



Tack Application

Larry Ilg

Pavement Quality and Materials Engineer
Oregon Department of Transportation



Tack Application Rates

- Need 0.04 to 0.06 gal/sq yd RESIDUAL asphalt for most surfaces
- May need up to 0.08 gal/sq yd RESIDUAL asphalt for milled or open/dry surfaces



Tack Application Rates

| Existing Pavement Condition | Residual Gal/yd ² | Application Rate in gallons/yd ² | |
|-----------------------------|------------------------------|---|-------------------------------|
| | | Undiluted | <u>Diluted 1:1 with water</u> |
| New HMA | 0.03 - 0.04 | 0.05 - 0.07 | 0.10 - 0.13 |
| Oxidized HMA | 0.04 - 0.06 | 0.07 - 0.10 | 0.13 - 0.20 |
| Milled HMA | 0.06 - 0.08 | 0.10 - 0.13 | 0.20 - 0.27 |
| PCC | 0.04 - 0.06 | 0.07 - 0.10 | 0.13 - 0.20 |



Tack Application Rate

- This is what we are trying to achieve





Tack Application Rate



- This is what we don't want

Tack Application Rate



- This is what I'm trying to reduce



Tack Tracking Reduction

- Inspectors are ensuring clean surface before application of tack
- Suggesting changing from CSS-1 to CSS-1h
 - h – indicates emulsion is being made with a stiffer binder which reduces tracking
- Limited experimentation with NanoTac
 - Does seem to cause a quicker break of tack
 - Tracking on new base pavement seemed to lessen
 - Want to evaluate on milled surface
 - May cause some stability concern regarding storage



Tack Tracking Reduction

- Discussion with emulsion suppliers
- Reviewing Specifications
 - Need to watch patent infringements

