



**DEVELOPMENTAL SPECIFICATIONS
FOR
EVALUATION OF LONGITUDINAL JOINT QUALITY FOR
FLEXIBLE PAVING MIXTURES WITH INCENTIVE/DISINCENTIVE**

**Effective Date
October 17, 2023**

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SUPPLEMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

23016.01 DESCRIPTION.

This work is evaluating in-place quality of centerline longitudinal joints on surface wearing courses for flexible paving and replaces [Article 2303.03, D, 4, c](#), of the Standard Specifications.

23016.02 EVALUATION.

A. General Requirements.

For Class I compaction areas on the surface, longitudinal joint density lots independent from the mat will be established for mainline paving as specified in Article DS-23016.02, B, for acceptance. Class I compaction is defined in [Article 2303.03, C, 5](#), of the Standard Specifications. Mainline shall be considered through lanes within the traveled way including middle turn lanes.

B. Sampling.

1. When surface paving abuts a previously placed surface course, forming a completed longitudinal joint eligible for evaluation, Engineer will obtain and test samples according to [Materials I.M. 320](#) and [321](#). Using random core locations determined for daily field voids lot (mat), Engineer will randomly select three of these locations to be sampled for joint density. When length of longitudinal joint is less than 3 mat sublots, Engineer will select two subplot locations. When length of longitudinal joint(s) is less than 2 mat sublots, joint cores will be waived.
2. When sampling for mat field voids is modified to include multiple days due to low production, sampling from the joint may also be modified by the Engineer.
3. Joints constructed with tandem pavers will be included, unless otherwise indicated in the contract documents.
4. For vertical joints, center joint cores on the visible seam between to the two adjacent lanes as shown in Appendix A of these specifications.
5. For notched wedge joints, center joint cores 4 inches away from the visible seam in the direction of the wedge as shown in Appendix A of these specifications.

6. Under direction and witnessing of the Engineer, drill one 6 inch diameter core at each sample location as soon as possible, but no later than the day following the completion of the longitudinal joint.
7. Do not compress, bend, or distort samples during cutting, handling, transporting, and storing. If samples are damaged, immediately obtain replacement samples, as directed by the Engineer, longitudinally from within 12 inches of the original sample location.
8. Apply [Article 2303.03, D, 5, c](#), of the Standard Specifications for post drilling operations.
9. Report sample locations and test results on the daily plant report corresponding with the JMF used in production of the subplot(s).

C. Lot Size.

Lot size shall be the length of field voids lot where longitudinal joint(s) exist.

D. Excluded Areas.

1. Engineer will not obtain samples from the following excluded areas to determine lot acceptance:
 - Joints where one side of the joint is formed by existing pavement not constructed under this contract
 - Joints where one side of the joint is not on the mainline surface.
 - Areas within 1 foot longitudinally of an obstruction during construction of surface course (manholes, inlet grates, utilities, bridge structures, runoff, etc.). Should a random sample location fall within 1 foot of such an area, Engineer will select an alternate nearby location away from obstruction.
 - Small areas, such as intersections, gore areas or transitions, or anywhere Engineer determines paving and phasing methods do not allow for consistent longitudinal joint construction.
2. Prior to paving, submit requests in writing to the Engineer for consideration of areas to be excluded on this basis. Engineer will make the final determination.

E. Joint Density.

Determine average joint density as a percent of average mat density per Appendix A. Mat cores and joint cores shall be collected on the same day of production for density determination. Mat cores identified as outliers for field voids acceptance will not be used in average mat density calculation.

23016.04 METHOD OF MEASUREMENT.

The Engineer will measure the length of each longitudinal joint density lot in feet.

23016.05 BASIS OF PAYMENT.

Use Table DS-23016-01 to determine the lot payment adjustment.

Table DS-23016-01: Payment for Longitudinal Joint Density

Avg Joint Density (%)	Payment Adjustment (\$/ft)
< 95.0 ¹	0.16*Avg Joint Density -15.2
95.0 – 97.0	\$0.00
> 97.0 ²	0.1333*Avg Joint Density – 12.93

1. Disincentive is not to exceed \$0.80/ft.
2. Incentive is not to exceed \$0.40/ft.

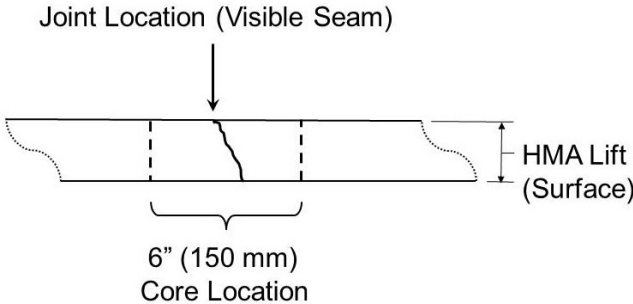
APPENDIX A

A. Joint Density

$$Avg\ Joint\ Density = 100 \times \frac{Avg\ Joint\ G_{mb}}{Avg\ Mat\ G_{mb}}$$

B. Coring Diagram

(a) Vertical Edge/Conventional (Butt) Joint



(b) Notched Wedge Joint

