

**SECTION 32 12 00**

**FLEXIBLE PAVING**

**PART 1 - GENERAL**

- 1.01 The work specified by this section shall consist of furnishing all plant, labor, equipment, appliances and material as well as performing all operations in connection with the installation of pavement.
- 1.02 Both these specifications and the drawing make reference to the current edition of the Standard Specifications for Road and Bridge Construction by the Tennessee Department of Transportation (TDOT). Even though the weather limitations, construction methods and materials specifications contained in the TDOT specifications may not be explicitly repeated in these specifications, they shall wherever applicable to the work called for by this section, be considered as implied and therefore adhered to. However, the various subsections "Measurement and Payment" contained in the TDOT specifications shall not be considered applicable.
- 1.03 Refer to other section for items affecting paving.

**PART 2 - PRODUCTS**

- 2.01 Crushed Limestone Aggregate: For base course shall conform to Type A requirements of Section 903.05 "Aggregate for Mineral Aggregate Base and Surface Courses," and the base course shall conform to Type A, Grading D requirements of Section 303 "Mineral Aggregate Base."
- 2.02 Bituminous Prime Coat: Emulsified asphalt, Grade AEP or CAE-P, and #7, #8 or #78 cover aggregate per TDOT Section 903.13, 904.03 and 402.
- 2.03 Bituminous Tack Coat: Emulsified Asphalt, grades SS-1, SS-1h, CSS-1, CSS-1h, TST-1P, CQS-1h, CQS-1hp, TTT-1, TTT-2, per TDOT Section 904.03 and 403.
- 2.04 Bituminous Plant Mix Base (Hot Mix Binder): PG64-22, Grading BM or BM2, per TDOT sections 903.06, 904.01 and 307.
- 2.05 Asphaltic Concrete Surface (Hot Mix Surface): PG64-22, Grading D or E, Per TDOT sections 903.11, 903.16, 904.01 and 411.
- 2.06 Quick Dry Traffic Marking Paint (White and Yellow): Per TDOT section 910.02 and 716.
- 2.07 Thermoplastic Marking (White and Yellow): Per TDOT section 716.

**PART 3 - EXECUTION**

**3.01 SUBGRADE**

- A. Before any base material is installed, compact the subgrade of the area to be paved to 98% of maximum density as determined by ASTM D698 (Standard Proctor) for heavy-duty pavement. For light-duty pavement, compact the subgrade to 98% of maximum density as determined by ASTM D698 (Standard Proctor), or in accordance with the geotechnical investigation, whichever is more stringent. See Section 3.7, "Sampling and Testing."
- B. Establish grades and set grade stakes to the desired section. In establishing the grades, make due allowances for existing improvements, proper drainage, adjoining property rights and good appearance.

- C. The backfill material shall contain no topsoil or organic matter. For all areas where subgrade has been prepared, test for uniformity of support by driving a loaded dump truck at a speed of 2 to 3 mph over the entire surface. Make further improvements on all areas that show a deflection of 1 inch or more. When completed, the finished subgrade shall be hard, smooth, stable and constructed in reasonably close conformance with the lines, grades and typical cross sections shown on the drawings.
- D. The joint between new and existing pavement shall be true and approximately at right angles to the centerline of the existing pavement. When a base course is compacted, cut back the surface course of the existing pavement a minimum of 2 feet beyond the limit of the joint between the old and new base course at the joint. Apply and compact the surface to conform to the existing pavement so that it will have no surface irregularity.

**3.02 BASE**

- A. Install a crushed stone base of the type specified above in accordance with TDOT specifications. Install the base in two layers of equal thickness, with the maximum compacted thickness of any one layer to be 6 inches. The total thickness of the base shall be that indicated by the drawings.

**3.03 PRIME COAT**

- A. When called for on the plans, uniformly apply a bituminous prime coat of either emulsified asphalt over the entire width of the area to be surfaced at a rate of 0.2 to 0.5 gallons per square yard. Immediately after application, uniformly cover the entire area with crushed stone chips at a rate of 8 to 12 pounds per square yard. Take care to prevent the bituminous material's splashing on exposed faces of curbs and gutters, walls, walks, trees, etc. If such splashing does occur, remove it immediately.

**3.04 ASPHALTIC CONCRETE BINDER**

- A. After the prime coat has been properly cured, apply an asphaltic concrete binder to the thickness and width shown on the drawings.
- B. For all areas of more than 1,000 square yards, spread and strike off the asphalt binder course with a paver. Correct any irregularities in the surface of the pavement course directly behind the paver. Remove excess material forming high spots with a shovel or lute. Fill indented areas with hot mix and smooth with a lute or the edge of a shovel being pulled over the surface. Casting of mix over such areas will not be permitted.
- C. If it is impractical to use a paver or spread box in areas of 1,000 square yards or less, the asphalt binder course may be spread and finished by hand. Wood or steel forms that are rigidly supported to ensure correct grade and cross section may be used. Carefully place by hand to avoid segregation of the mix. Broadcasting of the material will not be permitted. Remove any lumps that do not readily break down.

**3.05 ASPHALTIC CONCRETE SURFACE**

- A. Apply a bituminous tack coat of the sort specified above under PRODUCTS at a rate of 0.05 to 0.10 gallons per square yard on fresh or existing asphalt, if installing over a milled surface, increase rate of application to between 0.08 and 0.12 gallons per square yard. Take care to prevent the bituminous material's splashing on exposed faces of curbs and gutters, walls, walks, trees, etc. If such splashing does occur, remove it immediately. After the tack coat has been properly cured, apply the asphaltic concrete to the thickness and width shown on the drawings.

**3.06 SMOOTHNESS**

- A. The finished surfaces shall conform to the lines and grades shown on the drawings. No deviations, variations or irregularities exceeding  $\frac{1}{4}$  inch in any direction when tested with a 10-foot straightedge will be permitted in the finished work, nor will any depressions that will not drain. Correct all such defects. In Accessible access aisles, parking areas, crosswalks, or other areas subject to 2010 ADA Standards for Accessible Design (US DOJ September 15, 2010) contractor to ensure finished surfaces conform to lines and grades as shown and in accordance with the standards when tested with a calibrated, 24-inch digital level.

**3.07 SAMPLING AND TESTING**

- A. Submit to the A/E all test reports made by the testing laboratory on the crushed stone aggregate, bituminous materials, and asphaltic concrete design mixes and obtain their approval of these reports before starting paving operations.
- B. Tests shall be made on the completed elements of the pavement to ascertain the compacted thickness of the base and surface courses. If sections with deficient thickness are found, the full section for a reasonable distance on each side of the deficiency shall be refused. Remove and reinstall such sections. Patch all test holes in connection with thickness tests.
- C. Owner shall employ and pay for services of an independent testing laboratory to perform specified inspection and testing.
- D. Employment of testing laboratory by owner shall in no way relieve the contractor of obligation to perform work in accordance with requirements of contract documents.
- E. Deliver to laboratory at designated location adequate samples of materials proposed to be used, which require testing together with proposed mix designs.
- F. Cooperate with laboratory personnel and provide access to work and to manufacturers' facilities, as applicable.
- G. Provide incidental labor and facilities for the following: to provide access to work to be tested; to obtain and handle samples at the site or at source of product to be tested; to facilitate tests and inspections; and for curing of tests samples.
- H. Notify A/E and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.
- I. When making surface tests, furnish one person to mark all surface defects for corrections.
- J. Apply pavement markings as shown on drawings.

**END OF SECTION**