

Delaware Department of Transportation



**JENNIFER PINKERTON, CHIEF MATERIALS &
RESEARCH ENGINEER**

**KIM JOHNSON, PAVEMENT MANAGEMENT
ENGINEERING TECHNICIAN**



- **Microsurfacing – fully implemented program statewide**
 - Southernmost counties have been using this treatment for several years, this was first full season of use in northern county
 - Very successful program, road preparation has been key
 - Education of staff, management, public, and legislators has been an important part of implementation
 - Created a “What We Do Series” with microsurfacing being the first topic
 - Explains benefits of use, candidate selections, method of placement, and what to expect
 - Video of local installation

The screenshot shows a web browser window with the address bar containing the URL <http://www.deldot.gov/newsy/whatwedo/microsurfacing/index.shtml>. The browser's address bar also shows the text "Delaware Department of Tr...". The page content includes a navigation menu on the left, a main article titled "What We Do Series Microsurfacing", and a video player on the right. The video player shows a video titled "MICROSURFACING" with a subtitle "Persimmon Tree Lane Dover, Delaware". Below the video player, there is a note: "Select the button to the right for full screen. (Requires the Silverlight Plugin) Alternative Player". At the bottom of the page, there is a footer with the text "Last Updated: Tuesday, 06-Sep-2011 14:32:43 Eastern Daylight Time" and a navigation bar with links: "site map | about this site | contact us | translate | delaware.gov".

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What We Do Series Microsurfacing

Microsurfacing is a thin, tough layer of asphalt emulsion containing aggregate (rocks), water and mineral fillers. It is used to seal cracks and prevent moisture from penetrating the road base. It is primarily used for preservation of existing hot-mix roadways, which is important as transportation officials look for cost-effective ways to stretch their pavement funding. Typically half a road is closed for microsurfacing at a time. The length of time the road is closed depends on air temperature and humidity and whether one or two passes of microsurfacing is applied. Once this material is applied to the road, plan on approximately an hour delay before it can be ridden or walked on.

This process is often most effective when the existing hot-mix surface is five-seven years old and showing minimal signs of distress. Residents may wonder why a road is being rehabilitated when it appears to be in good condition, but this is the ideal time to do a preservation technique that will further extend the life of the underlying pavement and decrease the maintenance cost over the lifetime of the roadway. If the roadway does exhibit signs of distress, patching and crack-sealing will be done prior to the microsurfacing layer. Microsurfacing is being used on roads throughout Delaware and provides a smoother road surface and less loose material than traditional surface treatment (a.k.a tar and chip). When a road is first microsurfaced, it may present an initial rougher driver surface. This somewhat abrasive surface creates a more skid-resistant surface, thus increasing the safety of the road itself. However, as cars travel over the road, the stones and materials become compressed and smoother, ultimately resulting in a road surface that is nearly as smooth as traditional asphalt hot-mix overlay, but still course enough to improve skid resistance.

The microsurfacing material is also being used to patch rutted roadways in Delaware. The material creates a smoother surface on the road without having to do a large scale and costly asphalt overlay project. In addition, this material is typically applied during daytime hours but can be applied during nighttime hours and on roads with high traffic volumes.

MICROSURFACING
Persimmon Tree Lane
Dover, Delaware

00:00 / 03:08

Select the button to the right for full screen.
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- **Full-depth Reclamation with emulsion**
 - First locations installed earlier in spring, both low and high volume locations
 - Looking to learn from this method and long term considering a performance based specification that would allow the contractor to determine method (cement or asphalt)
 - Engineered emulsions use/comparisons
- **Thin-Lift Warm-Mix Overlays**
 - Overall product successful
 - Monitoring compaction results of vendors



- **Warm-Mix SMA**
 - Attempted on a few contracts this season
 - Very difficult for suppliers to produce at the lower temperature and contractors to place
 - High temperature restrictions were later waived
 - Warm-mix technology seems to be primarily a compaction aid for SMA