



Florida Department of
TRANSPORTATION

Distributor/Tack/Prime Work Group



**Wayne Rilko, P.E.
State Materials Office**

Distributor/Tack/Prime Work Group

Topics for today's meeting:

- Bad tack shots. What to do? What not to do?
- Pavement surface receiving the tack coat
- Slippage
- Proposed specification language:
 - Clean the distributor tank
 - Verify the meter
 - Increase the tack spread rate for new-on-new construction
 - Coat the surface completely and uniformly
 - Do not dilute tack products

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Bad tack shot. What to do? What not to do?



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Shoot a short ‘test’ section just long enough to get the truck and pump up to speed. If uneven, stop and make adjustments.

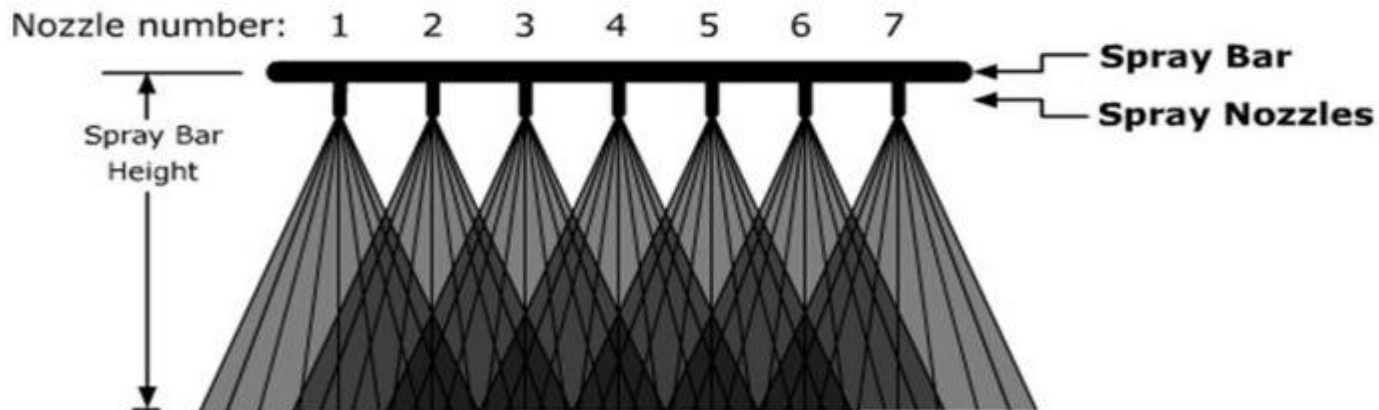


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**Don't back up and reshoot without making adjustments.
That gives another set of corn rows.**



**Be sure the truck is ready for the shot.
Check the spray bar and nozzles.**



Good coverage - triple lap

Except for the outside nozzles, each point on the pavement surface is covered by exactly three spray nozzles - a triple lap. For a given nozzle flow rate, this results in a greater application rate than for a double lap.

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Do not tack on a dirty surface. This causes pick up by the trucks and construction equipment.



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Be sure the tack breaks and sets.



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This.



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Not this.



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The Work Group was formed to address three main issues:

- **Distributor tank calibration**
- **Distributor truck/meter system calibration**
- **Increase tack application rates**

The existing specification requires one time calibration of the tank and no calibration requirement for the meter.

Our tack application rates are low when compared to other States.

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Proposed Specification Revisions



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Cleaning the distributor tank for accurate calibration:

300-3.1.1 Tank Cleaning: Clean the distributor tank at a minimum of every twelve months and whenever the product type in the tank is changed. Remove all emulsion and asphalt material during cleaning. Additionally, clean the distributor tank if the quality of the tack or prime shot diminishes or buildup causes the calibration of the tank to be affected.

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Checking of the distributor metering system accuracy:

300-9.2.1 Verification of the Meter: When using a meter to control the tack or prime application rate, manually measure the volume in the tank at the beginning and end of the application area for a specific target application rate. Perform this operation at a minimum frequency of once per production shift. Resolve any differences between the manually measured method and the meter to ensure the target application rate is met in accordance with this specification section. Adjust the application rate if the manually measured application rate is greater than plus or minus 0.01 gallons per square yard when compared to the target application rate.

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Raising the tack application rate for new-on-new construction:

Current = 0.04 gal./sq. yd.

Proposed = 0.05 gal./sq. yd.

Table 300-2
Tack Coat Application Rates

Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd ²)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.05 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.07
	Concrete Pavement	0.09
Open Graded Friction Course	Newly Constructed Asphalt Layers	0.06
	Milled Surface	0.08

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Raising the tack application rate for new-on-new construction:

Proposed = 0.05 gal./sq. yd.



Ref.	Part No.	Description	Application Gallons Per Square Yard	Application (Metric) Liters Per Square Meter	US Flow Gallons Per Minute Per Foot
1	3353788	V Slot Tack Nozzle 1/8" Rifle Bored	.05 - .20	.23 - 0.91	3.0 - 4.5
	3351013*	V Slot Tack Nozzle 1/16" Coin Slot	.05 - .20	.23 - 0.91	3.0 - 4.5
	3354904	V Slot Tack Nozzle 1/8" Counterbored	.05 - .20	.23 - 0.91	3.0 - 4.5
2	3351008	S36-4 V Slot	.10 - .35	.45 - 1.58	4.0 to 7.5
3	3351009	S36-5 V Slot	.18 - .45	.81 - 2.04	7.0 to 10.0
4	3352368	Multi-Material V Slot	.15 - .40	.68 - 1.81	6.0 to 9.0
5	3351015	3/32" Coin Slot	.15 - .40	.68 - 1.81	6.0 to 9.0
6	3352204	Multi-Material V Slot	.35 - .95	1.58 - 4.30	12.0 to 21.0
7	3355154	End Nozzle (use with 3352204 nozzle)	.35 - .95	1.58 - 4.30	12.0 to 21.0
8	3352205	Multi-Material V Slot	.20 - .55	.91 - 2.49	7.5 to 12.0
9	3352210	End Nozzle (use with 3352205 nozzle)	.20 - .55	.91 - 2.49	7.5 to 12.0
10	3351014	3/16" Coin Slot	.35 - .95	1.58 - 4.30	12.0 to 21.0
11	3351010	1/4" Coin Slot	.40 - 1.10	1.81 - 4.98	15.0 to 24.0

*Special Order



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Additional changes:

- Where the Engineer requires a tack coat prior to laying a bituminous surface, apply the tack coat as specified herein below. Coat the surface completely and uniformly with tack.
- Change ‘spread rate’ to ‘application rate’.
- Do not dilute tack.



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Good tack coat coverage

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Many thanks to all who participated in the work group- equipment manufacturers, material suppliers, contractors and FDOT personnel. We would not have this amount of progress without your efforts. We are all on the same page.

There is more to do. This is an ongoing process. New people join the paving industry every day. They need training and guidance.

Thank you.

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Wayne A. Rilko, P.E.
Florida Department of Transportation
State Materials Office
5007 N.E. 39th Avenue
Gainesville, FL 32609
Phone: 352.955.6314
Cell: 352.231.6578
E-mail: wayne.rilko@dot.state.fl.us

