be cleaned, immediately prior to tack coating, using equipment which will leave the surface dry and free from dust, dirt and other unacceptable material.

The Contractor shall tack coat with undiluted SS-1 emulsified asphalt. Depending on the site conditions, application rates may have to be adjusted.

Tack coat shall be limited to one lane at a time and shall extend to but not beyond the edge of the proposed pavement surface. The length of lane tack coated will be limited to the required for a one-half day paving operation. The Contractor shall prevent any unnecessary passage of traffic upon the area tack coated until a lift of bituminous pavement has been placed thereon.

The application of tack coat will be considered as an incidental operation to "Bituminous Pavement".

### 7.5 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.

### 7.5 Spraying Temperatures

Asphalt products shall be sprayed within the following temperature ranges;

SS-1      5 - 40°C

## 805. 9 METHOD OF MEASUREMENT

### 9.1 Prime Coat

Prime coat applied to the road will be measured by volume, in litres. The volume measured will be corrected to the volume at the base temperature of 15°C.

### 9.2 Blotter Sand

The supply of blotter sand will be measured by weight in tonnes.

### 9.3 Application of Blotter Sand

The application of blotter sand will be measured in m<sup>3</sup>.

## 805. 11 BASIS OF PAYMENT

11.1 Prime Coat

The unit price per litre for "Prime Coat" will be payment in full for applying a prime coat and for the performance of all operations necessary or incidental thereto.

When there is a bid item for prime and SS-1 is to be used as prime, the Contractor will be compensated for all work pertaining to this operation by the unit price per litre of undiluted SS-1.

When there is no bid item for binder and prime, SS-1 shall be used for prime. SS-1 will be supplied by the Department and incorporated into the base by the Contractor. All costs associated with this operation will be incidental to the construction of granular base course.

11.2 Blotter Sand

The unit price per tonne for Blotter Sand Type I or Type II will be payment in full for supplying blotter sand and for the performance or all operations necessary or incidental thereto.

11.3 Application of Blotter Sand

The unit price per m<sup>3</sup> will be payment in full for application of blotter sand and for the performance of all operations necessary or incidental thereto.

NOTE: Where a conversion factor is required, one cubic metre of aggregate will be considered to have a mass of 1.78 tonnes.