




BRIDGE DECK PRESERVATION PRODUCT MATRIX



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Project Contributors

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- Dick Dunne – Baker
- Quinn McGuire – Euclid
- Steve Frank – E-Bond
- James High – E-Chem
- Gregg Freeman - Kwikbond
- Eric Hill – Amer. Concrete Cutting
- Debbie Steiger – BASF
- Mike Stenko – Transpo
- Mike Geist – Polycard
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Project Objectives

- Identify the common field conditions that may require deck preservation treatments.
- Poll the WBPP States to see what products were being used.
- Identify key attributes for each treatment purpose
- Develop a product matrix that could be used by the States to select appropriate products.

Field Observed Conditions


- The following field situations were identified where deck treatments may be warranted:
 - Deck Cracking
 - Deck Spalling
 - Deck Delaminations
 - Soffit Efflorescence
 - Abrasion/Chain wear or loss of cover in general
 - Loss of Friction
 - Need for Grade Adjustment

Deck Sealing Product Manufacturers used by WBPP States

- Liquid Concrete
- Euclid
- Sika
- Transpo
- E-Bond
- Dayton Superior
- Kwikbond Polymers
- E-Chem
- Polycarb
- Unitex



Selection Considerations


- How wide are my cracks?
 - How much crack penetration is expected?
 - How quickly do I need to restore traffic?
 - What deck preparation is required?
 - Is the product sensitive to moisture?
 - Do I need strength or stiffness gains?
 - How long will the treatment last?
 - How much will it cost?
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Deck Seal Attributes Collected

- Cost
- Expected Life
- Viscosity
- Time to Traffic
- Cold Weather Application
- Moisture Insensitivity
- Modulus
- Bond Strength



Key Attributes

- Viscosity - Lower viscosity products may be able to penetrate finer cracks.
 - Gel Time – How long will the product have to penetrate into the crack before it sets.
 - Bond Strength – capacity across the product concrete interface.
 - Modulus - High = Rigid, Low = Flexible
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Show Matrix



Next Steps

- Complete deck sealing product matrix
 - Extend to other field observed conditions
 - Combine with other partnership efforts.
 - Looking for volunteers
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