

**04025 Asphalt Prime, Tack and Flush Coat****Index**

04025-1	Description	2
04025-2	Material	2
04025-3	Equipment	2
04025-4	Execution	3
4.1	Prime Coats	4
4.2	Tack Coats	4
04025-5	Measurement	5
04025-6	Payment	5

**Tables**

Table 1: Asphaltic Material Temperature Limits .....	3
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**04025-1      Description**

The work shall consist of supplying and the application of asphaltic material on a prepared surface at locations shown on the plans or as designated by the Engineer.

**04025-2      Material**

The Contractor shall supply the asphaltic material.

The asphaltic material shall meet the current specifications of the Asphalt Institute. Generally SS-1C emulsified asphalt shall be used for prime, tack or flush coat. The Contractor shall be required to dilute the emulsified asphalt with water, as required.

**04025-3      Equipment**

All equipment used in executing any part of the work shall be maintained in efficient working order.

The asphaltic material shall be applied by means of a self-powered pressure distributor. The distributor shall have a capacity of not less than 4,500 litres.

The distributor shall be equipped with the following appliances and devices in proper operating condition:

1. Tachometer.
2. Pressure gauge.
3. Adjustable length spray bar.
4. Positive displacement asphalt pump with separate power unit.
5. Heating coils and burner capable of supplying even heat to the bituminous material.
6. Thermometer well and accurate thermometer.

Before applying bituminous material, the Contractor shall ensure the distributor meets the following adjustments and requirements.

1. The rear chassis springs have been blocked or chained if necessary, to prevent the height of the spray bar from changing as the tank is unloaded.
2. All spray bar nozzles are of the same manufacture, type and size.
3. Clogged nozzles have been removed and cleaned with solvent.

4. 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.
5. The spray bar has been adjusted to the correct height to ensure uniform application without streaking.
6. The spray bar has been provided with a positive shut-off to prevent dribbling.
7. The distributor is capable of maintaining a uniform speed.

The distributor may be checked for calibration by following ASTM D2995 by the Engineer before being used on the work.

**04025-4      Execution**

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

The Contractor shall supply an experienced operator for the equipment.

Asphalt material for prime coat and tack coat shall be applied only when the surface to be treated is dry. It shall not be applied when the weather is foggy or rainy or when the ground temperature is less than 2°C.

Asphalt material for flush coat shall be applied only when the surface to be treated is dry, when the weather is not foggy or rainy and when the surface temperature is above 10 °C, or as directed by the Engineer.

Before applying asphaltic material, loose dirt or other objectionable material shall be removed from the prepared surface by brooming and other methods. Where base courses become ravelled, the loose material shall be removed or recompacted to a planer uniform surface.

The asphaltic material shall be applied in accordance with the following temperature limits.

Table 1: Asphaltic Material Temperature Limits

<b>Type of Asphaltic Material</b>	<b>Temperature C°</b>
SS-1C	N.A.
MC-30	25 - 60

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

#### **4.1 Prime Coats**

The amount of primer to be used per square metre will be determined by the Engineer after trial runs at the start of the work. As much asphalt shall be applied as can be absorbed by the surface without any excess flushing on the surface. The rate of application shall be between 0.75 to 1.50 litres per square metre. After curing, if any excess primer remains on the surface, the Contractor shall apply an approved sand where necessary to blot up the excess asphalt. The sand cover, where used, shall consist of clean, granular, mineral material approved by the Engineer, all of which shall pass a 5.0mm (No. 4) sieve. Only sufficient sand shall be spread to blot up excess asphalt and such areas shall be broomed to remove excess sand before pavement is laid.

After the prime coat has been applied, it shall be left undisturbed and no pavement shall be laid until the Contractor has obtained the approval of the Engineer or the Engineer's Representative.

The Contractor shall maintain the primed surface until the surfacing course has been placed. Maintenance shall include spreading any additional sand and patching any breaks in the primed surface. Any areas of primed surface that have become fouled by traffic, or otherwise, shall be cleaned before paving.

Weak spots that show up after the surface has been primed shall be repaired.

#### **4.2 Tack Coats**

Unless instructed otherwise tack coat will always be required between layers of asphalt material on City of Saskatoon road rehabilitation work. The Contractor will allow a minimum of 2 hours for tack coat to cure or until the tack coat breaks. Tack coat breaks/broke is defined as the moment when water separates enough from the asphalt tack showing a color change from brown to black. The decision on whether the tack has broke will be made by the Engineer or their representative.

Concrete work adjacent to the roadway and roadway appurtenances shall be protected in a manner to prevent them from being splattered or marred. In the event that any of

the appurtenances become splattered or marred, the Contractor shall at his own expense remove all traces of asphaltic materials and have the appurtenances in as good condition as they were before the asphalt priming work began. The distributor spray bar shall be equipped with proper guards.

A hand spray shall be used to apply primer material to areas missed or inaccessible by the distributor.

Joints and seams shall not be overlapped more than 150 mm. The bituminous material application shall be started on a strip of building paper to prevent overlap at transverse joints.

After the hot-mix asphalt surface course is completed, an asphalt flush coat shall be applied, at a rate of 0.50 to 0.75 litres per square metre. Traffic may be permitted to run on the completed flush coat after the asphalt has cured or at a time determined by the Engineer.

**04025-5      Measurement**

Measurement of asphalt prime, tack and flush coat will be in square metres.

**04025-6      Payment**

Payment for prime coat, tack coat or flush coat will be at the contract unit price per square metre. The unit price will be full compensation for cleaning and preparing the surface to be treated, supplying, delivering, heating and applying the asphalt material, supplying and applying sand for blotting; and for all labour and equipment necessary to complete the work. If emulsified asphalt is used for prime coat, tack coat or flush coat, the unit price will be full compensation for supplying, hauling, loading and mixing with water.

**End of Specification 04025**