

SECTION 3200 - PAVEMENT TRUENESS

PART 1 - GENERAL

1.01 SCOPE: This Section covers methods and requirements for testing and reporting pavement trueness. Topics covered are locations for profilograph test, equipment, surface test, smoothness evaluations, and corrective action.

1.02 RELATED WORK: Refer to the following sections for related work:

Asphalt Pavements	Section 3100-Asphalt Paving
Concrete Pavements	Section 4100-Concrete Pavement and Flatwork

1.03 SUBMITTALS: Contractor shall submit the following for review:

- A. Profilograph and operator certifications.
- B. Profilograph trace and certified interpretation and checking template.

1.04 TEST LOCATIONS: Contractor shall provide trueness testing, interpretation, and corrective action at the following locations:

- A. Asphalt and concrete pavements identified for profilograph, smoothness, or trueness testing in the Special Conditions or on the drawings shall be tested and corrected.
- B. Asphalt and concrete pavements, which are not otherwise identified for testing, shall be tested when they exhibit poor subjective ride quality, as determined by Engineer. Such determination may include all or part(s) of the pavement on a given project.
- C. The following areas are excluded from the trueness testing requirements: bridge decks, shoulders, acceleration and deceleration lanes, patches, or hand finished pavements less than 100 feet in length.
- D. Within the pavements subject to testing, the following areas shall be excluded for determination of initial index, but shall be subject to "must grind" requirements: horizontal curves with centerline radius of less than 1000 feet, pavement within superelevation transitions, pavement within warp section of an at grade intersection, and vertical curves with a K of 90 feet or less.

where: $K = \text{abs}(L/(g_1 - g_2))$

L = length of vertical curve in feet

g_n = algebraic approach grade in percent

abs() = absolute value function.

PART 2 - PRODUCTS

2.01 PROFILOGRAPH EQUIPMENT: Equipment for trueness testing shall be a California type profilograph or other style of machine that yields compatible results and which is approved by the KDOT Bureau of Materials and Research. The equipment shall be furnished and operated by Contractor as specified in Kansas Test Method, KT-46I.

PART 3 - EXECUTION**3.01 SMOOTHNESS EVALUATION:**

- A. Contractor shall furnish the profilograph trace and his evaluation to Engineer. The testing and evaluation shall be performed by a trained and certified operator, and the evaluation shall be so certified. The testing procedure and evaluation of the trace shall be performed in accordance with Kansas Test Method, KT-46I, using zero bandwidth, except as modified by this Section.
- B. Index shall be reported per lane and shall be the average index of the two wheel paths for the lane.
- C. Contractor shall mark the profilograph trace at frequent intervals to correspond to uniquely identifiable permanent features. Markings shall be sufficient to accurately locate out of tolerance areas on the pavement.
- D. For determining pavement sections where corrective work is required, the pavement will be evaluated in 0.1-mile sections using the profilograph trace.
- E. Profilograph traces and certified interpretations shall be submitted and required repairs completed prior to acceptance of pavement.

3.02 CORRECTIVE ACTION:

- A. Areas representing high points having deviations in excess of 0.4 inches in 25 feet shall be corrected by Contractor. This "must grind" criteria applies regardless of the average index of the 0.1 mile section or posted speed.
- B. Tolerances: Corrective action shall be taken to produce a pavement with the required index and thickness. For pavements with posted speeds up to and including 45 mph, the maximum allowable profile index for a 0.1-mile section is 40.0 inches per mile. For pavements with posted speeds in excess of 45 mph, the maximum allowable profile index for a 0.1-mile section is 30.00 inches per mile.
- C. Corrective actions may be diamond grinding, or milling and replacement of asphalt surface course, or removal and replacement of pavement. Diamond grinding is permitted for "must grind" bumps. Grinding significant portions of the surface (such as would be required to correct chatter) will not be permitted. Where surface corrections are made, Contractor shall

establish a uniform texture. Corrected areas shall be neat rectangular areas. Corrective work shall be completed prior to determining pavement thickness.

- D. On sections where corrections are made, the pavement shall be retested by Contractor to verify that corrections have produced the required profile index.
- E. Engineer may waive corrective actions where he determines high index is the result of matching pre-existing conditions.

END OF SECTION 3200