

**DIVISION 400**  
**ASPHALT PAVEMENTS AND SURFACE TREATMENTS**

**SECTION 402**  
**HOT ASPHALT CONCRETE PAVEMENT BY HVEEM OR MARSHALL**  
**MIX DESIGN METHOD**

**402.01**     **DESCRIPTION** – Revised the first paragraph of this subsection to read as follows:

This work consists of constructing one or more courses of hot asphaltic concrete pavement, meeting the target values in the tables of the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03.

Revised the last sentence of the second paragraph to read as follows:

Asphalt binder shall be 60/70 penetration grade conforming to AASHTO M 20 or ASTM D946.

**CONSTRUCTION REQUIREMENTS**

**402.03**     **COMPOSITION OF MIX (Job-Mix Formula)** – Revise the first paragraph of this subsection to read as follows:

Furnish mixes of aggregate, asphalt binder, and additives that meet the specified material requirements and specified design mix parameters in Table 402-1, and capable of being placed and compacted.

a) Recycled asphalt pavement use – Revise the text of this subsection to read as follows:

Recycled asphalt pavement material is not to be used in the mix design in any of the applied asphalt courses in this project.

b) Submission – Revise the paragraph of this subsection to read as follows:

Submit written job-mix formulas with Form FHWA 1608 (Marshall) for approval within 28 days before production. Only one mixing plant shall be used for the work. Include the location of mixing plant and its job-mix formula. Include a signed statement prepared by the testing laboratory that certifies the proposed job-mix formula meets the requirements of the contract and can be compacted in the field during production to meet contract requirements.

Add the following to this subsection:

For each job-mix formula, submit a Class “A” Mix per the Marshall Design Method in accordance with Table 402-1 and Aggregate Gradation “C” in accordance with Table

703-4. Voids in Mineral Aggregate (VMA) shall be in accordance with Table 402-2 for the Marshall Mix Design. Submit the laboratory test results of the materials used in the job-mix formula.

**402.04**     **MIXING PLANT** – Add the following to this subsection:

Hot asphalt concrete mixing plant shall be from an approved manufacturer having a minimum of 5 years documented experience in supplying and constructing asphalt concrete pavements.

**402.05**     **PAVERS** – Add the following to this subsection:

Paver and equipment used shall be appropriate in the application of the asphalt cement for this project capable of producing a finished surface of the required smoothness and texture without segregating, tearing, or gouging the mix for the thickness and tolerance specified.

**402.06**     **SURFACE PREPARATION** – Add the following to this subsection:

Contractor to refer to the project's geotechnical report for requirements for the preparation of the surface to receive the asphalt pavement.

**402.07**     **WEATHER LIMITATIONS** – Revise the text of this subsection to read as follows:

Place hot asphalt concrete pavement on a dry surface when the air temperature in the shade is above 35°F and rising and the temperature of the road surface in the shade conform to Table 401-2.

**402.12**     **PRODUCTION START UP PROCEDURES** –

a) Pre-paving conference – Add the following to this subsection:

At least 14 days before start of paving operations, conduct a pre-paving conference. Coordinate attendance with the Contracting Officer and his Authorized Technical Representative and all applicable subcontractors.

b) Control Strip - Revise the text of the second and third paragraph of this subsection to read as follows:

After approval of the design mix, the Engineer may require the Contractor to produce sufficient mix to construct 150 ft. long control strip, one lane wide, and at the designated thickness before actual production and laying of asphaltic concrete pavement at no additional cost to the Government. Construct control strip on the project at an approved location. The Engineer will then evaluate the texture, workmanship, and applicable properties of the control strip.

**402.13**     **PLACING AND FINISHING** - The following are added to this subsection:

The tolerance of the temperature for the mixture leaving the mixer is  $\pm 25^{\circ}\text{F}$ .

The tolerance of the temperature for the mixture laid on the prepared base is ± 20°F.

**402.16**      **PAVEMENT SMOOTHNESS/ROUGHNESS** - This subsection is amended as follows:

After final rolling, measure the smoothness of the surface course.

**402.17**      **ACCEPTANCE** - The following is added to this subsection:

e)      Thickness - When measurement is on a square yard basis, the asphaltic concrete placed will be sampled on a statistical basis and tested to determine if pavement thickness conforms to the thickness specified in the contract. The allowable deviation from target value (nominal thickness specified) for pavement thickness shall be a minus 3/8 inch for pavement thickness more than 1 inch thickness, and a minus 1/8-inch for pavement thickness of 1-inch and less.

Coring, refilling sample holes with suitable material and compacting shall be performed by the Contractor under the supervision of the Engineer without cost to the Government.

**402.19**      **PAYMENT:** Add the following to this subsection:

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
40201(A)	Hot Asphalt Concrete Pavement 3" thick, Class "A" Grading "C" Type IV smoothness	Square Yard
40201(B)	Hot Asphalt Concrete Pavement 2" thick, Class "A" Grading "C" Type IV smoothness	Square Yard

**END OF SECTION 402**