WSDOT FOP for AASHTO T 331

Bulk Specific Gravity (G_{mb}) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method

AASHTO T 331 has been adopted by WSDOT with the following changes:

6. Procedure

AASHTO R 79 shall be used throughout section 6 in lieu of ASTM D7227/D7227M

Note 3: Laboratory specimens 3000 grams or greater shall be cooled to room temperature for a minimum of 15 hours and a maximum of 24 hours at 77 ± 9°F (25 ± 5°C).

8. Verification

8.1 WSDOT VP 103 shall be used for vacuum system verification.

8.2 This section is deleted.

Performance Exam Checklist

Bulk Specific Gravity of Compacted HMA Using Automatic Vacuum Sealing Method FOP for AASHTO T 331

Participant Name _____ Exam Date _____

Procedure Element	Yes	No
1. The tester has a copy of the current procedure on hand?	☐	☐
2. All equipment is functioning according to the test procedure, and if required, has the current calibration/verification tags present?	☐	☐
3. Water bath of suitable size to entirely submerge and suspend the specimen with an adequate holder?	☐	☐
4. Water bath equipped with an overflow outlet?	☐	☐
5. Water bath controlled to 77 ± 1.8°F (25 ± 1°C)?	☐	☐
6. Plastic bag meets procedure specifications?	☐	☐
Sample Preparation		
1. Specimen dried to constant mass per AASHTO R 79 or according to T 331 Section 6.1?	☐	☐
2. Specimen at room temperature, 77 ± 9°F (25 ± 5°C)? Laboratory compacted specimens cooled for 15 – 24 hours at 77 ± 9°F (25 ± 5°C)?	☐	☐
3. Sharp edges removed from specimen (recommended)?	☐	☐
Procedure		
1. Specimen mass, A, determined at room temperature, 77 ± 9°F (25 ± 5°C)?	☐	☐
2. Appropriate size bag selected, inspected for holes and it's mass determined?	☐	☐
3. Sealed dry mass of specimen determine by adding specimen and bag masses together then recorded as B?	☐	☐
4. If needed, filler plates added or removed before placing bag inside vacuum chamber and inserting specimen into bag?	☐	☐
5. Specimen placed in bag with the smoothest side down?	☐	☐
6. End of bag pulled over sample and centered over sealing bar with minimum of 1" overlap?	☐	☐
7. Bag wrinkles smoothed out over seal bar just prior to closing lid?	☐	☐
8. CorLok operation initiated by closing and latching lid?	☐	☐
9. CorLok test cycle allowed to continue until chamber door opens?	☐	☐
10. Sealed specimen carefully removed from vacuum chamber without puncturing bag?	☐	☐
11. Bag inspected for loose areas which indicate poor seal or bag puncture?	☐	☐
12. If needed, test started over because seal ruptured or bag punctured?	☐	☐
13. Sealed specimen fully submerged in water bath within 1 minute of vacuum chamber door releasing?	☐	☐
14. Bag is not touching the sides of the water bath and no trapped air bubbles exist under specimen?	☐	☐

Procedure (continued)	**Yes**	**No**
15. Mass of sealed specimen underwater, E, at 77 ± 1.8°F (25 ± 1°C) recorded as soon as scale stabilizes?	☐	☐
16. Specimen removed from bag and mass recorded as C then checked to be no more than 5 grams of the mass recorded as A?	☐	☐
17. Process restarted at section 6.1 if test fails section 6.5 check? Section 6.5 check: If difference between C and A are greater than 5 grams the specimen is acceptable if less than 0.08 percent is lost (material loss) or 0.04 percent is gained (from water) as compared to A.	☐	☐
18. All calculations performed correctly?	☐	☐

First Attempt: Pass ☐ Fail ☐ Second Attempt: Pass ☐ Fail ☐

Signature of Examiner _____

Comments: