

# MICROSURFACING & SLURRY SEAL



# Seal-as

## History

In early 1930s, a road in Germany was coated with a mixture that was composed of very fine aggregate, asphalt binder and water. This application came out as a new untraditional approach and a promising technique for road surface maintenance and became the beginning of *Microsurfacing/slurry seal* development.

During the next decade, some serious trials were started throughout the world. But, common application of *Microsurfacing/slurry seal* progressed



on 1960s and attracted considerable attention with the beginning of surface active materials (emulsifying agents) and machines capable of continuous layout.

Improvements occurring mixture methods, emulsions and machines, makes the *Microsurfacing/slurry seal* today's selection for coating and surface maintenance as being highly resistant and cost efficient.



*Microsurfacing/slurry seal* is used commonly all over the world in many places from concourses to highways, airports, parking lots and other coated surfaces. Slurry seal has gradually increasing use in maintenance programs of governments, local or federal bodies – including the army – since being effective and economic.

## What is Slurry?

*Microsurfacing/slurry seal* is prepared with the mixture of aggregate, asphalt emulsifying agent and fillers in amounts specified in the laboratories. The mixture is made workable by adding water.

Asphalt emulsifying agent functions as adhesive, holds the crashed aggregate together and bonds the new slurry surface to the applied old surface. Various emulsions and aggregates are used in order to meet conditions, specifications and demands of each project.

The aggregate should be clean, durable, crashed, suitable characterized and unified. The asphalt emulsion is a three parts system consisting of asphalt, water and emulsifying agent. Mostly, the fillers and additives such as Portland cement, slacked lime or liquid aluminum sulphate are used in small amounts as stabilizer or chemical modifier.



## How to Make Microsurfacing?

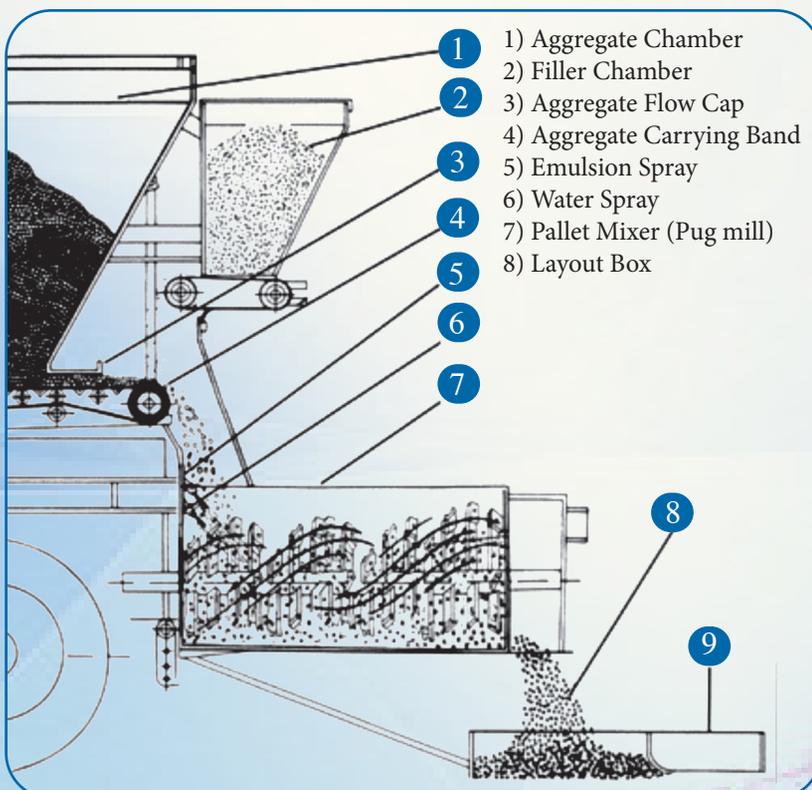
*Microsurfacing/slurry seal* is made by special designed tools. This is either mounted to a truck or self-driven. This vehicle carries the enough amount of materials continuously mixed in mixer (pug mill). Use of these technologically improved machines allows to make a fluent and steady mixture.

*Microsurfacing/slurry seal* is made in project site in a fast and smooth way. Mixing and layout are carried out as single process and the road is reopened to usage within few hours.

## How to Apply Microsurfacing?

*Microsurfacing/slurry seal* Mortar is applied on the existing coating surface by means of layout box connected to the slurry mixture unit. Slurry mortar flows into the layout box, and the mortar is laid down by spreader - mixture while pulling this box.

Layout box is capable to spread the slurry mortar on a traffic lane and produced as having continuous contact with the existing surface. With this feature, the layout box allows a uniform and regular new coating even on pitched shoulders, extra high sections of the surface, different superelevation conditions.



Automatic mixing process is continuously monitored by trained operators. Other staff cleans the surface before slurry application, closes the working site to the traffic, controls the suitability of layout process, cleans the metal manhole cover after the application and completes the slurry mortar layout process where the layout

## Slurry Types

Emulsions with various compositions and cutting time are mixed with one of three aggregates types and the slurry with desired feature is made.

The aggregate is divided into three types as 1 fine, 2 general and 3 coarse.

**I. Type Fine Aggregate:** It is used for maximum crack penetration and sealing in areas open to low density/ low wearing traffic.

**II. Type General Aggregate:** It is used as most commonly. Typically it is used commonly on places where there is normal and heavy traffic. This type of mixtures is used for sealing of crack, preventing normal to serious spalling, oxidation and bind loss and increasing the skid resistance.

**III. Type Coarse Aggregate:** It corrects the serious surface imperfections and provides skid resistance to very heavy traffic loads and prevents hydroplaning.

Slurry seal mixtures that may carry out most difficult requests for almost every situation and needs may be specifically designed upon purchase.

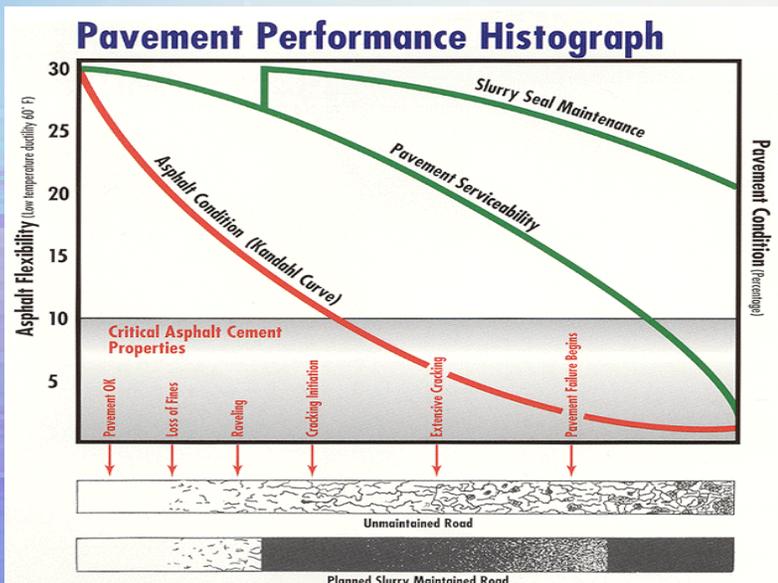
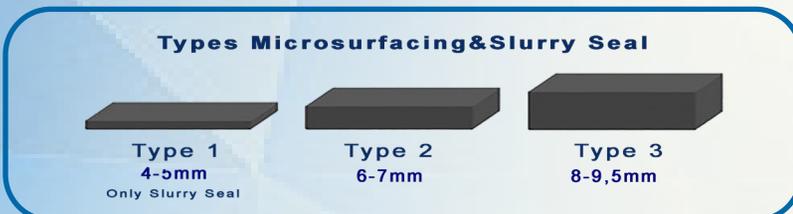


As shown side, the slurry seal maintenance extends the life of the coating significantly.

The corrosion of the coating not having any improvement process on the surface started long time ago, although used in many years and still used.

The slurry seal made before apparent coating corrosion is necessary for the maintenance program.

Protective maintenance is much more economic from the repair maintenance.



Aggregate	~%77
Emulsion	~%12-16
Filler	~%1
Water	~%5-10
Additive	~%0,5-2

## Why Use Slurry?

### Advantages of Using Microsurfacing?

Besides being versatile coating method, slurry seals the cracks and voids on the surface with one pass by leaving a durable bituminous mixture in comply with different textured surface requirements. It makes the surface resistant to weather conditions. It provides color and texture detail.

**Low cost:** It is economic to lay down, quite cheap to use.

**Fast Use:** Fast and easy application of a new coat makes the slurry especially appealing for busy roads, parking lots and airport runways. New surface applications are ready-to-use within few hours.

**Preventing Problems:** When applied over new coatings, *Microsurfacing/slurry seal* prevents occurrence of surface imperfections caused by weather conditions. It minimizes the oxidation, oils loss, bind loss and brittleness of mixture.

Besides, it provides special endurance and texture not found in the current coating.

**Eliminating Problems:** Those imperfections found in the former coatings like surface cracks, spalling, bind loss, increased water and air permeability, slippage due to aggregate polish and wash will be corrected by *Microsurfacing/slurry seal* application. Further deformation is prevented by providing water tightness. A long life surface is created suitable for any weather conditions, having high skid resistance and safe use features for drivers.

**Aesthetic Value:** The coating with a simple application will have a new wearing surface as regular black colored and textured. This appearance means increased value marketing potential and acceptance of buyer. Shopping malls, parking lots and other public and commercial coatings with road repaired by *Microsurfacing/slurry seal* will be shown more striking and appealing.

- Currently used versatile coating system.
- Extremely economic
- Increases the life of the existing coating by protecting from oxidation and corrosion
- Provides a durable, dust free surface suitable for all weather
- Ready to use within few hours after the application
- Improves the skid resistance and use features of the road without causing dangerous aggregate loss from the surface
- Seals the cracks and voids, provides black color and texture with one pass
- The economic solution for the protection of problematic coatings.
- It may be applied to new or old any coated surface without rolling or under-coating.





**City Arteries**



**Bridges**



**Beltlines**



**Shopping Malls**



**Heavy Traffic Crossroads**



**Residential Areas**



**Airports**



**Village Roads**

No surface is permanent. Even the best surfaces are subjected to time, weather and wear and tear caused by the traffic.

With a planned coating maintenance program, besides providing important savings in improvement expenses, your coatings will be healthier, more useful and safer.

With this program, the excess time loss required for the repair of deep cracks and caverns will be reduced or eliminated.

*Microsurfacing/Slurry Seal* application will increase the life of the existing coating by protecting from the damage caused by water penetration to sub-base. Improved surface performance is an additional advantage.

The coating maintenance program using *Microsurfacing/Slurry Seal* will not



only protects your coating, but also helps you to protect your coating investment.

When you submit your coating maintenance requirements to the skillful hands of SEALAS, you can be sure that you will get the best *Microsurfacing/Slurry Seal* protection.

As a part of your coating maintenance program, for more information and use specs in *Microsurfacing/Slurry Seal* application, please contact us.





**Seal**as

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