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| Use on projects when a state mix can be specified. This section **does not use** statistical acceptance, and only requires a 10-foot straightedge for ride control. |

## Section 403. — ASPHALT CONCRETE

Description

**403.01** Add the following:

Asphalt binder is designated according to AASHTO M 320.

Construction Requirements

**403.02 Composition of Mix (Job-Mix Formula).** Add the following:

The CO may perform mix design-verification testing to confirm the mix meets the contract requirements. If verification testing is required, submit a loose mix sample to the CO 14 days prior to placement.

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| Add Subsection 403.08(a) when the mix haul is anticipated to be long. Do not include the pay item for a “Material Transfer Vehicle” in that it is considered incidental to construction. |

**403.08 Placing and Finishing.**

1. Add the following:

Use an MTV with storage and remixing capabilities on all mainline construction for placing asphalt concrete mixtures. The MTV will independently remix and deliver mixture from the hauling equipment to the paving equipment.

Furnish an MTV with the following capabilities:

**(1)** An unloading system to receive mixtures from the hauling equipment.

**(2)** A minimum storage capacity of 13 tons (11.8 metric tons) with a remixing system in the MTV storage bin.

**(3)** A discharge conveyor to deliver the mixture to the paver hopper.

**(4)** The MTV system cannot exceed maximum legal loadings on structures.

Acceptable Material Transfer Vehicles are:

**(5)** Weiler E2850 Remixing Transfer Vehicle

**(6)** Roadtec SB-1500

**(7)** Roadtec SB-2500

Pick-up machines, hopper inserts, and material transfer devices are not considered MTVs.

In the event the MTV malfunctions during paving operations, the Contractor must suspend paving, however mix in transit and stored in the silo at the time of breakdown may be placed without the use of an MTV. Do not resume mix placement until the MTV is operational.

**403.09 Compacting.** Add the following:

For HMA, do not roll the mix after the surface cools below 175 ºF (80°C).

Along forms, curbs, headers, walls, and other places not accessible to the rollers, compact the mix with alternate equipment to obtain the required compaction.

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| For Section 403.11,Pavement Straightedge Measurement, if the length of the project is greater than 5 lane miles (8 lane kilometers) **OR** if drivable speed is greater than 35 MPH (56 Km/hr) consideration should be given to deleting the straightedge requirement and adding the IRI requirement from Section 401/402. This should be discussed with the Project Manager. |

**403.12 Acceptance.** Add the following:

During production placement of the mix, sample loose mix and compacted cores according to Table 403-2 and submit to the CO for acceptance. Materials that do not meet the approved job-mix formula are considered unacceptable.

Delete Table 403-2 and substitute the following:

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| **Table 403-2**  **Sampling, Testing, and Acceptance Requirements** | | | | | | | | |
| **Material or**  **Product**  **(Subsection)** | **Type of**  **Acceptance**  **(Subsection)** | **Characteristic** | **Test Methods**  **Specifications** | **Sampling**  **Frequency** | **Point of**  **Sampling** | **Split**  **Sample** | **Reporting**  **Time** | **Remarks** |
| **Mix Design** | | | | | | | | |
| Asphalt concrete mixture  Type I  (403.02(a)) | Measured and  tested for  conformance  (106.04) | Job-mix formula | Subsection 403.02(a) | When requested by the CO. | Flowing mix stream (bin or belt discharge) or behind the paver before compaction. | Yes | Before approval of job-mix formula | Tested by the CO |
| **Production** | | | | | | | | |
| Asphalt  concrete,  Type I  (403.02(a)) | Measured and  tested for  conformance  (106.04) | Job-mix formula  Density (1)  Maximum specific gravity | Subsection 403.02  AASHTO  T 166  AASHTO T 209 (2) | 1 per 700 tons  (650 metric tons)  “  “ | Behind the paver before compaction.  In-place after  Compacting  Behind the paver before compaction | Yes  “  “ |  | Deliver  cores to CO  for testing  ‘  ‘ |
| Surface  Tolerance | Straightedge  measurement,  Subsection  403.11 | Continuously,  after  compaction | Finished  pavement  surface | No |  | − |
| Placement  temperature | − | First load  and as  determined by  CO thereafter | Hauling vehicle  before dumping,  or windrow  before pickup | " | Upon  completion  of  measurement | − |

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| **Table 403-2 (continued)**  **Sampling, Testing, and Acceptance Requirements** | | | | | | | | |
| **Material or**  **Product**  **(Subsection)** | **Type of**  **Acceptance**  **(Subsection)** | **Characteristic** | **Test Methods**  **Specifications** | **Sampling**  **Frequency** | **Point of**  **Sampling** | **Split**  **Sample** | **Reporting**  **Time** | **Remarks** |
| **Production** | | | | | | | | |
|  | Process control  (153.03) | Gradation  at the plant | AASHTO  T 27 & T 11 | Contractor  determined | Cold feed or  hot bins  as applicable | " | 24  hours | − |
| Moisture  content of  aggregates | AASHTO  T 255 | " | Stockpile | " | " | − |
| Density | ASTM  D2950 | 1 per  500 feet  (150 meters) | In-place after  compacting | " | " | − |
| Asphalt  concrete,  Type II  (403.02(b)) | Measured and  tested for  conformance  (106.04) | " | " | 3 per  700 tons  (650 metric tons) | In-place after  compacting | " | " | − |
| (1) Dry cores to constant mass at 125±5°F (52±3 °C) or vacuum dry, ASTM D7227 before testing. For asphalt concrete Type I, cut two 6-inch (150‑millimeter) diameter side by side cores. Remove them with a core retriever and fill and compact the core holes with asphalt concrete mixture. Label the cores and protect them from damage due to handling and temperature. Submit one core for verification testing. Dry the other core to constant mass at 125±5 °F (52±3 °C) or vacuum dry it according to ASTM D7227 before performing the core density and measuring the thickness. Use 62.245 pounds per cubic foot (997.1 kilograms per cubic meter) to convert specific gravity to density. Use AASHTO T 166 regardless of the volume of water absorbed. Use the average maximum specific gravity value (AASHTO T 209) of the first three samples to determine the percent compaction of each Lot.  (2) Do not use the dry back method (Section 11 of AASHTO T 209). | | | | | | | | |