

CORING RIGID PAVEMENT FOR THICKNESS

1. **SCOPE:** This method covers the procedure for obtaining and measuring drilled cores from rigid pavements for determining conformity with specified thickness. (NOTE: Cores are not required for projects involving less than 2500 square yards of concrete pavement. Thickness acceptance may be on the basis of inspection of the contractor's application rate and visual inspection of placement.)
2. **APPARATUS:**
 - 2.1. **Core Drill:** A core drill of either shot drill or diamond drill type capable of drilling a 4 inch diameter core.
 - 2.2. **Calipering Device:** A calipering device conforming to Kentucky Method 64-308, Method of Measuring Length of Drilled Cores.
3. **CORE SPECIMENS:** Cores shall conform to Kentucky Method 64-308, and shall have a nominal diameter of not less than 4 inches.
4. **MEASUREMENT OF CORES:** Cores shall be measured in accordance with Kentucky Method 64-308.
5. **PROCEDURE FOR OBTAINING CORES AND DETERMINING CONFORMITY WITH SPECIFIED THICKNESS:**
 - 5.1. Units to be considered separately for coring are defined as 1000 lineal feet of the poured pavement width starting at the end of the pavement bearing the smaller station number, except small irregular areas such as crossovers, entrances, etc., may be grouped as separate units comprising not more than 1000 square yards each. For turning lanes, units shall be considered as 800 to 1200 lineal feet of pavement, including tapers, and may include more than one (1) turning lane. For shoulder pavement, units shall be of the lengths given in the table in Section 5.1.3. One random core shall be taken from each defined unit. To best represent each unit, the original cores shall be taken at various distances from centerline and on alternate sides of the paved width centerline. The unit will be considered in conformance with specifications if 1) any core taken from mainline, ramps, turning lanes, crossovers, or entrance pavement is not deficient by more than 0.20 inch from plan thickness, or 2) any core taken from shoulder pavement is not deficient by more than 0.30 inch from plan thickness.
 - 5.1.1. The last unit in each poured pavement width may represent as much as 1500 lineal feet).

5.1.2. Ramps and ramp stubs will be cored as a single poured pavement width except ramp stubs when poured as part of another contract will be cored separately.

5.1.3. Coring Frequency for Various Shoulder Widths:

If Shoulder Width Is	Coring Frequency Is	Exploratory Coring Frequency is
4'	3000'	900'
6'	2000'	600'
8'	1500'	500'
10'	1200'	400'
12'	1000'	300'

5.2. Cores Deficient from 0.21 to 1.00 inch - When any core is found to be deficient from plan thickness by 0.21 inch to 1.00 inch inclusive, additional cores will be taken and an average thickness determined for the affected unit as follows:

5.2.1. On dual lane constructed pavement, 2 additional cores shall be taken at intervals of not less than 300 feet within the unit and within the lane from which the original core was obtained. Additionally one core shall be taken in the adjacent lane across from the original deficient core.

5.2.2. On single lane constructed pavement 2 additional core shall be taken at intervals of not less than 300 feet within the unit.

5.2.3. On small irregular areas 2 additional cores shall be taken from the unit and at random locations as determined to best represent the unit.

5.2.4. The reported thickness of a unit shall be the average thickness determined from all cores obtained within the unit expressed to the nearest 0.10 inch except as follows: Cores measuring more than 0.20 inch in excess of plan thickness will be considered as being plan thickness plus 0.20 inch for purposes of computing the unit average. Cores found to be deficient from plan thickness by more than 1.00 inch shall not be used in determining average thickness of units but shall require the drilling of additional cores as required in Section 5.4.

5.2.5. Units from mainline, ramps, crossovers or entrance pavement determined to have average thickness not deficient by more than 0.20 inch or units from shoulder pavement determined to have average thickness not deficient by more than 0.30 inch will be considered in conformity with specifications. Units determined to have average thickness outside of these ranges will be

subject to a reduced price in accordance with Section 501.28 of the current Standard Specification.

- 5.3. Shoulder Cores Deficient from 0.31 inch to 1.00 inch - When any shoulder core is found to be deficient from plan thickness by 0.31 inch to 1.00 inch inclusive, 2 additional cores will be taken and an average thickness determined for the affected unit. Refer to Section 5.1.3 for taking additional cores.
- 5.4. Cores Deficient More than 1.00 Inch - When the measurement of any core is deficient from plan thickness by more than 1.00 Inch the extent of 1.00 Inch deficient area will be determined by taking additional cores at not less than 10 foot intervals parallel to the centerline in each direction from the deficient core until in each direction a core is obtained which is not deficient by more than 1.00 Inch . (For small, irregular areas additional cores will be taken at not less than 10 foot intervals and in a manner considered to best determine extent of the deficient area.)
6. REPORT: The report shall document the measured length of all cores and the location of all cores with respect to project stationing and the centerline of pavement. Additionally, station references or other descriptions shall be documented to establish location and extent of areas deficient by more than 1.00 inch or areas subject to price reduction. The average thickness for each unit subject to averaging shall be reported.

APPROVED

DIRECTOR
DIVISION OF MATERIALS

DATE

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