

SECTION 32 12 16
ASPHALT PAVING

PART 1 - GENERAL

1.1 DESCRIPTION

This work shall cover the composition, mixing, construction upon the prepared subgrade, and the protection of hot asphalt concrete pavement. The hot asphalt concrete pavement shall consist of an aggregate or asphalt base course and asphalt surface course constructed in conformity with the lines, grades, thickness, and cross sections as shown. Each course shall be constructed to the depth, section, or elevation required by the drawings and shall be rolled, finished, and approved before the placement of the next course. A. This Section includes specifications for constructing new asphalt concrete wearing surface Type A, 1/2-inch maximum with medium grading, at the locations and to the dimensions shown on plans as directed by the Contracting Officer's Representative.

1.2 RELATED WORK

- A. All Sections listed in the Table of Contents are a Condition of this Section.
- B. Asphalt Testing: Section 01 45 29 - TESTING LABORATORY SERVICES.

1.3 INSPECTION OF PLANT AND EQUIPMENT

The Contracting Officer Representative shall have access at all times to all parts of the material producing plants for checking the mixing operations and materials and the adequacy of the equipment in use.

1.4 ALIGNMENT AND GRADE CONTROL

The Contractor's Registered Professional Land Surveyor shall establish and control the pavement (aggregate or asphalt base course and asphalt surface course) alignments, grades, elevations, and cross sections as shown on the Drawings.

1.5 SUBMITTALS

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish the following:
- B. Data and Test Reports:
 - 1. Aggregate Base Course: Sources, gradation, liquid limit, plasticity index, percentage of wear, and other tests required by Section 39 of CTSS.
 - 2. Asphalt Base/Surface Course: Aggregate source, gradation, soundness loss, percentage of wear, and other tests required by Section 39 of CTSS.
 - 3. Job-mix formula.

C. Certifications:

1. Asphalt prime and tack coat material certificate of conformance to Section 39 of CTSS requirements.
2. Asphalt cement certificate of conformance to CTSS requirements.
3. Job-mix certification - Submit plant mix certification that mix equals or exceeds Section 39 of CTSS.
4. Prior to starting construction, the Contractor shall submit the asphalt concrete mix design including the amount of asphalt binder to be mixed with the dry aggregate to the Engineer for approval. No resurfacing work will be allowed prior to the approval of the mix design. Asphalt concrete mix design shall conform to Section 39 of CTSS.
5. The Contractor shall submit electronic copies of manufacturer's literature, specifications, applications and installations for filler and/or sealer material to the Contracting Officer's Representative for approval at least five (5) calendar days in advance of performing the filling and/or sealing work.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Aggregate base, Asphaltic base and asphalt concrete materials shall conform to the requirements of the following and other appropriate sections of the latest version of Section 39 of CTSS, including amendments, addenda and errata. Where the term "Engineer" is referenced in Section 39 of CTSS, it shall mean the Contracting Officers Representative.

2.2 MATERIALS

- A. Asphalt: In accordance with the requirements of Section 39-2.01 of CTSS, except that asphalt shall be either PG 64-10 or AR-4000.
- B. Aggregate: In accordance with the requirements of Section 39-2.02 of CTSS, except that aggregate grading shall be as follows:

Sieve Sizes	Limits of		
	Proposed Gradation	Operating Range	Contract Compliance
3/4"	-----	100	100
1/2"	-----	95-100	89-100
3/8"	-----	80-95	75-100
No. 4	59-66	X [±] 5	X [±] 8

No. 8	43-49	x [±] 5	x [±] 8
No. 30	22-27	x [±] 5	x [±] 8
No. 200	-----	3-8	0-11

Minimum Durability Index: When tested in accordance with Caltrans Test Method 229, shall be 50.

c. Tack coat in accordance with Section 39 of CTSS.

2.02 EQUIPMENT

- A. Spreading Equipment: In accordance with the requirements of Section 39 of CTSS.
- B. Compacting Equipment: In accordance with the requirements of Section 9 of CTSS.

PART 3 - EXECUTION

3.1 GENERAL

The Asphalt Concrete Paving equipment, weather limitations, job-mix formula, mixing, construction methods, compaction, finishing, tolerance, and protection shall conform to the requirements of the appropriate sections of Section 39 of CTSS for the type of material specified.

3.2 MIXING ASPHALTIC CONCRETE MATERIALS

- A. Provide hot plant-mixed asphaltic concrete paving materials.
 - 1. Temperature leaving the plant: 143 degrees C(290 degrees F) minimum, 160 degrees C(320 degrees F) maximum.
 - 2. Temperature at time of placing: 138 degrees C(280 degrees F) minimum.

3.3 SUBGRADE

- A. Shape to line and grade and compact with self-propelled rollers.
- B. All depressions that develop under rolling shall be filled with acceptable material and the area re-rolled.
- C. Soft areas shall be removed and filled with acceptable materials and the area re-rolled.
- D. Should the subgrade become rutted or displaced prior to the placing of the subbase, it shall be reworked to bring to line and grade.
- E. Proof-roll the subgrade with maximum 50 ton gross weight dump truck as directed by Contracting Officers Representative. If pumping, pushing, or other movement is observed, rework the area to provide a stable and compacted subgrade.

3.4 BASE COURSES

- A. Base
 - 1. Spread and compact to the thickness shown on the drawings.

2. Rolling shall begin at the sides and continue toward the center and shall continue until there is no movement ahead of the roller.
3. After completion of the base rolling there shall be no hauling over the base other than the delivery of material for the top course.
- C. Thickness tolerance: Provide the compacted thicknesses shown on the Drawings within a tolerance of minus 0.0mm (0.0") to plus 12.7mm (0.5").
- D. Smoothness tolerance: Provide the lines and grades shown on the Drawings within a tolerance of 5mm in 3m (3/16 inch in ten feet).
- E. Moisture content: Use only the amount of moisture needed to achieve the specified compaction.

3.5 PLACEMENT OF ASPHALTIC CONCRETE PAVING

- A. Remove all loose materials from the compacted base.
- B. Apply the specified prime coat, and tack coat where required, and allow to dry in accordance with the manufacturer's recommendations as approved by the Contracting Officers Representative.
- C. Receipt of asphaltic concrete materials:
 1. Do not accept material unless it is covered with a tarpaulin until unloaded, and unless the material has a temperature of not less than 130 degrees C (280 degrees F).
 2. Do not commence placement of asphaltic concrete materials when the atmospheric temperature is below 10 degrees C (50 degrees F), not during fog, rain, or other unsuitable conditions.
- D. Spreading:
 1. Spread material in a manner that requires the least handling.
 2. Where thickness of finished paving will be 76mm (3") or less, spread in one layer.
- E. Rolling:
 1. After the material has been spread to the proper depth, roll until the surface is hard, smooth, unyielding, and true to the thickness and elevations shown on the drawings.
 2. Roll in at least two directions until no roller marks are visible.
 3. Finished paving smoothness tolerance:
 - a. No depressions which will retain standing water.
 - b. No deviation greater than 3mm in 1.8m (1/8" in six feet).

3.6 APPLICATION OF SEAL COAT

- A. Prepare the surfaces, mix the seal coat material, and apply in accordance with the manufacturer's recommendations as approved by the Contracting Officer's Representative.
- B. Apply one coat of the specified sealer.

C. Achieve a finished surface seal which, when dry and thoroughly set, is smooth, tough, resilient, of uniform black color, and free from coarse textured areas, lap marks, ridges, and other surface irregularities.

3.7 PROTECTION

Protect the asphaltic concrete paved areas from traffic until the sealer is set and cured and does not pick up under foot or wheeled traffic.

3.8 FINAL CLEAN-UP

Remove all debris, rubbish, and excess material from the work area.

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