2025 Asphalt Mixture Ignition Oven Proficiency Samples 51 and 52

Instructions for Testing and Reporting

Closing Date: January 1st, 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 just one box of materials. The sample box should contain the following items:

1) Two pre-mixed bricks of asphalt (each weighing between 1,595 and 1,625 g*)
2) One bag of 1/2-inch (12.5-mm) aggregate
3) One bag of 3/8-inch (9.5-mm) aggregate
4) One bag of No. 4 (4.75-mm) aggregate
5) One bag of No. 8 (2.36-mm) aggregate
6) One bag of fine aggregate (100% passing the No. 8 (2.36-mm) sieve)
7) One bag of mineral filler
8) One pint can of liquid asphalt

*If the sample masses are outside of this range, please contact us immediately.

To view a brief video of what should be in each box, please use the following link:

HMI 51/52 Unboxing Video

ACCREDITED Proficiency Testing Provider CERTIFICATE # 4159.01
DEKRA ISO 9001:2015 Certified
AASHTOresource.org
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Sample Preparation for Asphalt Correction Factor:

Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method T 308-25 (Annex A):

Prepare three batches using the aggregate and asphalt provided. Oven dry the aggregate before combining the materials in the proportions described in the table below. Determine all masses to the nearest 0.1 g.

Mixing Temperature: 155 to 160°C (310 to 320°F)

The first batch to be mixed is the butter batch for the bowl. Discard this batch. The remaining two batches are the correction-factor specimens.

Condition the two correction factor specimens in covered containers in an oven for a minimum of 1 hour and a maximum of 2 hours.

Conditioning Temperature: 145 to 150°C (293 to 302°F)

For the **convection-type furnace**, perform testing on the correction-factor specimens and on samples 51 (A) and 52 (B) at a temperature of 538°C (1000°F). Follow the manufacturer's instructions when using the **direct IR irradiation-type furnace**.

Calculate the known asphalt content using the table below. Determine the difference between the asphalt content reported from the oven (per AASHTO T 308) and the known asphalt content for both correction factor specimens. Calculate the average difference and use this value as the correction factor for both pre-mixed samples. Enter the average correction factor for both samples in Line Item 2 of the data sheet. Report the correction factor to the nearest 0.01 percent.

Do **not** determine an **aggregate gradation** correction factor for this round of testing.

Mix Formula for Correction Factor	Specimen Mass	
Aggregate Size or Ingredient	Individual Mass	Cumulative Mass
1) 12.5 mm (1/2 in.)	142.0	142.0
2) 9.5 mm (3/8 in.)	214.0	356.0
3) 4.75 mm (No. 4)	311.0	667.0
4) 2.36 mm (No. 8)	424.0	1091.0
5) Fine aggregate (passing 2.36 mm (No. 8))	388.0	1479.0
6) Mineral filler	44.0	1523.0
7) Asphalt	82.0	1605.0

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Test Methods:

Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method, T 308-25 or D6307-19:

Assume the pre-mixed asphalt mixture samples provided are moisture-free. Record the initial (as received) mass of the pre-mixed asphalt mixture samples to the nearest 0.1 g. Test the asphalt mixture samples in accordance with the test method and report the asphalt binder correction (or calibration) factor determined previously. Use the same correction factor for both samples. Report the corrected asphalt binder content to the nearest 0.01 percent.

Mechanical Analysis of Extracted Aggregate, T 30-25 or D5444-24:

Determine the mass of material removed by washing over the 75-µm (No. 200) sieve and report the result to the nearest 0.1 g. Report the total material passing each of the following sieves, to the nearest 0.1 percent, as percentages of the total mass of aggregate in the asphalt mixture: 12.5-mm (1/2-in), 9.5-mm (3/8-in), 4.75-mm (No.4), 2.36-mm (No. 8), 1.18-mm (No.16), 600-µm (No. 30), 300-µm (No. 50), 150-µm (No. 100), and the 75-µm (No. 200) sieve. Report the total material passing the 75-µm sieve (from the wash and sieve analysis) to the nearest 0.01 percent.

Please contact AASHTO re:source at psp@aashtoresource.org or 240-436-4900 if you have any questions.

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