

Longitudinal Joint Construction Best Practices Flexible Pavements of Ohio Field Operations Committee

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Placing and compacting the unconfined edge

- Place the tack coat wider than the first pass to help hold the unconfined edge.
- Pave a straight joint using a string line layout or other control as a guide for the paving operator.
- Ensure joints constructed on curves uniformly follow the centerline of the road.
- Plan joint construction to make sure that with the variables in paving widths, cross slopes and joint staggers you are able to match your joint correctly, especially on 2-lane resurfacing with thin lift surface courses.
- Use auger and tunnel extensions.
- Ensure a uniform flow of material to the end of the auger extensions to ensure the mix placed at the joint is uniform in mix composition - a homogeneous mix.
- Keep the level of asphalt in front of the screed to the height of the auger shaft.
- Maintain a consistent paver speed.
- Use the vibrating screed and/or a pre-compaction device on the screed to pre-compact the unconfined edge.
- Roll the unconfined edge with a steel wheel roller operated in static mode for the first pass. Position the roller with the roll hanging over the unconfined edge approximately 6 inches to set the edge of the mat.
- Complete rolling the unconfined edge to obtain maximum achievable density without displacing the mat edge.

Placing and compacting the confined edge

- Regardless of joint type, broom cold joint before subsequent paving.
- Seal the joint face with binder (PG 64-22) or joint adhesive with 1/2 inch overlap.
- When matching a cold joint overlap the adjacent mat 1/2" to 1-1/2" to ensure a sufficient amount of material at the joint.
- When matching joint place material 25% higher than first pass to account for roll down. Do not lute or rake this extra material away from the joint.
- Roll the joint directly behind the paver to ensure compaction while the material is hottest.
- Once compacted, a slight elevation difference in the two lanes is desirable.
- Over-compaction as evidenced by crushed aggregate is unacceptable.
- Do quality control with a density gage to ensure maximum achievable density is obtained.

References:

Asphalt Institute:

- Final Report – Best Practices for Constructing and Specifying HMA Longitudinal Joints
- MS-22, Construction of HMA Pavements

National Asphalt Pavement Association:

- QIP-121E, Longitudinal Joints: Problems and Solutions
- QIP - 112E, Constructing Quality HMA Pavements - A Troubleshooting Guide
- PH-1, Hot-Mix Asphalt Paving Handbook 2000 2nd Edition



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Flexible Pavements of Ohio (FPO) is an association representing the interests of the asphalt paving industry in the state of Ohio to federal, state and local governments, private industry and other construction organizations. FPO supports active educational, technical and outreach programs designed to improve and advance quality asphalt construction.