TECHNICAL SPECIFICATIONS
FOR
BITUMINOUS PLANT MIX SEAL COAT

1. Description

This work shall consist of constructing a bituminous plant mix surface course on an existing roadway pavement in accordance with these Specifications and in reasonably close conformity with the details on the Plans or established by the Engineer.

Note: References to Sections and Subsections in this Specification are Sections and Subsections of the TDOTSS, January 1, 2021, and all Supplemental Specifications pertaining thereto, except that all reference to the DEPARTMENT contained therein shall be interpreted to be the City of Knoxville.

2. Materials

The materials used in this construction shall conform to the following Specifications:

(a) Asphalt Cement, Viscosity Grade AC-20 meeting the requirements of AASHTO M226.

(b) Anti-stripping Additive, meeting the requirements of Subsection 307.03.

(c) Tack Coat, Viscosity Grade AC-20 as above, (with anti-stripping additive).

(d) Mineral Aggregate - The mineral aggregate shall be crushed siliceous gravel, consisting of clean particles meeting the applicable quality requirements set forth in Subsection 903.11. The use of limestone material will not be permitted.

3. Composition of Mixture

The specified mineral aggregate and asphalt cement with anti-stripping additive shall be combined in such proportions as to produce a mixture conforming to the following limits by weight:

Item	Percent
Mineral Aggregate	89 - 94
Asphalt Cement (including additive)	6 - 11

The aggregate for this construction shall be sized or combined in such proportions that the resulting blend will meet the following grading requirements:

Sieve Size	Total Percent by Weight
½”	100
3/8”	85-100
No. 4	25-45
No. 8	0-12
No. 16	0-5
No. 100	0-3

The Contractor shall submit for the Engineer's approval a job mix formula for the mixture to be supplied for the project. The job mix formula shall establish a single percentage of aggregate passing each required sieve size, a single percentage of bituminous material to be added to the aggregate, and a single temperature at which the mixture is to be discharged from the plant. The job mix formula shall be within the specified grading range by an amount sufficient to provide for gradation variations at the mixing plant. Once approved, the job mix formula shall be in effect until modified in writing by the Engineer.

Prior to the approval of the job mix formula and at least 5 working days prior to the beginning of this construction, a sample of each material to be used in the mix shall be submitted to the Engineer for laboratory tests and evaluation.

When satisfactory results or other conditions make it necessary, the job mix formula shall be adjusted to the satisfaction of the Engineer.

4. Equipment

The equipment used in this construction shall meet the requirements of Subsections 407.04, 407.05, 407.06, and 407.08. All equipment necessary for the satisfactory performance of this construction shall be on the project and approved before work will be permitted to begin.

Rollers shall be of self-propelled steel-wheel types and shall be in good condition, capable of reversing without backlash, and shall be operated at speeds slow enough to avoid displacement of the bituminous mixture. The use of the equipment, which results in excessive crushing of the aggregate, will not be permitted.

5. Construction Requirements

The construction requirements for this work shall be as prescribed in Subsection 407.14.

6. Weather Limitations

Bituminous plant mix seal coat shall not be placed on a wet surface, when the air temperature is below 50 degrees F, or when weather conditions otherwise prevent the proper handling or finishing of the bituminous mixtures.

7. Method of Measurement

Mineral aggregate and bituminous material will be measured by the ton of 2,000 pounds, accepted and placed as indicated or directed.

8. Basis of Payment

The accepted quantities of bituminous seal coat will be paid for at the Contract unit price per ton for bituminous material and per ton for mineral aggregate, complete in place.