Section 02742

PRIME COAT

1.0 G E N E R A L

1.01 SECTION INCLUDES

A. Prime coat for asphaltic concrete paving

B. References to Technical Specifications:

1. Section 01200 – Measurement and Payment Procedures
2. Section 01350 – Submittals

1.02 MEASUREMENT AND PAYMENT

A. Unless indicated as a Bid Item, no separate payment will be made for prime coat under this Section. Include cost in Bid Items for which this Work is a component.

B. If prime coat is included as a Bid Item, measurement will be based on the units shown in Section 00300 – Bid Proposal and in accordance with Section 01200 – Measurement and Payment Procedures.

1.03 SUBMITTALS

A. Make Submittals required by this Section under the provisions of Section 01350 – Submittals.

B. Submit product data for proposed prime coat.

C. Submit report of recent calibration of distributor.

2.0 P R O D U C T S

2.01 CUTBACK ASPHALT

A. Provide moisture-free homogeneous material which will not foam when heated to 347º F and which meets following requirements:

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

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

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

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

3. Tests on Distillation Residue:

	MC-30		MC-70	
	MIN.	MAX.	MIN.	MAX.
Penetration at 77º F, 100g, 5 sec.	120	250	120	250
Ductility at 77º 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 77º F is less than 100 cm, material will be acceptable if its ductility at 60º F is more than 100.				

2.02 EMULSIFIED PETROLEUM RESIN

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

PROPERTIES	MIN.	MAX.
Fural Viscosity at 77 º F, sec	14	40
Residue by Evaporation, % by weight	60	-
Sieve Test, %	-	0.1
Particle Charge Test	Positive	
Tests on the Distilation Residue:		
Flash Point, COC (F)	400	-
Kinematic Viscosity @ 140 º F (cSt)	190	350

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

3.0 E X E C U T I O N

3.01 EXAMINATION

A. Verify base is ready to support imposed loads.

B. Verify lines and grades are correct.

3.02 PREPARATION

A. Thoroughly clean base course surface of loose material by brooming prior to application of prime coat.

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

3.03 APPLICATION, GENERAL

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

B. Keep all storage tanks, piping, retorts, booster tanks and distributors used in handling asphaltic materials clean and in good operating conditions. Conduct operations so that asphaltic material does not become contaminated.

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

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

3.04 APPLICATION, CUTBACK ASPHALT

A. Do not use cutback asphalt during the period of April 16 to September 15.

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

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

D. Provide all necessary facilities for determining temperature of asphaltic material in all heating equipment and in distributor, for determining rate of application, and for obtaining uniformity at junction of two distributor loads. Provide and maintain in good working order, recording thermometer at storage heating unit at all times.

E. Temperature of application shall be based on temperature-viscosity relationship that will permit application of asphalt with viscosity of 100 to 125 centistokes. Maintain asphalt within 15º F of temperature required to meet viscosity. Selected temperature shall be within following range:

PRIME COAT TYPE	MINIMUM (º F)	MAXIMUM (º F)
MC-30	70	150
MC70	125	175

F. Do not allow temperature of MC-30 to exceed 175º F at any time.

G. Do not allow temperature of MC-70 to exceed 200º F at any time.

3.05 APPLICATION, EMULSIFIED PETROLEUM RESIN

A. Do not place prime coat in rain or when air temperature is below 36º F and falling.

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

3.06 PROTECTION OF THE WORK

A. No traffic or placing of subsequent courses shall be permitted over freshly applied prime coat until authorized by the Engineer.

END OF SECTION