DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Transportation Laboratory
5900 Folsom Blvd.
Sacramento, California 95819-4612

METHOD OF TEST FOR HAMBURG WHEEL-TRACK TESTING OF COMPACTED HOT MIX ASPHALT

A. SCOPE

This test method describes the procedure for testing the rutting and moisture-susceptibility of asphalt mixture pavement samples in the Hamburg Wheel-Tracking Device.

B. REFERENCES

AASHTO R 30	Standard Practice for Mixture Conditioning of Hot Mix Asphalt (HMA)
AASHTO T 324-17	Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
AASHTO T 312	Standard Method of Test for Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor
California Test 125	Method of Test for Sampling Highway Materials and Products Used in the Roadway Pavement Structure Sections

C. PROCEDURE

Conduct the test in accordance with AASHTO T 324-17 except for the following:

1. Replace Section 6.1 with:

   Prepare four test specimens to run 1 test. Condition each plant produced sample of HMA mixture in accordance with AASHTO R 30, sections 7.1.2, 7.1.3, 7.1.4.

2. Replace Section 6.2.6.2 with:

   Compact the test specimens in accordance with AASHTO T 312. Each test specimen must be 150 mm in diameter, gyratory compacted, and have a

thickness of 60 mm ± 1 mm. Allow compacted specimens to cool at normal room temperature on a clean, flat surface until cool to the touch.

3. Replace Section 6.3.1 with:

   Obtain a sample of asphalt mixture in accordance with California Test 125.

4. Replace the 3rd sentence in Section 6.4.2 with:

   Cut specimens perpendicular to the specimen face. The amount of material sawed from the Superpave Gyratory Compactor (SGC) cylindrical specimens may vary to achieve a gap between the molds of 4 mm ± 3 mm at the start of the test.

5. Replace Section 7.3 with:

   Determine the air void content of the specimens in accordance with AASHTO T 269. The target air void content is 7.0 % ± 0.5 % for Type A HMA and 6.5 % ± 0.5 % for RHMA-G for laboratory-compacted SGC cylindrical specimens. Field specimens may be tested at the air void content at which they are obtained.

6. Insert a new Section 7.4 after Section 7.3 as follows:

   Separate the four specimens into two sample sets (i.e. two specimens per sample set) so the average air voids of the two sets are approximately equal.

7. Replace the 2nd sentence in Section 8.2 with:

   For HDPE molds, insert the cut specimens in the molds with the gyratory ram side facing down.

8. Replace Section 8.6.1 with:

   Test sample sets at the temperatures in Table 1 for Type A HMA and Table 2 for RHMA-G.

Table 1

Type A HMA Testing Temperature

Binder Grade	Temperature
PG 58	113 ± 2°F
PG 64	122 ± 2°F
PG 70 and above	131 ± 2°F

Note: Mixes using more than 15 % RAP, test at specified binder grade.

Table 2

RHMA-G Testing Temperature

Binder Grade	Temperature
PG 64 and below	122 ± 2°F
PG 70	131 ± 2°F

9. Replace Section 8.6.2 with:

   Set the maximum allowable rut depth to 20 mm.

10. Replace Section 8.6.3 with:

    Set the maximum number of passes to the specified number of passes in the contract specifications.

11. Replace Section 8.8.4 with:

    Stop the wheel-tracking device at the specified number of passes, or when the maximum rut depth of 20 mm rut occurs in either sample set, whichever occurs first. The testing device software automatically saves the test data file.

12. Replace Section 9.1 with:

    A "test" is defined as four 150 mm diameter specimens run in the Hamburg Wheel-Tracking Device simultaneously.

At the end of the test, if the difference between the two sample sets is 6 mm or greater, retest the material. Perform only one retest and report the test results with the least difference between the two sample sets.

The test result is the average of the deepest rut depth from the left sample set and the right sample set. Report this value every 5000 passes and at the end of the test.

D. REPORTING OF RESULTS

When required by the contract documents, submit test results electronically in accordance with the DIMEXML format and guidance documents found at the following link:

https://dime.dot.ca.gov/index.php?r=help/submittestresult

E. HEALTH AND SAFETY

It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Prior to handling, testing or disposing of any materials, testers must be knowledgeable about safe laboratory practices, hazards and exposure, chemical procurement and storage, and personal protective apparel and equipment.

Refer to the Safety Manual for your Laboratory.

End of Text
(California Test 389 contains 4 pages)