
METHOD OF SAMPLING ASPHALTIC MATERIALS
General Re-Write

SCOPE

This IM provides the procedure used in the sampling of asphaltic materials (asphalt binder, asphalt emulsions, and cutback asphalts) to be submitted for laboratory tests. The necessary sample containers are available for purchase by the contractor from the Iowa Department of Transportation, Ames warehouse.

APPARATUS

- Disposable, unlined, one-quart (one-liter) capacity cardboard sample catching containers.
- 3 oz. (90 mL) ointment tin for asphalt binder.
- One-quart (one-liter) capacity wide-mouth cans with lids for cutback asphalts and complete analysis binder samples.
- One-quart (one-liter) and one gallon (four liter) plastic bottles for asphalt emulsion.
- Clean, dry cloth.
- 1 pair insulated gloves.

PROCEDURE

1. Single samples as follows:
 - a. Binder for DSR stiffness – 3 oz. (90 mL) tin
 - b. Binder complete analysis – 1 quart (1 liter) metal can
 - c. Cutback asphalts – 1 quart (1 liter) metal can
 - d. Asphalt emulsion – partial analysis 1 quart (1 liter) – must be a plastic bottle
– complete analysis – 1 gallon (4 liter) – must be a plastic bottle

SAMPLING PROCEDURE

The various materials shall be drawn from plants, distributors, and storage tanks as required in a safe and reliable manner. Single samples shall be taken at the rate prescribed and by the following methods:

1. Sampling from Mixing Plants

Samples shall be taken from sampling valves located in the pumping line, (line from tank to mixer). A minimum of one-gallon (four liters) of material must be drawn and wasted from the sampling valve before the actual sample is drawn. The plant should be operated a minimum of one hour before samples are taken.

Sample material shall be drawn into the appropriate containers provided for that purpose. DSR samples shall be prepared by pouring the material from the sample catching container into the ointment tins; the tins shall be filled to a depth 1/4" (6 mm) from the top. Material should not be spilled over the sides and edges of the tins. The tins should be covered and allowed to cool in air to handling temperature. The tins should then be capped and marked for shipment. When cutback asphalt or asphalt emulsion samples are obtained from mixing plants, the sample shall be one quart (one liter) or one gallon (four liters) size and may be placed directly in the shipping containers provided.

Prior to use, the "uncoated" sample-catching containers and sample storage containers should be inspected and wiped clean of dust and manufacturing residue with a clean, dry cloth. If the containers, which are to be used for shipment, are spattered during the pouring operation, they should be wiped clean with a clean, dry cloth. In case the tins are over filled or otherwise made unusable, they should be disposed of and new tins filled as required. Under no circumstances should any volatile material or contaminants of any kind be allowed to come in contact with the samples, containers, and cleaning cloths.

In the event that it is necessary to sample storage tanks by dipping through the dome or top opening of a tank, care should be taken so that the container is not filled entirely with the materials from the top portion of material in storage.

2. Samples from Distributors

Samples should be drawn from the spray bar after heating and recirculation has been completed. The spray bar should be opened and cleared of old or foreign material before the sample is taken. Asphalt emulsion samples should be taken from the spray bar after it has been adjusted to gravity feed. Samples may be drawn directly into sample containers furnished for this purpose.

Note: The test results of asphalt emulsion samples can be greatly affected when samples are obtained from the spray bar, under pressure.

Note: When asphalt emulsions are diluted for tack coat material, the addition of the water changes the manufacturer's formula. Due to this, very rapid settlement occurs. To obtain a representative sample of the diluted asphalt emulsion, it is essential to obtain the sample immediately after circulating the material.

The precautions listed in the previous section should be observed in this procedure as well. Refer to Section No. 1 for size of samples.

3. Samples from Transports, Rail Cars, Terminal Storage

When samples are to be obtained from hauling units or terminal facilities, sampling methods listed in Section No. 1 above are to apply. Samples shall be drawn from sampling valves located in tank walls or bulkhead, and/or transfer lines when possible. When sampling valves are not provided, samples are to be obtained by inverting sample containers substantially below the surface of the stored material.