

## Best Practices for Surface Treatments

### Introduction

Preventive maintenance is defined by AASHTO as “a planned strategy of cost-effective treatments to an existing roadway system that preserves the system, retards future deterioration, and maintains, or improves the functional condition (without adding additional structural capacity)”. Thus a treatment used as a stop-gap measure to hold together a distressed pavement would not be considered a cost effective PM treatment. The AASHTO definition encourages a paradigm shift away from a reactive mindset that responds to distresses in the pavement, toward a proactive one that seeks to prevent, or reduce the occurrence of distresses by selecting the right road and using the best methods at the proper time.

### Chip Sealing

To build the best chip seal, it is recommended do the following:

1. Select the proper roadway; earlier in the pavement life is better.
2. Use the best possible specifications.
3. Design the chip seal for asphalt binder and aggregate starting application rates.
4. Adjust the asphalt binder application rate with the condition and age of the pavement.
5. Build the chip seal earlier in the summer to facilitate complete curing.
6. Pay attention to construction details.
7. Sweep no later than the next morning. Same day best.
8. Fog seal non residential roadways.

### Micro Surfacing

To obtain the best performance from micro surface treatments, it is recommended to do the following:

1. Select the proper project and determine what the needs are.
2. Use Mn/DOT special provisions to help insure agency receive true micro surfacing.
3. Design the project to accommodate the restoration of cross-slope if need.
4. Apply a fog seal to all surfaces before applying the micro surface treatment.
5. Calibrate the micro surface machine.
6. Use trained inspectors.

### Fog Sealing

Fog seals can be applied on shoulders, cul-de-sacs, recreational trails, parking lots, and over chip seals. Success depends upon proper materials, application rates and calibrated equipment. Currently available materials include:

1. Csx-1h diluted one part water per one part emulsion at the place of manufacture. Recommended for:
  - a. Chip Seals (non urban roadways)
  - b. Shoulders
  - c. Recreational Trails
  - d. Cul-de-sacs
  - e. Parking Lots
2. CRS-2pd is CRS-2p diluted one part water to three parts emulsion. Diluted at place of manufacture.
  - a. Shoulder any age
  - b. Older Recreational Trails

### For More Information:

**Thomas Wood**

(651) 366-5573 [thomas.wood@state.mn.us](mailto:thomas.wood@state.mn.us)

Office of Materials & Road Research  
1400 Gervais Ave North  
Maplewood, MN 55109

[www.dot.state.mn.us/materials/research](http://www.dot.state.mn.us/materials/research)

