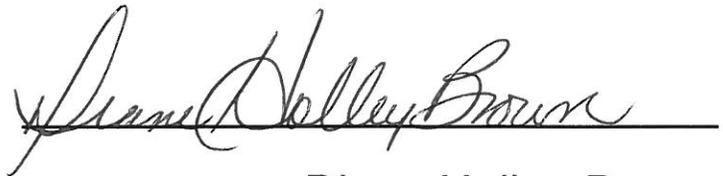


NOTICE

Please note that this bid from Tom Brown, Inc. for CRFQ DOT16*86 was received at the Purchasing Division office prior to the established bid opening date and time on April 21, 2016 as noted on the coversheet, but was unable to load properly through wvOASIS at the public bid opening. This bid has since been loaded and is now posted.

A handwritten signature in cursive script, reading "Diane Holley-Brown", is written over a solid horizontal line.

Diane Holley-Brown
Assistant Purchasing Director



April 22, 2016

April 21, 2016 1:30 PM Electronic Solicitation Responses (ESRs)

ISSUE

On Thursday, April 21, 2016 1:52 PM, the Purchasing Division contacted the wvOASIS Finance Team because five centralized solicitations closed at 1:30 PM, but no electronic solicitation responses (or “ESRs”) were received. At that time, a Finance Team member observed that the 1:30 PM sync cycle was complete and successful (See Exhibit 1). The team member also found one decentralized ESR that interfaced successfully during the 1:30 PM sync cycle (SR 0211 ESR0420160000005077; see Exhibit 2). Based on this information, the team member advised the Purchasing Division that everything appeared to be in order.

At 3:19, the Purchasing Division contacted wvOASIS again after noticing ESRs in the system relating to the five centralized solicitations: CRFQs ADJ160000020, CPR160000001, DOT160000083, DOT160000086, and DNR160000028.

Exhibit 1

Job ID	Item Type	Catalog Id	Catalog Name	Job Name	User ID	Start Time	End Time	Run Status	Return Code	
446257	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 16:31:49	04-21-2016 16:31:56	Complete	Successful	View Log
446206	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 15:31:29	04-21-2016 15:31:32	Complete	Successful	View Log
446129	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 14:29:59	04-21-2016 14:30:13	Complete	Successful	View Log
446108	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 13:29:59	04-21-2016 13:30:03	Complete	Successful	View Log
446063	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 12:29:49	04-21-2016 12:29:53	Complete	Successful	View Log
445986	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 11:29:59	04-21-2016 11:30:01	Complete	Successful	View Log
445963	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 10:29:59	04-21-2016 10:30:01	Complete	Successful	View Log
445914	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 09:29:49	04-21-2016 09:29:54	Complete	Successful	View Log
445824	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 08:29:49	04-21-2016 08:29:53	Complete	Successful	View Log
445719	System Batch	127	Load to Advantage	DAFN012701_Load_to_Advantage_127	batch	04-21-2016 07:30:19	04-21-2016 07:30:40	Complete	Successful	View Log

Exhibit 2

The screenshot displays a web-based procurement system interface. At the top, a header bar contains the text: "Solicitation Response(SR) Dept: 0211 ID: ESR04201600000005077 Ver.: 1 Function: New Phase: Final Modified by batch_04/21/2016". Below the header, there are tabs for "General Information", "Contact", "Default Values", "Discount", and "Document Information". The "General Information" tab is active, showing the following details:

- Procurement Folder: 209322
- Procurement Type: Agency Purchase Order
- Vendor ID: 000000199924
- Legal Name: F M PLE HARDWARE CO INC
- Alias/DBA:
- Total Bid: \$1,000.00
- Response Date: 04/20/2016
- Response Time: 15:46

On the right side of the form, additional information is displayed:

- SO Doc Code: ARFQ
- SO Dept: 0211
- SO Doc ID: GSD1600000162
- Published Date: 4/15/16
- Close Date: 4/21/16 (highlighted with a red box)
- Close Time: 13:00 (highlighted with a red box)
- Status: Closed
- Solicitation Description: Toro Lawn Mower Parts

BACKGROUND

The wvOASIS system is a web-based, enterprise-wide financial application that runs on multiple servers. When a vendor submits a Solicitation Response document in the Vendor Self Service (VSS) portal, the document remains sealed in the VSS electronic lockbox until the solicitation closing date and time are reached. Then, the responses are copied from the lockbox to the procurement folder by a synchronizing interface. The Purchasing Division is not able to access electronic solicitation responses until they are exported from the lockbox to the procurement folder. The synchronizing interfaces, or sync cycle, run every hour at the bottom of the hour, from 7:30 AM to 5:30 PM weekdays.

ANALYSIS

Members of the wvOASIS Technical Team identified the cause of the issue relating to the April 21, 2016 1:30 PM ESR documents. The system clocks on two wvOASIS servers were out of sync by a matter of seconds. This caused the 1:30 PM sync cycle to begin at 1:29 PM. Because the ESRs relating to the five centralized solicitations were not eligible to be interfaced until after their 1:30 PM closing time, they were not copied to their respective procurement folders until the completion of the 2:30 PM sync cycle. It should be noted that the decentralized ESR shown in Exhibit 2 had a closing time of 1:00 PM, making it eligible to be interfaced at 1:29 PM.

CONCLUSION

After careful review, it is our conclusion that the ESR documents relating the five centralized solicitations were received in the wvOASIS system prior to the 1:30 PM closing time and should be considered valid bids by the Purchasing Division. The specific ESR documents are:

CRFQ 0603 ADJ1600000020

Solicitation Response SR,0603,ESR04061600000004696,1
Solicitation Response SR,0603,ESR04191600000005013,1
Solicitation Response SR,0603,ESR04191600000005025,1
Solicitation Response SR,0603,ESR04201600000005072,1
Solicitation Response SR,0603,ESR04201600000005074,1
Solicitation Response SR,0603,ESR04201600000005079,1

CRFQ 0203 CPR1600000001

No solicitation responses received

CRFQ 0803 DOT1600000083

Solicitation Response SR,0803,ESR03281600000004481,1

CRFQ DOT1600000086

Solicitation Response SR,0803,ESR04201600000005078,1

Solicitation Response SR,0803,ESR04201600000005081,1

CRFQ DNR1600000028

Solicitation Response SR,0310,ESR04211600000005085,1

Solicitation Response SR,0310,ESR04211600000005092,1



West Virginia Purchasing Division

2019 Washington Street, East
Charleston, WV 25305
Telephone: 304-558-2306
General Fax: 304-558-6026
Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header

General Information | Contact | Default Values | Discount | Document Information

Procurement Folder: 198338	SO Doc Code: CRFQ
Procurement Type: Central Master Agreement	SO Dept: 0803
Vendor ID: 00000159743	SO Doc ID: DOT160000006
Legal Name: TOM BROWN INC	Published Date: 3/25/16
Alias/DBA:	Close Date: 4/21/16
Total Bid: \$446.47	Close Time: 13:30
Response Date: 04/20/2016	Status: Closed
Response Time: 16:16	Solicitation Description: PREFORMED SILICON FOAM BRIDGE EXPANSION JOINT
Total of Header Attachments: 0	
Total of All Attachments: 0	



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Solicitation Response

Proc Folder : 198338

Solicitation Description : PREFORMED SILICON FOAM BRIDGE EXPANSION JOINT SYSTEM

Proc Type : Central Master Agreement

Date issued	Solicitation Closes	Solicitation No	Version
	2016-04-21 13:30:00	SR 0803 ESR04201600000005078	1

VENDOR

000000159743
 TOM BROWN INC

FOR INFORMATION CONTACT THE BUYER

Sheila L Hannah
 (304) 558-4317
 sheila.l.hannah@wv.gov

Signature X FEIN # DATE

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	JOINT SYSTEM 1/2" WIDE	1.00000	LF	\$4.700000	\$4.70

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 1/2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	JOINT SYSTEM 3/4" WIDE	1.00000	LF	\$5.240000	\$5.24

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 3/4" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	JOINT SYSTEM 1" WIDE	1.00000	LF	\$5.770000	\$5.77

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 1" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	JOINT SYSTEM 1 1/4" WIDE	1.00000	LF	\$6.310000	\$6.31

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 1 1/4" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	JOINT SYSTEM 1 1/2" WIDE	1.00000	LF	\$20.420000	\$20.42

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 1 1/2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	JOINT SYSTEM 2" WIDE	1.00000	LF	\$23.620000	\$23.62

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
7	JOINT SYSTEM 2 1/2" WIDE	1.00000	LF	\$29.110000	\$29.11

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 2 1/2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
8	JOINT SYSTEM 3" WIDE	1.00000	LF	\$33.410000	\$33.41

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 3" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
9	JOINT SYSTEM 3 1/2" WIDE	1.00000	LF	\$42.360000	\$42.36

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 3 1/2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
10	JOINT SYSTEM 4" WIDE	1.00000	LF	\$47.240000	\$47.24

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 4" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
11	JOINT SYSTEM 4 1/2" WIDE	1.00000	LF	\$49.880000	\$49.88

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 4 1/2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
12	JOINT SYSTEM 5" WIDE	1.00000	LF	\$53.570000	\$53.57

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 5" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
13	JOINT SYSTEM 5 1/2" WIDE	1.00000	LF	\$56.980000	\$56.98

Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 5 1/2" WIDE

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
14	JOINT SYSTEM 6" WIDE	1.00000	LF	\$67.860000	\$67.86

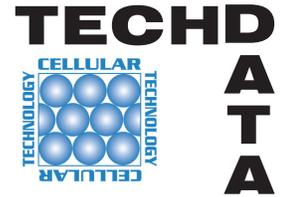
Comm Code	Manufacturer	Specification	Model #
30121715			

Extended Description : PROFORMED SILICON COATED FOAM BRIDGE EXPANSION
JOINT SYSTEM 6" WIDE



BEJS SYSTEM

Watertight Joint System for Road Bridges



Product Description

The BEJS SYSTEM, Bridge Expansion Joint System, builds on a track record of over 30 years of sealing horizontal plane joints with pre-compressed foam sealants.

The system is comprised of a precompressed, silicone-and-foam hybrid installed into field-applied epoxy adhesive on the joint faces; with the silicone bellows locked to the joint faces with a silicone sealant band (see Fig. 1).

The BEJS SYSTEM features an innovation in sealant technology in the form of a microsphere-modified, 100% acrylic impregnation infused into the cellular foam base material.

The material is odorless, clean handling, UV stable, non-staining, and features low temperature flexibility not previously available in asphalt, wax, or isobutylene-based predecessors or competitors.

The result is extension of the usability of the product to applications where asphalt and wax-based predecessors did not work well under conditions of thermal shock (rapid opening and closing of joints during large temperature swings). These applications include joint-face adhered installations on bridge decks, wing walls, abutments, jersey barriers, precast panels, etc.

Suitability is further extended to applications in colder geographical regions to which asphalt and wax-based predecessors have not previously been recommended.

Features

Watertight—the tensionless silicone bellows are installed just below the deck surface. This ensures watertightness is achieved at the deck surface.

Non-Invasive Anchoring—there are no hard metal-to-concrete connections with the BEJS SYSTEM. This includes embedded pins, anchors, screws, bolts or tracks, trays or rails. The system is locked to the joint faces by means of the backpressure of the foam; the epoxy adhesive; and the injected silicone sealant band at the joint face to foam and silicone bellows interface.

Continuity of Seal—as in all EMSEAL expansion joint systems, continuity of seal through changes in plane and direction is an essential performance differentiator. "Universal 90's", "Kickout Terminations" and "Custom Transitions" are factory fabricated transition pieces

Uses

- Watertight, traffic durable, joint-face-adhered, precompressed, **primary seal** for retrofit and new expansion joints in road bridges, wing walls, abutments, jersey barriers, longitudinal joints, precast panels, etc.
- Ideal for new construction and retrofit bridge preservation of old or failed joint systems in concrete or rebuilt joint edges. Use in embedded metal angles where demolition or removal of the metal angles is not feasible and where existing joint opening is suited to the movement capability of BEJS.
- Ideal for lasting replacement of failed caulk joints.

Fig.1: BEJS SYSTEM in Typical Installation-- New or Retrofit

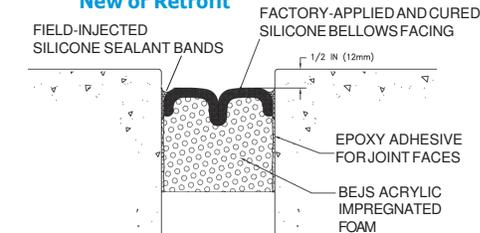


Fig.2: BEJS-ON-A-REEL for Joints 1/2" (12mm) - 1 1/4" (30mm)

Note: Material sizes less than 1 1/4" (30mm) are supplied on 12-LF long reels with a smooth, convex single bellows as shown.

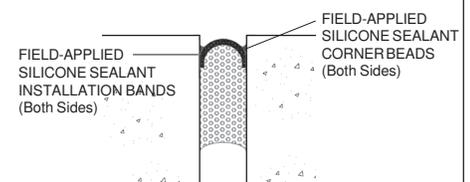


Fig.3: BEJS SYSTEM in Existing Steel Angles--Retrofit

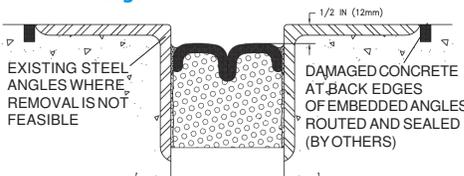


Fig.4: BEJS SYSTEM in Existing Strip-Seal Retrofit

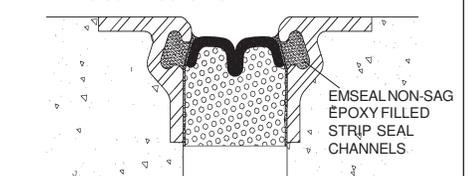
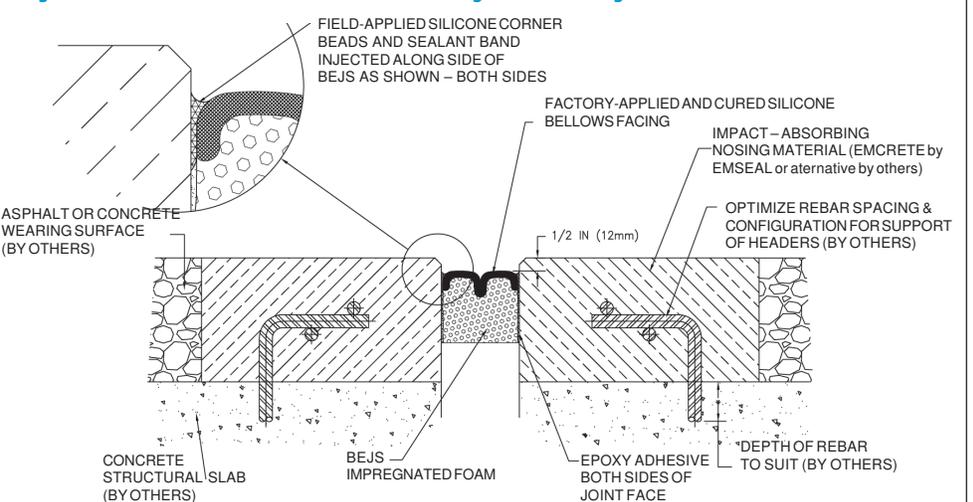


Fig.5: BEJS SYSTEM in New or Rebuilt Joint Edges with Nosing Material



from EMSEAL that can be installed at inside corners and outside corners as needed and are warranted by EMSEAL to be watertight through the entire movement capability of the product. Alternatively, details for field-fabricated transitions from deck to wall, at curbs, sidewalks, parapets, tees, and crosses are available from EMSEAL.

Movement Capability

+50% and -50% (Total 100%) of nominal material size.

Aesthetics & Versatility—Standard color is black. Uniform bellows appearance, fuel resistance, and an enhanced ability to handle variations in joint size are among other system features.

Performance

- Substrates must be parallel, plumb and capable of resisting approx. 2.5 psi backpressure from the foam.
- Standard sizes from 1/2" (12mm) to 4" (100mm). Other sizes available subject to review of application: consult EMSEAL.
- Fuel Resistance: Silicone sealant is not degraded by contact with fuel. Some swelling of the silicone material will normally occur, but it will return to its original shape upon evaporation of the fuel.

Composition

- BEJS is produced by coating an impregnated cellular foam with highway-grade silicone.
- The silicone external facing is factory applied to the foam at a width greater than maximum joint extension and is cured before final compression.
- Silicone application and curing takes place in a factory-controlled environment. In contrast to field applied liquid sealant and backer rod installations, no movement takes place during curing that can cause deformation or stresses in the material.
- When compressed, a bellows is created in the coating. As joint movement

- occurs the bellows simply folds and unfolds free of tension on the bondline, and virtually free of tensile stresses in the silicone material.
- The foam provides a resilient backing to the silicone coating, making the system capable of resisting reasonable transient joint loads.
- BEJS SYSTEM is precompressed to less than the joint size for easy insertion. After removal from the shrink-wrap and hard board restraining packaging, it expands gradually.

Installation

IMPORTANT: The following instructions are a summary. Refer to "BEJS SYSTEM Install Data" and job-specific instructions of an EMSEAL technician for complete procedures.

- Store indoors at room temperature. Expansion is quicker when warm, slower when cold.
- Properly prepare substrates.
- Ensure material nominal size matches joint size.
- Mix epoxy and trowel a thin layer onto the joint faces to at least the depth of the BEJS foam
- Apply a thin layer of epoxy to both sides of the joint face.

- Remove shrink-wrap packaging, hardboard. If necessary, heat using torch to expand material to a snug fit in the joint.
- Insert material into joint with a 1/2" (12mm) recess.
- Join lengths by pushing silicone coated ends firmly together.
- Wipe silicone facing using clean, lint-free rag made damp with solvent.
- Before the epoxy cures, force the tip of the sealant tube between the foam and the substrate and inject a silicone sealant band. Tool overflow sealant into a cove bead between the top of the silicone bellows and the substrate. Tool silicone between joined lengths so that bellows is not restrained by excess silicone.

Warranty

Standard or project-specific warranties are available from EMSEAL on request.

CAD Details & Guide Specs

Guide specifications and CAD details are available at www.emseal.com.

Availability & Price

BEJS SYSTEM is available for shipment internationally. Prices are available from local representatives and/or directly from the manufacturer. The product range is continually being updated, and accordingly EMSEAL® reserves the right to modify or withdraw any product without prior notice.

Property	Value	Test Method
BASE MATERIAL	CELLULAR, HIGH DENSITY, POLYURETHANE FOAM	N/A
Impregnation	Proprietary, modified, water-based, acrylic	N/A
TEMPERATURE SERVICE RANGE		ASTMC711
HIGH	185°F (85°C)	
LOW	-40°F (-40°C)	
UV RESISTANCE	No CHANGES--2000 HOURS	ASTM G155-00A
(Accelerated Weatherometer)		
RESISTANCE TO AGING	No CHANGES--2000 HOURS	ASTMG155-00A
Bleeding: -40°F to 180°F (-40°C to 85°C)	No bleeding when compressed to minimum of claimed movement i.e. -50% of nominal size and when simultaneously heated to 180°F (85°C) FOR 3 HOURS	
COMPRESSION SET	MATERIAL RECOVERS TO +50% OF NOMINAL SIZE WITHIN 24 HOURS OF COMPRESSION TO -50% AND SIMULTANEOUS HEATING TO 180°F (85°C) FOR 3 HOURS	

Property	Value
COLOR	BLACK
Percent Solids (minimum)	96
SPECIFIC GRAVITY	1.26 - 1.34
Following tests conducted on Sealant Cured after 21 days at 25°C (77°F) and 50% RH:	
ELONGATION PERCENT MINIMUM	1400
Joint Modulus at 50 percent Elongation, psi (kPa) maximum	7(48)
JOINT MODULUS AT 100 PERCENT ELONGATION, PSI (KPA) MAXIMUM	8(55)
Joint Modulus at 150 percent Elongation, psi (kPa) maximum	9(62)
ADHESION TO CONCRETE, MINIMUM PERCENT ELONGATION	+600
Adhesion to Asphalt, minimum percent Elongation	+600
JOINT MOVEMENT CAPABILITY, +100/-50 PERCENT, 10 CYCLES	NO FAILURE
Weatherability	Unaffected by climatic extremes
FLEXIBILITY	CURED SEALANT STAYS RUBBERY FROM -45 TO 149°C (-50 TO 300°F)

Table 3: Approximate Volume Change of Silicone Coating after Exposure to Fluids:

Percent Volume Swell - Visual	
Fluid	Silicone Joint Sealant
JP-4	5-20 PERCENT
Skydrol B	None
50/50 GLYCOL/H2O	NONE
Hydraulic Fluid	None

AFTER DRYING, ALL SAMPLES PASSED +100/-50% MOVEMENT TESTING.

Table 4: BEJS SYSTEM Sizing
(see "Performance" for movement capabilities & limitations)

Nominal Material Size (Joint Size at Mean T°F)	Depth of Seal	Min. Joint (closes to)	Max. Joint (opens to)
1/2" (12mm)	1 3/4" (45mm)	1/4" (6mm)	3/4" (20mm)
3/4" (20mm)	1-3/4" (45mm)	3/8" (10mm)	1-1/8" (28mm)
1" (25mm)	1 3/4" (45mm)	1/2" (12mm)	1-1/2" (40mm)
1-1/4" (30mm)	2" (50mm)	5/8" (15mm)	1-7/8" (47mm)

The following sizes are supplied in on 12-LF (3.65 M) reels. See BEJS-ON-A-REEL information sheet.

Nominal Material Size (Joint Size at Mean T°F)	Depth of Seal	Min. Joint (closes to)	Max. Joint (opens to)
1-1/2" (40mm)	2 1/2" (65mm)	3/4" (20mm)	2-1/4" (55mm)
1-3/4" (45mm)	2-1/2" (65m)	7/8" (22mm)	2-5/8" (68mm)
2" (50mm)	2-1/2" (65mm)	1" (25mm)	3" (75mm)
2-1/4" (55mm)	2-1/2" (65mm)	1-1/8" (28mm)	3-3/4" (95mm)
2-1/2" (65mm)	2-3/4" (70mm)	1-1/4" (30mm)	3-3/4" (95mm)
2-3/4" (70mm)	2-3/4" (70mm)	1-3/8" (35mm)	4-1/8" (105mm)
3" (75mm)	2-3/4" (70mm)	1-1/2" (40mm)	4-1/2" (115mm)
3-1/4" (85mm)	3-1/2" (90mm)	1-5/8" (42mm)	4-7/8" (120mm)
3-1/2" (90mm)	3-1/2" (90mm)	1-3/4" (45mm)	5-1/4" (135mm)
3-3/4" (95mm)	3-1/2" (90mm)	1-7/8" (47mm)	5-5/8" (140mm)
4" (100mm)	3-1/2" (90mm)	2" (50mm)	6" (150mm)

- For sizes not shown consult EMSEAL.
- Select nominal material size to correspond to joint-gap size at mean temperature.