FHWA

PAVEMENT PRESERVATION EXPERT TASK GROUP

(PPETG)
The FHWA PPETG will advance and improve the state of the practice in the area of pavement preservation by working collaboratively with federal, state, local agencies, industry, and academic interests.
Overview

Pavement Preservation

“A program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend pavement life, improve safety and meet motorist expectations”
Components of Pavement Preservation

- Pavement Preservation
  - Minor Rehabilitation
  - Routine Maintenance
  - Preventative Maintenance
Overview

Goals

- Pavement preservation acceptance and implementation by Agencies
- **Support preservation programs** at the federal, state, and local levels
- Identify and **address customer needs**
- **Support preservation centers** for excellence/regional organizations
- **Integrate** pavement preservation into pavement management
Established in 1991

Promote the institutionalization of the concepts of pavement preservation

Parent group of “Emulsion Task Force”
Working Topics

- Advocate the **implementation** of Pavement Preservation
- Expand **Training and Certification** Efforts in Conjunction with the Pavement Preservation Road Map
- Advance Pavement Preservation **Research**
- Examine **Impacts of New Policies** on Pavement Preservation Implementation

( cont)
- **Sanction** Emulsion Task Force Efforts
- **Endorse Advancement** of New Treatment Technologies
PPETG Emulsion Task Force (ETF)
✓ Idea conceived at AEMA-ISSA-ARRA meeting February 2008 under guidance of Jim Sorenson, FHWA

✓ Identified need for industry expertise and involvement in ongoing research activities pertaining to asphalt emulsions and finished product systems

✓ First meeting in Newport Beach, CA April 7-8, 2008
Task Force Representation

ETF

Co-Chair- Roger Hayner, Colas Inc., AEMA
Co-Chair- Colin Franco RI DoT, TSP², PPETG, SOMtrls, SCOR

Members From:
- Industry: AEMA/ ARRA/ ISSA
- Academics: CSU/ TX A&M/ UWisc./Cal State
- State DOT’s: TX, IN, UT, RI, CA, LA
- FHWA
- National Center PP (NCPP)
ETF Survey Results

- Top Product **Usage** Priority
  - Chipseals = 100%
  - Tack Coat = 67%
  - Microsurfacing = 62%
Subcommittees

- **Emulsion Testing & Residue Recovery Methods**
  - Arlis Kadrmas- Chair

- **Aggregates, Mix Design, and Performance Tests**
  - Gary Hicks- Chair

- **Approved Supplier Certification**
  - Roger Hayner- Chair

- **Inspection & Acceptance**
  - Colin Franco- Chair

- **Tack Coat Review (Formed 7/26/10)**
  - Chris Abadie- Chair

- **Recycling Emulsions (New)**
✓ Review **needs** for Preservation **Materials Research** - Emulsion & Aggregate

✓ Evaluate **existing R&D** Roadmap Problem Statements in the Area of Emulsions

✓ Evaluate Work Plans and **Review Ongoing Research** in PP Emulsion

( cont )
Coordinate and Share Activities and Results with Existing Superpave binder/mix/modeling ETGs

Facilitate Adoption of New Findings and Research Results Through Appropriate AASHTO / ASTM Channels

AEMA / ISSA / ARRA Coordination
Deliverable - NCHRP Research Pending

NCHRP 09-50 Project “Performance Based Specification for Binders in Chipseals”

- Problem statement proposed by ETF
- Recently Funded - $500,000 project allocation
AASHTO Submittals - Deliverables

- Four Standards submitted to AASHTO for Adoption
  - Standard Practice for Certifying Suppliers of Emulsified Asphalt
  - Recovering Residue from Emulsified Asphalt using Low Temperature Evaporative Techniques
  - Determining Asphalt Binder Bond Strength by Means of the Bitumen Bond Strength Test (BBS)
  - Performance-Graded Asphalt Binder for Surface Treatments (Surface Performance Graded (SPG) Spec)
Asphalt Emulsion Certification
Emulsion Task Force Update

- Draft document submitted to AEMA board and membership for review and AASHTO for balloting.
  - Based on those drafted by north central states and midwest states

Standard Recommended Practice for

Certifying Suppliers of Emulsified Asphalt

AASHTO Designation: x xx-xx (2009)
# Experimental Approach (Initial Strawman)

## Strawman Specification for Chip Seal Emulsified Asphalt - Draft Revision August 2010

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<td>52, 58, &amp; 64°C</td>
<td>G*, G*/sin delta, phase angle</td>
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<td>Modified ASTM D7000</td>
<td>35°C or Placement °C &amp; humidity</td>
<td>% Loss</td>
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<td>UW Procedure</td>
<td>35°C &amp; 30% H</td>
<td>Pull off tensile strength</td>
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<td>Linear Amp. Sweep Test</td>
<td>Developing Procedure</td>
<td>19°C, Residue &amp; PAV aged Residue</td>
<td>Cycles for failure at a given strain</td>
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Bitumen Bond Strength Test

[Diagram showing a testing apparatus with labels such as Applied Force, Pressure Plate, Pullout Stub, Stub Support, Rate Control, Test Button, Substrate, Binder.]

Emulsion – Part III
Standard Method of Test for

**Determining Asphalt Binder Bond Strength by Means of the Bitumen Bond Strength (BBS) Test**

AASHTO Designation: TP-91-11
New Emulsion Products

**Trackless** Tack Coats

- Identified Industry changes moving to trackless requirements
  - Lots of methods emerging to reach “Trackless” properties- Uncertain effect on performance
  - **Subcommittee formed** to investigate and research requirements

  - Chris Abadie Chair, Gayle King, Mike Voth, Hussein Bahia, Roger Hayner
New Emulsion Products

Cold In Place Recycling – Emulsion Modifier

- Identified need to add to ETF as an emulsion using process
- Work being done by Cal Poly Pomona, CA
- Subcommittee will be formed at next meeting for this area

(RI Case Study Later)
Questions