

DIVISION 400

2018 AMENDED SECTION 403

PRIME COAT

403.01 Description.

This Section covers work necessary to prepare and seal an existing aggregate surface, and if required, a blotter, in accordance with these specifications.

403.02 Surface Preparation.

Prior to placing the prime coat, the base course shall be smooth, free from ruts, irregularities, and true to line and grade. All base courses shall be approved by the Engineer before the prime coat is placed. The base surface shall be cleaned to remove all loose or foreign material. The base course surface shall be moderately moist but shall not contain any free or ponded water, unless otherwise recommended by the manufacturer of the prime coat material used.

403.03 Materials.

The prime coat shall be, at the Contractor's option, one of the following, unless otherwise specified in the contract documents.

1. Liquid cutback asphalt, grade MC-70, meeting the requirements of AASHTO Standard Specification M-81 or M-82, but without applying the Saybolt-Furol viscosity alternate.
2. Solvent-Free Emulsified Prime Penetrating / Priming Asphalt complying with the following requirements prior to dilution and handled and applied in accordance with the manufacturer's recommendations:

Viscosity Saybolt-Furol S@ 77° F (25° C)	AASHTO T 59	120 max
Sieve Test, %	AASHTO T 59	0.3 max
Particle Charge Test	AASHTO T 59	Neutral to negative
Distillation:		
Oil Distillate by vol. of emulsion, %	AASHTO T 59	2 max
Residue by distillation @ 260° C (500° F)	AASHTO T 59	57 min
Penetration @ 25° C (77° F)	AASHTO T 49	90 - 250

3. Topein® S, as produced by Alon Asphalt Company, diluted and applied in accordance with the manufacturer's recommendations for prime coat.

403.04 Weather Limitations.

Unless otherwise recommended by the manufacturer or specifically directed by the Engineer, no prime coat shall be placed when the atmospheric temperature is less than 50° F. (10° C) ambient,

or when in the opinion of the Engineer, excessive wind or other atmospheric conditions will not permit satisfactory placement of the prime coat.

403.05 Application.

- A. Prime coat shall be applied and maintained such that a continuous waterproof membrane is formed and maintained. The prime coat shall be placed by means of an approved pressure distributor. The distributor shall be in good mechanical condition and shall be capable of uniformly distributing the prime coat throughout a reasonable range of widths, pressures, temperatures, and application rates. Distributor equipment shall include a tachometer, pressure gauges, accurate volume measuring devices, and an accurate thermometer for reading temperatures of tank contents. Unless otherwise recommended by the manufacturer, prime coat shall be applied at a rate of not less than 0.15 gals./sq. yd. (0.9l/sq. m) nor more than 0.30 gals./sq. yd (2.3l/sq. m) as directed by the Engineer. Temperature of liquid cutback asphalt at application shall be between 90° F. (32° C) and 180° F (82° C). The prime coat shall be carefully and uniformly applied, particularly around curbs, sidewalks, and other structures, and if excessive amounts of prime coat material are sprayed on the curbs, sidewalks, and other structures, they shall be cleaned as directed by the Engineer at the Contractor's expense. Excessive lapping of abutting applications will not be permitted. Should excessive lapping occur, the prime coat in the lapped portion shall be removed and replaced as directed by the Engineer at the Contractor's expense.
- B. All spots missed by the distributor or areas which are inaccessible to the distributor shall be hand sprayed. Particular attention shall be given to hand spraying operations to avoid the application of excessive amounts of prime coat material.
- C. Unless otherwise recommended by the manufacturer, the primed surface shall be allowed to cure for at least twenty-four (24) hours before placing any bituminous pavement. The primed surface shall be maintained by the Contractor until the bituminous pavement is placed. Any damaged areas shall be repaired as directed by the Engineer and at the Contractor's expense. All vertical contact surfaces such as concrete gutters, manholes, drainage structures, curbs, and so forth shall be primed by painting with hot asphaltic cement of the same grade being used in the asphaltic pavement just prior to placing the asphaltic pavement.
- D. If ordered by the Engineer, desired by the Contractor, or recommended by the manufacturer of the prime coat material, blotter meeting the requirements shown below shall be applied at a rate sufficient to adsorb any prime coat material not absorbed into the surface to which the prime coat is applied. Blotter shall not be applied until the prime coat material has had sufficient time to penetrate into the surface to which the prime coat is applied. Excess blotter that is not adhered to the prime coat shall be removed in a manner that does not damage the prime coat prior to allowing uncontrolled public traffic or paving on the primed surface.

Sieve	% Passing
3/8" (9.5 mm)	100
No. 4 (4.75 mm)	85 - 100
No. 200 (75 μ m)	0 - 20

403.06 Quality Control.

A test report shall be obtained from the vendor by the Contractor at the time of shipment of each consignment of prime coat material. This test report shall be submitted to the City or their designated representative for approval prior to application or use of any prime coat material in the work. The test report shall show loading temperature, quantity in weight, quantity in gallons at 60° F (15.5° C), viscosity, A.P.I. or specific gravity at 60° F (15.5° C), characteristics of residue and distillation ends of the material contained in the consignment, percent and type of additive included when specified, or such other information to demonstrate conformance with the requirements herein. The Contractor shall also provide the manufacturer's handling, application, curing, and any other recommendations at least one week in advance of applying the prime coat material.