

## GSP 10

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### General Description

Use this procedure to sample bituminous materials.

Suppliers of bituminous materials to be used on highway projects are required to comply with the Standard Operating Procedure for Monitoring the Quality of Bituminous Material (SOP 4), and shall be an approved supplier listed on the Qualified Products List (QPL-7).

The Office of Materials and Testing maintains the list of approved sources of bituminous materials, stating the full name of each organization, the types and grades of their approved products, and the locations of their refineries or terminals.

#### 1. Obtain General Information

- a. Confirm that the bituminous material is from an approved supplier listed on QPL-7.
- b. Identify samples by date, source, source code number, grade, tank or distributor number, and type of sample (Log Code).

**NOTE: If you see questionable material, regardless of its source, test it first. Do not use the material until you receive satisfactory test results from the Office of Materials and Testing.**

#### 2. Obtain Bituminous Samples

- Performance Graded Asphalt Binder – Obtain 2 samples in 1 qt (or 1 L) cans at the terminal, refinery or project distributor.
  - Performance Graded Asphalt Binder (Assurance Testing at Asphalt Plant) – Obtain 2 samples in 1 pint (0.5 L) cans
- Cutback Asphalt – Obtain 2 samples in 1 qt (or 1 L) cans at the manufacturer's facility or project distributor.
- Emulsified Asphalt – Obtain 2 samples in plastic 1 gallon (4 L) containers with plastic or plastic lined lids at the manufacturer's facility or project distributor. Electrical tape should be applied around the lid of the plastic gallon containers.

Visually check for contamination prior to sampling whenever possible.

- a. Bituminous materials may be sampled from these locations:
  - The sampling valve on tankers, distributors, or storage tanks
  - The railcar, tank or tanker (in absence of a sampling valve)
  - NEVER SAMPLE BITUMINOUS MATERIAL FROM THE DISTRIBUTOR SPRAYBAR OR SPRAY NOZZLE!

**NOTE: Report missing sampling valves at the terminal or refinery to the Bituminous Control Engineer. Missing or nonfunctioning sampling valves at the asphalt plant or on a distributor should be reported to the Bituminous Technical Services Manager.**

- b. Observe these and other safety precautions when handling bituminous materials:

- 1) Wear gloves, face shield or safety glasses, and a long-sleeve shirt or other protective clothing while sampling material and sealing the containers.
- 2) Do not smoke while sampling.
- 3) Do not hold the container in your hand while sampling and sealing. Use tongs or some other device to hold the container.
- 4) Stand above and away from the material being sampled and on the windward side. Never stand in front of the sampling valve.
- 5) Take the sample slowly to prevent splashing.
- 6) Let at least one gallon (four liters) of material run from the valve prior to obtaining the sample at the terminal, refinery or point of manufacture. When sampling at the asphalt plant, obtain samples from the AC storage tank sample valve after allowing approximately two (2) quarts to run off. When sampling from distributor sample valve let 2 quarts run off for AC and 1 gallon for emulsion prior to obtaining sample. This helps purge the sample line.

**NOTE: Beware of a sudden pressure surge from a partially clogged valve.**

- 7) Let the flow stabilize. Fill the container close to the top to minimize air space.
  - 8) Take two samples every time, regardless of the location from which you are sampling.
  - 9) Submit both properly identified samples for testing. (If the first sample fails, the second sample will be tested as a retained sample.)
- c. Follow these precautions during sampling to avoid contamination:
- 1) Ensure sample containers are clean and dry.
    - a) Do not wash or rinse the containers before use.
    - b) Ensure the top and container fit tightly together.
    - c) Obtain emulsion samples in 1 gallon plastic containers. Never place emulsion samples into metal containers, or use unlined metal lids.
  - 2) Ensure no contaminants enter the samples from a different type or grade of bituminous material or cleaning agent. Never wipe the outside of the sample container with a solvent-saturated cloth.

**NOTE: Only a drop or two of any kind of fuel will contaminate the asphalt.**

- 3) Examine the hauler's Bill of Lading to determine the type of material hauled on the previous load. Sample with caution when the previous load was a different type of material.
  - 4) Examine the Bill or Bills of Lading to determine the supplier's name and the grade of materials sampled. If the last few shipments were from different suppliers (or grades), note the date, supplier name, and grade of the most recent three or four shipments on the sample card.
  - 5) Always sample the material or observe it being sampled.
  - 6) Take samples to the Laboratory as soon as possible.
- d. To take a sample from the sampling valve:
- 1) Circulate the bituminous material to obtain thorough mixing.
  - 2) Open the valve until a steady small flow stabilizes. Allow bituminous material to flow through the sampling valve as detailed in sub-section 2.b.6 prior to obtaining the sample.

- 3) If needed, use a small funnel to direct the flow into the container and fill it.
  - 4) Tightly seal the sample.
  - 5) Wipe off spilled material from the outside of the container with a clean, dry cloth.
- e. To take a sample from a railcar, or storage tank or tanker without a sample valve:
- 1) Vigorously stir the material with a clean paddle or stick to disperse any contaminants on the surface when mechanical agitation is not available.
  - 2) Attach a clean can, bucket, or other suitable container to a stick, plank, or other type of handle.
  - 3) Rapidly submerge the container into the bituminous material until the container is full.
  - 4) Immediately transfer the material to the sample container and seal it.
- f. Identify each control sample on Form 170 or other form if appropriate.
- g. Submit the sample to the Office of Materials and Testing's Central Laboratory or Branch Laboratory designated by the Bituminous Control Section.
- h. Test results will be reported on the following forms:
- Form 504M—Performance Graded Asphalt Binder
  - Form 503M—Cutback Asphalt
  - Form 325M—Emulsified Asphalt