Section 02742

PRIME COAT

PART 1 GENERAL

1.01 SUMMARY

This Section includes prime coat for asphalt concrete paving.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

1. No separate payment will be made for prime coat under this Section. Include payment in unit price for material being primed.

2. Refer to Section 01270 – "Measurement and Payment" for unit price procedures.

B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for Work in this Section is included in total Stipulated Price.

1.03 REFERENCES (NOT USED)

1.04 SUBMITTALS

A. Conform to requirements of Section 01330 – "Submittal Procedures".

B. Submit product data for proposed prime coat.

C. Submit report of recent calibration of distributor.

1.05 RELATED REQUIREMENTS

A. Section 01270 – "Measurement and Payment"

B. Section 01330 – "Submittal Procedures"

1.06 – 1.13 NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURER(S) (NOT USED)

2.02 MATERIALS AND/OR EQUIPMENT

A. Cutback Asphalt

1. Provide moisture-free homogeneous material which shall not foam when heated to 347 degrees F and which meets following requirements:

2. Asphalt material for prime coat shall be MC-30 or MC-70 and shall meet following requirements:

PROPERTIES	TYPE - GRADE			
	MC-30		MC-70	
	MIN.	MAX.	MIN.	MAX.
Water, Percent	---	0.2	---	0.2
Flash Point, T.O.C., °F	100	---	100	---
Kinematic Viscosity at 140°F, cst	30	60	70	140

a. Distillate shall be as follows, expressed as percent by volume of total distillate to 680 degrees F:

TEMPERATURE	TYPE-GRADE			
	MC-30		MC-70	
	MIN.	MAX.	MIN.	MAX.
to 437°F	---	25	---	20
to 500°F	40	70	20	60
to 600°F	75	93	65	90
Residue from 680°F Distillation, Volume, Percent	50	---	55	---

b. Tests on Distillation Residue:

TEST	TYPE-GRADE			
	MC-30		MC-70	
	MIN.	MAX.	MIN.	MAX.
Penetration at 77°F, 100g, 5 sec.	120	250	120	250
Ductility at 77°F, 5 cm/min. cms	100*	---	100*	---
Solubility in Trichloroethylene, %	99	---	99	---
Spot Test	All Negative			

If penetration of residue is more than 200 and ductility at 77 degrees F is less than 100 cm, material will be acceptable when its ductility at 60 degrees F is more than 100.

B. Emulsified Petroleum Resin

1. EPR-1 Prime: Slow curing emulsion of petroleum resin and asphalt cement conforming to following requirements:

PROPERTIES	MIN.	MAX.
Fural Viscosity at 77°F, Sec	14	40
Residue by Evaporation, % by Weight	60	-
Sieve Test, %	-	0.1
Particle Charge Test	Positive	
Tests on Distillation Residue:		
Flash Point, COC (F)	400	-
Kinematic Viscosity @ 140 F (cst)	190	350

2. For use, EPR-1 may be diluted with water up to maximum three parts water to one part EPR-1 in order to achieve desired concentration of residual resin/asphalt to facilitate application.

2.03 – 2.04 NOT USED

PART 3 EXECUTION

3.01 GENERAL / MANUFACTURER(S) (NOT USED)

3.02 PREPARATION

A. Examination

1. Verify base is ready to support imposed loads.

2. Verify lines and grades are correct.

B. Thoroughly clean base course surface of loose material by brooming prior to application of tack coat.

C. Prepare sufficient base in advance of paving for efficient operations

3.03 ERECTION/INSTALLATION APPLICATION AND/OR CONSTRUCTION

A. Application, Basic

1. Apply prime coat with approved type of self-propelled pressure distributor. Distribute prime coat evenly and smoothly under pressure necessary for proper distribution.

2. Keep storage tanks, piping, retorts, booster tanks, and distributors used in handling asphalt materials clean and in good operating condition. Conduct operations so asphalt material does not become contaminated.

3. If yield of asphaltic material appears to be in error, recalibrate distributor prior to continuing Work.

4. Maintain surface until Work is accepted by the Owner.

B. Application, Cutback Asphalt

1. Do not use cutback asphalt during period of April 16 through September 15.

2. Do not place prime coat when air temperature is below 60 degrees F and falling. Materials may be placed when air temperature taken in shade and away from artificial heat is above 50 degrees F and rising.

3. Distribute at rate of 0.25 to 0.35 gallons per square yard.

C. Equipment shall accurately determine temperature of asphaltic material in heating equipment and in distributor, for determining rate of application, and for obtaining uniformity at junction of two distributor loads. Maintain in accurate working order, including recording thermometer at storage heating unit.

1. Base temperature of application on temperature-viscosity relationship that shall permit application of asphalt with viscosity of 100 to 125 centistokes. Maintain asphalt within 15 degrees F of temperature required to meet viscosity. Selected temperature shall be within following range.

Prime Coat Type	Minimum (°F)	Maximum (°F)
MC-30	70	150
MC-70	125	175

2. Do not allow temperature of MC-30 to exceed 175 degrees F.

3. Do not allow temperature of MC-70 to exceed 200 degrees F

D. Application, Emulsified Petroleum Resin

1. Do not place prime coat when air temperature is below 36 degrees F and falling.

2. Distribute at rate of 0.15 to 0.25 gallons per square yard.

3.04 – 3.08 NOT USED

3.09 PROTECTION

Prevent traffic or placement of subsequent courses over freshly applied prime coat until authorized by Project Manager.

3.10 SCHEDULES (NOT USED)

END OF SECTION