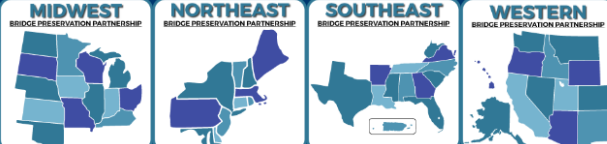


Joint Solutions



Overview

- Purpose
 - Assist in identification of potential solutions for joints that other agencies have utilized. Provide contacts for other agencies to reach out to during and after the meeting to learn more.
- Contents
 - Identification of 5 solutions for joints presented by agencies partnered with the manufacturer
 - Open panel discussion at the end for questions

Steelflex® Strip Seal, DS Brown

Agency Perspective

Agency MnDOT	Sarah Sondag sarah.sondag@state.mn.us
Description of Problem	Longevity
Description of Solutions	Bridge Deck Preservation Strategy: Consider replacing strip seal joints in conjunction with placing or replacing a rigid overlay (similar lifecycles)
Agency Perspective	<ul style="list-style-type: none">• Strip seal expansion joints, such as the Steelflex® system, are widely used in MN on parapet abutment bridges.• A sealed expansion joint is critical to protect the elements below from exposure to water, chlorides, and debris.• The joints must be installed correctly, maintained, and replaced at an appropriate frequency as part of a bridge deck preservation program.

Steelflex® Strip Seal, DS Brown Manufacturer Perspective

Product Steelflex Strip Seal	Ben Jacobus bjacobus@DSBrown.com
Description	Steelflex® Strip Seal Expansions Joint Systems - up to 4” of movement
Applicable Use	Most bridge types, straight joints, skewed joints, dog legs, intersecting joints, and up turns. Long term performance in all weather conditions
Additional Products by Manufacturer	Delcrete Elastomeric Concrete, Delastic Bridge Compression Seal, J- Series Seals, V-Seal, Modular Expansion Joints, Finger Joints, CableGuard, DeckGuard and Elastomeric, Steel and HLMR Disc / Pot Bearings

Steelflex[®] Strip Seal, DS Brown Photos



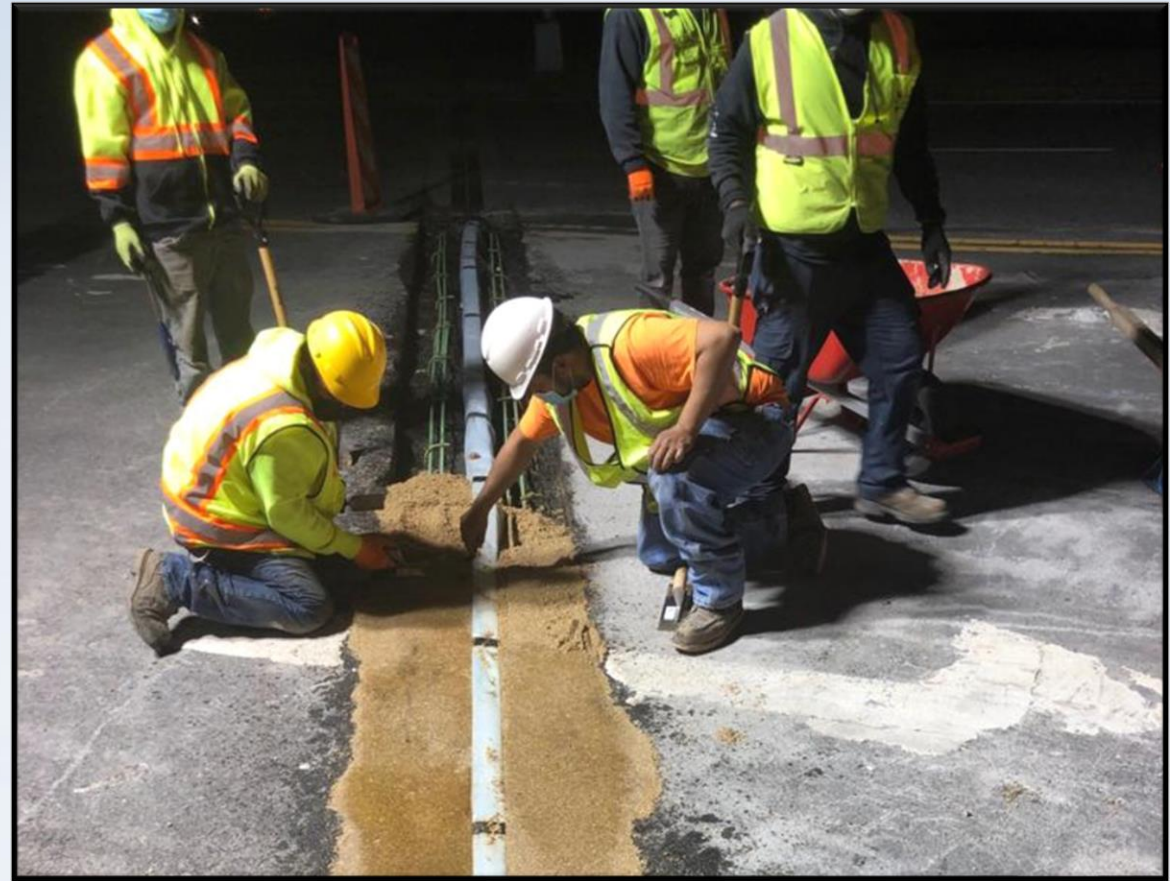
PPC-1121, Kwik Bond Polymers Agency Perspective

Agency NYSDOT	Salah Ali Salah.Ali@dot.ny.gov
Description of Problem	Durability, chipping, adhesion, thermal expansion crack at interface with the deck. Cure time and Application in a colder temperature than other nosing materials
Description of Solutions	PPC has been used for its tensile and compressive strength. Its compatibility with PCC. Its most suitable when PPC overlay is placed for it bonds well to itself. The primer used high molecular weight methacrylate(HMWM) is a penetrating sealer for concrete.
Agency Perspective	PPC is a durable deck patch & repair (partially and full depth) that's compatible with concrete decks and pavement. PPC favored & has been used for When and Where contracts across the state; especially Urban areas/cities like NYC and Long Island where return of traffic is crucial, limited lane closure . It cures in low temperatures as low as 35 degrees.

PPC-1121, Kwik Bond Polymers Manufacturer Perspective

Product PPC-1121	Tzur Frenkel tzur@kwikbondpolymers.com
Description	High strength, longest-lasting header available. More than 35 years of proven performance history. Rapid 2 hour cure, even in cold and humid conditions. Optional penetrating healer/sealer primer re-bonds cracks and promotes adhesion beyond original bond line. Successful in a broad range of climates.
Applicable Use	Joint headers, spall repair, overlays
Additional Products by Manufacturer	Hybrid Composite Synthetic Concrete (HCSC)

PC-1121, Kwik Bond Polymers Photos



Magnesium Phosphate Cement, Phoscrete

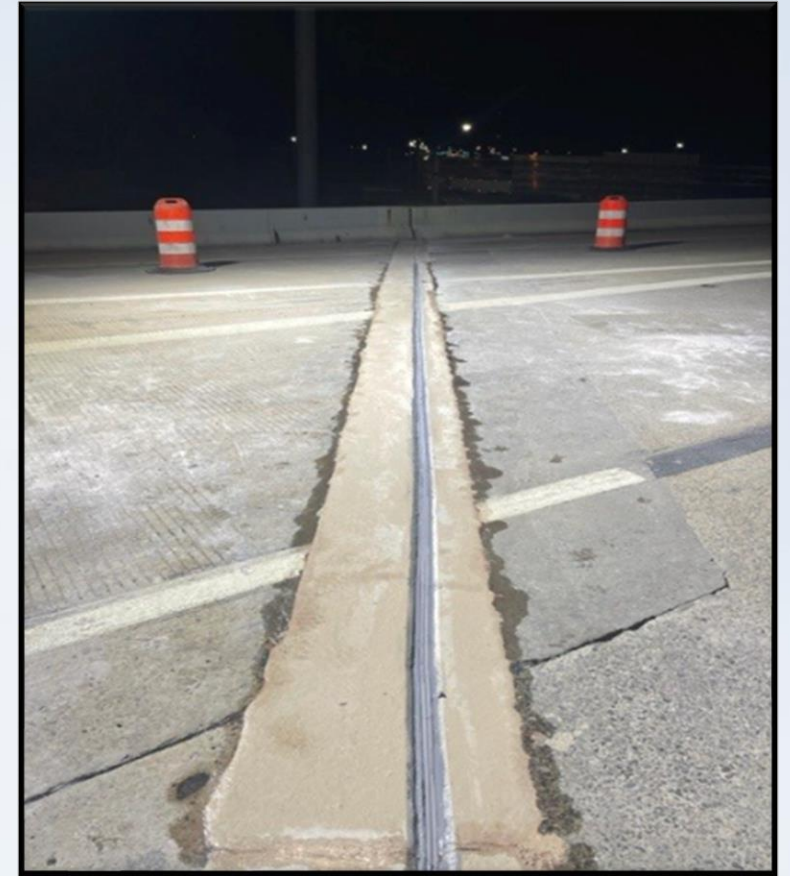
Agency Perspective

Agency DelDOT	Jon Karam Jonathan.Karam@delaware.gov
Description of Problem	Strip seal expansion joints on a heavily trafficked highway were beginning to fail. Repairs had to be performed during night lane closures. Previously used elastomeric concrete product header prematurely failed. Temporary asphalt patch was used until a more permanent fix could be identified and scheduled.
Agency Perspective	It can accept the expansion joint seal and/or traffic within 30 minutes to an hour even in subfreezing temperatures. Product was able to be mixed and placed within a minute without the need to worry about cold joints (7” to 8” deep repairs) during deeper patch layering allowed 40 LF of nosing per closure to be repaired. This efficiency allowed more time per shift on demolition.
Description of Solution	Time-consuming demolition of the damaged strip seal was needed to ensure proper site preparation. MPC was used to create a replacement armorless joint header.

Magnesium Phosphate Cement, Phoscrete Manufacturer Perspective

Product MPC	Kyle Bartfay kyle@phoscrete.com
Description	Phoscrete is a Magnesium Phosphate Cement (MPC) concrete. Phoscrete MPC concrete formulas bond strong and last long without any cold joints. Fast-setting Phoscrete MPC concrete is traffic ready as soon as 30 minutes from the final bucket mix. Phoscrete stops rust on contact and accepts expansion joint and deck sealants as soon as one hour after placement.
Applicable Use	Concrete Repair: Bridge Deck Spalls, Expansion Joint Header (compatible with any joint seal), Vertical/Overhead repair, corrosion mitigation.
Additional Products by Manufacturer	Phoscrete Formula 1 HC and VO Phoscrete Formula 3 HC and VO Phoscrete Endure Reseller of Willseal, Pecora, and Galvatech2000's Rustanode Primer

Magnesium Phosphate Cement, Phoscrete Photos



Silicoflex, R.J. Watson

Agency Perspective

Agency WSDOT & TXDOT	
Description of Problem	Installation issues with maintaining strip seal expansion devices
Description of Solutions	Cutting the strip seal gland at the cavity and leaving the lugs inside of the gland cavity. Silicoflex can then be installed underneath to allow for a labor and materials savings.
Agency Perspective WSDOT – Andre’ La Foe	The Silicoflex system may be an option in certain joint conditions such as where/when a replacement gland cannot be sourced or, when modifying certain joint systems that still have intact embedded armoring that can be used as a suitable backing surface to attach to.
Agency Perspective TXDOT – Daryn Sims	Our largest issue when repairing the SEJ seal is the removal. Often times we have to rely on mechanical devices to aid in this operation. This takes longer time and requires more traffic control. Along with removal, the second most difficult is getting the new strip seal in the gland cavity. Often times, we think it is locked into place only to find in a few weather cycles it falls out. In Texas, we have updated our repair details for utilizing such products like the Silicoflex material in hopes we can resolve these issues.

Silicoflex, R.J. Watson Manufacturer Perspective

Product Silicoflex	Zach Searer zsearer@rjwatson.com
Description	A high-quality, long-lasting, universal preformed silicone joint seal for bridges and highway.
Applicable Use	The system is often used in bridge preservation, strip seal rehabilitation, as well as new construction and has been installed on thousands of bridges and highways worldwide. Strip seal maintenance issues can be resolved by cutting the gland at the gland cavity, leaving the lug inside of the cavity, preparing the substrate as per instructions and installing Silicoflex under the cavity.
Additional Products by Manufacturer	PolyTron Elastomeric Concrete

Silicoflex, R.J. Watson Photos

Silspec 900 Polymer Nosing System, SSI Agency Perspective

Agency N/A	
Description of Problem	Bridge asphalt overlays with expansion joints without a polymer header
Description of Solutions	A joint header is necessary in order to preserve the integrity of the asphalt overlay bridge expansion joint.
Agency Perspective	A joint header is needed in a moving bridge expansion joint with asphalt overlay

Silspec 900 Polymer Nosing System, SSI Manufacturer Perspective

Product Silspec 900	Eric Larson Eric.Larson@ssicm.com
Description	Polymeric Bridge Expansion Joint Headers . Silspec 900 PNS
Applicable Use	Joint Header for asphalt bridge overlay, Concrete joint repair, Armorless Joints
Additional Products by Manufacturer	<p>Bridge Joint polymer elastomeric Epoxy based joint header nosing. SILSPEC XJS 900 PNS Polymer Nosing System.</p> <p>Bridge Joint polymer elastomeric Polyurethane based joint header nosing. SILSPEC 2000.</p> <p>Bridge Deck and Highway Polymeric Spall concrete repair. SILSPEC FLEXPATCH.</p> <p>Bridge Deck Polymer overlay with high friction flint aggregate. SILSPEC REDECK.</p> <p>Bridge Deck Crack Sealer Healer with sacrificial wearing topping surface. SILSPEC DECKSEAL.</p> <p>Bridge Joint Seal pre-compressed foam with silicone topping. SILSPEC SES.</p> <p>Bridge Joint Seal inverted V Silicone Strip Seal. SILSPEC SSS</p> <p>Bridge Joint Seal 2 component fast cure silicone.</p>

Silspec 900 Polymer Nosing System, SSI Photos

POLYMER HEADER
SILSPEC 900



2 COMPONENT FAST
CURE SILICONE



SILICONE STRIP
SEAL
SILSPEC SSS

PROCOMPRESSED
FOAM SEAL
SILSPEC SES



Questions for the Panel?