

**LOCAL TECHNICAL ASSISTANCE PROGRAM**

**DROP-IN**

**ASPHALT  
PRESERVATION  
TOOL – MICRO  
SURFACING**

FEBRUARY 5, 2026



Pennsylvania  
Department of Transportation

# SESSION BEING RECORDED

This session is being recorded.

By participating in this session, you are consenting to the recording, retention, and use of this session.

Additionally, as a reminder by asking a question verbally you are also consenting to the recording, retention, and use of your statements.

# PRESENTER(S)

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## Pennsylvania Local Technical Assistance Program

### Providing:

#### Training

- In-Person & Virtual
- Road Shows

#### Technical Support Services

- Onsite
- Phone/email

- Website: [www.gis.penndot.pa.gov/ltap](http://www.gis.penndot.pa.gov/ltap)

All Services are FREE.

The screenshot shows the Pennsylvania Department of Transportation's Local Technical Assistance Program (LTAP) website. At the top is the logo for Pennsylvania Department of Transportation Local Technical Assistance Program. Below the logo is a navigation bar with links for Home, LTAP Tools, My Tools, Administrative Tools, Reports, Help, and Sign out. The main content area features six green buttons arranged in a 2x3 grid:

- My Training Schedule**: Upcoming training, completed training and completion certificates
- My Technical Assistance Requests**: Information on your current and past tech assist requests
- My User Data and Roads Scholar Status**: Update your user information, view Roads Scholar status, and print certificates
- Register for Training**: Classes, Drop-Ins, Webinars and Workshops
- Request Technical Assistance**: Have a technical expert evaluate your transportation issue and provide potential solutions
- Resources and Technical Information**: Resources to assist with safety and maintenance topics

Below the buttons, it states "All services are free to municipalities". Underneath is a section titled "LTAP Programs" with a horizontal menu containing: About LTAP, Roads Scholar Program, LTAP Resources, Training Descriptions, and Why do I need an Account? A yellow arrow points to the "About LTAP" link. To the right of the main content is a section for "Upcoming Training" featuring a lightbulb icon with the text "BUILD A BETTER MOUSETRAP INNOVATION CHALLENGE" and "PENNDOT LTAP". Below this is a training card for "TRAFFIC SIGNALS BASICS (RS2-S33-D1) VIRTUAL PA" on "30 JAN" starting at "08:00 AM".

# HANDOUTS ONLINE

- <https://gis.penndot.pa.gov/ltap/> - Training Descriptions
- Click on the course description and scroll to the bottom to download handouts.

Handout Upload:  No file chosen

Course Handouts :

#	File Name	Date	Download	Delete
1	00.ClassWorkbook_2021-01-13.pdf	1/13/2021 10:23:00 AM		
2	01. Handout_ 1.pdf	1/13/2021 10:23:00 AM		

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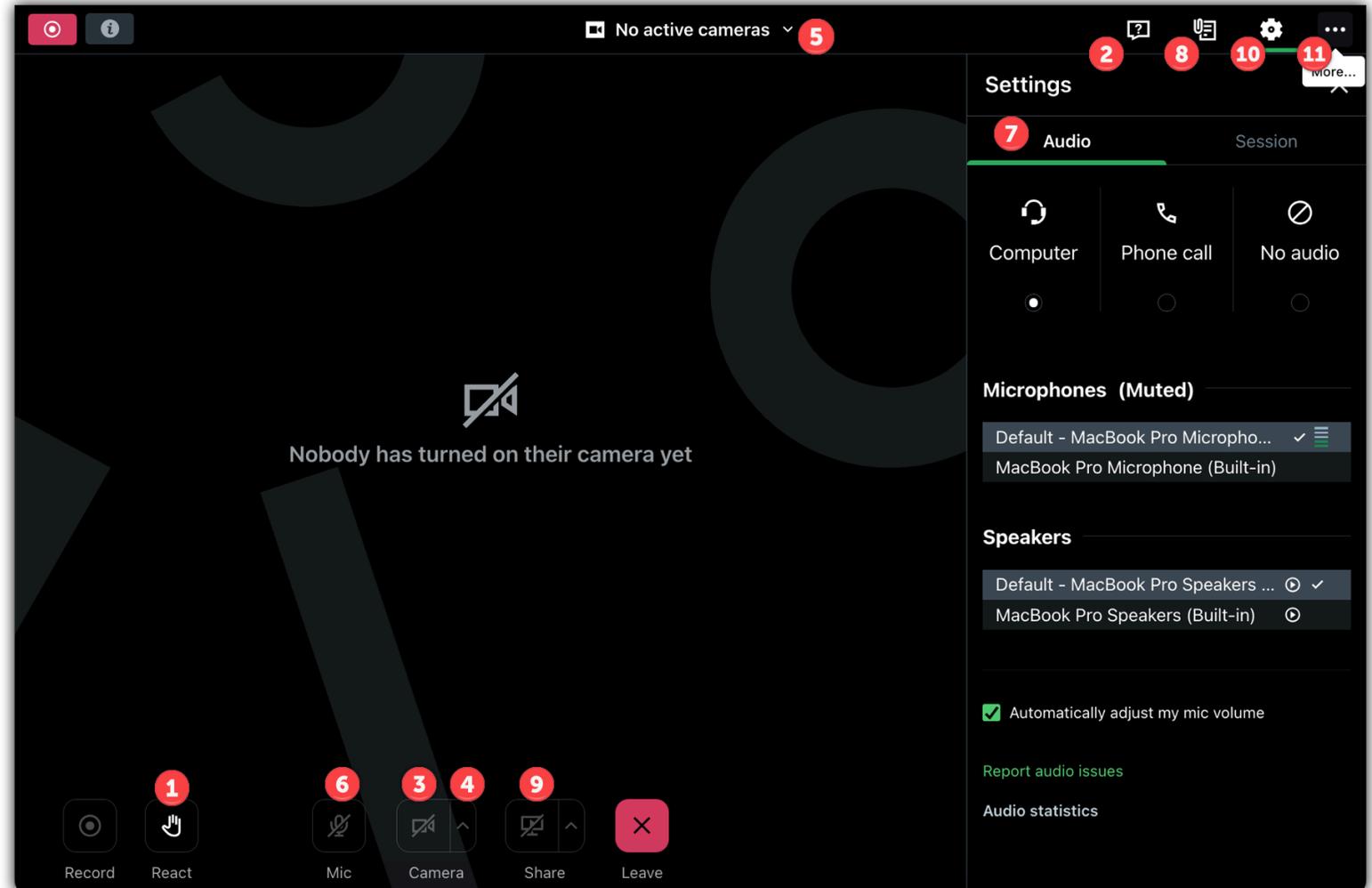
# VIRTUAL IN-SESSION ATTENDEE GUIDE

## Interact with the presenter/organizer:

(1) Reaction Emojis

(2) Use the Question/Chat icon to type your question/comment and send it to the staff/presenter.

(8) If materials have been shared such as handouts or PDF slides, you can access them through the Materials icon.



# POLL QUESTION

Who is attending the drop-in today?

- a) Municipal Public Works Leadership
- b) Municipal Public Works Work Crew
- c) Elected Official
- d) PennDOT/County/MPO/RPO
- e) Other



# POLL QUESTION

For the municipal audience:

Have you used Miro Surfacing as an asphalt pavement preservation tool?

- a) Yes, part of the normal maintenance cycle
- b) Yes, only once or a couple times
- c) No



# WHAT IS A MICRO SURFACING?

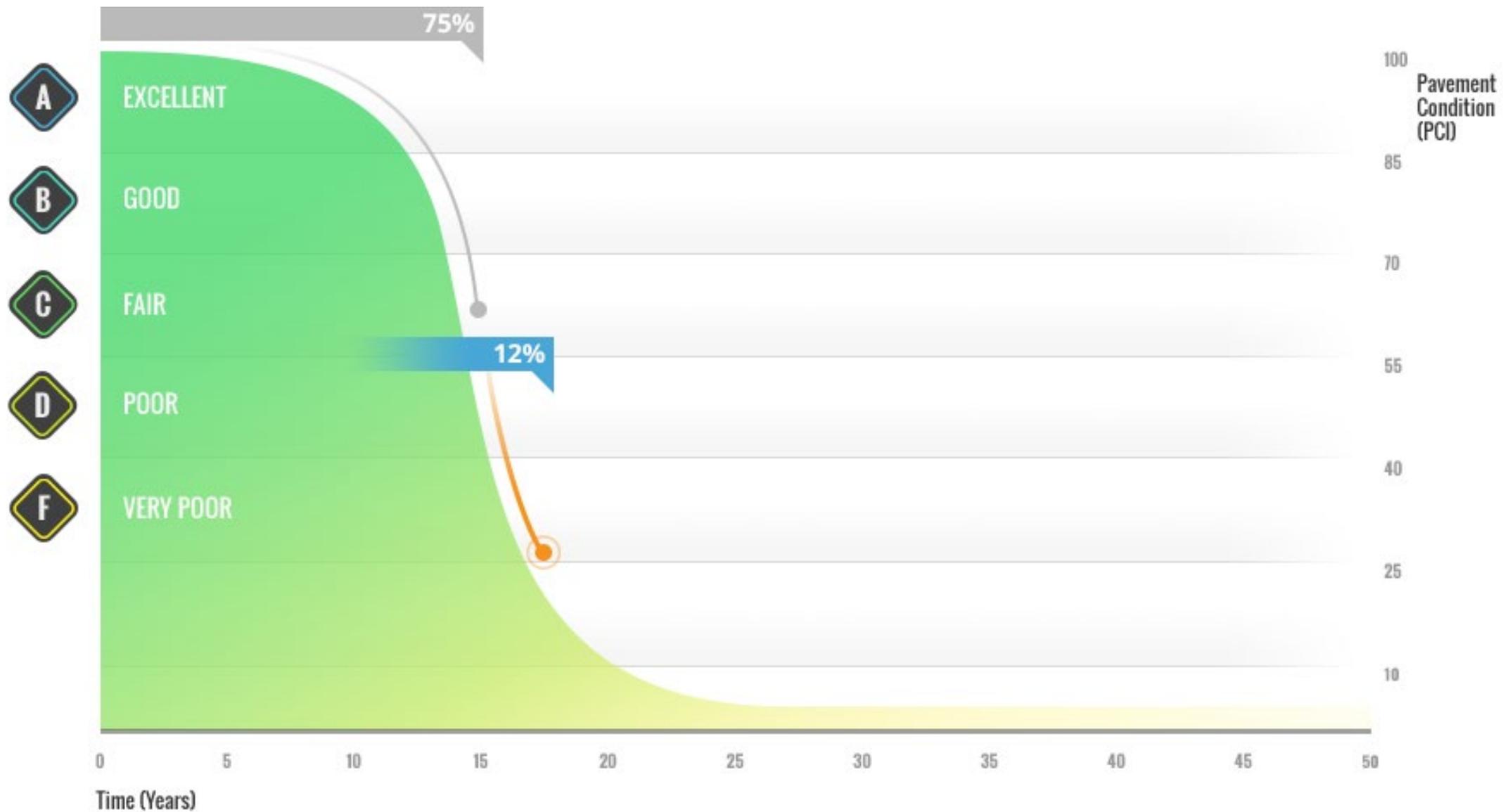
## **Micro surfacing definition:**

A pavement preservation tool that can be applied to high to low volume roadways that are structurally sound.

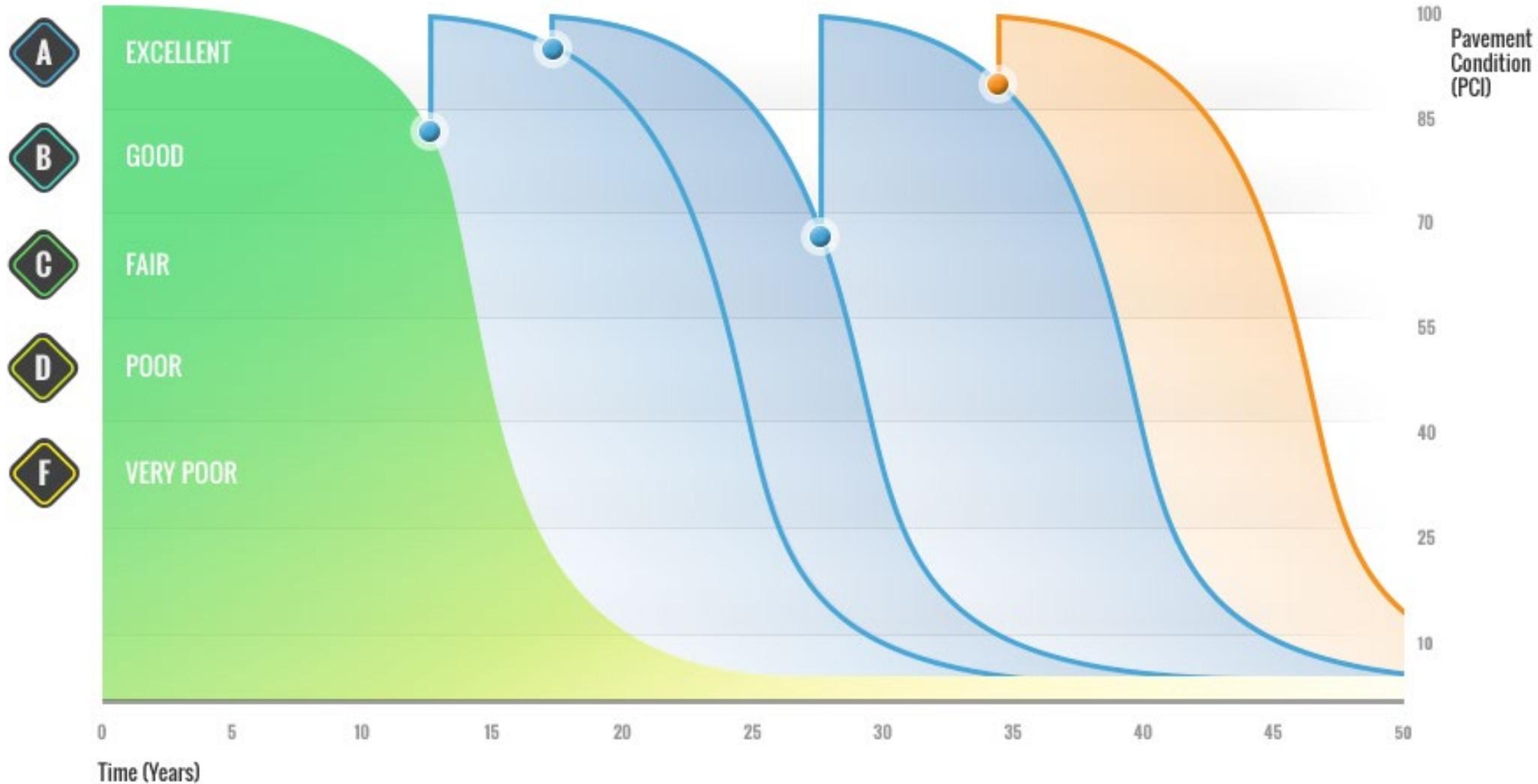
A mix of polymer-modified asphalt emulsion, aggregate, and additives are applied to the roadway surface. The treatment seals the surface extending the life of the pavement.



# WHY USE MICRO SURFACING?



# WHY USE MICRO SURFACING?



# MICRO SURFACING

## Polymer-Modified Emulsified Asphalt Paving System Pub. 408

Purpose:

- Improve surface friction
- Fills ruts/ minor surface irregularities
- Seal pavement surface



# MICRO SURFACING

## Micro Surfacing

- A combination of latex modified emulsion, aggregate, Portland cement, and water
- Effective on both low and high-volume roads
- Effective in filling ruts
- Typical service life of 4 to 7 years

**Specification: Publication 408, Section 483**



# MICRO SURFACING

## Micro Surfacing Types

### Type A

- Used to seal minor cracks, fill voids, and ruts less than 1/2".
- Provide a scratch course or surface seal

### Type B

- Used to fill moderate ruts (1/2" to 1.25")
- Provide a scratch, leveling, or surface seal.

### Type RF

- Used to fill deep ruts (up to 2" depth) in a single pass.



# MICRO SURFACING

## **Polymer-Modified Emulsified Asphalt Paving System Pub. 408**

### Material

- Emulsified Asphalt – Class CQS-1HPM (must cure fast enough to allow traffic to be placed on the pavement within 1 hour.)
- Aggregate – From sources listed in Bulletin 14
  - Fine Aggregate – Type B or better, Table A, Sect. 703.1(c)
  - Coarse Aggregate – Table B, Sect. 703.2(a)
  - Wearing Courses – Must SRL designation specified in proposal
- Filler – When required, Type 1 Portland cement, Sect. 723.1
- Water – Free of harmful salts, meeting Sect. 720.2
- Other Additives – To control set time due to varying ambient environmental conditions

# MICRO SURFACING

## Polymer-Modified Emulsified Asphalt Paving System Pub. 408

Uniformity – Produce each mix Type within the ranges specified in Table C

TABLE C

<b>MIX TYPE</b>	<b>MINIMUM SURFACING APPLICATION THICKNESS (inch)</b>	<b>ASPHALT RESIDUE (% by Weight of Aggregate)</b>	<b>SINGLE APPLICATION RATE (Pounds per Square Yard)</b>	<b>DOUBLE APPLICATION RATE (Pounds per Square Yard)</b>
A	1/4	6.0 - 8.5	25-30	35-40
B	3/8	5.5 - 7.5	35- 40	40- 55
RF	N/A	5.5-7.5	22-38	

Note A: Provide mix set additive for each mix type as required.

Note B: Filler for each mix type to be from 1% to 2%± 0.5% by weight of dry aggregate depending on weather conditions.

Note C: It is permissible to increase asphalt content for slag and other absorptive aggregates at the discretion of the DME/DMM.

# MICRO SURFACING

## Polymer-Modified Emulsified Asphalt Paving System Pub. 408

### Mixture Acceptance

- Provide certified calibration sheet for each mix design to be used (**certified within the last 60 days**)
- Provide daily Run Sheet for each mix design certifying the mixture composition and application rate

Asphalt Tack Coat – Required on concrete surfaces, Sect. 460.2

Certification – Provide Certificate of Compliance CS-4171 of all materials

## **Polymer-Modified Emulsified Asphalt Paving System Pub. 408**

### Construction

- Preplacement Meeting – Identify areas of pavement fatigue or excessive rutting.
- Weather Limitations – Vary by District, 50° min., don't apply if rain is imminent or freezing temps are expected within 24 hrs. of application.
- Aggregate Delivery Plan – Number of trucks needed
- Mixing Equipment – Truck mounted units allowed
- Spreading Equipment – Uniformly spread mixture, squeegee box with paddles to prevent mix from setting up, no skips, lumps or tears allowed in finished surface
- Condition of Existing Surface – Clean surface of vegetation, loose materials, dirt & mud, remove pavement markings & legends, apply water to dampen entire surface

## **Polymer-Modified Emulsified Asphalt Paving System Pub. 408**

### Construction (Cont.)

- Spreading & Finishing – Mixture to set in 1 hr., remove & replace if set time exceeds 1 hr. & 20 min.
- Compaction – Before opening to traffic, pneumatic-tire roller, double application – Roll each application
- Test Strip – Representative will pick location, demonstrate that mix sets in 1 hr., one lane wide X 100 to 550 ft. long
- Defective Work – Application rate, uniform finished surface, no longitudinal or transverse streaks greater than ¼ in. bump, ridge or depression measured with 12 ft. straightedge.
- Opening to Traffic – Allow to set, as directed by representative

## Preparing existing surface...

- Remove & dispose of unsuitable material
  - Cold patch, lawn clippings, leaves
- Use power broom to clean the surface
- Dust, dirt, debris
- Seal cracks
  - 1/4" to 1"
- Cracks larger than 1" use mastic







# CRACK SEAL 8/2009 MICRO PLACED 2010

**Polymer-Modified Emulsified Asphalt Paving System Pub. 408**

Same cracks in Micro 1/2015



# CASE STUDY



Park Avenue

Bridgeport, CT

**2004:** 2" Mill & Fill

Fairfield, CT

**2004:** 2" Mill & Fill

**2010:** Crack Sealing & Microsurfacing

**January 12, 2016**

***Pavement Preservation Saves Money!***

# STORIES TO SHARE

## **What Successes/Challenges you have had with Micro Surfacing?**

Put your comments in the "Question Box".

# CONTACT LTAP

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Pennsylvania  
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