2026 Asphalt Mixtures Hveem Design by Colorado 150-mm (4-in.) Gyratory Compaction Samples 7 (A) and 8 (B)

Sample Instructions

Closing Date: July 2, 2026

General Information:

Treat each sample as you would treat a typical sample brought into the laboratory. Any special handling or preparation instructions are included below. Conduct tests on each of the two samples in accordance with the instructions below. Report the results of a single determination only, not the average of two or more unless specified in the test method or instructions.

Reporting the results to an extra decimal place beyond what is required by the test method is requested for statistical reasons and equates to more precise data that is available to analyze.

To permit an estimate of single-operator precision, the same operator should conduct an individual test on both samples. It is not necessary that the same person conduct all the tests in the sample round.

Leave the appropriate spaces on the data sheet blank for any tests you choose not to perform.

Requirements for AASHTO Accredited Laboratories:

AASHTO accredited laboratories are required to perform every test included in an AASHTO re:source Proficiency Sample Program sample round that is also listed in each laboratory's AASHTO Accreditation scope.

AASHTO Accreditation Policy on PSP Participation

The tests that are not listed in the laboratory's accreditation scope may also be performed, but testing is not required, and the AASHTO Accreditation Program (AAP) will not evaluate the ratings.

Sample Information:

You should have received one box of ingredients for creating test specimens for Hveem Design samples 7 (A) and 8 (B). The box should contain the following:

- One bag of 12.5-mm (1/2-in) aggregate
- One bag of 9.5-mm (3/8-in) aggregate
- One bag of 4.75-mm (No. 4) aggregate
- One bag of 2.36-mm (No. 8) aggregate
- One bag of fine aggregate [i.e. passing the 2.36-mm (No. 8) sieve]
- One bag of mineral filler
- One can of asphalt binder

To view an unboxing video of these samples please use the following link:

HCO 7 (A) and 8 (B) Unboxing Video

Specimen Batching:

Prepare four individual batches: one butter batch and one compaction batch for sample 7 (A) and the same for sample 8 (B). The butter batches are larger than the compaction batches and will be used as the specimens for maximum specific gravity testing. The single smaller batch will be used for compaction.

The fine aggregate is provided in a moist condition to prevent segregation. Use the quartering or the miniature stockpile method (AASHTO R76/ ASTM C702, Method B or C) to batch the moist fine aggregate. Reduce the fine aggregate in its moist condition into portions slightly larger than the batch masses as the

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fine aggregate contains approximately 5% moisture. Oven-dry the fine aggregate portions and adjust the masses of the portions to the exact weights needed for the batches.

Special Instructions for Mixing, Conditioning and Compacting:

Follow the mixing, conditioning and compacting procedures specified in CP-L 5115 - Superpave Gyratory Compactor (100-mm diameter specimens). Condition the butter specimen (which is to be used to determine the maximum specific gravity) in the same manner used to condition the compaction specimen. Use the following mixing and compacting temperatures:

Mixing Temperature: 163 ± 2.8°C (325 ± 5°F)
Compacting Temperature: 149 ± 2.8°C (300 ± 5°F)

Batching Table for Butter Specimens (Maximum Specific Gravity Specimens):

Prepare the two butter batches by combining the materials provided in the manner described in the table below. Dry all material at 110°C before weighing. Make all necessary weighings to the nearest 0.1 g.

BUTTER BATCHES	Sample 7 (A) (one required)		Sample 8 (B) (one required)	
	Individual Mass, g	Cumulative Mass, g	Individual Mass, g	Cumulative Mass, g
12.5 mm (1/2 in.)	155.3	155.3	148.5	148.5
9.5 mm (3/8 in.)	216.0	371.3	216.0	364.5
4.75 mm (No. 4)	310.5	681.8	310.5	675.0
2.36 mm (No. 8)	371.3	1053.1	378.0	1053.0
Fine aggregate (passing 2.36 mm (No. 8))	492.8	1545.9	486.0	1539.0
Mineral filler	74.3	1620.2	81.0	1620.0
Asphalt binder	91.8	1712.0	91.8	1711.8

Batching Table for Compaction Specimens:

Prepare the two batches for compaction by combining the materials provided in the manner described in the table below. Dry all material at 110°C before weighing. Make all necessary weighings to the nearest 0.1 g if possible.

COMPACTION BATCHES	Sample 7 (A) (one required)		Sample 8 (B) (one required)	
	Individual Mass, g	Cumulative Mass, g	Individual Mass, g	Cumulative Mass, g
12.5 mm (1/2 in.)	115.0	115.0	110.0	110.0
9.5 mm (3/8 in.)	160.0	275.0	160.0	270.0
4.75 mm (No. 4)	230.0	505.0	230.0	500.0
2.36 mm (No. 8)	275.0	780.0	280.0	780.0
Fine aggregate (passing 2.36 mm (No. 8))	365.0	1145.0	360.0	1140.0
Mineral filler	55.0	1200.0	60.0	1200.0
Asphalt binder	68.0	1268.0	68.0	1268.0

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Test Methods:

Maximum Specific Gravity of Asphalt Paving Mixtures AASHTO T209-25 or ASTM D2041-19: Use the uncompacted butter batch as the test sample. Do not use the Supplemental Procedure for Mixtures Containing Porous Aggregates. Report the specific gravity to the nearest 0.001.

Preparing and Determining the Density of Bituminous Mixture Test Specimens Compacted by the Superpave Gyratory Compactor CP-L 5115-16: Compact the specimen using **100 gyrations.** Report the specimen height to the nearest 0.1 mm.

Bulk Density Methods:

Determine the stabilometer value before determining bulk specific gravity. If the bulk specific gravity is determined using both the Saturated Surface–Dry Method and the Vacuum Sealing Method, perform the Vacuum Sealing Method first to have dry specimens to begin the Saturated Surface-Dry Method. If the plastic bag is punctured during testing, mark the appropriate box on the data sheet and be sure to follow the procedure provided in the test method for specimens that may contain moisture.

Bulk Specific Gravity of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens AASHTO T166-25 or ASTM D2726-21: Report the bulk specific gravity of the specimen to the nearest 0.001.

Bulk Specific Gravity of Compacted Asphalt Mixtures Using Vacuum Sealing Method AASHTO T331-25 or ASTM D6752-25: Report the bulk specific gravity of the specimen to the nearest 0.001.

Percent Air Voids in Compacted Dense and Open Asphalt Mixtures AASHTO T269-24 or ASTM D3203-22: Calculate the percent air voids from the maximum and bulk specific gravities. Report the percent air voids to the nearest 0.01 percent.

Resistance to Deformation of Bituminous Mixtures by Means of Hveem Apparatus CP-L 5106-21: Determine the stabilometer value. Report the uncorrected stabilometer value and the stabilometer value corrected for the height of the specimen to the nearest unit.

Contact AASHTO re:source at psp@aashtoresource.org or call 240-436-4900 if there are questions.

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