

**ASPHALTIC MATERIALS**  
DOTD Designation: S 201-03

**I. General**

**A. Equipment**

1. Several 1 qt friction top cans for asphalt cement, screw top metal qt cans for cutbacks and 1 gal plastic bottles for emulsions.
2. Hand tools - hatchet, putty knife, auger, large spoon, spatula, etc. for sampling semisolid or solid materials.
3. Sampling device for dipping liquids.
4. MATT forms, envelopes, tape for securing to sample container and markers for suitable identification.

**B. Safety Precautions**

It is the responsibility of the user of this sampling method to establish appropriate safety practices including, but not limited to, handling hot liquids, exposure to hazardous fumes and handling heavy loads.

**II. Sampling Liquid Materials (Asphalt Cement, Cutback, Emulsion, etc.)**

**A. Refinery Storage Tank**

1. Obtain the sample from the spigot. Allow approximately ½ gal of material to pass through the spigot before taking the sample.
2. Place the sample into the appropriate sampling container. Securely attach an unsoiled, completed sample identification form in an envelope to the container.
3. Forward the sample to the Materials and Testing Section.
  - a. For refineries sampling "Self-Certified" materials, forward the complete sample analysis and sample. The Materials and Testing Section will issue a laboratory number to the supplier based on the refinery's analysis and test the sample for verification purposes.
  - b. For refineries sampling "Non-Self-Certified" materials, forward the complete sample analysis and sample. The Materials and Testing Section, upon completion of testing will advise the refinery of the results. If the results meet specifications, the Materials and Testing Section will issue a laboratory number to the supplier based on the Materials and testing Section's analysis.
  - c. For random refinery verification samples, forward the sample and sample identification form to the Material and Testing Section.
4. The Materials and Testing Section, upon completion of testing or analysis of supplier results, will advise the refinery and send copies of test results to each District Laboratory Engineer (except for random refinery verification samples).

**B. Transport**

1. All transports arriving in the field shall be accompanied by a Certificate of Delivery which makes reference to the lab number of the pretested sample results for this material.
2. Obtain samples by either Method 1 or Method 2.
  - a. Method 1 -- Obtain samples from a spigot mounted on the transport. Make certain the spigot is mounted on the side (or the end bulkhead) in the lower half of the transport tank and the inlet projects at least one foot into the inner surface of the shell.
  - b. Method 2 -- Obtain samples from a stop-valve which is tapped into a steel nipple. Make certain this nipple is attached permanently at the point of delivery to the unloading line which transfers the asphalt from the transport to the storage tank.
  - c. When transport trucks arrive with inoperable spigots, and there are no means for obtaining a sample by Method 2, request for the transport driver to obtain samples (under observation of Department personnel). If the transport arrives in the field, without spigot facilities or should the truck driver be unwilling to obtain the sample, and there are no facilities for obtaining a sample by Method 2, direct the transport to be returned unemptied.
3. Take the samples by either method when approximately 3/4 to 1/4 of the load

- remains in the transport.
4. Allow approximately ½ gal of material to pass through either the spigot or the stop-valve prior to obtaining the samples.
  5. Fill the appropriate sample containers with sample obtained by either method.
  6. Place the sample into the appropriate sampling container. Securely attach an unsoiled, completed sample identification form in an envelope to the container.
  7. Forward the samples to the District Laboratory or the Materials and Testing Section as detailed in the sampling schedules for testing.

**C. Tank Car**

1. All tank cars arriving in the field shall be accompanied by a Certificate of Delivery which makes reference to the laboratory number of the pretested sample results for this material.
2. Obtain samples by lowering a suitable container fitted with a stopper or cover into the material. After the container has been lowered to the desired depth, remove the stopper or cover by means of an attached string, wire or rod. Refer to AASHTO T 40, for examples of satisfactory types of sampling devices. Take the sample at least 1 ft below the surface of the material.
3. Two 1 qt samples from each tank car will be sufficient unless the uniformity of the material is questionable. If the uniformity is questionable, take two top and two bottom samples. Sample the material in the tank car before it is discharged into the storage tank.
4. If the tank car is equipped with a spigot (mounted on the side or the end bulkhead in the lower half of the tank with the inlet projecting at least 1 ft into the tank from the shell) from which the asphalt can be obtained, obtain the samples from the spigot after approximately ½ gal of material has been allowed to pass through it.
5. Place the sample into the appropriate sampling container. Securely attach an unsoiled, completed sample identification form in an envelope to the container.
6. Forward the samples to the District Laboratory or the Materials and Testing Section as detailed in the sampling schedules for testing.

**D. Hot Mix Plant Storage Tank**

1. Heat the material to the approximate mixig temperature and properly irculate prior to obtaining sample.
2. Obtain the sample from the spigot. Allow approximately ½ gal. of material to pass through the spigot before taking the sample.
3. Place the sample into the appropriate sampling container. Securely attach and unsoiled, completed sample identification form in an envelope to the container.
4. Forward the sample to the District Laboratory or the Materials and Testing Section as detailed in the sampling schedules for testing.

**E. Drums and Containers**

1. Agitate the material thoroughly prior to sampling. Take the sample by pumping, drawing through a spigot or dipping with a can.
2. Place the sample in the appropriate sample containers. Securely attach an unsoiled, completed sample identification form in an envelope to the container.
3. Forward the sample to the District Laboratory or the Materials and Testing Section as detailed in the sampling schedules for testing.

**III. Sampling Semisolid or Solid Materials in Drums**

- A. Select one unit at random and sample.
- B. Take samples at least 3 in. below the surface and at least 3 in. from the sides of the container.
- C. Use a clean hatchet if the material is hard enough to shatter and a broad, stiff putty knife if the material is soft.
- D. Use other tools such as an auger, a brace and 3/4 in. bit, a spatula, a large spoon (heated to facilitate cutting), or a fine wire (pulled back and forth through the material to obtain samples) as an aid to sampling this type of material.
- E. Thoroughly mix soft material which shows signs of separation (or stratification) before sampling.
- F. Place the sample into the appropriate sampling container. Securely attach an unsoiled, completed sample identification form in an envelope to the container.
- G. Forward the sample to the Materials Laboratory for testing.