

METHOD OF TEST FOR BULK REALATIVE DENSITY OF COMPACTED BITUMINOUS MIXTURES

LS-262 R18

ASTM D2726/D2726M - 14

3. PROCEDURE

3.1 Procedure of ASTM D2726 shall be followed, except as noted below.....

4. EXCEPTIONS

4.1 PROCEDURE

4.1.1 Carefully brush off any loose particles adhering to the sample. For pavement sample (e.g., cores) taken immediately over a granular base, any imbedded granular material should be cleaned off.....

Determine the mass of the sample in air and record it (A_b for laboratory samples).....

4.1.2 For all samples determine the sample mass in water at 25°C after it has been immersed for 4± 1 minutes. Record the mass (B_1) and the temperature of the water.....

Note: When testing multiple specimens, it is acceptable to soak the specimens in a water bath at the specified temperature. The total time of immersion (in the water bath plus during weighing) shall be within the specified limits.....

4.1.2.1 When a Marshall briquette is being weighed, place the briquette with the side (curved section) resting on the bottom of the basket, ensuring that no air bubbles are trapped beneath the sample.....

4.1.2.2 When a pavement sample is being weighed, place the sample with its side or end on the bottom of the basket ensuring that no air bubbles are trapped beneath the sample.....

4.1.3 Remove the sample from the water, place the briquette with the side (curved face) on a damp towel. Carefully roll the specimen back and forth on a damp towel, enough to dry its surface. After surface drying the curved face, flip the specimen to surface dry the other 2 sides.....

For other pavement samples surface dry each face with a damp towel. Also dab dry any visible water film on surface cavities. Determine and record the mass (A_2) of the sample in air.....

4.1.4 Dry pavement samples at 110 ± 5°C to a constant mass to obtain the correct dry mass in air (A_c).

It will be necessary to break up or separate the pavement sample in the pan to completely dry the sample. (This step is not necessary for laboratory prepared briquettes).....

4.1.5 Determine the mass of all samples to 0.1g accuracy.....

METHOD OF TEST FOR BULK REALATIVE DENSITY OF COMPACTED BITUMINOUS MIXTURES

LS-262 R18

ASTM D2726/D2726M - 14

4.2 CALCULATIONS

Calculate the Bulk Relative Density (BRD) of the sample as follows:

$$BRD = \frac{A_1}{(A_2 - B_1)}$$

Where:

A₁ = mass of sample in air, g

A_D for laboratory prepared briquettes

A_C for oven dried pavement samples

A₂ = surface dry mass of sample in air after water immersion, g

B₁ = mass of sample in water, g

4.2.2 If the test temperature differs from 25°C, a correction to the BRD will be made in accordance with the following:

$$BRD \text{ (at 25°C)} = BRD \text{ (at test temperature)} \times K$$

Where:

K = correction factor listed in Table 1 for test temperature

4.3 GENERAL NOTES AND PRECAUTIONS

4.3.1 When determining the mass of samples in water both the basket and handle, where provided, must be completely immersed in water.....

4.3.2 Be certain that no air bubbles are adhering to the wire basket when it is immersed in water.....

4.3.3 Use as thin a wire as possible to suspend the basket from the balance.....

4.3.4 For Marshall briquettes, all bulk relative density determinations shall be done in triplicate.....

If the BRD of any one briquette is more than 0.015 from the mean of the triplicate values, recheck calculations and, if necessary, re-weigh. If the briquette density remains more than 0.015 from the mean then discard this value and recalculate the mean.....

4.3.5 Mass of pavement samples may vary from 1000 to 2000g.....

4.3.6 Pavement samples must be free of cracks.....

4.3.7 The water in the weigh bucket must be maintained as close to 25°C as possible.....

COMMENTS