

**BULK SPECIFIC GRAVITY  
OF  
COMPACTED HOT MIX ASPHALT  
USING  
SATURATED SURFACE-DRY SPECIMENS  
AASHTO T 166**

**APPARATUS**

- [ ] Balance, sufficient capacity for sample, readable to 0.1 g or better, in accordance with AASHTO M 231
- [ ] Suspension apparatus
  - [ ] Center of balance pan
  - [ ] Suspension wire of smallest practical size
  - [ ] Holder and sample completely immersed
- [ ] Water Bath
  - [ ] Equipped with overflow outlet to maintain constant water level
  - [ ] Deep enough to completely immerse holder and sample
  - [ ] Water is  $77 \pm 1.8^{\circ}\text{F}$
- [ ] Large flat bottom drying pan (Method C)

**PROCEDURE -- METHOD A**

- [ ] Specimen dried until constant weight (Note 1) is achieved (samples are not required to be dried overnight)
- [ ] Specimen cooled to room temperature at  $77 \pm 9^{\circ}\text{F}$  and weighed
- [ ] Specimen immersed in water for 3-5 minutes and weight recorded
- [ ] Specimen surface dried by blotting with a damp towel as quickly as possible and weighed (damp is considered to be when no water can be wrung from the towel)

Note 1 -- Constant weight is defined as the weight at which further drying at the required drying temperature does not alter the weight by more than 0.05 percent.

**Calculations**

- [ ] Bulk specific gravity calculated correctly to three decimal places (0.000) as follows:

$$\text{Bulk Specific Gravity} = \frac{A}{B - C}$$

where:

A = weight of sample in air, g

B = weight of surface - dry specimen in air, g

C = weight of sample in water, g

**AASHTO T 166**

- [ ] Percent water absorbed by specimen is equal to or less than 2.0 percent by volume as follows:

$$\text{Water Absorbed by Volume, \%} = \frac{B - A}{B - C} \times 100$$

**PROCEDURE -- METHOD C (RAPID TEST FOR SPECIMENS OBTAINED BY CORING OR SAWING)**

- [ ] Specimen immersed in water for 3-5 minutes and weight recorded
- [ ] Specimen surface dried by blotting with a damp towel as quickly as possible and weighed
- [ ] Specimen placed in large flat bottom drying pan of known weight
- [ ] Pan and specimen placed in oven at  $230 \pm 9^\circ\text{F}$  until the specimen may be easily separated to the point where the particles of the fine aggregate - binder portion are not larger than 1/4 in.
- [ ] Separated specimen dried in oven at  $230^\circ\text{F}$  to constant weight (Note 1)
- [ ] Pan and specimen cooled in air to room temperature at  $77 \pm 9^\circ\text{F}$  and weighed
- [ ] Dry weight of specimen determined by subtracting the weight of pan from weight of pan and sample
- [ ] Bulk specific gravity is calculated correctly to three decimal places (0.000) using the same procedure in Method A

NA - Not Applicable  
X - Requires Corrective Action  
√ - Satisfactory

\_\_\_\_\_  
Acceptance Technician

\_\_\_\_\_  
INDOT

\_\_\_\_\_  
Date

Comments: \_\_\_\_\_

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