



PREPARATION OF HOT MIX ASPHALT (HMA) MIX SAMPLES FOR TEST SPECIMENS

SCOPE

This IM is intended to provide the procedure for obtaining representative split samples and representative test specimens from a sample of bituminous mix.

APPARATUS

- Ventilated oven capable of maintaining a temperature at $275^{\circ}\text{F} \pm 5^{\circ}\text{F}$ ($135^{\circ}\text{C} \pm 3^{\circ}\text{C}$)
- Masonry trowel
- Balance. (Refer to the appropriate test procedure for the required capacity and accuracy.)
- Pan, not less than 24 in. x 24 in. x 3 in. (600 mm x 600 mm x 75 mm) for approximately 40 lb. (18 kg) samples. Large samples, approximately 80 lb. (36 kg), will require the use of a pan size not less than 27 in. x 36 in. x 4 in. (675 mm x 900 mm x 100 mm).
- Bituminous mix sampling scoop (scoop with vertical sides)

PROCEDURE

1. Without removing the sample from the cardboard container, heat it and the trowel in the oven at $275^{\circ}\text{F} \pm 5^{\circ}\text{F}$ ($135^{\circ}\text{C} \pm 3^{\circ}\text{C}$) until the mixture is soft enough to be easily worked with and capable of being thoroughly mixed. Then remove the sample from its container and place in the pan. Samples received in insulated boxes may be placed in the pan without heating providing the material is soft enough to be thoroughly mixed.
2. Using the trowel, mix, spread, and flatten the sample to a uniform thickness of approximately 1 1/2 in. (37.5 mm). Then carefully fold the edges of the sample toward the center and press flat with the trowel, so that large particles will not segregate to the edges. Fold and press one trowel load at a time. With a spatula, scrape the fine material off the trowel distributing it over the surface of the sample. Work around the sample in one direction, overlapping each trowel load until all edges have been folded and a truncated cone has been formed. Spread and re-flatten the sample to a uniform thickness as before. If the sample doesn't appear uniform repeat this process until the sample, when flattened to the uniform thickness of approximately 1 1/2 in. (37.5 mm), presents a homogeneous appearance.

<p>NOTE: The above technique will produce a truncated cone. Extreme care must be used to keep the sides of this cone as flat as possible and not allow particles to segregate to the edges.</p>
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3. To obtain material for the test specimen, start at the center of the sample and remove a strip with the sampling scoop. This strip should be taken from the center towards the outer edge of the pan and full depth of the sample. Make certain that all material is removed down to the bottom of the pan. (Refer to the appropriate test procedure to determine the amount of material taken, as described above, for the test specimen.)

Alternate Procedures for Large Samples Contained in Two or More Boxes

1. The identical procedure is followed, except a large pan is used.
2. Each box of material making up the sample is regarded as a separate sample. The identical regular procedure is followed on each box of material through Step 2 in the regular procedure. Step 3 of the regular procedure is replaced with the following:

The material contained in the first box is reduced to about half by removing strips of material with the sampling scoop. The strips are taken by removing the material all the way across and full depth of the sample. Make certain that all the material is removed down to the bottom of the pan. Place the strips of material in another container and continue removing strips of material in the above manner until the proper amount is obtained. Repeat the above procedure for each additional box of mix, adding the strips of material taken to the container holding the material obtained from the first box of mix. The mixture accumulated from the original boxes is now regarded as one sample, and the regular procedure is followed.