FLORIDA DEPARTMENT OF TRANSPORTATION
State Materials Office
5007 NE 39th Avenue
Gainesville, Florida 32609
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Florida Method of Test
for
VISCOSITY OF ASPHALT RUBBER
BY ROTATIONAL (DIP-N-READ) VISCOMETER

Designation: FM 5-548

Obsolete November 1, 2023

1. SCOPE

This test method outlines a procedure for determining the viscosity of asphalt rubber by rotational viscometer.

2. REFERENCED DOCUMENTS

ASTM Standards:
E 1 Standard Specification for ASTM Liquid-in-Glass Thermometers

Florida Method of Test:
FM 1-T 168 Sampling Bituminous Paving Mixtures

3. SUMMARY OF METHOD

The viscosity of the asphalt rubber is determined using a rotational viscometer. After the sample is brought to the test temperature, the viscometer rotor is dipped into the sample and rotated at a constant speed. The resistance to rotation of the rotor is measured in Poises (Pa·s).

4. APPARATUS

4.1 Rotational Viscometer - A portable rotational Dip-N-Read[1] viscometer.

[1]The Dip-N-Read rotational viscometer is a product of National Instrument Co., Inc., 4119 Fordleigh Rd., Baltimore, MD. 21215

4.2 Thermometer - Calibrated liquid-in-glass, total immersion type, of suitable range with gradations at least every 2.0°F (1.0°C) and a maximum scale error of 2.0°F (1.0°C) as prescribed in ASTM E 1.

4.3 Sampling Container - One-quart double friction-top metal can.

4.4 Hot plate - A thermostatically controlled hot plate capable of maintaining the sample at 350° F (176.7°C).

4.5 Stirring Device - A metal spatula with wood or plastic handle suitable for stirring the sample.

5. PROCEDURE

5.1 Obtain sample in accordance with FM 1-T 168.

5.2 Using a thermometer determine the temperature of the sample. Heat or cool the sample until the temperature is at the specified test temperature ± 1°F (± 0.6°C).

Note 1: Stir the sample to assure uniform temperature throughout the sample.

5.3 After the sample is at the desired test temperature, immediately dip the appropriate rotor into the sample to the required depth of immersion as indicated by the dip mark on the shaft of the rotor (Note 2).

Note 2: Use rotor #1 and read the middle scale (used for viscosity readings of 3 to 150 poises (0.3 to 15 Pa·s)).

Note 3: The viscometer rotor shall be clean and free of any solvent residue before use.

5.4 Level the instrument as indicated by the level indicator on the face of the instrument. Turn on the power and allow several seconds for the viscosity reading to stabilize and for trapped air in the rotor to escape.

5.5 Read the viscosity of the sample, from the correct scale, in Poises (Pa·s) and record.

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