
PRIME, TACK AND FOG COATS

1.0 GENERAL**1.1 Definitions****.1 Prime Coat:**

- .1 Prime coat shall be the application of bituminous material to granular base course, preparatory to placing bituminous surfacing materials or asphaltic concrete base course.

.2 Tack Coat:

- .1 Tack coat shall be the application of bituminous material to a previously constructed paved surface of any type in preparation of placing bituminous surfacing materials.

.3 Fog Coat:

- .1 Fog Coat shall be the application of bituminous materials to seal small cracks and surface voids on asphalt surface materials or a curing seal for Cement Stabilized Base Course.

1.2 Measurement for Payment

- .1 Measurement for prime coat will be in litres of material applied. Payment shall include the supply of materials, preparation of the surface, brooming or sweeping the surface, application, sand blotting, including supply of sand, maintaining the treated surface and the supply of all tools and incidentals to complete the work.
- .2 Payment for tack and fog coats shall be in litres of material applied. The Engineer will decide if fog coat is required on finished paved surfaces.

2.0 PRODUCTS**2.1 Prime Coat**

- .1 The bituminous material for priming the base course shall be liquid asphalt. Asphalt types may vary from medium curing (MC) type MC-30 to MC-250; from emulsified asphalt Types SS-1 to SS-1H or a special emulsified asphalt primer S.E.P. 1 or S.E.P. 2 depending on conditions to suit the base and time of season. The type of asphalt suitable for this application shall be a 50:50 mixture of water and SS-1 applied at a rate of 1.5 L/m² providing the hot mix asphalt pavement is placed immediately after curing is complete.

2.2 Tack Coat

- .1 The bituminous material for tacking the existing asphalt surface shall be liquid asphalt. The asphalt types may vary from rapid curing (RC) type RC-30 to RC-250; from emulsified asphalt types SS-1 to SS-1H, depending on conditions to suit the base and time of season.
- .2 In addition to 2.2.1 Tack Coat above, the tack coat shall be applied in accordance with the application rates outlined in the following table:

Application Rate (L/m ²)				
Surface Type	Residual	Undiluted	Diluted (one part water to one part emulsified asphalt)	
Milled Asphalt Concrete	0.27 – 0.36	0.45 – 0.60	0.90 – 1.20	
New Asphalt Concrete	0.14 – 0.18	0.23 – 0.32	0.45 – 0.60	

2.3 Fog Coat

- .1 The bituminous material for sealing the surface course if specified shall be liquid asphalt. The asphalt types may be emulsified asphalt type SS-1 or medium curing (MC) type MC-30, depending on the surface material to be sealed and time of season. The type of asphalt suitable for this application shall be a 50:50 mixture of water and SS-1 applied at a maximum rate of 0.5 L/m².

2.4 Sand Blotter

- .1 The materials for sand cover shall consist of clean granular mineral material, all of which shall pass a 5.0 mm sieve.

3.0 EXECUTION**3.1 Equipment**

- .1 Cleaning equipment shall consist of power brooms, flushers, and whatever hand scrapers may be necessary to remove all foreign material.
- .2 The pressure distributor used for applying asphaltic material shall be equipped with pneumatic tires and shall be so designed and operated as to distribute the asphaltic material in a uniform spray without atomization, in the amount and between the limits of temperature specified. It shall be

equipped with a fifth wheel speed tachometer registering metres per second and so located as to be visible to the truck driver to maintain the constant speed required for uniform application at the specified rate.

- .3 The pump shall be operated by a separate power unit, or by the truck power unit. It shall be equipped with a metre registering litres per minute passing through the nozzles and located to be readily visible to the operator.
- .4 Suitable means for accurately measuring the temperature of the asphaltic material shall be provided.

The thermometer well shall be so placed as not to be in contact with a heating tube. The distributor shall be so designed that the normal width of application shall be not less than 2 m, with provision for the application of lesser width when necessary.

- .5 If provided with heating attachments the distributor shall be so equipped and operated that the asphaltic material shall be circulated or agitated throughout the entire heating process.

3.2 Preparation

- .1 Immediately prior to applying the asphaltic primer, tack or fog coat, the surface shall be brought to uniform cross-section by patching all depressions and defective areas using an approved patching material and by removing all bumps and irregularities.
- .2 All loose and foreign material shall be removed by light sweeping.

3.3 Application

- .1 Obtain Engineer's approval of existing surface before applying asphalt prime, tack or fog coats. Clean surface as required.
- .2 Upon the prepared surface the asphalt shall be applied uniformly at a rate of from 1.0 to 1.50 litres/square metre (L/m²) for asphalt primer, and at a rate of from 0.25 to 0.90 L/m² for tack coat and a rate not exceeding 0.5 L/m² for fog coat. The asphalt primer, tack or fog coat shall be applied only when the surface is dry or slightly damp, unless otherwise allowed by the Engineer in writing, or only when the air temperature in the shade is above 10°C. Hand apply asphaltic primer in areas not accessible with the distributor.
- .3 The application temperature of the asphalt primer, tack or fog coat shall be as follows:
 - .1 Rapid Curing Asphalt:

RC-30

51 – 68°C

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	RC-70	74 – 88°C
	RC-250	100 – 110°C
.2	Medium Curing Asphalt:	
	MC-30	51 – 68°C
	MC-70	74 – 88°C
	MC-250	100 – 110°C
.3	Emulsified Asphalt:	
	SS-1	24 – 54°C
	SS-1H	24 – 54°C
.4	Emulsified Asphalt Primer:	15 – 50°C
.4	Coat contact surfaces of curbs, gutters, headers, manholes and like structures with a thin uniform coat of asphalt material. Do not prime or tack surfaces that will be visible when paving is complete. Work adjacent to the roadway shall be completely protected from the application operation by a suitable covering. Any unnecessary splashing of the concrete shall be cleaned.	
.5	Do not apply asphalt coat when air temperature is less than 5°C and/or when rain is forecast within 8 hours. Do not apply prime or tack coat if surface temperature is less than 2°C. Do not apply fog coat if surface temperature is less than 10°C.	
.6	The Contractor shall maintain the primed surface until the surface course has been placed. Maintenance shall include spreading any additional sand and patching any breaks in the primed surface with additional asphaltic material.	
.7	The asphalt primer should preferably be entirely absorbed by the base course and therefore require no sand cover. If, however, the asphalt has not been completely absorbed 24 hours after application, just sufficient sand shall be spread over the surface to blot up excess asphalt and prevent it from being picked up by any traffic.	
.8	Traffic shall not be permitted to travel on tack or fog coat until cured. The Contractor shall use flagmen, if required; provide and maintain signs, barricades, and keep all animals and pedestrians off newly primed surfaces until cured.	
.9	Traffic shall not be permitted to travel on prime coat until 6 hours after application or until completely cured. After this period of time, excess asphalt material remaining on the surface shall be blotted by sand before traffic is permitted to travel on the surface.	

- .10 Allow prime coat to properly cure before paving.

END OF SECTION