

WSDOT FOP for WAQTC T 168

Sampling of Hot Mix Asphalt Paving Mixtures FOP for WAQTC T 168

Significance

Testing bituminous paving mixtures in the field begins with obtaining and preparing the sample to be tested. Standardized procedures for obtaining a representative sample have been established. Producing strong, durable, reliable pavement in roadways requires careful sampling and accurate testing.

Technicians must be patient and follow these procedures. If one considers that the specifications require quality tests to be made on only a small portion of the total material placed, the need for a truly representative sample is apparent. For this reason, every precaution must be taken to obtain a sample that is truly representative of the entire batch and then to protect that sample from contamination and physical damage.

Scope

This procedure covers the sampling of bituminous paving mixtures from HMA plants, truck transports, and roadways in accordance with AASHTO T 168. Sampling is as important as testing, and every precaution must be taken to obtain a truly representative sample.

Apparatus

- Shovel.
- Sample containers such as cardboard boxes, metal cans, stainless steel bowls, or other agency-approved containers.
- Mechanical sampling device.
- Thermometer- Metal probe or other suitable thermometric device, accurate to 1°F (0.5° C)

Sample Size

Sample size depends on the test methods specified by the agency for acceptance.

For Acceptance sampling and testing only: WSDOT requires a minimum of two times the amount required for testing. This should be 60 lbs.

For Acceptance and Conformation sampling and testing: WSDOT requires a minimum of four times the amount required for testing. This should be approximately 120 lbs. (See WSDOT *Construction Manual* Section 9-3.7 for Conformation sampling frequency)

Sampling

• General

1. The material shall be tested to determine variations. The supplier/contractor shall sample the HMA mixture in the presence of the Project Engineer. The supplier/contractor shall provide one of the following for safe and representative sampling:
 - a. A mechanical sampling device installed between the discharge of the silo and the truck transport that is approved by the Regional Materials Engineer.
 - b. Platforms or devices to enable sampling from the truck transport without entering the truck transport for sampling HMA.
2. The supplier/contractor shall place dense graded mixture samples in cardboard boxes or stainless steel bowls or other agency provided containers. The samples shall be delivered to a location designated by the Project Engineer. Place open graded mixture samples in stainless steel bowls. Do not put open graded mixture samples in boxes until they have cooled to the point that bituminous material will not migrate from the aggregate.

Note: Care shall be taken to prevent contamination of bituminous mixes by dust or other foreign matter, and to avoid segregation of aggregate and bituminous materials.

- **Attached Sampling Devices** – Some agencies require mechanical sampling devices for HMA and cold feed aggregate on some projects. These are normally permanently attached devices that allow a sample container to pass perpendicularly through the entire stream of material or divert the entire stream of material into the container. Operation may be hydraulic, pneumatic, or manual and allows the sample container to pass through the stream twice, once in each direction, without overfilling. Special caution is necessary with manually operated systems since a consistent speed is difficult to maintain and non-representative samples may result. Check agency requirements for the specifics of required sampling systems.

WSDOT requires the mechanical sampling device be located between the silo and the truck transport unless otherwise approved by the Region Materials Engineer.

- **Sampling from Truck Transports Haul Units**

- a. Obtain samples in four approximately equal increments from truck transports.
- b. Obtain each increment from approximately 12 in (300 mm) below the surface, in each of the four quadrants of the load.
- c. Combine the increments to form a sample of the required size.

- **Sampling from Roadway Prior to Compaction (Plate Method)**

WSDOT has deleted this section.

Temperature of Mix

Immediately upon obtaining a sample, using a verified thermometer, check and record temperature of the sample.

Identification and Shipping

1. Identify sample containers as required by the agency.
2. Ship samples in containers that will prevent loss, contamination, or damage.
3. Refer to the sample identification requirements in FOP for WSDOT Test Method 712.

Performance Exam Checklist
WSDOT FOP for WAQTC/AASHTO T 168
Sampling of Hot Mix Asphalt Paving Mixtures

Participant Name _____ Exam Date _____

Procedure Element **Yes No**

1. The tester has a copy of the current procedure on hand?
2. Containers of correct type and ample size available?
3. Sampling
 - a. Samples from truck transport taken from four quadrants at approximate depth of 12 inches?
 - b. Samples taken with approved mechanical sampling device?
4. Temperature of mix checked?
5. Sample size meets agency requirements?
6. Sample identified as required?

First Attempt: Pass Fail Second Attempt: Pass Fail

Signature of Examiner _____

Comments:

