Micro surfacing—Advanced Uses and Techniques

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Micro surfacing

- Micro surfacing Definition
- Applications
- Locations
- Materials
- Multi-Layer Systems
- Special Situations
Definition of Micro surfacing

• Micro-Surfacing...
  – Is a tough and durable thin overlay material which can restore the original surface properties of worn but structurally sound pavements.
  – Utilizes asphalt emulsion, and applied at ambient temperature.
  – It is always polymer modified.
  – It always cures chemically without regard to sunlight or temperatures.
  – It becomes traffic ready within 1-hour
  – Can be used to restore the profile of a road.
Micro surfacing - Applications

- Surface Treatments
  - Protective Seal
Micro surfacing - Applications

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  - Protective Seal
  - Wet Weather Skid Resistance
Micro surfacing - Applications

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  - Protective Seal
  - Wet Weather Skid Resistance
  - Bleeding and Flushed Pavements
Micro surfacing - Applications

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  - Bleeding and Flushed Pavements
  - Traffic Pattern Adjustments
Micro surfacing - Applications

• Surface Treatments
  – Protective Seal
  – Wet Weather Skid Resistance
  – Bleeding and Flushed Pavements
  – Traffic Pattern Adjustments
• Transverse and Longitudinal Leveling
  – Scratch Course
Scratch Course

RUTS LESS THAN 1/2"
MAY BE FILLED WITH SCRATCH COURSE

STEEL STRIKE OFF
SCRATCHES SURFACE

PAVEMENT

FULL WIDTH LANE

THE SCRATCH COAT IS GENERALLY
6" LESS THAN THE WIDTH OF THE LANE
Micro surfacing - Applications

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• Transverse and Longitudinal Leveling
  – Rut Filling
    • Scratch Course
    • Rut filling
Rut Box
Micro surfacing Applications

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    • Scratch Course
    • Rut Box
  – Leveling of Faulted Joints in Concrete Pavement
Before

After
Micro surfacing - Applications

• Surface Treatments
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  – Wet Weather Skid Resistance
  – Bleeding and Flushed Pavements
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    • Rut Box
  – Leveling of Faulted Joints in Concrete Pavement
• New Construction of Low Volume Roads
Locations

• Virtually any sound pavement in any location can benefit from Micro surfacing.
  – Low volume rural roads
  – Residential neighborhood streets
  – High volume super highways (+200,000 adt)
  – Airport Runways and Taxiways
  – Containerized Shipping Yards
  – Parking Lots
Innovative Materials

• Highly Modified Micro surfacing
  – 6%+ Polymer Loadings

• Fiberized Micro surfacing
  – 2 % Fiberglass, Polyester or Polypropylene fiber can be added. The fibers provide longer life, resistance to raveling and provide some delay in reflective cracking.
  – Fibers can also be combined with high polymer loadings which provides even greater resistance to cracking.
  – Must perform a mix design when using fiber.
Multi-Layer Systems

- Double Lift Micro surfacing
- Combination Treatments
  - Cape Seals
    - Micro surfacing over Chip Seal
  - Triple Seals
    - Micro surfacing Rut Course followed by
    - Chip Seal followed by
    - Micro surface course
  - Micro surfacing Leveling Course w/HMA Overlay
Special Situations

- Night Work in High Traffic Areas
- Crack Repair and Patching
- Minor Rehabilitation on heavily deteriorated pavements
  - Buying Time
  - Make sure this communicated well to buyer agency and public.
- Micro surfacing over Portland cement concrete
Conclusion

• Micro surfacing is a versatile product that has many uses beyond surface sealing of roadways.
Questions?