

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

LONGITUDINAL JOINT DENSITY FOR HOT MIX ASPHALT PAVEMENTS

DESCRIPTION

This provision describes the procedure for determining core locations, coring frequency and acceptance criteria for longitudinal joint construction. This Special Provision is in addition to the requirements of Section 430, "Hot Mix Asphalt (HMA)".

ATTACHMENTS

Appendix A – Notched Wedge

CONSTRUCTION REQUIREMENTS

A. General

Applicable longitudinal joints are defined as those between any two paved areas that require calculated density; excluding joints for mats constructed on aggregate base, reclaimed material, or cold in place recycled material.

Hot seams or seams created via echelon paving are not considered applicable joints.

B. Longitudinal Joint Placement.

When placing the top lift of pavement, locate longitudinal joints at lane lines or the proposed edge of pavement.

When placing asphalt pavement over existing concrete pavement, place longitudinal joints at the same location as the existing concrete pavement longitudinal joints.

C. Notched Wedge Construction Option.

If a notched wedge joint is used, construct the notched wedge according to Appendix A.

D. Coring.

Obtain joint cores at locations determined by the Engineer. The locations for joint cores will be independent of mat density cores.

Obtain density cores for butt joints centered over the longitudinal joint.

If a notched wedge style joint is constructed, center the core over the tapered portion of the joint.

E. Longitudinal Joint Field Density.

A lot for joint density is defined as the length of the joint completed in one day. Sublots are 1,000 feet in length, contained within the lot. If a day contains less than 3 sublots, that day will not be considered a lot and the sublots will be included in the next complete lot.

Sublots less than 500 feet in length will not be counted separately. Sublots 500 feet or greater in length will be considered separate sublots.

The Engineer will determine the density of each longitudinal joint core. The Engineer will then divide the joint core density by the daily Maximum Theoretical Density (MTD) calculated from the day the lot is completed.

The subplot percent MTD will then be averaged to obtain a lot percent MTD for the joint. The Engineer will use the lot percent MTD and Table 1 to determine a contract price adjustment. The Contract Price Adjustment per Linear Foot will be applied to the entire length of the lot.

F. Low Density Requirements.

If the percentage of compaction of a subplot is below 87.0%, a corrective action must be performed for that subplot. Collaborate with the Engineer on what corrective action to take.

If the percent compaction of a subplot is less than 90.0% and the joint is in a location where rumble strips will not be installed, seal the joint represented by that subplot with an undiluted emulsion that meets the requirements of Section 401.03 C, "Fog Coat" at no additional cost to the Department. Seal butt joints at a width of 8 inches centered on the joint and seal notched wedges at a width of 16 inches centered on the middle of the notched wedge. Use an application rate ranging from 0.10 to 0.15 Gal/SY.

METHOD OF MEASUREMENT

The Engineer will measure each lot in linear feet along the longitudinal joint.

BASIS OF PAYMENT

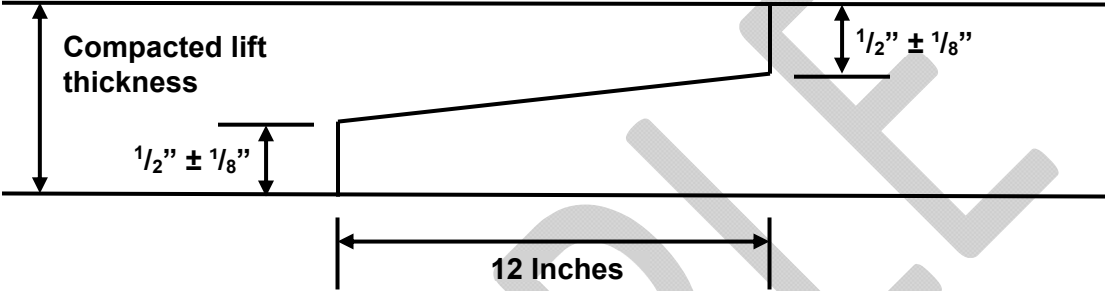
The pay adjustment for longitudinal joint density will not be used for areas constructed according to Section 430.04 I.3, "Ordinary Compaction".

The Engineer will apply the appropriate pay adjustment specified in Table 1 for each lot.

Table 1

| Contract Price Adjustment Per Linear Foot | Joint Lot % MTD |
|--|------------------------|
| \$0.40 | ≥ 91.1% |
| \$0.20 | 90.6% – 91.0% |
| \$0.00 | 90.0% - 90.5% |
| \$(0.20) | 89.0% - 89.9% |
| \$(0.60) | 88.5% - 88.9% |
| \$(1.10) | 88.0% - 88.4% |
| \$(1.80) | 87.5% - 87.9% |
| \$(3.60) | 87.0% - 87.4% |

Appendix A
Notched Wedge



SAMPLE