Small Movement Joint Maintenance
WATERPROOF WITHOUT REPLACEMENT

A5383  St. Louis Co.  4-19-11
CRD Maramec Bottom Rd
West expansion device,
compression seal, partially
removed, 2 1/2 in. at 80.
A2163
Aug 23 2011
Typical Bearing Clean / paint / lube

A2163
Aug 23 2011
Girder 4 Hole at bearing behind stiffner
Clean and Paint All Girder Ends

A2164
Aug 23, 2011
Typical Girder 1 EB Structure Only
Paint Lower Web and Bottom Flange (Pic East End)
VERTICAL STIFFNER
SECTION LOSS

HOLE IN WEB OVER BEARING
REBAR EXPOSED

A3616 10-16-12
SPAN 4 BT 4 CAPFACE
LARGE SPALLS W/REBAR EXP
PAY NOW

OR PAY MORE LATER
Expansion Jt Hydroblast Removal
Kilian Corporation
Illinois Bridge (I-255 @ I-64)
Intermediate Bent
A5383  
Dec 14, 2010  
Typical Compression Seal

A2941  01-11-12  
Rte 21 S/Old Hwy 21  
N. Exp Jt Breaking Free @ Lane 1/2 line

A3097  Jefferson Co.  1/11/12  
Mq 21 S @ Or 21  
Bent 1 Expansion  
Replace With XJS
WATERPROOF WITHOUT REPLACEMENT

REVIEW OF:

- XJS - SILSPEC WITH SILICONE SEALANT
- SILICOFLEX GLAND
- EVAZOTE GLAND
- EMSEAL GLAND
WHAT IS THE XJS SYSTEM

GRANOR XJS® EXPANSION JOINT SYSTEM
XJS® STANDARD DRAWING FOR NEW WORK INTO CONCRETE DECK

Silspec® 900 PNS
Polymer Nosing System

100mm (Typ.) Varies 100mm (Typ.)

Dow Corning® 902 RCS
Recess 12mm below surface

40mm (Typ.)

Backign Rod

Bevel Edge

FIG 1
NO SING
SANDBLAST FOAM PRIMER
A3638  St. Louis Co. E-44 4-21-11
South expansion device - south bound lanes - silicon to narrow.

A3640  St. Louis Co. E-44 4-21-11
Silicon debounded in every lane.

A3638  St. Louis Co. E-44 4-21-11
South expansion device - south bound lanes (1 3/8 inches at 45).

A4629  Jefferson Co 1/18/12
MO 30 E @ BIG RVR
Bent 4 Exp. joint failing
Repair expansion joint
Seal looks good - east joint
(2 3/8 inches at 50).

East joint - 1 1/8 inches at 45 - good.
SILICOFLEX

Bridge Deck Joint Sealing System
<table>
<thead>
<tr>
<th>Model</th>
<th>Inst. Width</th>
<th>Max Closure</th>
<th>Max Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF150</td>
<td>1” - 2” (25.4mm-50.8mm)</td>
<td>½” (12.7mm)</td>
<td>2” (50.8mm)</td>
</tr>
<tr>
<td>SF225</td>
<td>1 ¼” - 3” (31.75mm - 76.2mm)</td>
<td>¾” (19mm)</td>
<td>3” (76.2mm)</td>
</tr>
<tr>
<td>SF400</td>
<td>2 ½” - 4” (63.5mm - 101.6mm)</td>
<td>1” (25.4mm)</td>
<td>5” (127mm)</td>
</tr>
</tbody>
</table>
IT STILL LOOKS GOOD
EXCESSIVE GLUE

CANNOT TRIM

GLAND FAILURE
Nov 3, 2014
North Approach Slab to Approach Pavement
Now up to 6” at 60+ degrees
TECHNICAL DATA:

Design Information
The design of the seal shall be capable of accommodating movement and variations in joint widths through compression and tension of its shape. Grooved sidewalls shall be 1/8" (3mm) wide by 1/8" deep (3mm) and spaced between 1/4" (6mm) to 1/2" (13mm) apart and run along the entire length of the bond surfaces of the seal to ensure an effective and quality surface for adhesion.
BEJS SYSTEM -- Bridge Expansion Joint System

Features
- Watertight, tensionless silicone bellows
- Traffic durable
- Flex-compliant
- Primary seal
- Rapid installation—even retrofit
- Non-invasive anchoring
- Eligible for installation preserves traffic flow
- Joint-filler adhered

Community of seal through curbs, sidewalks, parapets
- 100% free of wax or asphalt compounds (Why does this matter?)

Uses
- Replaces old or failed bridge expansion joint systems
- Ideal for concrete-to-concrete substrates
- For existing or repaired substrates
- Ideal for reinforced bodies where determination and removal of existing embossed metal edges is not feasible or affordable
- As a replacement for filled strip seal inserts
- To seal the joint under asphalt-pavement surfaces
- To seal control joints under continuous asphalt roadway surfaces

Standard Sizes
- 1/2" (12.7mm) to 4" (100mm)

Movement Capability
- ±30% and ±30% (Total 100%) of nominal material size (see Performance)
EMSEAL Field Card

Job Name: HWY 60 WEST (HWY-D EXIT)
Job Location: WEST OF JEFFERSON CITY, MO
Joint Width: 2 7/8"  Deck Temp: 50°F
Joint Location / Description: BEJS INSTALL
ABUTMENT JOINT 45" X 300" BRIDGE DECK
10-24-11

Don’t forget: Photos of Terminations & Transitions
Deck Span for Movement Calcs / Joint Depth
EPOXY
INSERT GLAND
SILICONE ADHESIVE
A4840  IS 270  St. Louis Co.
East expansion device
(Emseal)
3-7-13
Universal-90 Upturn Transition

Universal-90 Flipped-Over as Downturn Transition

Universal 90
SUCCESSFUL TRIAL

SOME MINOR DEBONDING – BUT NO LEAKS

INJECT SILICONE ADHESIVE MORE
IOWA

TRIAL PHOTOS – LOOKS LIKE GOOD SILICONE INJECTION
“It has held up well and remains watertight” - Rick Rodda
REVIEW

- XJS
- SILICO FLEX
- EVAZOTE
- EMSEAL

All these systems have sizing and installation instructions on the internet.
QUESTIONS or COMMENTS?

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