WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

STANDARD METHOD OF MEASUREMENT FOR THICKNESS OF ASPHALT
PAVEMENT USING DRILLED CORES

1. PURPOSE

1.1 Establish a test method for accurately measuring Asphalt Pavement cores for the determination of constructed lift thickness

2. SCOPE

2.1 This procedure shall be applicable to all Marshall and Superpave mix base layers and wearing courses.

3. REFERENCED DOCUMENTS

3.1 *WVDOH Standard Specifications Section 410: Asphalt and Wearing Courses, Percent Within Limits (PWL)*

3.2 *Materials Procedures.*

3.2.1 MP 401.07.21 Sampling Compacted Asphalt Mixtures in the Field

3.2.2 MP 401.13.50 Determination of Percent Within Limits

3.2.3 MP 109.01.01 Rounding of Numbers

3.3 *Section 401 of the Standard Specifications Roads and Bridges*

3.4 *MP 700.00.05 Guide for Scheduling Pavement Coring for Evaluation and Investigation*

4. EQUIPMENT

4.1 A steel rule of at least 12 inches (305 mm) in length, graduated in millimeters. Ensure that the ruler used is of sufficient length to measure from the top surface to the layer(s) of interest.

5.   MEASUREMENT PROCEDURE

5.1   Measure and record the thickness of the pavement layer to be evaluated to the nearest whole millimeter. The measurement shall be taken from the surface to the bottom of the layer of interest.

5.2   The layer thickness should be measured and recorded a total of 4 times around the core circumference, with each measurement approximately 90 degrees apart.

5.3   The four individual values should then be averaged and rounded to the nearest 0.01 millimeters. Then convert the average to inches by dividing by 25.4, and then round to the nearest 0.01 inches for the purposes of evaluation with project design lift thickness requirements and/or possible determination of Percent Within Limits (PWL).

6.   EXAMPLE CALCUALTION

A pavement core from a new asphalt overlay has been transported to the lab and consists of a new wearing course on top of existing pavement. Four separate measurements are taken from the top of the surface to the bottom of the new layer and recorded. The average of the four measurements is then calculated as shown below:

	Core Thickness (mm)
1	38
2	40
3	39
4	40
Average	**39.25**

$$Average = \frac{38 + 40 + 39 + 40}{4}$$
$$= 39.25 \; mm$$

The average value in millimeters is then converted to inches as shown below:

$$\frac{39.25}{25.4} = 1.5453 \; inches$$

The reported thickness for this layer on the measured core is 1.55 inches

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