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**Test Procedure for****SAMPLING BITUMINOUS MIXTURES**

TxDOT Designation: Tex-222-F

*Effective Date: January 2016*

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**1. SCOPE**

- 1.1 Use this test method to sample mixtures of bituminous materials. Several sampling procedures are described.
  - 1.2 The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.
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**2. SELECTING SAMPLES**

- 2.1 Use every precaution to obtain representative samples of the bituminous mixtures, to avoid segregation, and to prevent contamination by foreign matter.
  - 2.2 Attach [Form 202](#), "Identification of Material Samples," to each sample container.
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**3. SAMPLE SIZE**

- 3.1 When sampling any type of bituminous mixture for future laboratory testing, the minimum sample size will fill a 1-gal. (4-L), clean, friction-top bucket.
  - 3.2 If extensive testing is desired, sample 2 or more buckets of the material, as required. Blend all sampled materials to form a composite sample prior to quartering to size for laboratory tests.
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**4. SAMPLING PROCEDURES**

- 4.1 *Sampling Plant-Mixed Bituminous Mixtures:*
    - Note 1**—Provide a proper sampling stand and take adequate safety precautions to prevent bodily injury.
    - 4.1.1 *Method A*—Follow these steps to obtain samples from trucks or railroad cars.
      - 4.1.1.1 Obtain multiple representative samples from the truck bed or railroad car.
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- 4.1.1.1.1 View the mix after loading is complete. Note areas of obvious segregation and avoid taking samples from these locations.
- 4.1.1.1.2 Take all necessary safety precautions when obtaining these samples. Avoid walking or standing on the hot mix while taking these samples.
- 4.1.1.2 Select a minimum of 3 sections in the truck bed or railcar. Dig a minimum of 12 in. (300 mm) below the surface and remove at least 10 lb. (4.5 kg) of material from each of the sections.
- 4.1.1.3 Combine and thoroughly mix together all of the samples.
- 4.1.1.4 Split the combined sample into individual samples in accordance with Tex-200-F.
- 4.1.1.5 Any individual samples allowed to cool to ambient temperatures and to be transported to another laboratory for testing must not exceed a thickness greater than 3 in.  
**Note 2**— Recommended sampling containers are paper bags or cardboard boxes.
- 4.1.2 *Method B*—Follow these steps to obtain a plant-mixed sample.
  - 4.1.2.1 Fill the bucket of a front-end loader with mix directly from the discharge chute.  
**Note 3**—Clean the bucket of all materials that may contaminate the sample.
  - 4.1.2.2 Take samples from several locations in the bucket to form a composite minimum sample of 30 lb. (13.5 kg).
  - 4.1.2.3 Split the combined sample into individual samples in accordance with Tex-200-F.
  - 4.1.2.4 Any individual samples allowed to cool to ambient temperatures and to be transported to another laboratory for testing must not exceed a thickness greater than 3 in.  
**Note 4**— Recommended sampling containers are paper bags or cardboard boxes.
- 4.2 *Obtaining Bituminous Mixtures from Stockpiles at the Plant:*
  - 4.2.1 Obtain equal quantities of the mixture from holes dug into points near the top, middle, and bottom of the stockpile.
    - 4.2.1.1 Combine and thoroughly mix together all of the samples.
    - 4.2.1.2 Split the combined sample into individual samples in accordance with Tex-200-F.
- 4.3 *Sampling Bituminous Mixtures from Windrows:*
  - 4.3.1 Take a representative sample of the windrow at intervals of not more than 500 ft. (152 m).
    - 4.3.1.1 Whenever practical, secure samples from a complete cross-section of material approximately 1 ft. (100 mm) wide.

- 4.3.1.2 When the full depth of the cross-section is sampled, take care to exclude any foreign matter.
- 4.3.2 Combine and thoroughly mix together all of the samples.
- 4.3.3 Split the combined sample into individual samples in accordance with Tex-200-F.
- 4.3.4 Any individual samples allowed to cool to ambient temperatures and to be transported to another laboratory for testing must not exceed a thickness greater than 3 in.  
**Note 5**—Recommended sampling containers are paper bags or cardboard boxes.
- 4.4 *Sampling Bituminous Mixture Cores from the Roadway:*
- 4.4.1 Sample in a cool part of the day to facilitate removal of the pavement specimen with minimum possibility of damage.  
**Note 6**—Use ice, dry ice, or carbon dioxide to cool the pavement area to be sampled, when taking samples in full heat.
- 4.4.2 Take core samples of the diameter required by the specifications.
- 4.4.3 Remove a minimum of 2 samples at each location unless otherwise stated in the specification.
- 4.4.4 Wipe the sample surface dry with a cloth, individually wrap in paper or rags, and pack tightly in 1-gal. (4-L) buckets, if shipping to a central laboratory for testing. Sufficiently identify each individual core.
- 4.4.5 Remove large pavement samples for testing, if required.
- 4.4.6 Use the sharp, narrow cutting blade of a mattock (or other means) to pry loose a sample approximately 457 mm (18 in.) square from the roadway pavement. To prevent cracking, take extra care in removing and transporting the sample.
- 4.4.7 Place the sample between two clean pieces of 19-mm (0.75-in.) thick plywood, with the smoothest, cleanest surface of the sample down, and tie securely with heavy cord. Transport the sample with the smooth side remaining down.
- 4.4.8 To prevent evaporation of the moisture of a pavement sample, and/or the hydrocarbon volatiles of cold-laid mixtures, wrap the sample in aluminum foil.
- 4.5 *Sampling Loose Material Behind the Laydown Machine:*
- 4.5.1 Sample after approximately half of the truck load has passed through the laydown machine, either from various points in front of the screed on the machine or from various points immediately behind.
- 4.5.2 Any individual samples allowed to cool to ambient temperatures and to be transported to another laboratory for testing must not exceed a thickness greater than 3 in.  
**Note 7**—Recommended sampling containers are paper bags or cardboard boxes.

4.6 *Sampling Asphalt Patching Mix:*

4.6.1 Approximately 40 lb. (18 kg) of sample is required for specification tests on this material.

4.6.2 Submit one sample for each 50 tons (45 Mg) or fraction thereof. (See Table 1.)

**Table 1—Sampling Asphalt Patching Mix**

<b>If the material is . . .</b>	<b>then . . .</b>
Purchased in 50-lb. (23-kg) pails	Select, at random, one or more pails as necessary and submit as the sample.
Supplied in 55-gal. (200-L) drums	<ul style="list-style-type: none"> <li>▪ Select a drum at random, open, scrape aside or remove approximately 2 in. (51 mm) of material, dig out a 14-kg (30-lb.) sample, and place in a pail.</li> <li>▪ Immediately seal the pail and the 55-gal. (200-L) drum to prevent loss of volatiles.</li> </ul>
Purchased in (40–60-lb.) sealed bags	Select, at random, one or more bags as necessary and submit as the sample.
Supplied as a stockpile	Follow the procedure from Section 4.2.

**5. ARCHIVED VERSIONS**

5.1 Archived versions are available.