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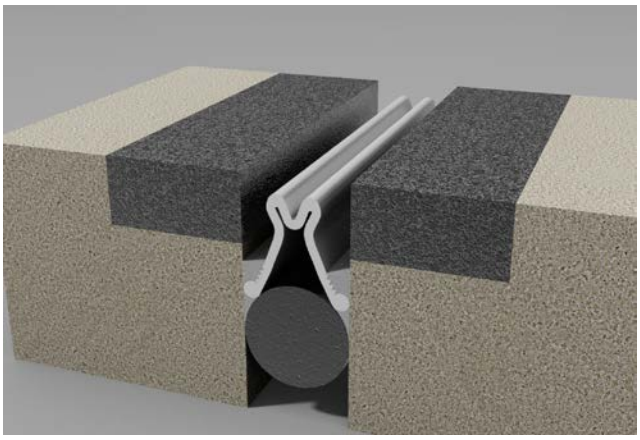
Wabo®Crete SPS

Preformed Silicone Joint Seal System and Elastomeric Concrete Expansion Joint System

Features	Benefits
• Silicone Profile and Adhesive	Components bond with virtually no degradation over decades of weather exposure
• 0 to 4 inch Movement Range	Accommodates non-uniform deck joint openings and movements
• Environmentally and Chemically Resistant Seal	Chemically inert and unaffected by exposure, ultraviolet light, weather or extreme temperatures -55º F (-48 º C) to 400 º F (204 º C)
• High Traffic Loads	High bond capability accommodates variety of field conditions
• Fast Curing	Short traffic closures. Traffic can be received depending on temperature, typically within one hour of completion

RECOMMENDED FOR:

- Sealing bridge deck joints
- Retrofitting expansion joints requiring repair of existing joint header/nosing
- Joint applications with varying joint widths
- Expansion joints requiring movement rating up to 4 inches



DESCRIPTION:

The Wabo®Crete SPS expansion joint system is a preformed silicone joint sealing system installed with a two component polyurethane expansion joint header. The system is designed to accommodate movements and varying joint widths on bridges and other civil structures requiring watertightness of expansion joints.

The seals low stress design and silicone properties are virtually unchanged with time or environment when compared to more commonly used elastomers such as EPDM or polychloroprene.. Wabo®Crete II absorbs traffic impact loads and evenly disperses them into the deck, while allowing the system to flex with deck loads The flexible header of Wabo®Crete II coupled with Wabo®SPS seal make it an ideal expansion joint system for the new construction or repair of existing joints.

Ideally suited for both new construction and retrofitting of existing expansion joints, the Wabo®Crete SPS system is a durable quick turn around solution for sealing deck joints

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PACKAGING/COVERAGE:

- Wabo®SPS silicone seal is custom packaged to specific lengths.
- Wabo®Sil Adhesive, a one part sealant and adhesive is supplied in 29 oz cartridges.
- Wabo®Crete II:
  - PTA – ½ gal container
  - PTB – 1 gal container
  - PTC – 60 lbs aggregate
- Wabo®Bonding Agent:
  - Part A – 1 qt
  - Part B – 1 qt

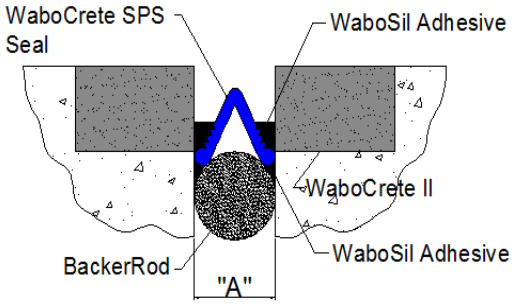
Wabo®Sil Adhesive Coverage

JOINT SYSTEM	YIELD/UNIT (29 oz Cartridge)
Wabo®SPS-225	9 LF (3.8m)
Wabo®SPS-400	5 LF (2.4m)

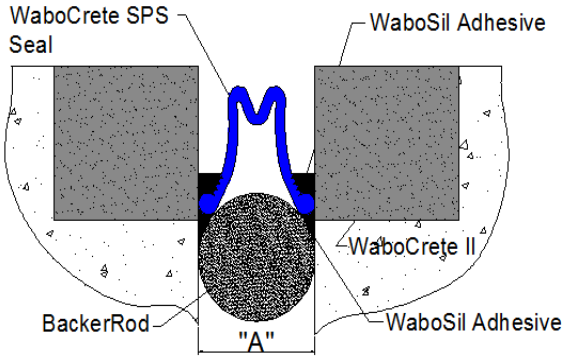
- WaboCrete Coverage:
  - A+B+C = One Unit
  - One Unit = 1030 cubic inches or 0.6 cubic feet

DESIGN:

The Wabo®Crete SPS joint system is specially engineered to be installed in a wide range of joint openings and interface substrates, while accommodating structure movements up to 4 inches. The durable system can handle skewed joint conditions up to 45 degrees.



Wabo Crete SPS-225 Series



Wabo Crete SPS-400 Series

Model number	Recommended Minimum Installation Width	Minimum Joint Opening "A"	Maximum Joint Opening "A"	Minimum Groove Installation Depth "B"	Movement Rating (MR)
Wabo®SPS-225	1.25"	.75"	3.00"	2.625"	2.25"
Wabo®SPS-400	2.0"	1.0"	5.00"	3.75"	4.0"

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TECHNICAL DATA:

Preformed Silicone Seal Properties:

Wabo®SPS silicone seal is manufactured from a custom extrusion grade organic silicone compound, and is highly resistant to the effects of ultra violet rays and ozone. The seal has an operating temperature range of -55 º F (-48 º C) to 400 º F (204 º C), and meets the following physical properties:

Wabo®SPS Profile:

PHYSICAL PROPERTY	TEST METHOD	REQUIRMENTS
Color	Visual	Gray
Durometer (Shore A)	ASTM D 2240	55+/- 5
Tensile Strength	ASTM D 412	1000 psi, min
Elongation	ASTM D 412	400% min
Tear Resistance (die B)	ASTM D 624	100 lbs/in min
Compression Set @ 350 º F, 22 hrs	ASTM D 395	30% max

Silicone Adhesive Properties:

Wabo®Sil Adhesive ensures a watertight system by providing a tenacious bond to the silicone seal and most bridge construction adjacent surfaces. It shall meet the following physical properties:

Wabo®Sil Adhesive:

PHYSICAL PROPERTY	TEST METHOD	REQUIRMENTS
Color	Visual	Gray
Durometer (Shore A)	ASTM D2240	25 +/- 5
Elongation	ASTM D412	700% min
Tensile	ASTM D412	250 psi, min
Peel Adhesion to substrates	ASTM C 794	55 lbs/in min
Work Life (tool time)		20 -30 minutes

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Elastomeric Concrete Properties

Wabo®Crete II is a two-component polyurethane expansion joint header with specialty aggregate, 100% solids material

BINDER ONLY:

PHYSICAL PROPERTY	TEST METHOD	REQUIRMENTS
Tensile Strength	D 638	750 psi min
Elongation @ Break	D 638	150% min
Hardness (Shore D)	D 2240	30-49
Compression Set (22 hrs @ 158F)	D 395 Method B	50 % max
Tear Resistance	D 624	80 lbs / in max
Heat Shrinkage	D 1299	1.6% max
Oven Aging @ a58F 72 hrs Tensile Strength Elongation	D 638	 750 psi 150%

BINDER AND AGGREGATE:

PHYSICAL PROPERTY	TEST METHOD	REQUIRMENTS
Compressive Strength	D 695 Modified	220 psi min
Resilience @ 5% deflection	D 695	90% min
Stress @ 5% deflection	D 695	800 psi min
Compression Set (22 hrs @ 158F)	D 395 Method B	50 % max
Impact Resistance @ -20F (-29C) @ 32 F (0C) @158F (70C)	See Note 1	 No cracks – 7ft-lbs min No cracks – 7ft-lbs min No cracks – 7ft-lbs min
Adhesion to Concrete Dry Bond Wet Bond	See Note 2	 400 psi min 250 psi min

1 - Modified for compressive properties by performing test at 0.25 in/min.
2 - Specimens are cast discs with a 2.5" diameter and 0.375" thickness. Specimens are conditioned for four hours at test temperatures. A one pound steel ball is dropped onto the center of the specimen through a plastic tube from an initial height of 5 feet. The drop height is increased by 1/2 foot intervals until the specimen cracks.
3 - The briquette is sawed in half so that the cut surface area equals approximately 1 square inch. Surface is blasted and placed in a mold. WaboCrete II is cast against it. Specimen is submerged in water (seven days at room temperature). Using a riehle Briquette tester, failure of the specimen is considered to occur at either the bond interface or within one of the two materials

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APPLICATION:

- For newly placed concrete, the joint interface must be dry and clean (free of dirt, coatings, rust, grease, oil, and other contaminants), sound and durable. New concrete must be cured (minimum of 14 days)
- For aged concrete, the joint interface should be sound. Loose, contaminated, weak, spalled, deteriorated and/or delaminated concrete must be removed to sound concrete. Any spalling, voids, or structural cracking at the joint interface must be repaired.
- Concrete substrates must be abrasive blasted to remove all latencies and contaminants which may cause bonding problems. Steel substrates must be sound and abrasive blasted SP-10, near white, immediately prior to installation.
- Wabo®Bonding Agent prevents any inherent moisture in the concrete from interfacing with Wabo®Crete II. Maximum moisture content allowed for installation is 5%. Apply Wabo®Bonding Agent (primer) to surface of the properly prepared concrete prior to installation of Wabo®Crete II. Do not use Wabo®Bonding Agent on steel substrates
- Thoroughly pre-mix (20 seconds) Part B separately before pouring entire contents of Part B into clean 5-gallon container. Add Part A and mix both components with a power mixer equipped with a butterfly paddle for approximately 30 seconds, or until well blended.
- Slowly add the aggregate component to the mixed liquids and mix until all aggregate is coated (approximately 1 minute). This mix can be poured into the properly prepared blockout, in which the primer is still wet. The material will flow and self-level.
- **Seal Positioning:** A closed cell foam backer rod or foam board is recommended for seal depth positioning. Follow manufacturer's noted groove depth "B" on seal chart.
- **Preformed Silicone Preparation:** Unroll seal and with a clean rag wipe the serrated sidewall and rounded seal lugs with denatured alcohol (supplied by others) to ensure a clean surface for bonding.
- **Preformed Silicone Seal Placement:** Recommended application temperature is 40ºF and rising. Apply a continuous 3/8" to ½" bead of Wabo®Sil Adhesive to both sides of the joint interface. Apply adhesive approximately 1-1/2" from top of roadway.
- Fold seal and insert into the joint. Release seal and ensure contact with joint interfaces and the adhesive.
- Apply a second bead of adhesive along each side of seal and fill to the top of the serrations. Do not apply adhesive above the serrated areas Tool Wabo®Sil Adhesive, on both sides to ensure the adhesive makes full contact with the seal and substrate.
- Wabo®Crete SPS system will be ready to accept traffic within one hour after installation @70°F.

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FOR BEST RESULTS:

- Repair any spalls, voids, or structural cracking at the joint interface.
- 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.
- 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.
- 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.

RELATED DOCUMENTS:

- Material Safety Data Sheets
- Wabo®Crete SPS Specification
- Wabo®Crete SPS Sales Drawings
- Wabo®Crete SPS Installation Procedure
- Wabo®Crete SPS Joint System Datasheet
- Wabo®Crete II Datasheet

OPTIONS/EQUIPMENT:

- Pneumatic Air Gun **(**for 29 oz cartridges) can be purchased from WBA.
- Closed cell polyethylene backer rod for larger openings to hold the seal in position
- Non-flow additive (sloped conditions)
- Two-inch (2”) hand margin trowels
- Use a ¾” heavy duty, slow speed, high torque, drill with an egg-beater (or mud beater) style mixing paddle to mix Wabo®Crete II.
- One clean 5-gallon bucket

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