

Wabo®FS Bridge Seal

Pre-compressed, Foam-supported Silicone Bridge Expansion Joint System

Features	Benefits
<ul style="list-style-type: none"> • Monolithic foam construction 	Base foam construction manufactured in one piece that will not delaminate within product's design movement range
<ul style="list-style-type: none"> • State-of-the-art manufacturing 	Manufactured with no fillers or microspheres for industry leading lowest compression set
<ul style="list-style-type: none"> • Factory assembled joint transitions available 	Made to meet custom job configurations where a field configured transition is impractical. Critical elements manufactured under controlled conditions, and eliminates costly field labor.
<ul style="list-style-type: none"> • Armorless technology 	Does not require any invasive anchoring or bolting, and can be used in retrofit of armored joints
<ul style="list-style-type: none"> • Movement Capacity 	Designed for +/-60% of joint opening, and accommodates rapid rates of joint movement
<ul style="list-style-type: none"> • Simplicity of Installation 	Allows for quick joint repairs, short traffic closures and provides an array of joint placement widths



DESCRIPTION:

Wabo®FS Bridge Seal is a pre-compressed, silicone coated, self-expanding foam bridge joint system.

The Wabo®FS Bridge Seal is comprised of a 100% acrylic impregnated polyurethane foam seal coated with a highway grade UV stable silicone. The foam seal is designed to be permanently bonded to the joint substrate with a user-friendly field applied Wabo®Gel Adhesive.

Designed specifically for bridge applications, the pre-compressed foam-supported silicone bridge expansion joint system allows for movement capability of +/-60% (120% total) of the nominal material size. The pre-compressed design allows for ease of installation and the flexibility to handle minor variations in joint size.

The resilient, acrylic impregnated foam, comprised of a monolithic construction, is coated with a highway grade UV stable silicone sealant. This composite system works under its own constant internal pressure to maintain its sealing function and without the potential for de-bonding from adjacent materials, or built up foam layers delaminating over time. The silicone surface seal thickness provides best-in-class water and fuel resistance. Uniform bellows allow free movement of the foam seal system under its entire movement range without initiating tension in the silicone surface seal.

Wabo®FS Bridge Seal offers long term cycling and joint sealing performance in all climates and thermal shock conditions.



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RECOMMENDED:

- Sealing joints on bridges and highways
- Retrofitting, maintenance and preservation of bridge expansion joints
- Secondary seal for other expansion joint systems
- Parapets and soundwalls

PACKAGING / COVERAGE:

- Seal profiles are shipped pre-compressed in nominal lengths of 6.5 feet (2 meter) sticks
- Wabo®Gel Adhesive is a 1:1 mix and available in standard 50.72 dual cartridge kit
- Wabo®Sil Adhesive is a one-part sealant supplied in 29 oz cartridges.
- Master Seal NP100 or NP150 is packaged in 10.1 oz cartridge

TECHNICAL DATA:

Movement Capability: Wabo®FS Bridge Seal is capable of accommodating movement +60%/-60% of the joint opening

Seal Size			Joint Opening @ Midrange Temperature "A"		Minimum Joint Closure "A"		Maximum Joint Opening "A"		Total Movement Rating (MR)		Groove Depth "B"	
Model Number	Width x Height (in.)	Width x Height (mm.)	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
FS-050	1/2 x 1 1/2	12 x 38	1/2"	12	0.20	5	0.80	20	0.60	15	2.00	51
FS-075	3/4 x 1 1/2	19 x 38	3/4	19	0.30	7.5	1.20	30.5	0.90	23	2.00	51
FS-100	1 x 2	25 x 50	1	25	0.40	10	1.60	40.5	1.20	30.5	2.50	63.5
FS-125	1 1/4 x 2	31.75 x 50	1 1/4	31.75	0.50	13	2.00	51	1.50	38	2.50	63.5
FS-150	1 1/2 x 2	38 x 50	1 1/2	38	0.60	15	2.40	61	1.80	46	2.50	63.5
FS-175	1 3/4 x 2	44.5 x 50	1 3/4	44.5	0.70	18	2.80	71	2.10	53.25	2.50	63.5
FS-200	2 x 3	50 x 75	2	50	0.80	20	3.20	81	2.40	61	3.50	89
FS-225	2 1/4 x 3	57 x 75	2 1/4	57	0.90	23	3.60	91.5	2.70	68.5	3.50	89
FS-250	2 1/2 x 3	63.5 x 75	2 1/2	63.5	1.00	25	4.00	101	3.00	76	3.50	89
FS-275	2 3/4 x 3	70 x 75	2 3/4	70	1.10	28	4.40	112	3.30	84	3.50	89
FS-300	3 x 3	75 x 75	3	75	1.20	30.5	4.80	122	3.60	91.5	3.50	89
FS-325	3 1/4 x 3	82.5 x 75	3 1/4	82.5	1.30	33	5.20	132	3.90	99	3.50	89
FS-350	3 1/2 x 3	89 x 75	3 1/2	89	1.40	35.5	5.60	142.25	4.20	106.75	3.50	89
FS-375	3 3/4 x 3	95.25 x 75	3 3/4	95.25	1.50	38	6.00	152	4.50	114	3.50	89
FS-400	4 x 4	100 x 100	4	100	1.60	40.5	6.40	162.5	4.80	122	4.50	114
FS-425	4 1/4 x 4	108 x 100	4 1/4	108	1.70	43	6.80	172.75	5.10	129.5	4.50	114
FS-450	4 1/2 x 4	114 x 100	4 1/2	114	1.80	45.75	7.20	183	5.40	137	4.50	114
FS-475	4 3/4 x 4	120.5 x 100	4 3/4	120.5	1.90	48.25	7.60	193	5.70	144.75	4.50	114
FS-500	5 x 4	127 x 100	5	127	2.00	50	8.00	203	6.00	152	4.50	114

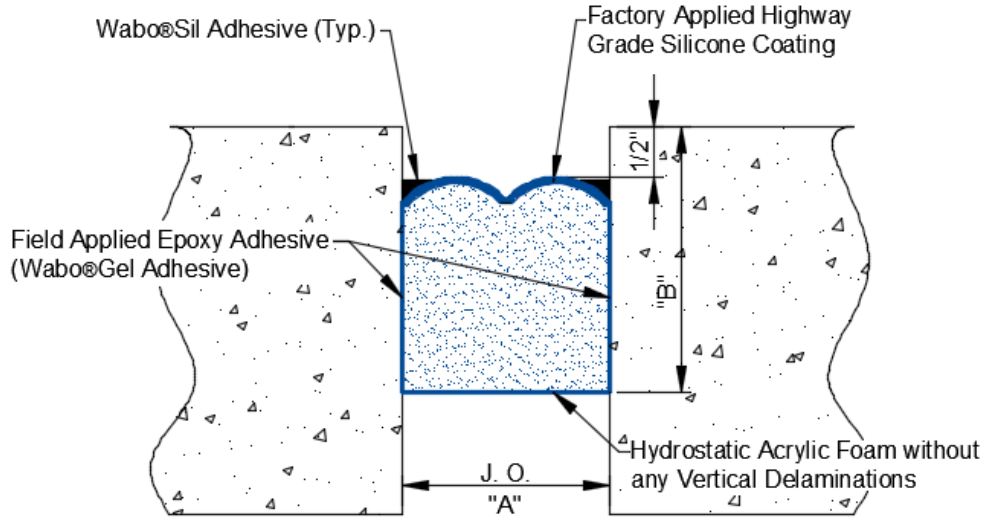
Note: Seal chart shows standard sizes. Made to order seal sizes are available. Contact WBA with your project requirements.

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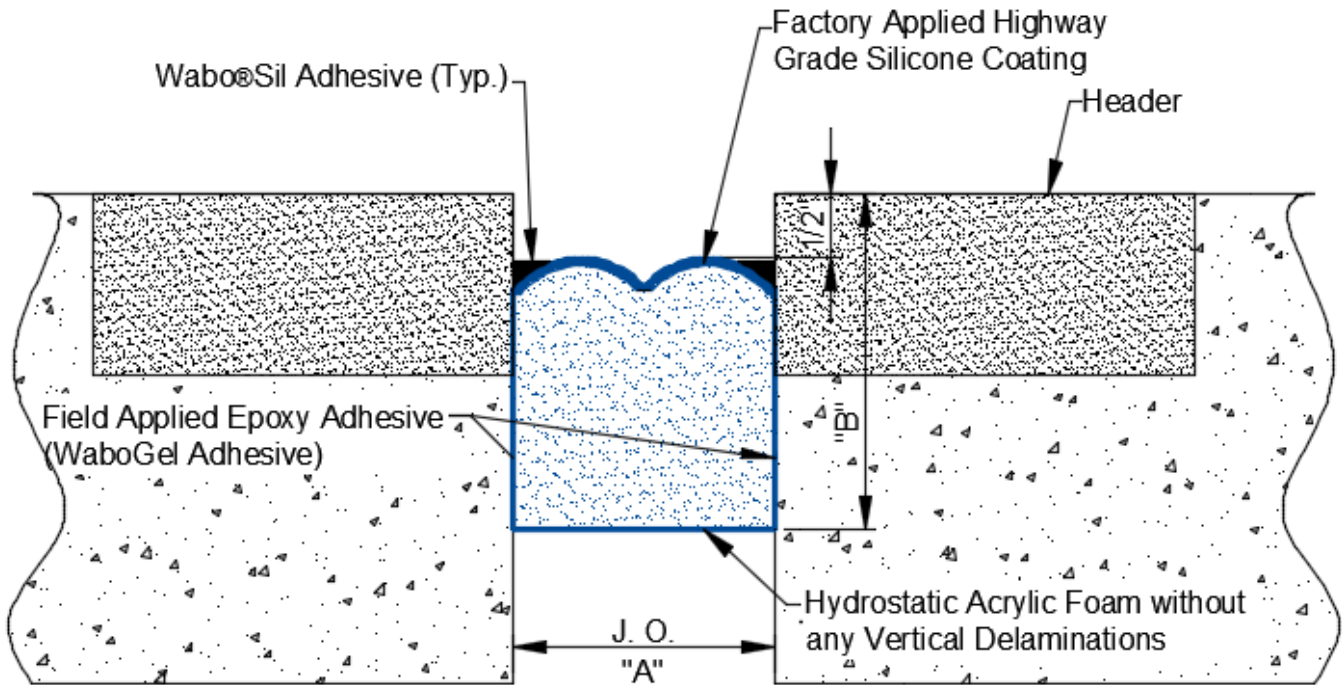


Typical Details:

New Construction



Rehabilitation



PHYSICAL PROPERTIES:

Seal Profile:

Wabo®FS Bridge Seal profile is a pre-compressed, hydrophobic acrylic foam seal manufactured without any vertical laminations. Material composition shall be free of inert fillers any waxes or wax compounds; asphalts or asphalt compounds

PHYSICAL PROPERTIES	TEST METHODS	REQUIREMENTS
Foam Core	N/A	Cellular, high density, polyurethane foam
Impregnation	N/A	Proprietary, modified, water-based, acrylic
Tensile Strength	ASTM D3574	21 psi., min.
Elongation	ASTM D3574	125%, min.
UV / Light & Moisture Resistance	DIN 18542	Pass
Compression Set	ASTM D3574	20%, max.
Density	ASTM D545	4 lb./cu. ft. min.
Tear Resistance	ASTM D624	5 lb./in. min.
Vertical laminations		None
Water Absorption	ASTM D3574	<0.3 lb./ft ²
Temperature Service Range	ASTM C711	-40° F to 185° F

Surface Seal:

The Wabo®FS Bridge Seal Highway Grade Silicone Coating surface seal provides a barrier layer for water and fuel resistance. Uniform bellows allow free movement of the foam seal system under its entire movement range without initiating tension in the surface seal.

PHYSICAL PROPERTIES	TEST METHODS	REQUIREMENTS
Color	Visual	Gray
Durometer (Shore A)	ASTM C 661	20
Resilience	ASTM D5329	≥ 95%
Tensile Strength	ASTM D412	140 psi
Joint modulus at 50% 100% 150%	D3574 E	7 psi max 8 psi max 9 psi max
Elongation @ break	D3574 E	>1400%
Weatherability		Unaffected by climate extremes
Flexibility		Cured sealant stable from -50° F to 300° F

Silicone Sealant:

Wabo®Sil Adhesive is a one component, medium modulus neutral cure highway grade silicone sealant and adhesive used as a finish bead to the top edge of the Wabo®FS Bridge Seal profile and the substrate on both sides. Tool silicone on both sides and at joint connections so that the bellows are not constrained by any excess silicone.

PHYSICAL PROPERTIES	TEST METHODS	REQUIREMENTS
Color	Visual	Gray
Durometer (Shore A)	ASTM C661	25 +/-5
Peel Strength	ASTM C794	55 lbs/in min
Ozone and UV Resistance	ASTM C793	Excellent
Tensile Strength	ASTM D412	250 psi
Joint Movement Capability	ASTM C719	+/-50 %
Elongation	ASTM D412	700%

Epoxy Adhesive:

Wabo®Gel Adhesive is a rapid curing, epoxy based, gel adhesive used to the foam supported silicone seal profile to concrete, steel or elastomeric concrete substrates. The product is packaged in side by side cartridges, which allow the product to be applied with a dual cartridge application gun.

PHYSICAL PROPERTIES	TEST METHODS	REQUIREMENTS
Tensile Strength	ASTM D 638	7100 psi (40 Mpa)
Elongation @ break	ASTM D 638	2%
Shear Strength	ASTM D 732	5700 psi (39 Mpa)
Bond Strength	ASTM C 882	2600 psi (17.9 Mpa)
Compressive Strength	ASTM D 579	9100 psi (62.7 Mpa)
Set Time @ 70 F @ 90 F	ASTM C 881	70 min. 40 min.
Gel Time @75 F	ASTM C 881	20 min.



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APPLICATION:

INSTALLATION SUMMARY:

- Temperature can affect the expansion properties of the material during installation. Material will expand faster when hot and slower when cold. Properly store Wabo®FS Bridge Seal at room temperature and out of direct sunlight.
- Prior to beginning work, field measure joint opening and inspect surrounding substrate. Verify proper seal is selected based on joint opening. Any deficiencies in joint opening must be corrected prior to beginning work. Before installation of Wabo®FS Bridge Seal tape off edges of the substrate to prevent the epoxy from coming in contact with the exposed surface. Tape should be placed ½” on the vertical joint opening and 1 ½” on the exposed horizontal surface.
- Pre-condition Wabo®FS Bridge Seal sticks and Wabo®Gel Adhesive 24 hours in advance, between 65° to 75° F. this will allow for a smoother, faster installation.
- Properly prepare substrates:
 - **Concrete:** joint interface must be dry and clean (free of dirt, coatings, rust, grease, oil, and other contaminants), sound, and durable. Any loose, contaminated, weak, spalled, deteriorated and/or delaminated concrete must be removed to sound concrete and repaired prior to placement. Concrete substrates must be abrasive blasted to remove all laitance and contaminants which may cause bonding problems. A CSP 2-4 is recommended, as per ACI or ICRI recommendations. Alternate method of preparation if abrasive blasting is not an option: grind substrate by means of a diamond cup wheel or Zec wheel.
 - **Steel:** Steel substrates must be sound and abrasive blasted SP-10, near white, immediately prior to installation. If galvanized, contact WBA for suggested guidelines.
 - **Elastomeric Concrete, Polymer Concrete and Visco Elastic Headers:** abrasive blasted to remove all latencies and contaminants which may cause bonding problems (CSP 2-4 recommended).
- Field measure joint opening width and verify movement expectations to ensure Wabo®FS Bridge Seal material matches project joint size and needs.
- Regulate air pressure of pneumatic gun at the tank at 30 psi and adjust as high as 90 psi to control the flow of the adhesive.
- Ensure Wabo®Gel Adhesive is monolithic in color.
- Dispense a bead of Wabo®Gel Adhesive on vertical joint interfaces and with a 2” margin trowel. Spread a 1/8” thin layer onto the joint faces to the depth of seal height. Avoid putting gel adhesive ½ “ from top of roadway to account for seal recess and placement.
- Make any directional cuts, if not utilizing prefabricated curbs prior to removing shrink-wrap packaging, release paper and strapping.
- When fully prepared to install Wabo® FS Bridge Seal, cut the shrink wrap packaging. Be prepared to install the material immediately once the packaging is removed to prevent the material from expanding past the joint width. NOTE: When removing shrink wrap packaging, cut along Masonite Form. This is to ensure that the silicone face has not been cut.



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- Insert material into joint opening, leaving a minimum 1/2" reveal, always working off the lower side of the deck. If a chamfer is done on substrate, recess the joint 3/4". Join seal lengths with Master Seal NP100 or NP150. Using a trowel or putty knife, spread sealant evenly and push coated ends firmly together. Wipe up any excess sealant.
- Pull tape from substrate.
- After the Wabo®FS Bridge Seal has fully expanded, tool a finish bead of Wabo®Sil Adhesive (1/2" bead) between the edge of the Wabo®FS Bridge Seal and the substrate on both sides. Apply Wabo®Sil Adhesive silicone at joint connections (butt splices) so that the bellows are not constrained by any excess silicone. Tool and remove any excess as needed.
- During execution of work, inspect work to assure compliance with manufacturer's guidelines, and good construction practices.
- Protect work from contaminating substances and damage resulting from other construction operations or other causes so that sealed joints are without deterioration or damage at time of Project completion.
- Proper application is the responsibility of the user. Field visits by Watson Bowman Acme personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.
- **IMPORTANT:** The following instructions are a summary. Refer to the Wabo®FS Bridge Seal system installation procedures and Wabo®FS Bridge Seal Transition data sheet or contact WBA for complete procedures.

OPTIONS/EQUIPMENT:

- Pneumatic Air Gun (Part # 19501) for Wabo®Gel Adhesive
- Pneumatic Air Gun (Part # 40501) for Wabo®Sil Adhesive

FOR BEST RESULTS:

- Do NOT allow any of the chemicals components to freeze prior to installation.
- Store all components out of direct sunlight in a clean, dry location between 50°F (10°C) and 90°F (32°C). Do not store in high humidity.
- Shelf life of chemical components is approximately 12 months (6 months for foam seal).
- Do NOT install when surface temperature is less than 40°F (4°C).
- Periodically inspect the applied material and repair localized areas as needed. Consult a Watson Bowman Acme representative for additional information.
- Make certain the most current version of the product data sheet is being used. Please consult the website (www.wbacorp.com) or contact a customer service representative at 1-800-6774WBA.

RELATED DOCUMENTS:

- Safety Data Sheet
- Wabo®FS Bridge Seal Transition Data Sheet
- Wabo®FS Bridge Seal Specification
- Wabo®FS Bridge Seal Sales Drawings
- Wabo®FS Bridge Seal Installation Procedure
- Wabo®Sil Adhesive Data Sheet
- Wabo®Gel Adhesive Data Sheet



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LIMITED WARRANTY:

Watson Bowman Acme Corp. warrants that this product conforms to its current applicable specifications. WATSON BOWMAN ACME CORP. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. The sole and exclusive remedy of Purchaser for any claim concerning this product, including, but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of Watson Bowman Acme Corp. Any claims concerning this product shall be submitted in writing within one year of the delivery date of this product to Purchaser and any claims not presented within that period are waived by Purchaser. IN NO EVENT SHALL WATSON BOWMAN ACME CORP. BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDES LOSS OF PROFITS) OR PUNITIVE DAMAGES. Other warranties may be available when the product is installed by a factory trained installer. Contact your local Watson Bowman Acme representative for details. The data expressed herein is true and accurate to the best of our knowledge at the time published; it is, however, subject to change without notice.

Wabo FS Bridge Seal_1117

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