

State of Nevada
Department of Transportation
Materials Division

METHOD OF TEST FOR EMULSIFIED ASPHALT

Follow AASHTO T 59 in its entirety with the following exceptions:

SAMPLE CONDITIONING FOR TESTING

Add to this section with the following:

The sample containers should be tightly sealed, especially if testing solvent-based emulsions. Open the containers slowly to relieve pressure. Samples of solvent-based emulsions, such as CMS-2s should not be maintained at a temperature of 50°C (122°F) for more than three hours.

RESIDUE AND OIL DISTILLATE BY DISTILLATION - PROCEDURE

Add to this section the following:

It may not be possible to determine the volume of the oil distillate to the nearest 1/2 mL due to the lack of a clear line of demarcation between the water, emulsifier and the oil distillate. In this case, seal the graduated cylinder and place it in a freezer at a temperature of $-18 \pm 3^{\circ}\text{C}$ ($0 \pm 5^{\circ}\text{F}$) until separation between water and oil is established, but no more than three hours. Afterwards, allow the sample to thaw completely in the graduated cylinder and then record the oil distillate volume.

EMULSIFIED ASPHALT RESIDUE BY EVAPORATION - APPARATUS

Replace the beakers and the glass rods in this section with the following:

Containers, 355 mL (12 oz.) covered cylindrical seamless metal containers, with an approximate diameter of 86 mm (3 3/8 in.) and depth of 57 mm (2 1/4 in.).

Glass Rods, with flame-polished ends, having an approximate diameter of 6.4 mm (1/4 in.) and length of 152.4 (6 in.) for use with the 355 mL (12 oz.) metal containers.

RESIDUE BY EVAPORATION - PROCEDURE

Change this section with the following:

Conduct the test with three of the containers as specified under Apparatus. The mass of the assembly will include the cover. The containers shall be loosely covered during the evaporation process to avoid loss of material.

VISCOSITY (PADDLE VISCOMETER) - APPARATUS

Follow AASHTO T 382 in its entirety with the following exceptions:

The sieve will be an 850 μm (No. 20) sieve of wire cloth, framed, with a cloth diameter of $1\ 1/2 \pm 1/8$ in.

Metal cups will be used for referee testing.

VISCOSITY (PADDLE VISCOMETER) - PROCEDURE

Follow AASHTO T 382 in its entirety with the following exceptions:

During field testing, the material may be received at a temperature exceeding 50°C (122°F). In this case, pour approximately 175 to 200 ml of emulsion into a transfer container made of glass or plastic with an approximate diameter of 3.5 in. Immerse the container in a pan of tap water maintained at $25 \pm 5^{\circ}\text{C}$ ($77 \pm 9^{\circ}\text{F}$). The emulsion sample shall be fully immersed below the level of the water, taking care not to contaminate sample. Stir the emulsion at approximately 60 rpm with a thermometer and cool the sample to $50 \pm 3^{\circ}\text{C}$ ($122 \pm 5^{\circ}\text{F}$). Keep the original sample container in a 50°C (122°F) oven until all testing is complete.

For testing at 50°C (122°F), preheat the viscometer cup and paddle for 30-60 seconds prior to running a test. Heat the test cup and sieve to approximate test temperature in an oven maintained at $50 \pm 3^{\circ}\text{C}$ ($122 \pm 5^{\circ}\text{F}$).

If enough material to fill the test cup will not pass through two sieves due to excess particulates, the viscosity will be considered unobtainable by this procedure.

Clean sample cups and paddles with an appropriate solvent followed by acetone.

VISCOSITY (PADDLE VISCOMETER) – CALIBRATION AND STANDARIZATION

Follow AASHTO T 382 in its entirety with the following exceptions:

At 50°C (122°F), the recommended certified viscosity standard is S2000.

SIEVE TEST - PROCEDURE

Change the mass of emulsified asphalt required for testing from 1000 g to 500 g.

SIEVE TEST - CALCULATION

Change the divisor to 5 in the calculation.