



Micro Surfacing



Micro- Surfacing

A design 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

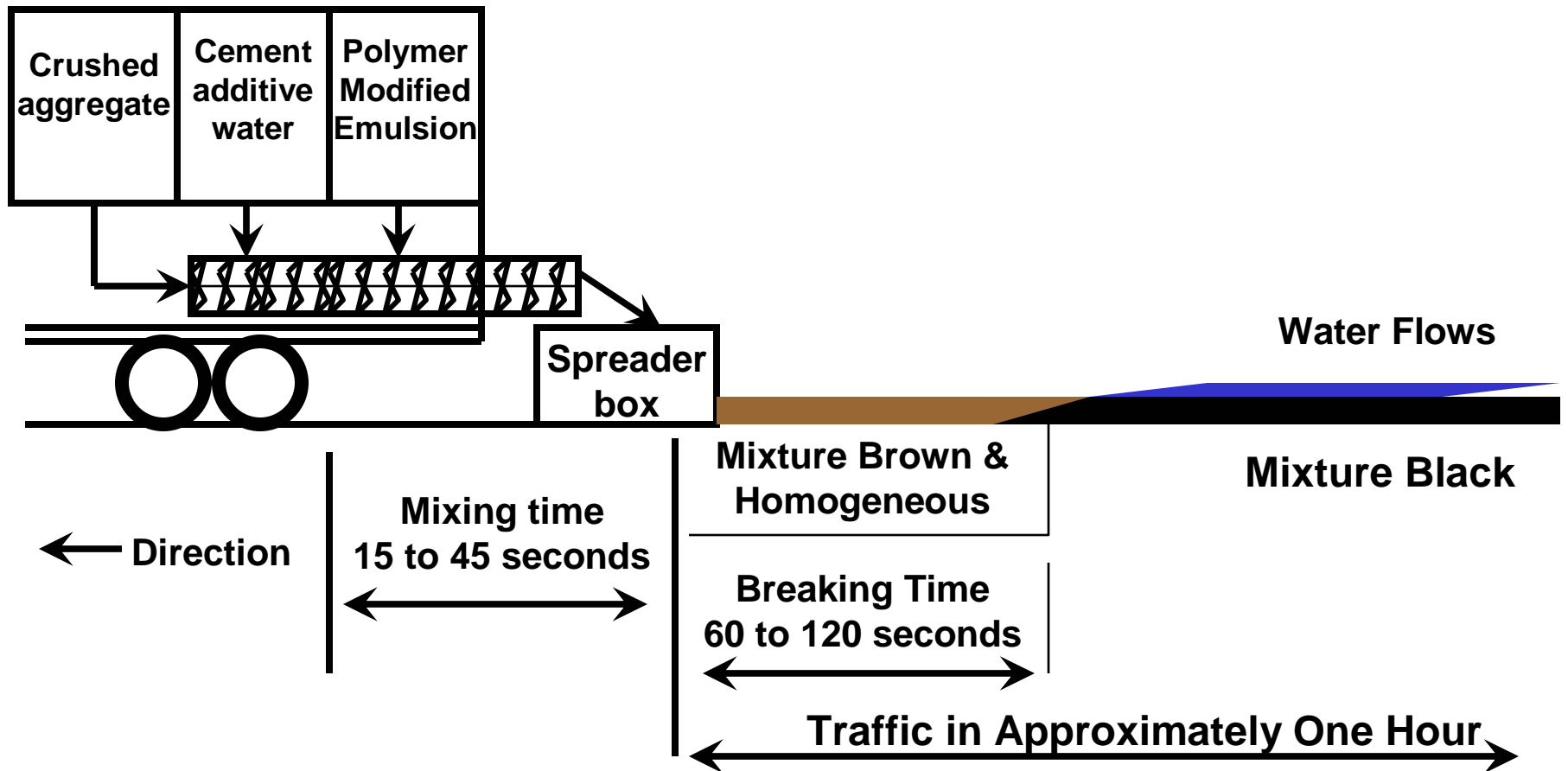


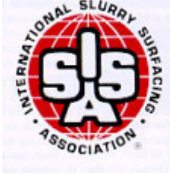
System Components





Micro Surfacing Machine Schematic





Micro-Surfacing

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



Continuous Run Self Propelled





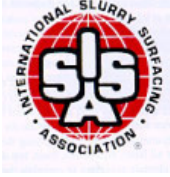
Support Unit Hooked To Continuous Run Machine



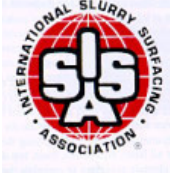


Multi-Bladed Pugmill





Construction



Laboratory Design Procedures

- ◆ **Pavement Description**
- ◆ **Objectives Of The Treatment**
- ◆ **Selection Of Individual Components**
- ◆ **Mix Formulation**
- ◆ **Physical Testing Of Trial Mixes**



Surface Preparation

- Crack Sealing
- Asphalt Patching
- Clean the surface, Sweep - Wash
- Pavement marking removal – Tape – Thermo
- Cover the utilities
- Remove RPM's



Types and Application Rates

- **Micro Surfacing**
- Type-Single Course 15 to 35 lbs./sy
- Type- Double course 28 to 50 lbs./sy

*Aggregate gradations
critical to design
thickness



RUTS LESS THAN 1/2"

MAY BE FILLED WITH SCRATCH COURSE



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



Applying Leveling Course





Leveling Course Applied

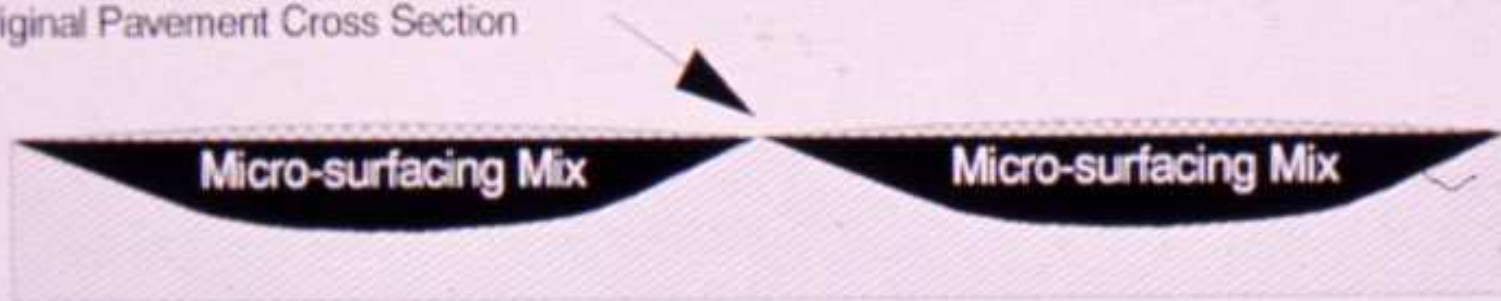




REPROFILING RUTTED WHEELPATHS WITH MICRO-SURFACING

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



Rut Filling Lay Down Box





Filling Ruts





Operating Rut Box





SURFACE COURSE





SMOOTH RIDE TEXTURED WEARING SURFACE





SURFACE COURSE





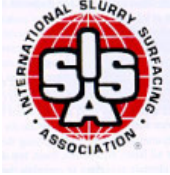
Good Straight Lines





Why do Micro's Fail?

- **Material compatibility's**
- **Control of materials during application**
- **Working to late in the season**
- **Improper road selection**



Candidates



Four Lane Interstate



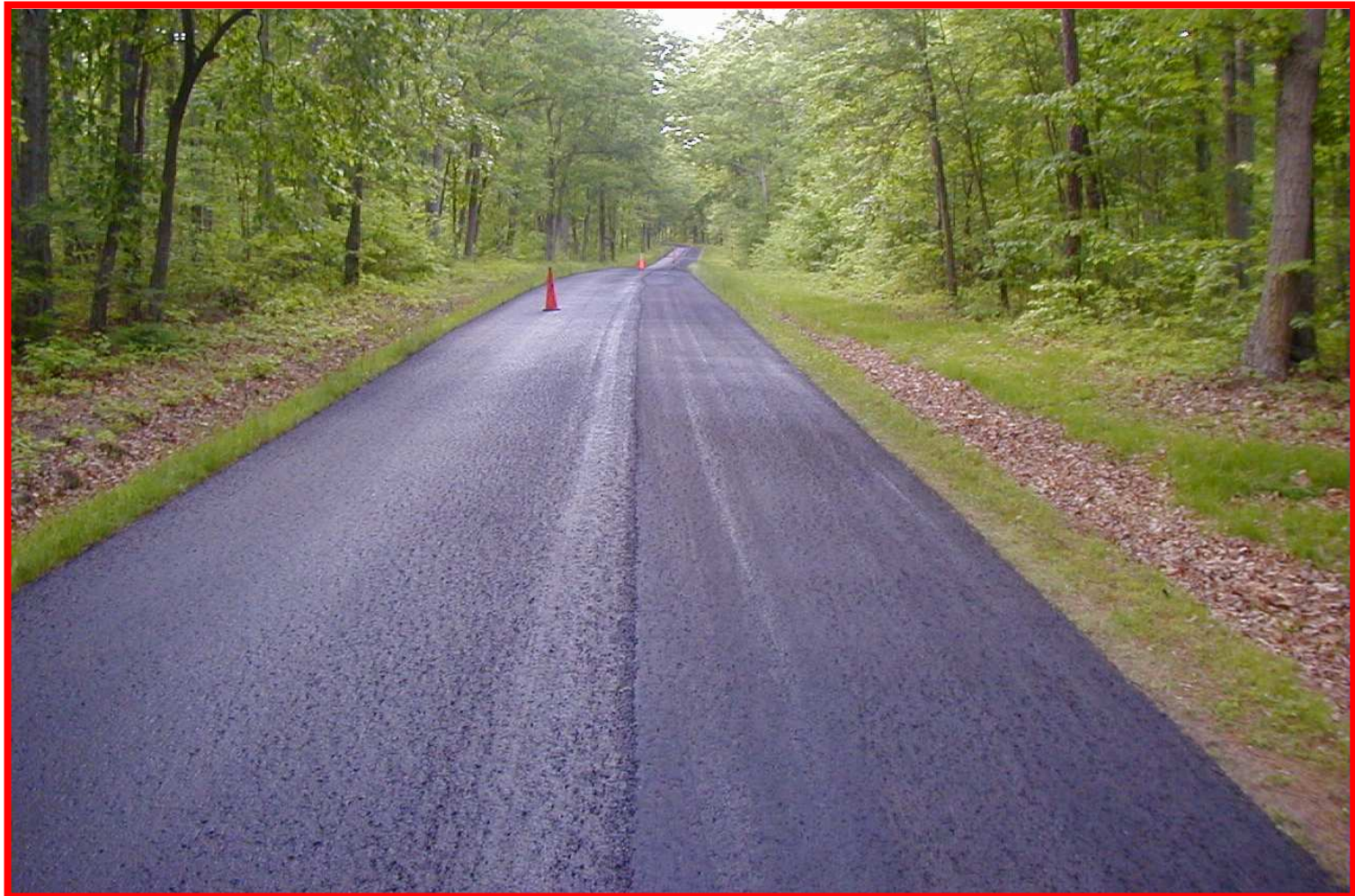


Secondary State Routes





Rural





Major Arterial





Major Arterial





Edge Drop & Shoulder Sealing





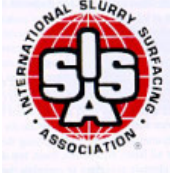
Edge Drop & Shoulder Sealing





Rutted Pavement With Minor Flushing





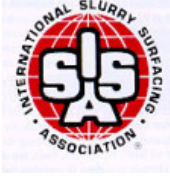
Wheel Path Rutting





Rut-fill With Surface Course





Raveled Surface





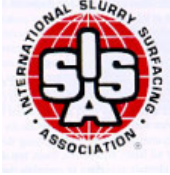
Micro-Surfacing Project Before





Micro-Surfacing Project After





Micro Surfacing at Night





Can not work Miracles





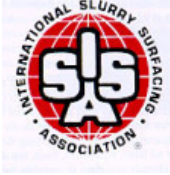
Features of Micro Surfacing

- **Restoration of surface properties**
- **Rut-filling**
- **Skid correction**
- **Sealing & Waterproofing**
- **Delineates pavement markings & shoulders**
- **High Friction Wearing Course**



Benefits of Micro Surfacing

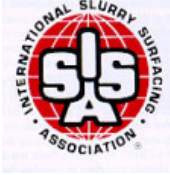
- **Preserves investment**
- **Quick traffic, 1 hour or less**
- **Minimizes traffic disruptions**
- **Cost Effective**
- **Warrantable**
- **No appurtenance adjustments**
- **Night time placement**



Preventive Maintenance

Is more cost effective than

Corrective Maintenance



Preventive Maintenance

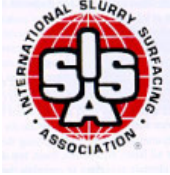
**Micro-Surfacing will be most effective
when used as a PM treatment**

Weatherproofing

Restoring Surface Quality & Friction

Reducing Oxidation

Extending the Life of Asphalt Pavements



Surface Rehabilitation

CORRECTIVE MAINTENANCE

**Micro Surfacing is usable as a
corrective maintenance tool
when conditions dictate
Expect Reduced Service Life**

**Always try to define the cause of the defect and be
sure to correct the cause, then the defect.**