

ARTICLE 13

ASPHALTIC CONCRETE SURFACE COURSE

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Section [13.01 GENERAL](#)

The work specified in this ARTICLE consists of the application of asphaltic concrete surface course. This course shall be composed of a mixture of aggregates and, if necessary, mineral filler and asphalt cement to produce the desired stability as hereinafter described, properly laid upon a prepared base in accordance with these Specifications and in conformity with the lines, grade, thickness and typical cross section shown on the plans. This work shall include the conditioning of the existing surface or base. Skid resistant surfaces shall be installed as required by the City Engineer.

All asphalt pavement installed will comply with the FDOT Standard Specifications for the Road and Bridge Construction, most current edition.

Section [13.02 ASPHALTIC CONCRETE MIXES](#)

All thicknesses mentioned in these Specifications and/or shown on the project Drawing shall be an average thickness computed as follows:

The minimum thickness allowed shall be $\frac{1}{4}$ inch less than the required average thickness. Thickness in excess of $\frac{1}{4}$ inch of the required average thickness shall be computed at the design thickness plus $\frac{1}{4}$ inch in computing the average thickness.

The thickness of the pavement shall be determined from the length of core, at least 2 inches in diameter, taken at random points on the cross section and along the roadway. Each core shall represent a section not longer than 250 feet. The average thickness shall be determined from the measured thicknesses.

If the Contractor believes that the number of cores taken is insufficient to properly indicate the thickness of the pavement, additional cores can be requested at locations designated by the Contractor. These and any additional costs shall be born by the Contractor.

When the deficiency in thickness is in excess of $\frac{1}{4}$ inch, the Contractor shall correct the deficiency either by replacing the full thickness for a length extending at least 50 feet from each end of the deficient area, or (when permitted by the City Engineer or his Designee) by overlaying. Normally an overlay shall not be permitted in a concrete curb section.

Asphaltic concrete mixes shall meet the following Specifications when called for in the plans and specifications:

Table 13-1				
Type	Job Mix Specification	Min/Avg Compacted (Max Lift)	Minimum Marshall Stability	Application
Type S-1 (S-I)	*	1 ¼" 2 ½"	1,500 lb	Wearing Course
Type S-2 (S-II)	*	2" 2 ¾"	1,000 lb	Wearing Course
Type S-3 (S-III)	*	¾" 1 ½"	1,500 lb	Wearing Course
Type FC-5	Current FDOT Specification	(¾")	N/A	Friction Course
Type FC-9.5	*	Refer to FDOT Specification	N/A	Friction Course
Type FC-12.5	*	Refer to FDOT Specification	N/A	Friction Course
Type SP-9.5	Current FDOT Specification	1" 1 ½"	N/A	Structural Course
Type SP-12.5	Current FDOT Specification	1 ½" 2 ½"	N/A	Structural Course
Type SP-19	Current FDOT Specification	2" 3"	N/A	Structural Course

<https://www.fdot.gov/programmanagement/implemented/lap/archives/asphalt/default.shtm>

Section 13.03 MECHANICAL SPREADING and SCREEDING EQUIPMENT

Bituminous pavers shall be self-contained, self-propelled and steerable. It shall be equipped with a receiving and disbursing hopper capable of holding a minimum quantity of 5 cubic yards of bituminous plant mix material permitting a uniform spreading operation. The hopper shall be equipped with a conveyor distribution system to place the mixture uniformly in front of the screed.

The paver shall also be equipped with a heated mechanical screed or strike-off assembly. The screed or strike-off shall be capable of adjustment to regulate the depth of material spread and shall produce a finished surface of the required evenness and texture, without tearing, shoving, or gouging the mixture.

Section 13.04 CONSTRUCTION METHODS

The mixture shall be spread on the designated surface only when the surface previously prepared is intact, firm, properly cured and dried, and only when the air temperature in the shade and away from artificial heat is above 40° F and rising.

The mixture shall be delivered on the road in ample time to permit the spreading, rolling and surface testing during daylight hours. The temperature of the mixture at the time of spreading shall be between 260° and 310° F and shall not exceed 340° F at the plant.

Material shall be delivered to the job site with sufficient frequency that the paving operation can continue without interruption.

Depressions which may develop after the initial rolling shall be remedied by removing the mixture laid and adding new material to bring such depressions to a true surface. Such portions of the completed course that are defective in surface planeness, compaction or composition, or that do not comply with the requirements of these Specifications shall be removed and replaced with suitable mixture properly laid in accordance with these Specifications.

Vertical construction joints shall be constructed prior to the commencement of the ongoing paving operation. All cold joints shall be prepared according to the FDOT Specifications. The vertical surface of all existing asphaltic concrete mixes, at cold joints, shall be mopped with an approved liquid bitumen material so as to provide a water-tight joint at the interface of the two mixes.

Section 13.05 FINISHED SURFACE REQUIREMENTS

For the purpose of testing the finished surface, the Contractor shall provide a 15 foot rolling straight edge (to include a recent certification of calibration) and standard template cut to the true cross section of the road. These shall be available at all times during construction so that the City may check the finished surface. The Contractor shall provide and designate an employee whose duty it is to use the straight edge and template in checking all rolled surface under the direction of the City. Vertical measurement from a string line between curbs, to determined crown, may be accepted as an alternate. The finished surface shall be such that it will not vary more than ¼ inch from the 15 foot rolling straight edge applied parallel to the centerline of the pavement and shall be of uniform texture and compaction. The lip of the asphalt shall be higher than the gutter by ¼ to ½ inch. The surface shall have no pulled, torn or loosened portions and shall be free from segregation, sand streaks, sand spots, or ripples. Irregularities of the surface, exceeding the above requirements, shall be corrected by the Contractor who has the option of selecting one of the following methods:

- A) Removing and Replacing - If correction is made by removing and replacing the pavement, the removal must be for the full depth of the course and extend at least 50 feet on either side of the defective area, for the full width of the paving lane.

- B) Overlaying - If correction is made by overlaying, the overlay shall cover the length of the defective area and taper uniformly to a feather edge thickness at a minimum distance of 50 feet on either side of the defective area. The overlay shall extend full width of the roadway. Care shall be taken to maintain the specified cross slope. The mix used for the overlay may be adjusted as necessary for this purpose by the City Engineer. Overlaying shall not be permitted when the finished pavement surface is a friction course or abuts concrete curbs.
- C) Other Methods - For courses which will not be the final pavement surface, correction of minor straightedge deficiencies by methods other than specified above may be approved by the City Engineer.

The City Engineer or his Designee may require in-laid type pavement markings or alkylid thermoplastic pavement markings at the time of the final course application.

Section 13.06 SUBMITTALS

Prior to the start of the placing of the asphaltic concrete, the job mix formula prepared by a certified material testing laboratory shall be submitted to and be approved by the City Engineer or his Designee. All job mix design formulas shall be current within the last 12 months.

The following items may be required by the City Engineer or his Designee:

- A) Plant inspection and calibration check.
- B) Aggregate verification.
- C) Temperature control and verification.