

PERFORMANCE EXAM CHECKLIST

**BULK SPECIFIC GRAVITY AND DENSITY OF COMPACTED HOT MIX ASPHALT (HMA) USING AUTOMATIC VACUUM SEALING METHOD
FOP FOR AASHTO T 331**

Participant Name _____ Exam Date _____

Record the symbols “P” for passing or “F” for failing on each step of the checklist.

Procedure Element	Trial 1	Trial 2
1. Mass of dry sample in air determined?	_____	_____
a. Dried overnight at 125°F and at successive 2-hour intervals to constant mass?	_____	_____
b. Cooled in air to 77°± 9°F?	_____	_____
c. Dry mass determined to 0.1g?	_____	_____
d. Record initial dry mass as (A)?	_____	_____
2. Bag weight recorded?	_____	_____
a. Bag inspected for holes or irregularities?	_____	_____
b. Bag weight recorded?	_____	_____
3. Bag placed in vacuum chamber?	_____	_____
4. Specimen placed in bag 25mm or 1in. from end of bag?	_____	_____
5. Check that there are no wrinkles in the bag along the seal bar.	_____	_____
6. Lid closed and lid retaining latch engaged?	_____	_____
7. Once sealed remove the specimen carefully from chamber?	_____	_____
8. Weight Specimen in bag in air?		
a. Record mass to 0.1g?	_____	_____
b. Subtract bag weight from total mass, record mass as (B).	_____	_____
9. Sealed puck quickly placed in water bath at 77°± 1.8°F?	_____	_____
a. From time vacuum lid opens to being submerged in water, not to exceed 1 min?	_____	_____
b. Specimen fully submerged?	_____	_____
c. Specimen not touching edges of water bath?	_____	_____
d. Once scale stabilizes, record mass as (E).	_____	_____
10. Bag removed from water bath?	_____	_____
11. Sample removed from bag?	_____	_____

12. Sample Mass determined and designated as (C)? _____
- a. Verify mass (A) is no more than 5g from mass specimen (C)? _____
 - b. If more than 5g different, oven dry to constant mass and retest? _____

$$Gmb = A / ([C + (B - A)] - E - [(B - A) / F])$$

Gmb = specimen bulk specific gravity;

A = initial mass of the dried specimen in air, g;

B = calculated mass of the dry, sealed specimen, g;

C = final mass of the specimen after removal from the sealed bag, g;

E = mass of the sealed specimen underwater, g; and

F = apparent specific gravity of the plastic sealing material at 77°F, provided by the Manufacture.

Comments: First attempt: Pass _____ Fail _____ Second attempt: Pass _____ Fail _____

Examiner Signature _____ WAQTC #: _____