TACK COAT BEST PRACTICE 101
TACK COAT

• What is tack coat?
  Tack coat is bitumen emulsion that is sprayed on existing pavement surface which is relatively impervious like an existing bituminous surface or a cement concrete pavement or a pervious surface like the WBM which has already been treated by a prime coat. (higher viscosity than prime coat)

There are three essential requirements for a successful tack coat application:
1) Existing pavement surface must be dry and thoroughly cleaned.
2) Proper tack coat rate must be applied.
3) A uniform coverage of tack must be placed over the entire area to be paved.
Terminology

• **Tack Coat**: sprayed application of liquid asphalt on existing asphalt or Portland cement concrete pavement which may or may not have been milled before an overlay or between layers of fresh asphalt concrete.

• **Emulsion**: (emulsified asphalt)- an undiluted emulsion which consists of a mixture of paving grade binder, water, and emulsifying agent.

• **Diluted Emulsion**: emulsion that has been diluted with additional water. Typical 1:1 added water.

• **Residual Asphalt**: the remaining asphalt after emulsion has set typically 57-70 %

• **Tack Coat Break**: when water separates enough from the asphalt showing a color change from brown to black.

• **Tack Coat Set(Cure)**: when all the water has evaporated leaving only the residual asphalt.
THE BASICS

• Agitation: How often?
• Product Heating: How many times daily?
• Storage: Retest after 30 days
• Mixing Tacks: Anionic/Cationic
• Break Time: Allow water to evaporate
• Air/Surface Temps
• Diluting: No
• Over/Under Application Rates
### Best Practices For Storing and Handling Emulsions

| Use | Use storage tanks that keep the emulsion from freezing or overheating. |
| Use | Use vertical tanks rather than horizontal tanks. |
| Use | Use gentle agitation. |
| Avoid | Avoid repeated pumping and recirculation. |
| Follow | Follow all safety procedures. |
| Gather | Gather good samples. |
| Train | Train technicians on proper procedures. |
• Vertical Storage Emulsion Tank
HORIZONTAL TANKER STORAGE
THERE MUST BE A BETTER WAY
Poor Coverage - poor nozzle spray spray pattern

Nozzle number: 1 2 3 4 5 6 7

- Spray Bar
- Spray Nozzles

Spray Bar Height
Poor Coverage - clogged nozzles

Nozzle number: 1 2 3 4 5 6 7

Spray Bar Height

Spray Bar

Spray Nozzles
Improper Method
TACK COAT PROBLEMS

- When tack coat is not properly applied, roadway slippage and delamination (Splitting of layer) of overlay from underlying pavement may occur.
HURRY ASPHALT TRUCKS ON THE WAY

NEED SOME TACK
Good Coverage - triple lap

- Nozzle number:
- Spray Bar Height
- Spray
- Spray N
Check List

• Last time distributor was calibrated?
• Correct nozzles size for application?
• Correct Bar Height?
• Thermometer calibration? Infrared Gun?
• Emulsion at correct temperature for application
• Is the surface clean?
• Daily clean out of spray system/Suck Back?
SAFETY
ALWAYS FIRST
PROTECT YOURSELF
THANK YOU FOR
LISTENING TO MY
PRESENTATION