

SECTION 32 12 16  
ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Asphaltic Concrete Paving: Surface, binder, and base courses.
  - 2. Prime Coat and Tack Coat.
  - 3. Surface Sealer.
  - 4. Quality Control and Testing.
- B. Related Sections:
  - 1. Section 31 23 16 - Excavation and Fill: Compacted subbase for paving.
  - 2. Section 32 11 23 - Aggregate Base Courses: Compacted base for paving.
  - 3. Section 32 13 13 - Concrete Paving: Concrete curbs.
  - 4. Section 32 17 23 - Pavement Markings.
  - 5. Section 33 05 13 - Manholes and Structures: Frames and lids in pavement.

1.2 REFERENCES

- A. SCDOT Standard Specifications:
  - 1. Standard Specifications for Highway Construction, 2007, published by the South Carolina Department of Transportation.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit product information and mix design.
- C. Manufacturer's Certification: Certify products are produced at a plant approved by SCDOT and that products meet or exceed specified requirements.
- D. Installer Certification: Certify installer is on list of SCDOT approved contractors with an approved Quality Control Plan.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with Division 400 of SCDOT Standard Specifications.
- B. Maintain on site one copy of each document.
- C. Obtain materials from same source throughout.
- D. Installer Qualification: Company specializing in performing work of this Section with minimum 5 years experience.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt base course or intermediate course when ambient air or road surface temperature is less than 35 degrees F. or surface is wet or frozen.
- B. Do not place asphalt surface course when ambient air or road surface temperature is less than 50 degrees F. or wet.

- C. Place bitumen mixture when temperature is not more than 15 degrees F. below temperature at when initially mixed and not more than maximum specified temperature.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Asphalt Plant Mix Materials: Conform to Division 400 of SCDOT Standard Specifications.
- B. Prime Coat and Tack Coat: Conform to Division 400 of SCDOT Standard Specifications.
- C. Reclaimed Asphalt Pavement (RAP): Processed material obtained by milling or full depth removal of existing asphalt concrete pavements. Conform to Division 400 of SCDOT Standard Specifications.
- D. Sand: Fine aggregate, gradation S1 or S2 conforming to Divisions 300 and 400 of SCDOT Standard Specifications.

### 2.2 ASPHALT PAVING MIX

- A. General: Use Superpave mix design conforming to Division 400 of SCDOT Standard Specifications.
- B. Wedging or Leveling Mix: Conform to intermediate course.
- C. Reclaimed Asphalt Pavement (RAP) Content: Use maximum 50 percent for base and intermediate courses, maximum 15 percent for surface course.

### 2.3 SOURCE QUALITY CONTROL AND TESTS

- A. Section 00 14 00 - Quality Requirements: Testing, inspection, and analysis requirements.
- B. Submit proposed mix design of each class of mix for review prior to beginning Work.
- C. Obtain materials from plant approved by SCDOT.
- D. Test plant samples in accordance with Division 400 of SCDOT Standard Specifications.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify compacted subgrade and aggregate base is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.
- C. Verify utility structure frames and lids are installed in correct position and elevation.

### 3.2 PRIME COAT

- A. Apply primer on aggregate base course at uniform rate of 0.2 to 0.5 gal/sq. yd. in accordance with Division 400 of SCDOT Standard Specifications.
- B. Apply primer to contact surfaces of curbs and gutters.
- C. Use clean sand to blot excess primer.

### 3.3 TACK COAT

- A. Apply tack coat on asphalt or concrete surfaces at uniform rate of 0.04 to 0.08 gallons/square yard in accordance with Division 400 of SCDOT Standard Specifications.
- B. Apply tack coat to contact surfaces of curbs and gutters.
- C. Coat surfaces of utility structures with oil to prevent bond with asphalt pavement. Do not tack-coat these surfaces.

### 3.4 PLACING ASPHALT PAVEMENT

- A. Install Work in accordance with Division 400 of SCDOT Standard Specifications.
- B. Place asphalt within 24 hours of applying prime coat or tack coat.
- C. Place asphalt in courses to the thicknesses and dimensions shown on the Drawings.
- D. Place binder and intermediate courses.
- E. Place surface course within 2 hours of placing and compacting binder course. When binder course is placed more than 24 hours before placing wearing course, clean surface and apply tack coat before placing wearing course.
- F. Place surface course to thicknesses and dimensions shown on the Drawings.
- G. Compact each course by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- H. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

### 3.5 JOINTS

- A. Traverse Joints:
  - 1. When Work is suspended long enough to allow mixture to chill, construct transverse joint.
  - 2. Use butt joint when traffic will not pass over pavement.
  - 3. Use sloped wedge ahead of the end of pavement when traffic will pass over pavement. Place paper parting strip to removal of wedge.
  - 4. Tack coat edge of pavement prior to placing adjoining pavement.
- B. Longitudinal Joints:
  - 1. Tack the edge of longitudinal joints prior to placing adjoining pavement.
  - 2. Pinch joint by rolling immediately behind the paver.
  - 3. Offset longitudinal joints in each layer by approximately 6 inches.

### 3.6 TOLERANCES

- A. Density Compaction: Minimum of 92 percent of Maximum Specific Gravity ( $G_{mm}$ ).
- B. Flatness: Maximum variation of 1/8-inch measured with 10-foot straight edge.
- C. Compacted Thickness: Within 1/4-inch.
- D. Variation From Indicated Elevation: Within 1/2-inch.

### 3.7 FIELD QUALITY CONTROL

- A. Section 00 14 00 - Quality Requirements: Independent testing firm, field testing, and inspecting.
- B. Perform Contractor Quality Control Program in accordance with Division 400 of SCDOT Standard Specifications.
- C. Take compaction tests every 2,000 linear feet or fraction thereof per day on pavement placed at the paver lay down width.
- D. Take 6-inch diameter full depth pavement cores every 2,000 linear feet or fraction thereof per day on pavement placed at the paver lay down width.
- E. When tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

### 3.8 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting finished work.
- B. Immediately after placement, protect pavement from mechanical injury for seven days or until surface temperature is less than 140 degrees F.

END OF SECTION