

State of Nevada
Department of Transportation
Materials Division

**METHOD OF TEST FOR VISCOSITY OF POLYMER MODIFIED
ASPHALTS BY VACUUM CAPILLARY VISCOMETER**

SCOPE

The apparent viscosity of a polymer modified asphalt at a specified shear rate is determined by a vacuum capillary viscometer at 60°C (140°F).

This test shall be run in accordance with AASHTO T202 in its entirety with the exception of the following changes:

APPARATUS

Only Asphalt Institute Vacuum Viscometers, size AIVV 400, are approved for use with this test procedure.

A digital vacuum regulator capable of maintaining a vacuum to within ± 0.5 mm of the desired level up to and including 300 mm Hg may also be used.

SAMPLE PREPARATION

Replace this section with the following:

Heat the sample in the original sample container in an oven set at $163 \pm 5.5^\circ\text{C}$ ($325 \pm 10^\circ\text{F}$) until it has become sufficiently fluid to pour. After the sample is fluid, stir to achieve uniformity while taking care to avoid the entrapment of air.

PROCEDURE

Delete the minimum 60 s flow time and report time.

Add the following to this section:

Bulbs B, C and D shall not be used.

An alternative cleaning procedure is to clean the viscometer in an oven designed to remove



organic contaminants at high temperatures. Upon removal from the cleaning oven, the viscometer shall be washed with soap and water to remove any residual contaminants, rinsed with distilled water, and placed in an oven until dry.

REPORT

Replace this section with the following:

Always report the test temperature and vacuum with the viscosity test result. The reported apparent viscosity of a polymer modified asphalt shall be the viscosity from the bulb with a shear rate greater than 1.0 reciprocal second. If more than one bulb meets this criteria, the viscosity selected will be from the bulb with the shear rate closest to 1.5 reciprocal seconds. If a shear rate less than 1.0 reciprocal second is obtained, the viscosity will be reported as meeting the minimum specification. Viscosity shall be reported in Pa·s to the nearest 0.1 (Poises to the nearest whole number).

PRECISION AND BIAS

Replace this section with the following:

The following criteria shall be used for judging the acceptability of test results:

Repeatability - Duplicate results by the same operator should not be considered suspect unless they differ by more than 12 percent of their mean.