

WELCOME

Missouri Asphalt
Pavement Association

Micro Surfacing and Slurry Seal

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Preservation Techniques



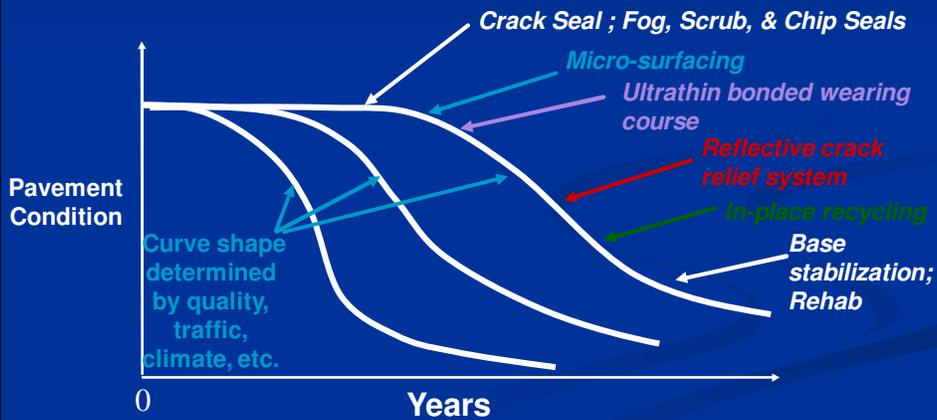
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Pavement Preservation

The “right” treatment
At the “right” time
On the “right” project

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Pavement Preservation Timing



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Slurry Seals are primarily designed to be placed on good condition roads as a preventive maintenance treatment!

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Slurry Seal has two primary uses

Preventive to prevent surface deterioration

Corrective to renew surface properties

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Preventive Maintenance

- To **protect** the existing pavement from the effects of ageing and weathering.
- Thereby extending and **maximizing** the existing pavements service life.

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Surface Rehabilitation CORRECTIVE MAINTENANCE

To **restore** or **renew** desirable surface properties,
such as:

- ◆ Skid resistance
- ◆ Crack filling
- ◆ Weather proofing (sealing)
- ◆ Surface loss of matrix or raveling
- ◆ Aesthetics & uniformity of surface
- ◆ Leveling & or rut filling

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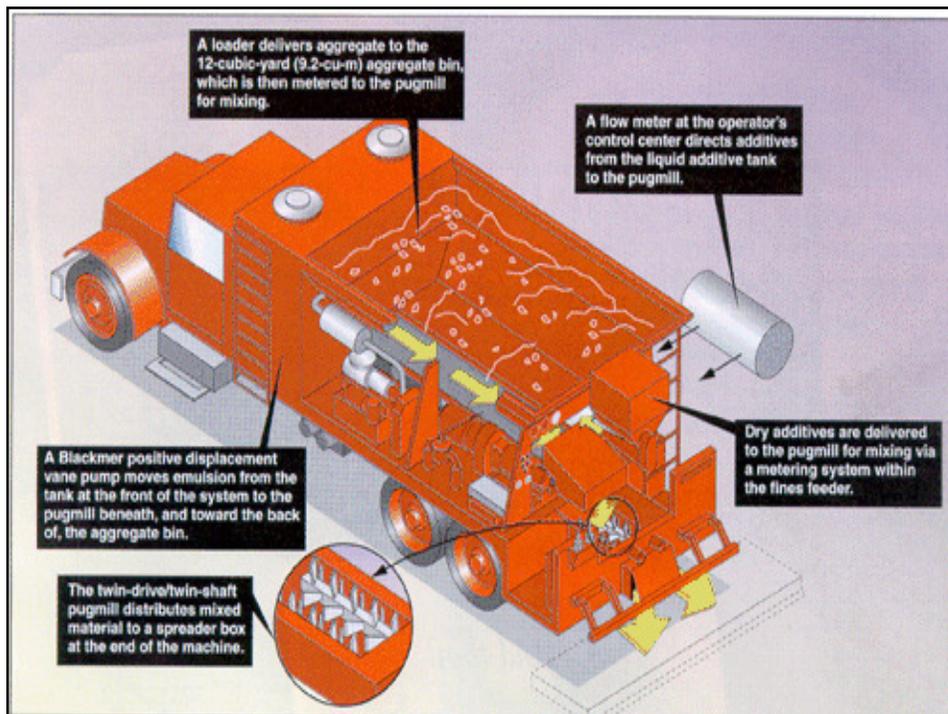
Slurry Seal

A designed mixture of emulsified asphalt, mineral aggregate, water, and specified additives, proportioned, mixed and uniformly spread over a properly prepared surface.

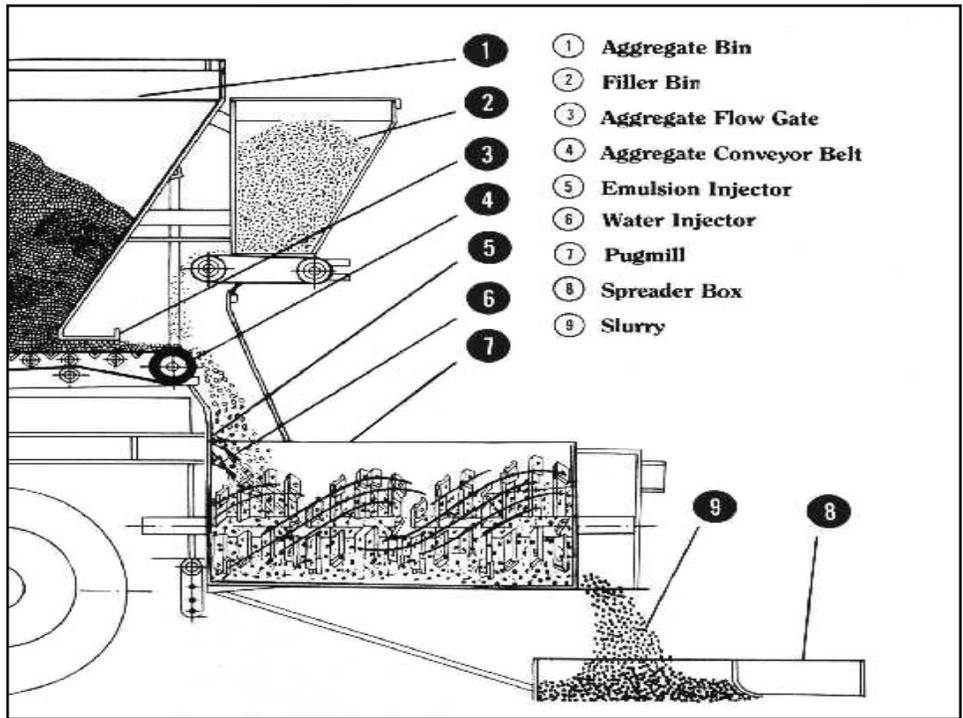
- ◆ISSA A-105
- ◆ASTM D-3910
- ◆State DOT Specifications



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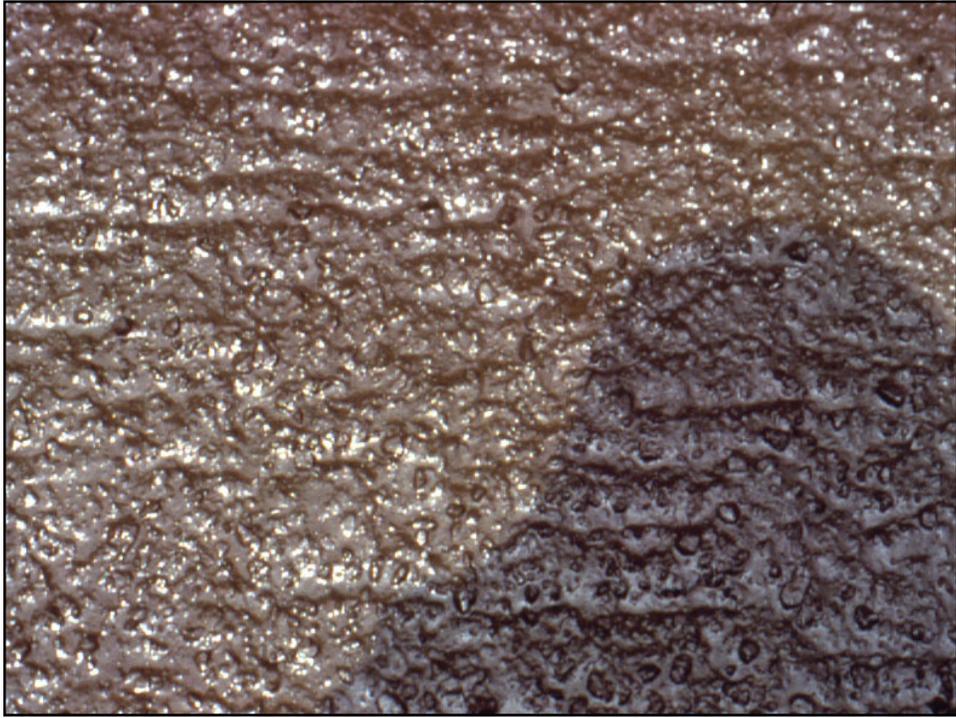
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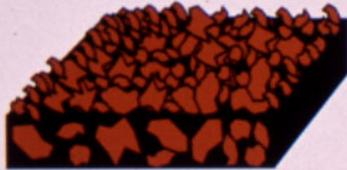
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BASIC GRADATIONS OF SLURRY SEAL



1/8" Top Size
(3-4mm)

TYPE I (Fine)

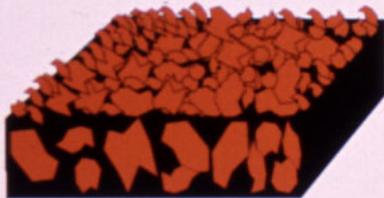
6-10 lbs/sq yd
(3.25-5.4 kgs/sq m)

**AGGREGATE
AND
10%-16%
RESIDUAL AC**

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BASIC GRADATIONS OF SLURRY SEAL



1/4" TOP SIZE
(5-6MM)

TYPE II (General)

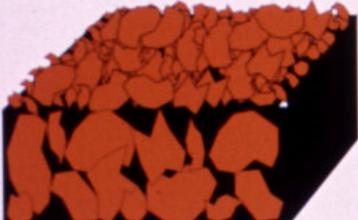
10-15 LBS/SQ YD
(5.4-8.1 KGS/SQ M)

**AGGREGATE
AND
7.5%-13.5%
RESIDUAL AC**

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BASIC GRADATIONS OF SLURRY SEAL



3/8" TOP SIZE
(9-10MM)

TYPE III
(Coarse)
15-25 lbs/sq yd
(8.1-13.5 kgs/sq m)

**AGGREGATE
AND
6.5%-12%
RESIDUAL AC**

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Micro-Surfacing

A designed mixture of polymer modified emulsified asphalt, mineral aggregate, mineral filler, water, and other additives, proportioned, mixed, and uniformly spread over a properly prepared surface.

- ◆ ISSA A-143
- ◆ State DOT Specifications

ASTM D-6372-99



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Micro-Surfacing

- ◆ Mix can be placed in thicker lifts while remaining stable
- ◆ Macro-texture of the mix remains
- ◆ Quick setting for traffic
- ◆ Enhanced durability



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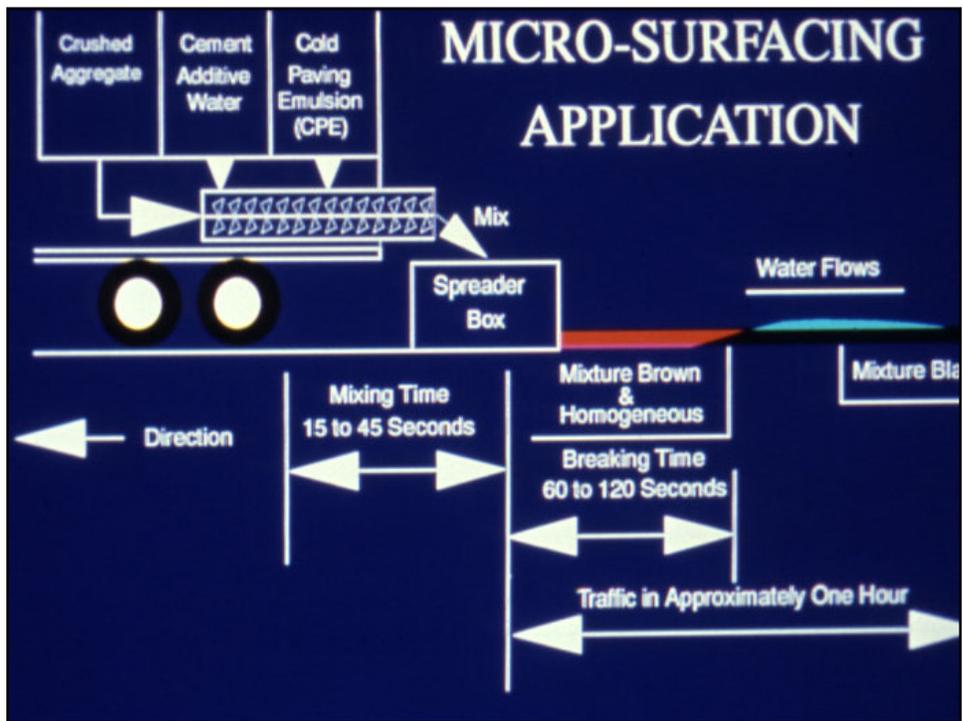
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REPROFILING RUTTED WHEELPATHS WITH MICRO-SURFACING

For each inch of applied micro-surface mix
add 1/8" to 1/4" crown to each rutfill
to compensate for return traffic compaction.

Original Pavement Cross Section

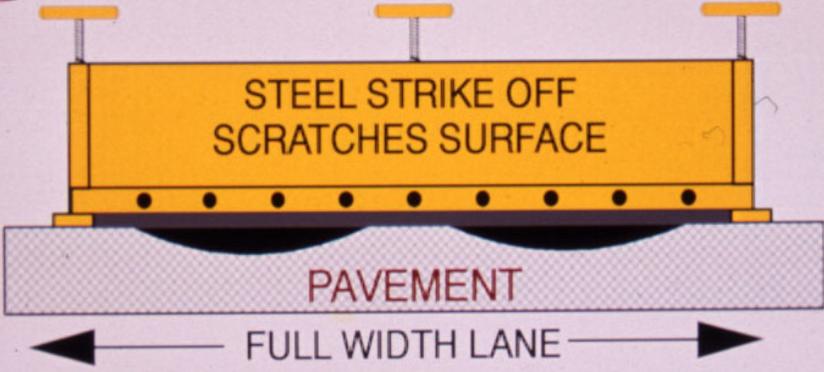


Ruts in Wheelpaths
RUTS 1/2" & OVER MUST USE THE RUT BOX

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RUTS LESS THAN 1/2" MAY BE FILLED WITH SCRATCH COURSE



THE SCRATCH COAT IS GENERALLY
6" LESS THAN THE WIDTH OF THE LANE.

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Preventive Maintenance

Use Slurry Seal or Micro-Surfacing to weatherproof and delay age hardening caused by oxidation, to maximize the life of existing asphalt pavements.



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Typical Values for Timing of Maintenance (years)- USA

Treatment	First Application	Optimum Interval
Fog Seals	3-5	1-2
Crack Sealant	as needed	1-3
Chip Seals	5-7	4-7
Slurry Seals	5-7	4-7
Microsurfacing	5-10	5-10
Thin HMA Overlays	8-10	6-12

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Average Cost of Maintenance

■ 1 3/4" Super Pave	4.25/SY
■ 1" Leveling Course	2.10/SY
■ Milling – Less than 3"	1.94/SY
■ Ultra Thin Type B	4.39/SY
■ Ultra Thin Type C	3.90/SY
■ Slurry Seal	1.18/SY
■ Micro Surfacing Type A	1.42/SY
■ Micro Surfacing Type B	2.82/SY
■ Chip Seal	1.50/SY
■ Fog Seal	.25/SY
■ Crack Sealing (Rout & Seal)	.60/SY
■ Crack Filling (Blow & Seal)	.45/SY
■ Fiberized Crack Seal	.25/SY

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Preventive Maintenance

is more cost effective than

Corrective Maintenance

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It's ok to use a surface treatment simply to buy some **time!!!** To hold the pavement in serviceable condition until sufficient money is available to rebuild it properly.

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With Proper Application In A Timely Manner, You Can Expect:

- **Extended Years of Service Life**
- **Lower Maintenance**
- **Improved Pavement Conditions**
- **A Smoother & Safer Road**
- **Less Driver Complaints**

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Additional Sources of Information

◆ **Asphalt Institute**-Lexington, KY

Phone: 606-288-4960

Fax: 606-288-4999

◆ **Asphalt Emulsion Manufacturer's Association**

Annapolis, MD

Phone: 410-267-0023

Fax: 410-267-7546

◆ **Local Contractors, Engineers, Material Suppliers**

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**International Slurry
Surfacing Association**

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Annapolis, MD 21401

(405)267-0023

www.slurry.org

CODE	TITLE/DESCRIPTION	Download (no charge)
A105	Recommended Performance Guidelines for Emulsified Asphalt Slurry Seal Surfaces, 2004.	A105.pdf
A143	Recommended Performance Guidelines for Polymer Modified Micro-Surfacing, 2004.	A143.pdf

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