

## Troubleshooting Guide

This guide provides information to assist field personnel in troubleshooting problems with fog seals, along with dos and don'ts that address common problems that may be encountered during the course of a project. The troubleshooting guide presented below associates common problems to their potential causes.

Note that some specifications described in the following content may not be the same as the specifications followed by your agency. Always check with your State agency's standards and specifications when using these guidelines.

### Sections

- Guide
- Application Problems and Related Solutions
- Dos and Don'ts

### Guide

Cause	Problem						
	Slick Surface	Not Breaking	Washes Off	Tacky Picks Up	Will Not Dilute	Breaks Too Fast	Dilution Wrong
Road Wet	•	•	•				
Road Too Dry				•		•	
Road Dusty				•		•	
Hard Water					Anionic		
Alkaline Water					Cationic		
Acidic Water					Anionic		
Application Too High	•	•	•	•			•

# Flexible Pavement Preservation Treatment Construction – Fog Seals

## AT-TC3PP008-16-T1-JA02



Cause	Problem						
	Slick Surface	Not Breaking	Washes Off	Tacky Picks Up	Will Not Dilute	Breaks Too Fast	Dilution Wrong
Application Too Low						•	•
Wrong Emulsion		•	•	•	•	•	
Rain	•	•	•				
Cold Weather	•	•					
Hot Weather				•		•	

### Application Problems and Related Solutions

Problem	Solution
Spattering of the Emulsion	<ul style="list-style-type: none"> <li>• Reduce the rate of dilution.</li> <li>• Ensure the spray bar height is set correctly.</li> <li>• Ensure the spray pressure is not set too high.</li> </ul>
Streaking of the Emulsion	<ul style="list-style-type: none"> <li>• Ensure the emulsion is not too cold.</li> <li>• Ensure the emulsion viscosity is not too high.</li> <li>• Ensure the nozzles are at the same angle.</li> <li>• Ensure the spray bar is not too high or too low.</li> <li>• Ensure the spray bar pressure is not too high.</li> <li>• Ensure all nozzles are working.</li> </ul>

Problem	Solution
Bleeding or Flushing of the Emulsion	<ul style="list-style-type: none"> <li>• Ensure the emulsion application rate is not too high.</li> <li>• Check application and dilution rate and recalibrate sprayer, if necessary.</li> </ul>
Surface Coefficient of Friction is Too Low per ASTM E 274	<ul style="list-style-type: none"> <li>• Apply coating of clean, dry sand.</li> <li>• Sweep sand with rotary broom to absorb excess binder.</li> <li>• Perform ASTM E 274.</li> <li>• Repeat process until coefficient of friction is at least 0.30.</li> </ul>
<p>*Do not open treated surface until coefficient is at least 0.30 as determined by ASTM E 274.</p>	

**Dos and Don'ts**

- Do check water compatibility before dilution.
- Do check dilution - has it been done, by whom, and when?
- Do ensure that there is no contamination of the base emulsion by water, oils, or other liquids.
- Do prevent contamination by other emulsions.
- Do protect emulsions from freezing or localized boiling due to the application of direct heat.
- Do heat emulsion gently and ensure heating coils are fully submerged (max 122 °F).
- Do load from the bottom of tankers or sprayers to avoid foaming.
- Do check equipment and nozzles.

- Do check application rates.
- Do exercise proper traffic control.
- Do ensure the know-how is available on the job.
- Do add water to emulsion, not emulsion to water.
- Don't store diluted emulsion longer than 24 hours.
- Don't continuously stir or circulate emulsion.
- Don't apply emulsion if air temperature is <50 °F and pavement temperature <59 °F.
- Don't apply emulsion if rain or cool temperatures are imminent.
- Don't continue application if adequate breaking period is not available.
- Don't open the treated surface to traffic until the coefficient of friction is at least 0.30 as determined by ASTM E 274.