

## Fall 2025 Performance Graded Asphalt Binder Proficiency Samples 281 (A) and 282 (B) Sample Instructions

Closing Date: January 15<sup>th</sup>, 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 281(A) and 282(B). The cans inside the box are labeled only (A) or (B). The can labeled (A) is sample 281. The can labeled (B) is sample 282.

The PG Grade (AASHTO M320) for this material is PG 76-22.

### Test Methods:

#### Unconditioned Binder:

**Specific Gravity (Relative Density) of Bituminous Materials, AASHTO T228-22 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.

**Flash Point by Cleveland Open Cup, AASHTO T48-22 or ASTM D92-24:** Report the flash point to the nearest degree Celsius (estimated). Correct the observed value for barometric pressure if necessary. If a skin should form, move it carefully aside with a glass rod or spatula and continue with the determination of the flash point. Please note this condition under "comments" or "feedback" when results are submitted.

**Rotational Viscosity, AASHTO T316-22 or ASTM D4402/D4402M-23:** Determine the viscosity at 135°C using the Rotational Viscosity apparatus. Report the viscosity to the nearest 0.001 Pa·s.

**Dynamic Shear Rheometer (DSR), AASHTO T315-24 or ASTM D7175-23:** Determine the complex shear modulus ( $G^*$ ) and the phase angle ( $\delta$ ) at 76°C, using a frequency of 10 rad/s, a 25 mm plate, a 1 mm gap and the strain or stress values specified in the method. Report  $G^*$  to the nearest 0.01 kPa,  $\delta$  to the nearest 0.1 degree and  $G^*/\sin \delta$  to the nearest 0.01 kPa.

**Elastic Recovery of Asphalt Materials by Means of a Ductilometer, AASHTO T301-22 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 T240-23 or ASTM D2872-22: Change in Mass:** Determine the masses of the samples and containers to the nearest milligram (0.001 g). Report, to the nearest 0.001 percent, the average change in mass of the material. **Please use a negative number to report a mass loss and a positive number to report a mass gain.**

**Dynamic Shear Rheometer (DSR), AASHTO T315-24 or ASTM D7175-23:** Determine the complex shear modulus ( $G^*$ ) and the phase angle ( $\delta$ ) at 76°C, using a frequency of 10 rad/s, a 25 mm plate, a 1 mm gap and the strain or stress values specified in the method. Report  $G^*$  to the nearest 0.01 kPa,  $\delta$  to the nearest 0.1 degree and  $G^*/\sin \delta$  to the nearest 0.01 kPa.

**Multiple Stress Creep Recovery of Asphalt Binder Using a Dynamic Shear Rheometer, AASHTO T350-19(23) or ASTM D7405-24:** Use a new sample for this testing. Perform testing at 76°C 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 ( $\text{kPa}^{-1}$ ) and percent difference between non-recoverable creep compliance at 0.1 kPa and 3.2 kPa ( $J_{nr-diff}$ ) to the nearest 0.01 percent.

**PAV Conditioned Binder:**

**Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV), AASHTO R28-22 or ASTM D6521-22:** Condition the asphalt binder at a temperature of 100°C using the pressurized aging vessel (PAV).

**Dynamic Shear Rheometer (DSR), AASHTO T315-24 or ASTM D7175-23:** Determine the complex shear modulus ( $G^*$ ) and the phase angle ( $\delta$ ) at 31°C, using a frequency of 10 rad/s, an 8 mm plate, a 2 mm gap and the strain or stress values specified in the method. Report  $G^*$  to the nearest kPa,  $\delta$  to the nearest 0.1 degree and  $G^* \cdot \sin \delta$  to the nearest kPa.

**Bending Beam Rheometer (BBR), AASHTO T313-25 or ASTM D6648-25:** Determine the flexural creep stiffness and estimated slope ( $m$ ) of two trial beams for Sample A and Sample B at -12°C. Report the creep stiffness and estimated slope for the averages of the two trial beams for both Samples A and B. Report the estimated 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.