TACKLING THE LONGITUDINAL JOINT

Best Practices to Make it Uniform – VDOT Specs

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Why are we concerned about longitudinal joints?

Area with lower density

Weak point in the pavement

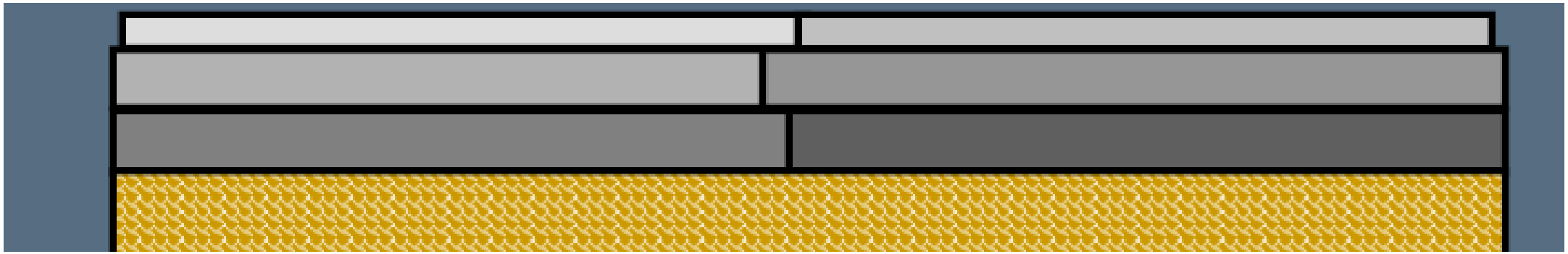
Core through joint with visible voids. Density = 86%!

Keys to Paving a Quality Joint

- Joint Location
- Joint Tacking
- Mix Placement & Handwork
- Compacted Depth
- Compaction
- Density Testing

Longitudinal Joint Location – Section 315.05 (c)

>6” offset from underlying joint



Longitudinal Joint Location – Section 315.05 (c)

2 Lanes:

6-12” from centerline

3+ lanes:

Approx 6” from lane lines

Joint too far from markings –> deterioration from traffic

Longitudinal Joint Location – Section 315.05 (c)

Maintain straight joint:

<2” Variation over 50 feet

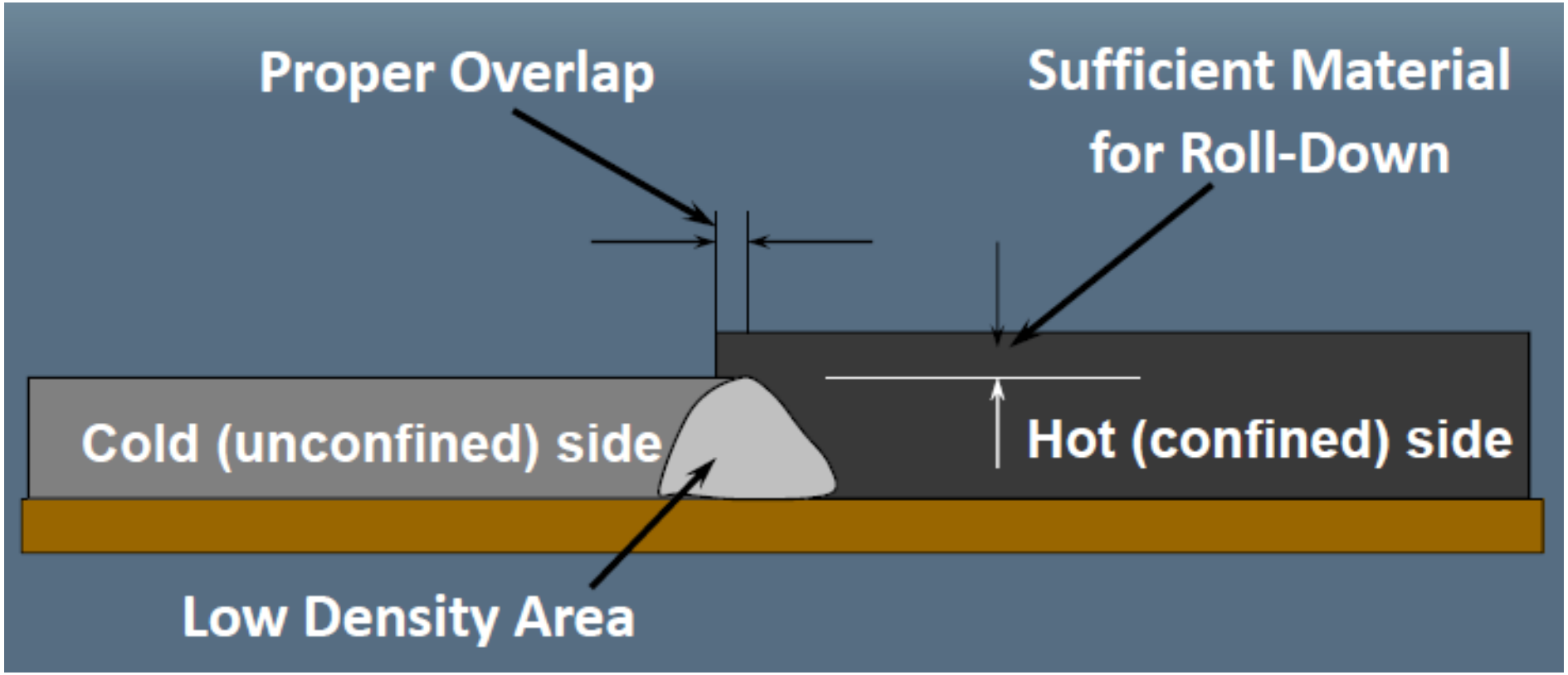
Tacking Joint – Section 310.03 & 315.05(b)1

Extra tack under joint on 1st pass & vertical face before 2nd

Proper Mix Placement During 2nd Paver Pass

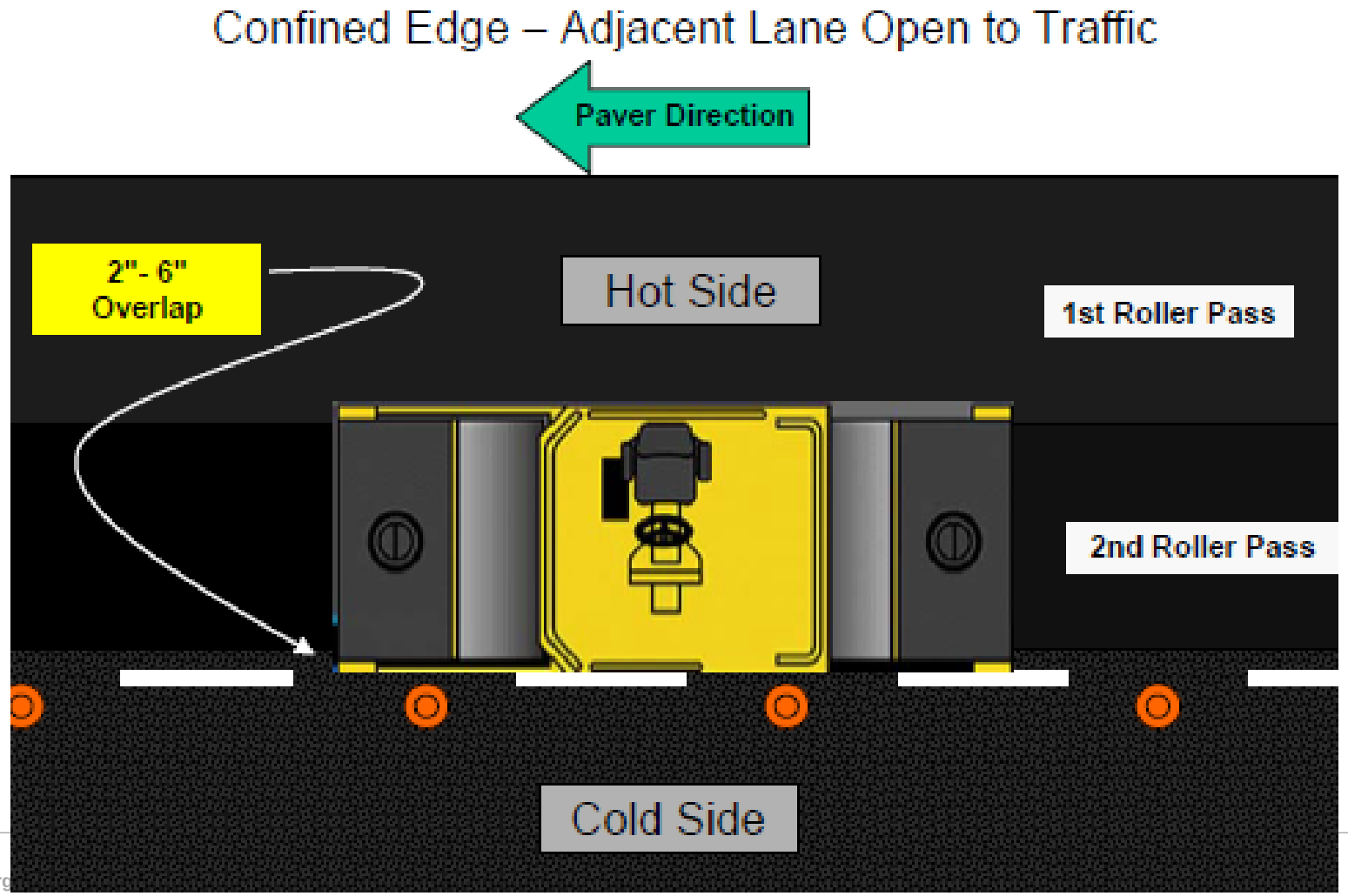
D2 = D1 + 25% : 25% higher material on 2nd paver pass

Overlap 1 – 2”



Joint Compaction – Section 315.05 (d)

Paving abutting lanes : roll toward the longitudinal joint



Joint Compaction
Section 315.05 (d)

Improper joint compaction can cause cracks adjacent to the joint.

Rolling shall not cause undue cracking of placed mixture

Density Testing Section 315.05(e)

Nuclear density readings 4” offset from joint (6” for BM)

Must be >95% of control strip target


Goal after 5 years old

References

Asphalt Institute Seminar on Joint Construction

https://www.asphaltinstitute.org/engineering/longitudinal-joint-information/

FHWA TechBrief

https://www.fhwa.dot.gov/pavement/asphalt/pubs/hif21023.pdf