ASPHALT

THE SMOOTH QUIET RIDE

ASPHALT 100% RECYCLABLE

2017 Local Roads Workshop

Longitudinal Joint Construction

Best Practices

March 2017

ASPHALT PAVEMENT ASSOCIATION OF MICHIGAN

MICHIGAN RIDES ON US Asphalt.

TOOLBOX TALK # 1.8.2 B

Longitudinal Joint Construction

Building a Sound Longitudinal Joint

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TOOLBOX TALK # 1.8.2 B

Steps in Making Good Longitudinal Joints

1- Control Segregation at the Outside Edges of the Mat
2- Steer a Straight Line
3- Compact Unconfined Edge
4- Maintain Correct Overlap
5- Place the Proper Depth for Roll Down
6- Do Not Lute the Joint
7- Compact the Joint for Density

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TOOLBOX TALK # 1.8.2 B

1

Control Segregation at the Outside Edges of the Mat

Minimize Segregation at the Outside Edges of the Mat

<u>Properly Adjust the Material Sensors</u>

<u>Use Correct Length of Auger Tunnels</u>

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Auger

Uniform Head of Material
Across the Entire Screed

Carry Material Within
12 – 18-inches of
the End Gate

Bob Humer Asphalt Institute slide

Carrying the mix out this far is unacceptable

Bob Humer Asphalt Institute slide

Bob Humer Asphalt Institute slide

TOOLBOX TALK # 1.8.2 B

2

Steer a Straight Line

Maintain Proper Overlap
A Must for Proper Joint Construction

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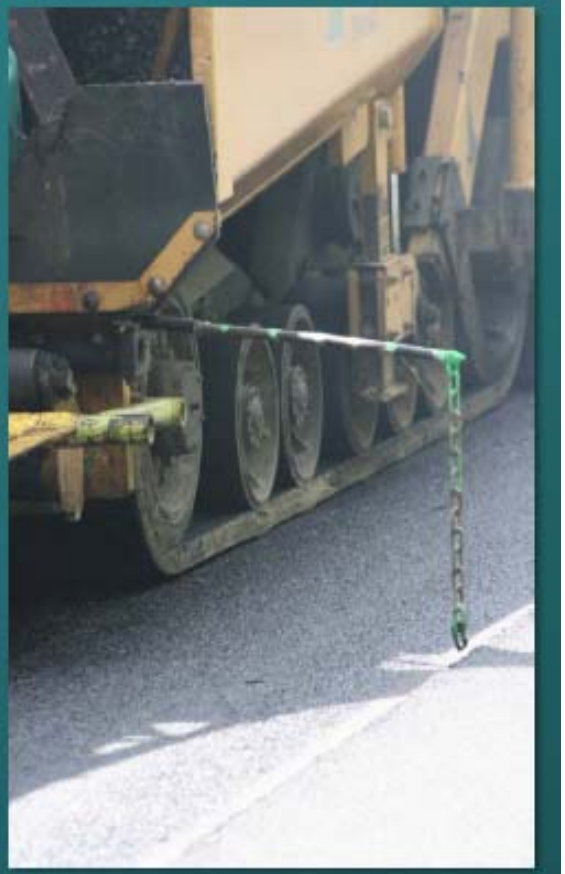
First Pass Must Be Straight!

Unanimous that a string-line should be used, to assure first pass is straight, to get a consistent 1” overlap with 2nd pass.

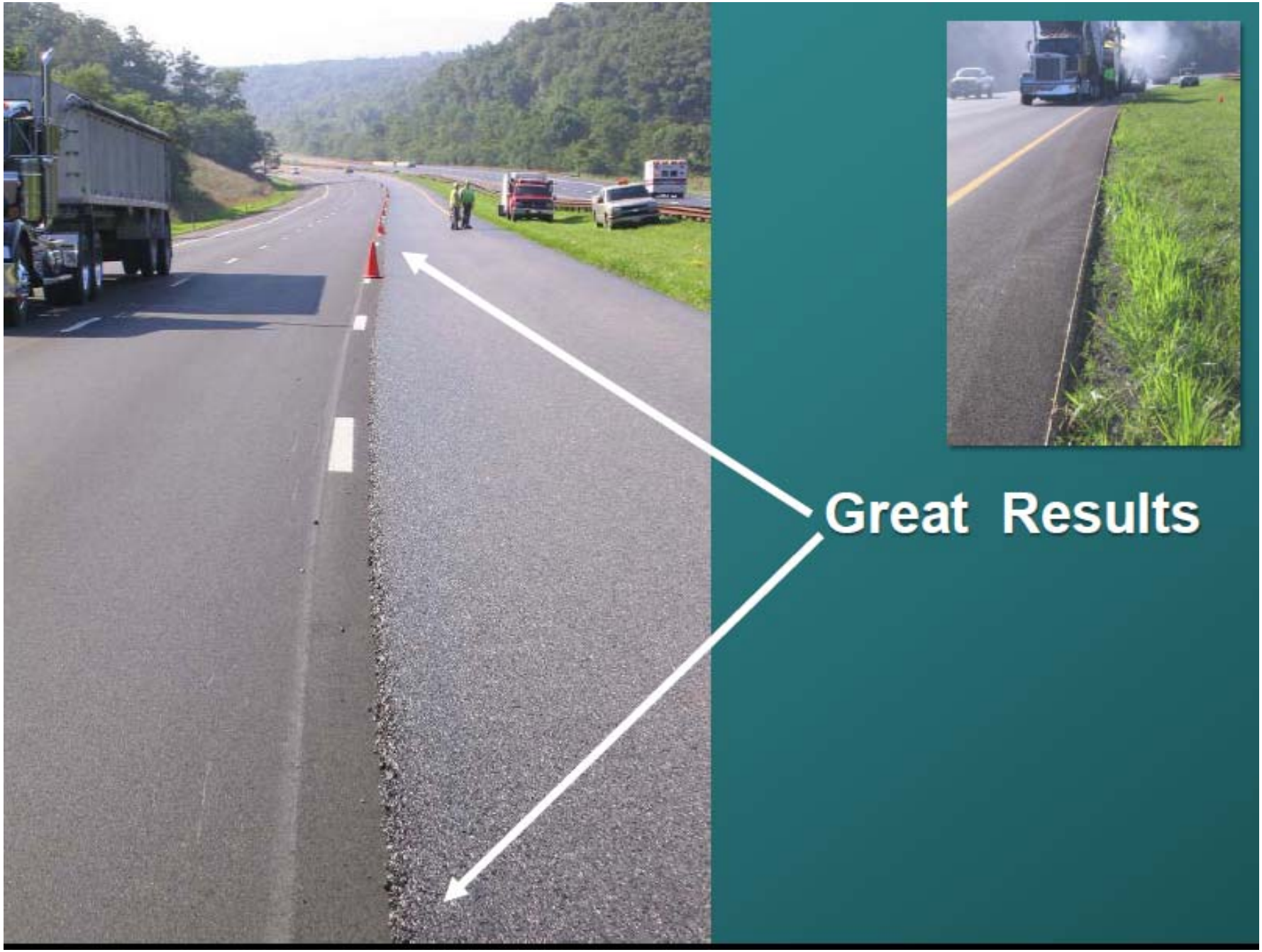
String-line

Skip Paint



Reference

Bob Humer Asphalt Institute slide



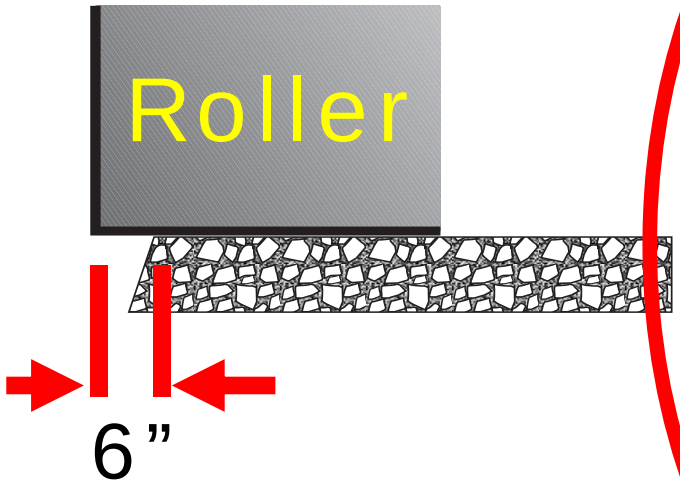
Bob Humer Asphalt Institute slide

TOOLBOX TALK # 1.8.2 B

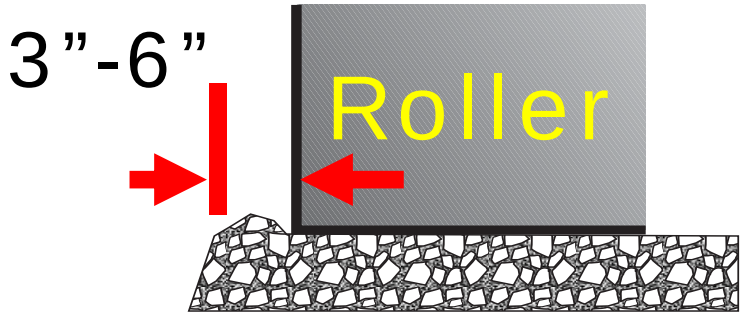
3

Compacting Unsupported Edge using Steel Wheel Roller

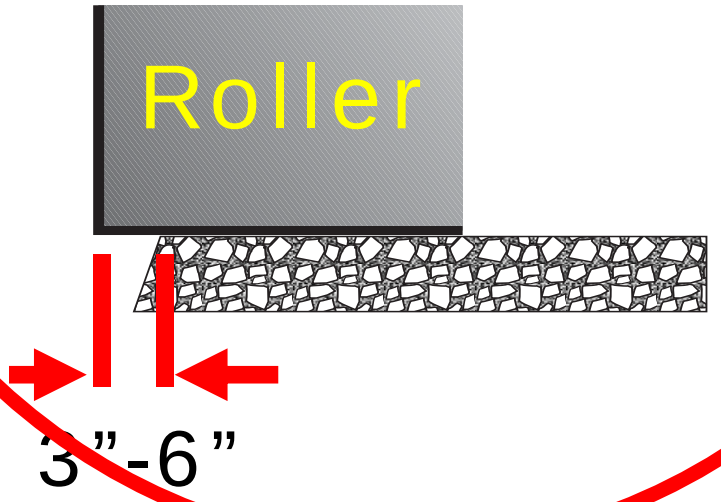
Option 1
Hang over 6”



Option 2
1st Pass 3”-6” inside



2nd Pass hang over 3”-6”



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MDOT Standard Specifications 501.03 (F.2.b)

b. **Vertical Longitudinal Joint.** When opening to traffic, plan the work to resurface adjacent lanes to within one load of the same ending point at the completion of paving operations each day. Construct a vertical joint to conform to the pavement cross section.

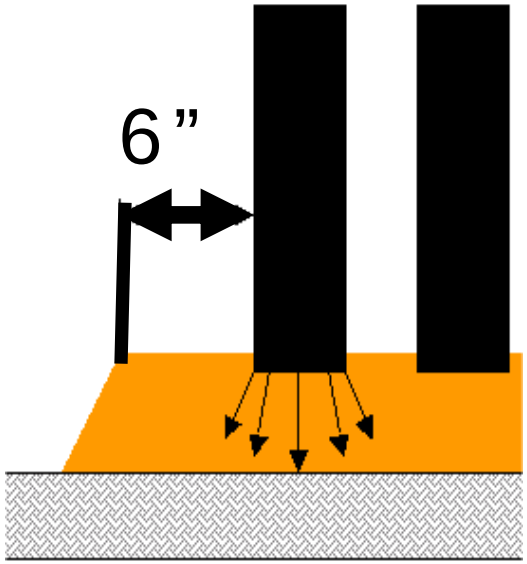
When compacting an unsupported (unconfined) edge of the mat, keep the roller from 3 inches to 6 inches inside the unsupported edge on the first pass; ensure the roller overhangs the unsupported edge by 3 inches to 6 inches on the second pass.

When placing HMA in a lane adjoining a previously placed lane, place the mixture so that the strike off shoe will produce an edge that is adjacent to or minimally overlaps the adjoining course. Compact the longitudinal joint by rolling from the hot side, keeping the edge of the roller approximately 6 inches to 8 inches inside the cold joint for the first pass. For the second pass of the roller, compact the joint from the hot side while overlapping the cold side by 6 inches to 8 inches.

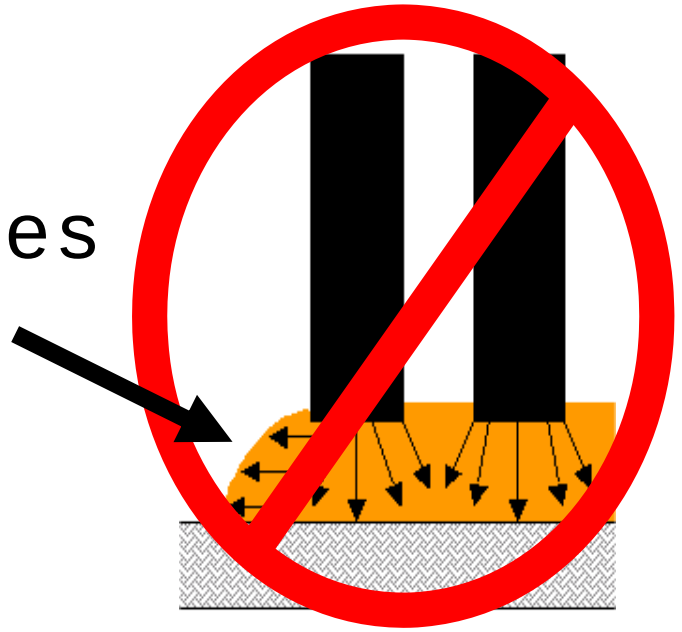
TOOLBOX TALK # 1.8.2 B

3

Compaction of Unsupported Edge using Pneumatic Tire Roller



Recommended



Not Recommended

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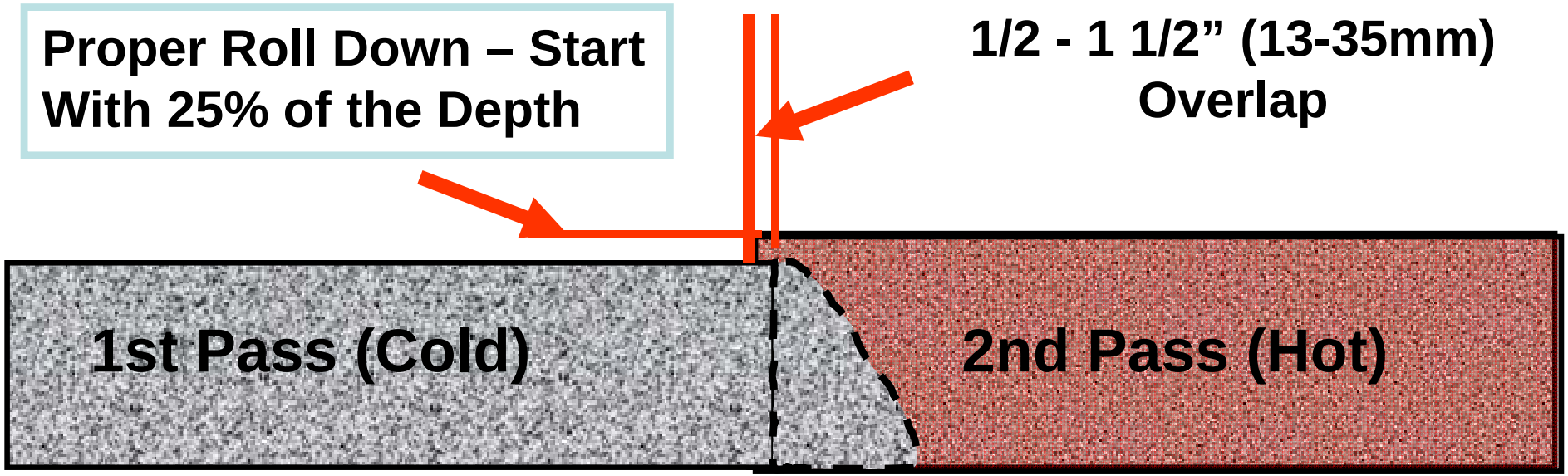
4 & 5

Maintain Proper Overlap and Matching Depth



Minimum Overlap for Compaction is 1/2 Inch (13mm)

<u>Always Check Joint Roll Down Behind the First Roller</u>

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4 & 5

Maintain Proper Overlap and Matching Depth

If Your Joint is Set Up Correctly, Little or No Handwork Should be Required

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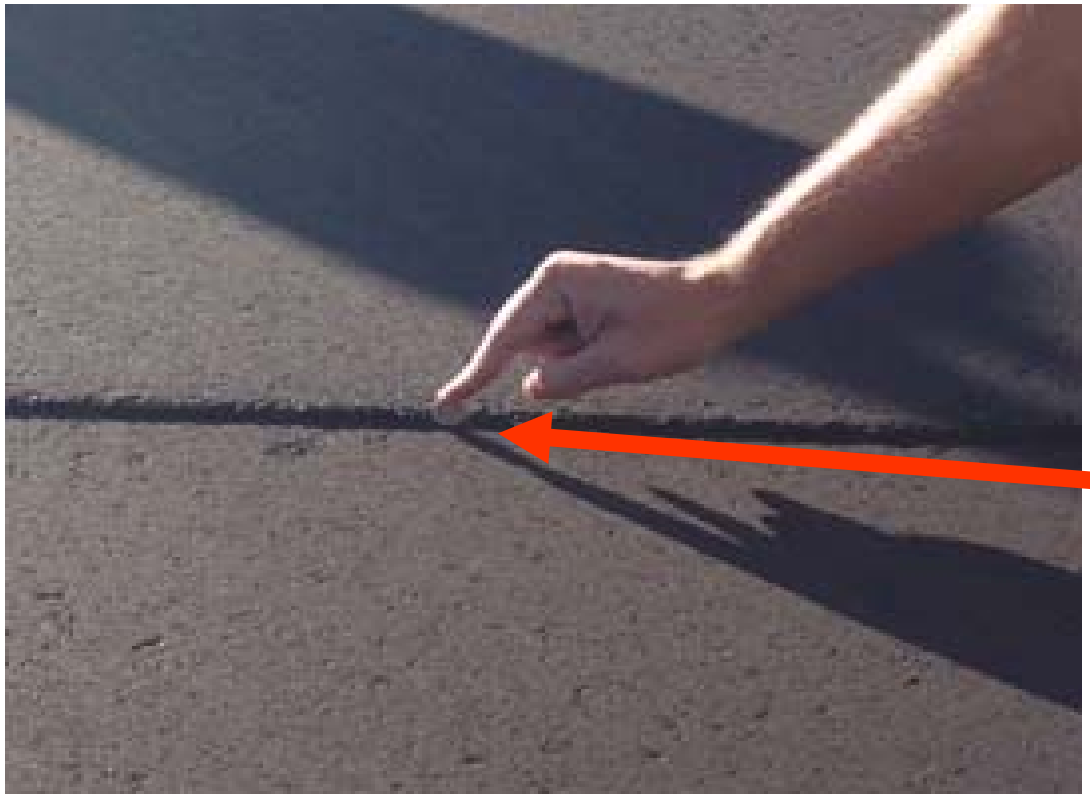
4 & 5

Maintain Proper Overlap and Matching Depth



Be Careful not to leave too high

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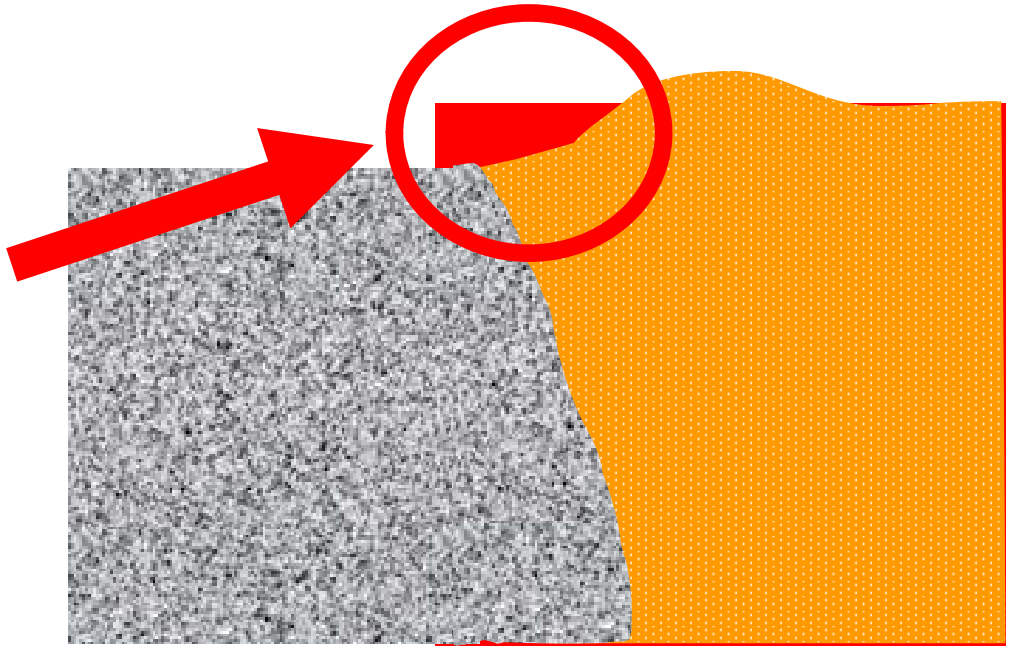
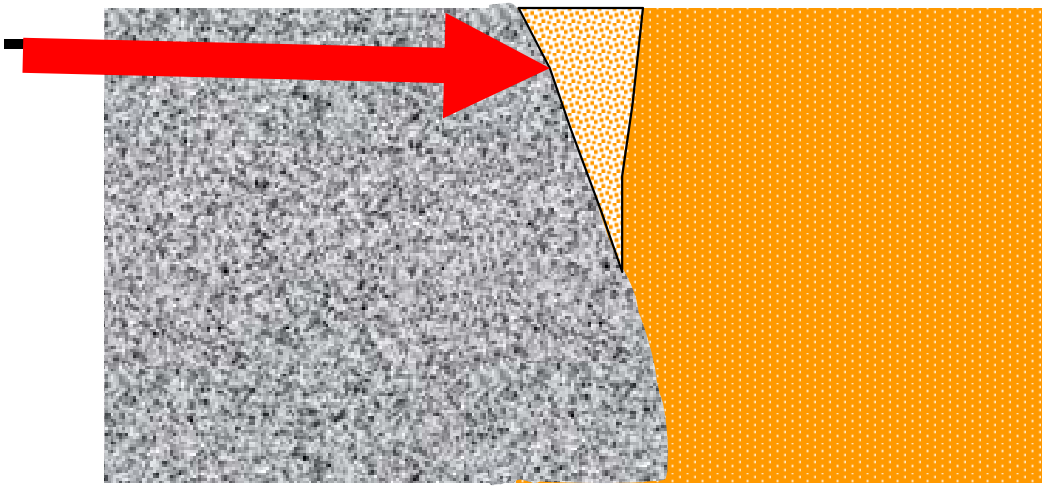
6 Do Not Lute Joint

- Moves material away from joint



- Results in low-density zone at joint



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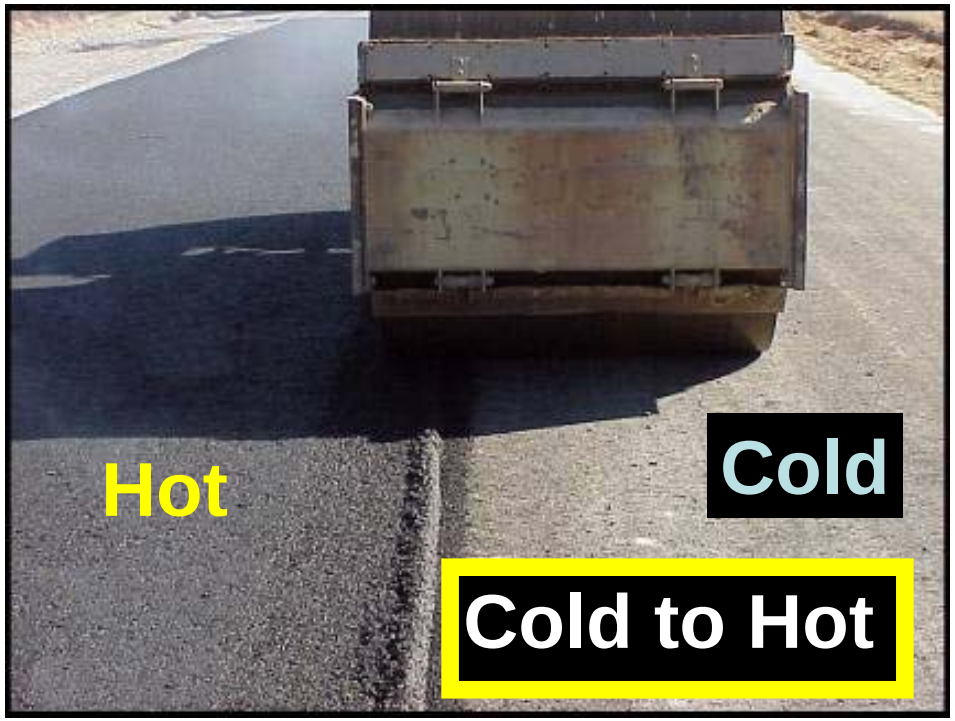
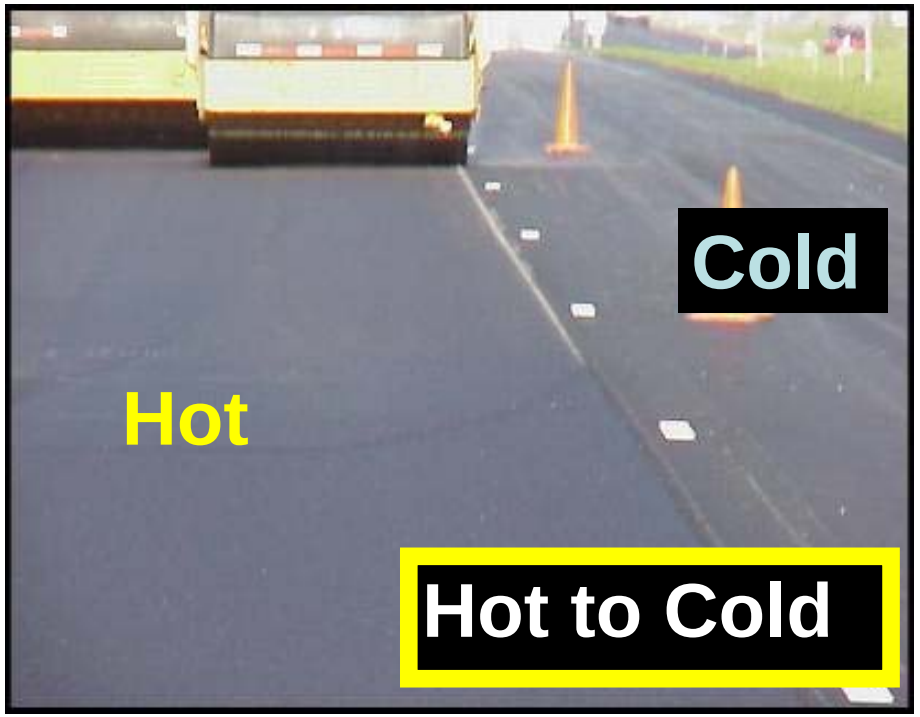
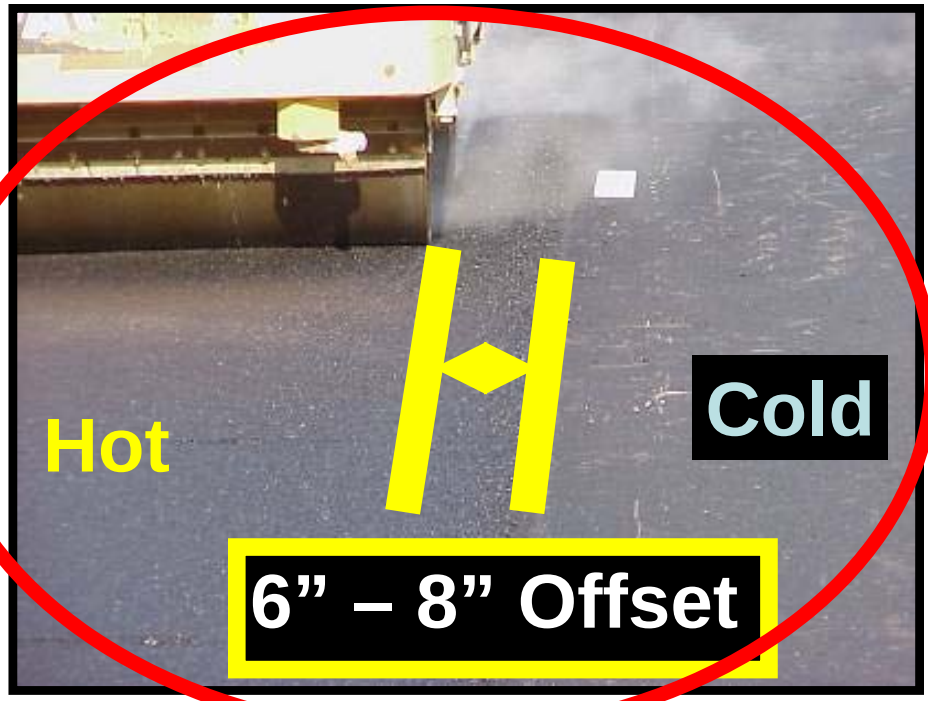




7

Compacting Longitudinal Joints



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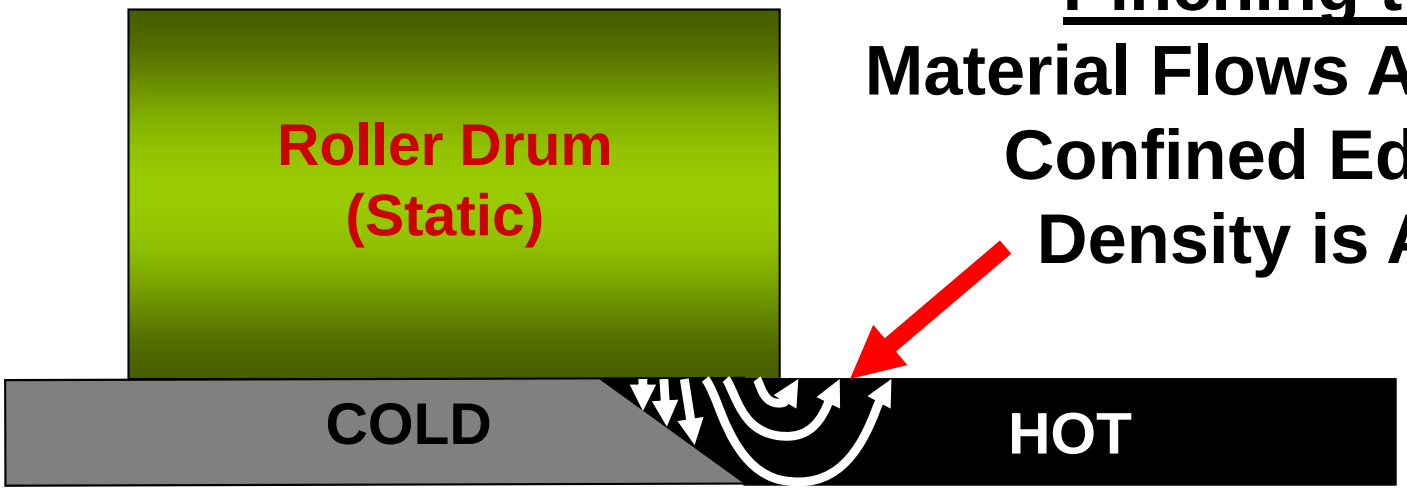
7

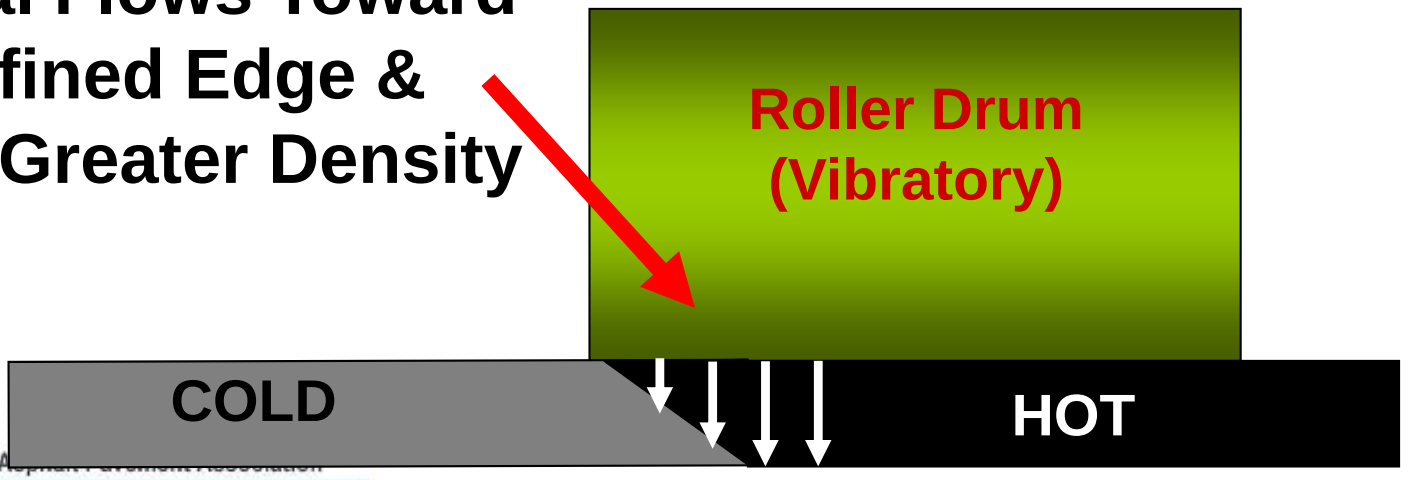
Material Flow at Joint

Pinching the Joint

Material Flows Away From the Confined Edge & Less Density is Achieved



Material Flows Toward Confined Edge & Builds Greater Density



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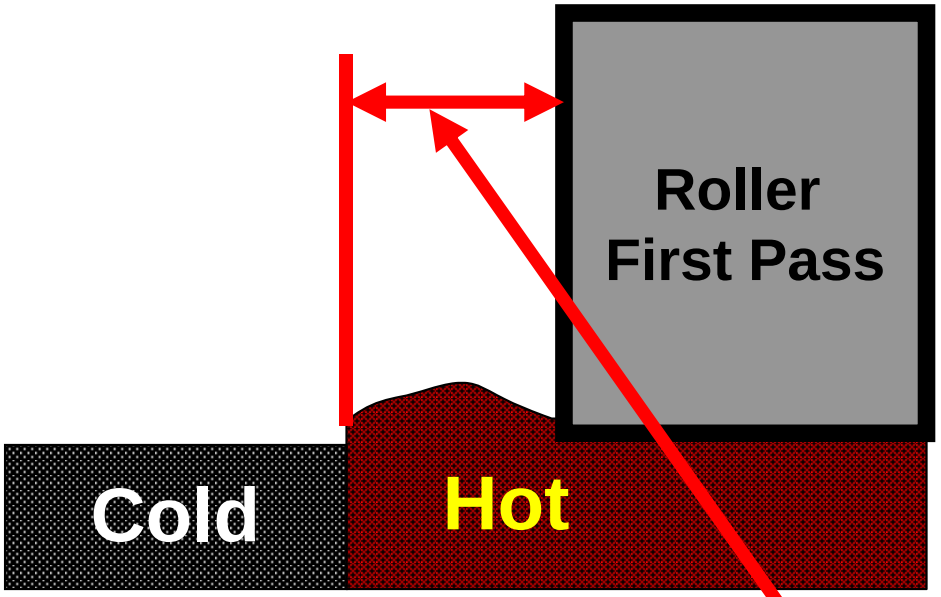
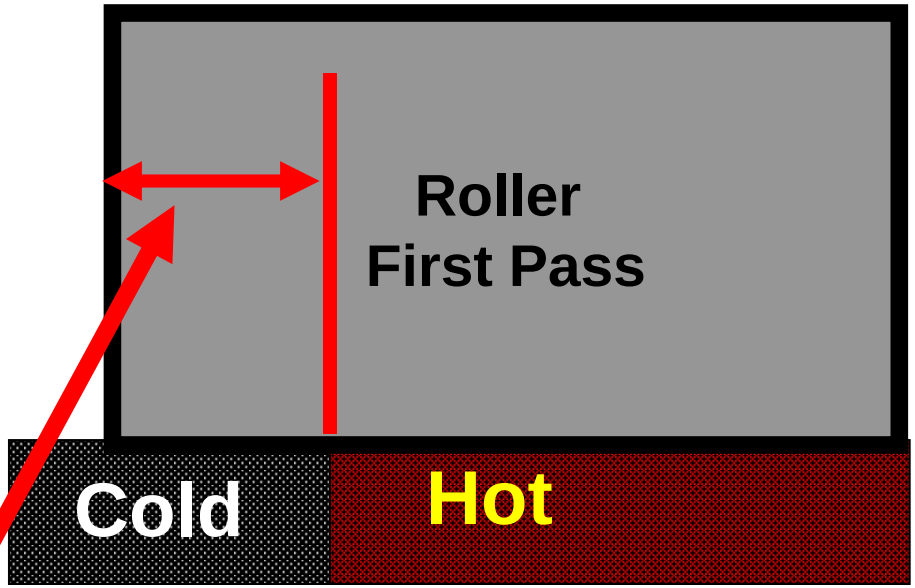
7

Compacting Your Longitudinal Joints

First Pass



Second Pass



6 to 8 Inches

Creates a Confined Edge & Raised Area

Second Pass Use, Vibratory to Build Density

MDOT Standard Specifications 501.03 (F.2.b)

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Temperature is the Key to Getting Density

Temperature

Temperature **Temperature**

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Questions ??

http://store.asphaltpavement.org/index.php?productID=674

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