

SECTION 409 - SEAL COAT

409.01 Description. This work includes an application of bituminous material followed by the application of cover coat material, if required, according to the contract. *

The types of seal coat applications are as specified in Table 409-I.

409.02 Materials.

(A) Bituminous Material. The contract shall specify the type and grade of bituminous material. The Engineer may change the grade one (1) step during construction at no change in unit price. *

(B) Cover Coat Material. Cover coat material shall conform to Subsection 703.12 - Aggregate for Highway Construction (See Table 409-I for required sizes.)

409.03 Construction Requirements.

(A) Weather Limitations. The Contractor shall not apply the bituminous material on a wet surface, when the temperature is below sixty (60) degrees Fahrenheit, or when weather affects the proper construction. *

(B) Equipment. The Contractor will require the following equipment or its equivalent: *

(1) **Equipment For Heating And Applying Bituminous Material.** This equipment shall conform to Subsection 405.03(B) - Equipment. |

(2) A rotary power broom.

(3) The Contractor will require at least one (1) steel-wheel roller and one (1) pneumatic-tire roller. The steel-wheel roller shall be of the tandem type and shall weigh between five (5) and ten (10) tons. The pneumatic-tire roller shall conform to Subsection 304.03(C) - Equipment. |

(4) The Contractor will require one (1) self-propelled aggregate spreader of acceptable design supported by at least four (4) wheels equipped with pneumatic tires on two (2) axles. The Contractor shall equip the aggregate spreader with a means of applying the larger cover coat material to the surface ahead of the smaller cover coat material and with positive controls so that the Contractor can deposit the required quantity of material uniformly over the full width of the bituminous material. The Contractor may use other types of aggregate spreaders provided they accomplish equivalent results and are acceptable to the Engineer. *

(C) **Preparation of Surface.** Immediately before the Contractor applies the seal coat, the Contractor shall sweep the surface clean of loose dirt material, excess dust or other unsuitable matter. The Contractor shall use a power broom or power blower, supplemented by hand methods, if necessary.

The Contractor shall not apply the bituminous material until the Contractor has cleaned the surface as required and acceptable for sealing.

(D) **Application of Bituminous Material.** The Contractor shall apply the bituminous material by a pressure distributor in a uniform, continuous spread within the temperature range specified.

The approximate quantity of bituminous material per square yard is shown in Table 409-I. The exact rate of application shall be as ordered by the Engineer. The Contractor shall correct deficiencies. The Contractor shall make the junctions of spreads carefully to assure a smooth riding surface.

TABLE 409-I - QUANTITIES PER SQUARE YARD			
Sequence of Operations	Applications and Spreadings		
	Type 1	Type 2	Type 3
First Application: Bituminous Material - Gallon	0.10	0.20	0.20
Crushed Rock - Size Pounds Cubic Yard		9 10 0.004	8 17 0.007
Second Application: Bituminous Material - Gallon	-	-	0.20
Crushed Rock - Size Pounds Cubic Yards			9 10 0.004
Total Bituminous Material - Gallons	0.10	0.20	0.40

The length of spread of bituminous material shall not exceed that which trucks loaded with cover coat material can immediately cover.

The spread of bituminous material shall extend beyond six (6) inches of the width covered by the cover coat material from the spreading device. Under no circumstances shall operations proceed such that the Contractor shall allow the bituminous material to chill, set up, dry, or otherwise impair retention of the cover coat. *

The Contractor shall park the distributor, when not spreading, so that the spray bar or mechanism shall not drip bituminous materials on the surface of the traveled way. *

(E) Application of Cover Coat Material. Immediately following the application of the bituminous material, the Contractor shall spread the cover coat material in quantities as designated. The Contractor shall spread the cover coat material such that the tires of the trucks or aggregate spreader shall not come in contact with the uncovered and newly applied bituminous material. *

Immediately after the cover coat material is spread, the Contractor shall cover the deficient areas by additional material. Initial rolling shall begin immediately behind the spreader, including one (1) complete coverage with a power roller. Pneumatic tire rolling shall begin immediately after the initial rolling is completed. Pneumatic tire rolling shall be sufficient to adequately seal the cover coat material, but not less than three (3) complete coverages. The Contractor shall complete the pneumatic tire rolling the same day the bituminous material and cover coat materials are applied. *

The Engineer may require alternate rolling and brooming of the surface to correct areas with excessive or deficient quantities of cover material. The Contractor shall conduct this work so as not to displace imbedded material. When the Contractor has rolled and compacted the surface satisfactorily, the Contractor shall sweep the surface at the time determined by the Engineer. *

The Contractor shall follow up with applications of bituminous material and cover coat material, if required, according to Subsection 409.03(D) - Application of Bituminous Material and herein. *

(F) Protection of Seal Coat. The Contractor shall keep traffic off the completed seal coat until the Contractor has cured the bituminous material or the Contractor has rolled and broomed the crushed rock covered surface completely, as required. *

409.04 Method of Measurement. The Engineer will measure the bituminous material by the ton or gallon according to Section 109 - Measurement and Payment. *

The Engineer will measure the cover coat material by the ton or cubic yard according to Section 109 - Measurement and Payment, except that the Engineer will deduct the moisture, based on dry weight, over five (5) percent from the weighed tonnage. *

409.04

If seal coat is specified in the proposal, the Engineer will not measure *
the bituminous material and cover coat material. The Engineer will measure *
the seal coat by the square yard according to Section 109 - Measurement and *
Payment. |

409.05 Basis of Payment. The Engineer will pay for the accepted bituminous |
material at the contract unit price per ton or per gallon complete in place. |

The Engineer will pay for the accepted cover coat material at the |
contract unit price per ton or cubic yard complete in place. |

If seal coat is specified in the proposal, the Engineer will not pay |
for the bituminous material and cover coat material. The Engineer will pay |
for the accepted quantities of seal coat at the contract unit price per square |
yard. The price shall be full compensation for furnishing and applying |
bituminous material, cover coat, and seal coat; furnishing labors; materials; |
equipment; and incidentals necessary to complete the work. |

The Engineer will make payment under: *

Pay Item	Pay Unit
Bituminous Material	Ton
Bituminous Material	Gallon
Cover Coat Material, Size _____	Ton
Cover Coat Material, Size _____	Cubic Yard
Seal Coat	Square Yard