Spring 2026 Performance Graded Asphalt Binder Proficiency Samples 283 (A) and 284 (B)
Sample Instructions

Closing Date: June 4, 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:

The outside of the box is labeled 283 (A) and 284 (B). The cans inside the box are labeled only (A) and (B). The can labeled (A) is sample 283. The can labeled (B) is sample 284.

Sample Preparation:

Heat the cans of asphalt in an oven at 160°C for a minimum of two hours. Gently stir and reheat for a maximum of two additional hours prior to pouring test specimens.

PG/MSCR Testing Temperatures:

This material is PG (Performance Grade) 76-22. Using the specified grade, test the material in accordance with the temperatures in AASHTO M 320-23. When testing the material for Multiple Stress Creep and Recovery (MSCR – AASHTO T 350/ASTM D7045) test the material at a temperature of 64°C.

Test Methods:

Unconditioned Binder:

Specific Gravity (Relative Density) of Bituminous Materials, AASHTO T 228-22 or ASTM D70/D70M-21: Determine the specific gravity at 25°C relative to water at 25°C. Report the results to the nearest 0.0001 gravity unit.

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Flash Point by Cleveland Open Cup, AASHTO T 48-22 or ASTM D92-24: Report the flash point to the nearest degree Celsius (estimated). Correct the observed value for barometric pressure if necessary. If skin should form, move it aside carefully with a glass rod or spatula and continue with the determination of the flash point. Please note this condition when results are submitted.

Rotational Viscosity, AASHTO T 316-22 or ASTM D4402/D4402M-23: Determine the viscosity at 135°C. Report the viscosity to the nearest 0.001 Pa·s.

Dynamic Shear Rheometer (DSR), AASHTO T 315-24 or ASTM D7175-25: Determine the complex shear modulus (G*) and the phase angle (δ), using a frequency of 10 rad/s, a 25-mm plate, a 1-mm gap, and the strain or stress values specified in the test method. Report G* to the nearest 0.01 kPa, d to the nearest 0.1 degree, and G*/sin d to the nearest 0.01 kPa.

Elastic Recovery of Asphalt Materials by Means of a Ductilometer, AASHTO T 301-22 or ASTM D6084/D6084M-21 (Procedure B): Test three specimens (briquettes). Use a test/bath temperature of 25°C. Pull the specimen clips at a speed of 5 cm/min (2 in./min) to an elongation of 20 cm. Report the average percent elongation recovery (percent elastic recovery) of the three specimens to the nearest 0.1 percent.

Ash Content of Asphalt and Emulsified Asphalt Residues, D8078-24:
Report the ash content of the unconditioned asphalt binder to the nearest 0.01%.

RTFO Conditioned Binder:

Rolling Thin-Film Oven Test, AASHTO T 240-23 or ASTM D2872-22: Change in Mass: Determine the masses of the samples and containers to the nearest 0.001 g. Report the average change in mass of the material to the nearest 0.001 percent. Use a negative number to report mass loss and a positive number to report a mass gain.

Dynamic Shear Rheometer (DSR), AASHTO T 315-24 or ASTM D7175-25: Determine the complex shear modulus (G*) and the phase angle (δ), using a frequency of 10 rad/s, a 25-mm plate, a 1-mm gap, and the strain or stress values specified in the test method. Report G* to the nearest 0.01 kPa, d to the nearest 0.1 degree, and G*/sin d to the nearest 0.01 kPa.

Multiple Stress Creep Recovery of Asphalt Binder Using a Dynamic Shear Rheometer, AASHTO T350-25 or ASTM D7405-24: Use a new sample for this testing. Perform testing using a 25-mm plate and a 1-mm gap. Report the average percent recovery at 0.1 kPa ($R_{0.1}$) and 3.2 kPa ($R_{3.2}$), and the percentage difference between average percent recovery at 0.1 kPa and 3.2 kPa (R_{diff}), to the nearest 0.01 percent. Report the non-recoverable creep compliance at 0.1 kPa ($J_{nr0.1}$) and 3.2 kPa ($J_{nr3.2}$) to three significant figures (kPa^{-1}) and percent difference between non-recoverable creep compliance at 0.1 kPa and 3.2 kPa ($J_{nr\text{-}diff}$) to the nearest 0.01 percent.

PAV Conditioned Binder:

Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV), AASHTO R 28-22 or ASTM D6521-22: Condition the asphalt binder using the pressurized aging vessel (PAV).

Dynamic Shear Rheometer (DSR), AASHTO T 315-24 or ASTM D7175-25: Determine the complex shear modulus (G*) and the phase angle (δ) using a frequency of 10 rad/s, an 8-mm plate, a 2-mm gap, and the strain or stress values specified in the test method. Report G* to the nearest kPa, d to the nearest 0.1 degree, and G*• sin d to the nearest kPa.

Bending Beam Rheometer (BBR), AASHTO T 313-25 or ASTM D6648-25a: Determine the flexural creep stiffness and estimated slope (m) of two trial beams for sample A and sample B. Report the creep stiffness and estimated slope for the averages of the two trial beams for samples A and B. Report the estimated

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creep stiffness after 60 s in MPa to three significant figures and the average value of the estimated slope (m) to the nearest 0.001.

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