

Manual for Slurry Surfacing

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This manual is one of several, designed to empower local agency staff and contractors, through training, to choose the right treatment at the right time to optimize preventative maintenance funds. Most local agencies defer road maintenance over many years, and there are thousands of miles of public roads that are currently in poor conditions. With new state funding available for maintenance and construction projects, proper road preventative maintenance is an issue of paramount importance. Slurry surfacing, as a pavement preservation treatment, which includes both slurry seals and microsurfacing, is just one type of many maintenance treatments that can preserve pavements and defer the need for and costs of road reconstruction.

Slurry seals were first developed in the 1930s, and they proved to be a promising technique

in maintaining road surfaces. By the 1960s, with improved emulsions, and continuous flow machines, real interest was shown in using slurry seal across a wide range of applications. Currently, slurry seals are used for public roads, highways, airport runways, parking lots, and a multitude of other surfacing projects throughout the world. Slurry seals have been accepted and incorporated into many maintenance programs as a cost-effective maintenance treatment.

Microsurfacing was first developed in the 1960s in Germany and is an improved version of a slurry seal. Microsurfacing uses a more complex form of slurry surfacing involving special “engineered” polymer-modified Quick Setting (QS) asphalt emulsion. Over time, the goals were met with specialized mixes that could address more severe distresses. These mixes use polymer-modified

emulsions (PME) that contain chemical additives, as well as mineral fillers, such as cement. Microsurfacing is now widely used in the United States, and in California in particular.

Slurry Surfacing provides an economical means for maintaining and improving the functional condition of an existing pavement. It can be used repeatedly or in conjunction with other preventative treatments to slow deterioration or correct isolated pavement defects.

Study Methods

The project consisted of conducting a detailed literature review followed by the development of a detailed manual to help agencies and industry select the right slurry surfacing treatment, design and construct the treatment, and provide guides for quality assurance. The manual also includes detailed troubleshooting guides in case something goes wrong during construction for slurry surfacing.

Key Findings

The key findings are the best practices for the design and construction of slurry surfacing. Most needed information about slurry surfacing is in this document, which can be easily used by both local agencies and industry.

Policy Recommendations

This manual, if followed, should prevent most failures in the construction of slurry surfacing. It is imperative that better specifications be used to ensure better performance and fewer failures.

All agencies need to have a pre-construction meeting and make sure the contractor submits a quality control plan and that the agency provides for certified inspectors to monitor the construction.

About the Authors

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To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/research/1845B



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