The Silicoflex Bridge Deck Joint Sealing System is a preformed silicone joint seal that is bonded directly to the Tron-Flex elastomeric concrete nosing, with a specially developed, fast curing, silicone locking adhesive.

Silicoflex is a long term solution to the ever present problem of sealing deck joints on bridges, parking facilities, and other structures experiencing thermal displacements.

**Temperature Insensitive** – Silicoflex will remain flexible in almost any environment. The operating temperature range of Silicoflex is -60°F to +450°F (-51°C to +232°C). Tron-Flex elastomeric concrete nosing remains flexible over a wide temperature range, and will cure at temperatures down to 32°F (0°C).

**Low Stress Design** – During normal cyclic movement of the joint, the Silicoflex seal is not in tension such as the case when field molded sealants are required to cycle in tension and compression. The possibility of cohesive failure of Silicoflex is nonexistent.

**Ultra-Violet/Ozone Resistant** – Silicoflex seals are comprised of inorganic base silicone, which means that they are highly resistant to the effects of damaging ultra-violet rays and ozone attack.

**Durable** – Silicoflex has a demonstrated long life expectancy in field performance based on its weather resistance and low stress design.

**Directional Changes** – One of the unique features of Silicoflex is its ability to accommodate any type of directional change. Vertical upturns that are typical in curbs and gutters, and directional changes in plan can be factory vulcanized to simplify the installation procedure. In addition, simplistic cutting and bonding fixtures have been developed to allow the installer to make on-site directional changes to the Silicoflex seal and then bond them together in a minimal amount of time. This also ensures that there will be little or no waste since end to end bonding of the seal is easily performed. The silicone locking adhesive is used to splice sections together.
INSTALLATION INSTRUCTIONS FOR TRON-FLEX ELASTOMERIC CONCRETE

Saw cut and remove the concrete substrate to the dimensions desired for the area to receive the Tron-Flex elastomeric concrete headers. The recommended minimum blockout dimensions are 4” (100mm) wide x 2” (50mm) deep on each side of the joint gap. If the area being repaired has an existing asphalt overlay, the blockout must be at least ½” (13mm) deep into the concrete substrate. Prior to the placement of the elastomeric concrete the newly created blockout should be sandblasted, and then blown clean with dry oil-free compressed air.

Fully mix together Parts A & B of the Tron-Flex Primer together with a paddle mixer and brush a coat of the primer on all surfaces that will come in contact with the elastomeric concrete material. Do not leave the Tron-Flex Primer puddled on the substrate. Puddling primer may expand the elastomeric concrete after it is installed. Allow the primer to achieve a tacky-dry feel before proceeding with the placement of the elastomeric concrete. This should take approximately 20 to 30 minutes at 70°F (21°C). The primer may be allowed to dry longer, but the elastomeric concrete must be placed within 3 hours of priming otherwise it will be necessary to physically abrade the surface and reprime with a 1:1 mixture of Tron-Flex primer and MEK.

Begin with one empty, clean 6 gallon bucket. Pour the Tron-Flex elastomeric concrete liquid components A & B into the empty bucket. Mix the two components together using a 3/8” (10mm) variable speed drill with a jiffy paddle for no more than 5 seconds. Gradually add in all of the pre-measured aggregate while continuously mixing using the ¾” (19mm) drill with the mixing paddle. Once all the aggregate has been added to the liquid, mix just enough to ensure there are no dry pockets. This should take no more than 1 minute. Be sure not to over mix the Tron-Flex elastomeric concrete as it can shorten the material’s pot life. Once mixed, immediately pour the material into the blockout and trowel smooth. Allow the material to cure until firm (about one hour at 70°F (21°C)) prior to the removal of any forms.

INSTALLATION INSTRUCTIONS FOR SILICOFLEX

The vertical side of the cured Tron-Flex elastomeric concrete that will bond to the Silicoflex gland must first be sandblasted and blown clean with dry oil-free compressed air.

Place the Silicoflex gland next to the open expansion joint to ensure proper length including curb dimensions. Care must be taken to remove any dirt or talc from the bonding surface of the Silicoflex gland to ensure a strong bond with the Tron-Flex
elastomeric concrete. Use a Denatured Alcohol saturated rag to wipe any impurities off of the bonding surface of the Silicoflex gland. (DO NOT use mineral spirits or paint thinner to clean the Silicoflex gland).

The R. J. Watson Silicoflex Primer must be applied to the joint interface with a clean brush. Allow 30 minutes at 70° (21°C) for the primer to dry prior to the installation of Silicoflex gland.

Insert small sections of backer rod at the appropriate depth in the joint opening to create a small shelf for the Silicoflex gland. These sections of backer rod should be spaced about every 12” to 18” along the length of the joint.

SF150—Proper depth of the backer rod is 2” (50mm) below the deck surface.
SF225—Proper depth of the backer rod is 3” (75mm) below the deck surface.
SF400—Proper depth of the backer rod is 3 ½” (89mm) below the deck surface.

**SF150 Silicoflex Gland**
Prior to the installation of the Silicoflex gland, a bead of Silicoflex Locking Adhesive (approximately 3/8” (10mm) diameter) should be applied to both sides of the Tron-Flex elastomeric concrete joint interface at a point approximately 1 ¼” (32mm) down below the surface of the bridge deck. *The Silicoflex Locking Adhesive will skin over quickly so it is recommended to work 3 to 5 feet at a time.*

**SF225 Silicoflex Gland**
Prior to the installation of the Silicoflex gland, a bead of Silicoflex Locking Adhesive (approximately 3/8” (10mm) diameter) should be applied to both sides of the Tron-Flex elastomeric concrete joint interface at a point approximately 2” (50mm) down below the surface of the bridge deck. *The Silicoflex Locking Adhesive will skin over quickly so it is recommended to work 3 to 5 feet at a time.*

**SF400 Silicoflex Gland**
Prior to the installation of the Silicoflex gland, a bead of Silicoflex Locking Adhesive (approximately 3/8” (10mm) diameter) should be applied to both sides of the Tron-Flex elastomeric concrete joint interface at a point approximately 2 1/2” (64mm) down below the surface of the bridge deck. *The Silicoflex Locking Adhesive will skin over quickly so it is recommended to work 3 to 5 feet at a time.*

NOTE: Irregular joint openings or joints that are exceptionally wide (3 ½” (89mm) or greater) will require the use of a continuous backer rod to properly position the seal at the recommended depth.
Insert the gland by folding the “V” shape point upwards and pushing it down into the joint opening. The depth should be checked every foot to ensure proper seating. The top of the gland should be ½” (13mm) below the deck surface at the minimum joint opening.

Silicoflex Locking Adhesive then is applied between the serrations on the sides of the gland and the elastomeric concrete header. Tool the adhesive twice with a wooden or plastic tongue depressor to insure complete contact with the vertical edges of the joint.

NOTE: Silicoflex Locking Adhesive is a moisture curing single component adhesive. At 75°F (24°C) and 50% humidity it tacks over in a few minutes and cures in approximately 24 hours. The lane may be opened to traffic after the adhesive has skinned over.

NOTE: Directional changes in the line of the joint should be shown on the purchase order and discussed with our engineering department. R. J. Watson, Inc. will pre-fabricate these sections at the factory or they can be cut, mitered and bonded together in the field using the Silicoflex Locking Adhesive.

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**SILICOFLEX SPLICING PROCEDURE**

Place the Silicoflex gland next to the open expansion joint to ensure proper length including curb dimensions. Care must be taken to remove any dirt or talc from the bonding surface of the Silicoflex gland.
Make a straight cut in the Silicoflex gland precisely where the splice is going to take place. To create matching edges for the splice, place the new piece of gland over the gland to be spliced and cut through both at the same time.

Insert a small section of backer rod underneath the location where the splice is going to take place. Make sure that the top of the backer rod is placed at the proper depth beneath the surface of the bridge deck depending on the model of the Silicoflex gland.

Apply a bead of the Silicoflex Locking Adhesive on both sides of the Tron-Flex elastomeric concrete joint interface at the appropriate depth depending on the model of Silicoflex gland.

Apply the Silicoflex Locking Adhesive to both ends of the Silicoflex gland where the splice is going to take place. Apply the adhesive with a wooden or plastic tongue depressor.

Hold the spliced ends together and carefully position the gland into the joint opening so that the top of the Silicoflex gland sits ½” (13mm) below the riding surface on the top of the backer rod.

Apply the Silicoflex Locking Adhesive between the serrations on the gland and the elastomeric concrete header and tool the adhesive smooth with a wooden or plastic tongue depressor. With the wooden or plastic tongue depressor apply a layer of the Silicoflex Locking Adhesive over the bond line in the Silicoflex gland.

**EQUIPMENT REQUIRED TO INSTALL SILICOFLEX AND TRON-FLEX**

Sandblasting unit.
Air compressor with oil and water separators.
Portable electric generator.
Pneumatic or hand operated caulking gun for 29 oz. Cartridges.
Wooden or plastic tongue depressors.
Visqueen or roofing paper.
Duct Tape.
Utility knife.
1 Clean 6 gallon bucket.
¾” Heavy duty drill with large mixing paddle.
3/8” Drill with small jiffy paddle.
Electrical extension cord and hand tools.
Margin trowels.
2” Disposable brushes.
Solvent Toluene or MEK (Not Alcohol based).
Backer Rod.
Styrofoam board.
Rags.
Personal safety equipment (glasses, gloves, etc.).

**STORAGE REQUIREMENTS**

Keep Tron-Flex containers closed and stored in a dry, well ventilated area at 60°F - 100°F. Containers must be stored out of direct sunlight.

Silicoflex Locking Adhesive and Tron-Flex elastomeric concrete have a one year shelf life from date of manufacture.