

# MICRO-SURFACING

Mark J. Hutchins  
Micro-Surfacing Engineer  
Koch Materials Company  
Columbus, Ohio  
(614) 444-5642

## **What Is Micro-Surfacing?**

One of the most versatile tools in the road maintenance arsenal, Micro-Surfacing is a polymer modified cold-mix paving system that can remedy a broad range of problems on today's streets, highways and airfields.

Like its parent product, slurry seal, Micro-Surfacing begins as a mixture of dense-graded aggregate, asphalt emulsion, water and mineral fillers. While conventional slurry seals are used around the world as an economical treatment for sealing and extending the service life of both urban and rural roads, Micro-Surfacing has many added capabilities, thanks to the use of high-quality carefully monitored materials, including advanced polymers and other modern additives.

The advantages of Micro-Surfacing are a unique combination of toughness and long service life, a quick set - quick traffic feature, and proven cost effectiveness in a wide range of applications.

## **How Is Micro-Surfacing Mixed and Applied?**

Micro-Surfacing is mixed and applied to existing pavements by a specialized machine, which carries all the components, mixes them on site, and spreads the mixture onto the road surface.

Materials are continuously and accurately measured, and then thoroughly combined in the Micro-Surfacing machine's pugmill. As the machine moves forward, the mixture is continuously fed into a full-width "surfacing" box which spreads the Micro-Surfacing across the width of a traffic lane in a single pass. Or specially engineered "rut" boxes, designed to deliver the largest aggregate particles into the deepest part of the rut to give maximum stability in the wheel path, may be used. Edges of the Micro-Surfacing are automatically feathered.

The new surface is initially a dark brown color and changes to the finished black surface as the water is chemically ejected and the surface cures, permitting traffic within one hour, in most cases.

## Micro-Surfacing - A Proven Problem Solver

Using various design mixes, techniques, and equipment, Micro-Surfacing can be used successfully in these situations:

- In quick-traffic applications as thin as 3/8 inch, Micro-Surfacing can increase skid resistance, color contrast, surface restoration, and service life to high-speed, heavy-traffic roadways. Such projects are reopened to traffic within one hour.
- Capable of filling wheel ruts up to 1 1/2 inches deep, in a single pass, when the pavement has stabilized and is not subject to plastic deformation, Micro-Surfacing has the unique ability to solve this problem without milling.
- Used as a scratch (leveling) course, to be followed by a surface course, Micro-Surfacing can provide transverse surface leveling to restore the proper surface profile and make the area safe for use.
- Applied to both asphalt and Portland cement concrete surfaces (usually preceded by a tack coat on concrete), Micro-Surfacing is often used to restore a skid resistant surface to slick bridge decking with minimum added dead weight.
- As a thin, restorative surface course on urban arterials and heavy traffic intersections, Micro-Surfacing does not alter drainage; there is no loss of curb reveal.
- Because of its quick-traffic properties, Micro-Surfacing can be applied in a broad range of temperatures and weather conditions, effectively lengthening the paving season. It is particularly suitable for night applications on heavy-traffic streets, highways and airfields.
- Because Micro-Surfacing can be effectively applied to most surfaces at 3/8 inch or less, more area per ton of mix is covered, resulting in cost-effective resurfacing.
- When applied to pavements in good, stable condition, Micro-Surfacing's life expectancy usually exceeds seven years.

Even the best of surfaces are subject to the wear and tear caused by time, weather and traffic. No surface is permanent. The application of the proper asphalt slurry system (Micro-Surfacing and/or Slurry seal) will significantly extend the life of existing pavements by protecting the underlying surface from damage caused water seepage and oxidation. Improved surface performance is also achieved. A pavement maintenance program using Micro-Surfacing will not only help to protect your pavement- it will help to protect your paving investment.