



420 N. Roosevelt Ave. • Chandler AZ 85226  
1-800-528-8242 • (602) 276-0406 • FAX (480) 961-0513  
www.crafco.com

## INSTALLATION INSTRUCTIONS ROADSAVER SILICONE SEALANTS

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### READ BEFORE USING THIS PRODUCT

**GENERAL:** Crafco RoadSaver Silicone sealants are uniquely formulated low modulus sealants produced for use in sealing joints in portland cement concrete pavements. The sealants are supplied as single component moisture curing materials which provide lasting weather resistant flexible seals. The sealants are supplied in both non-sag (NS) and self-leveling (SL) application consistencies. Sealant is supplied in package sizes including 55 gal steel drums containing 50 gallons (189 L), 5gal (18.9 L) plastic pails and 29 fl. oz. (857 mL) plastic caulking tubes.

**SEALANT PREPARATION:** Crafco RoadSaver Silicone sealants are supplied in a ready to use form, with no mixing or any other preparation required to prepare the sealant for use.

**JOINT DESIGN AND PREPARATION FOR SEALING:** After appropriate concrete curing (7 day minimum is recommended) widened joint reservoirs are sawn at the design spacing using appropriate concrete sawing procedures and equipment. In “fast track” or high early strength concrete, joints can be sawn sooner than the 7 day minimum for standard concrete mixes. Contact Crafco for further information. Reservoir depth for various joint widths is shown in Table 1. Joint width should be selected to limit movement due to expansion and contraction to no more than 25% of the joint width. For new pavements designed with narrow joints, using the initial saw cut as the reservoir, spaced at 15 ft. (5 m) maximum, joint width may be as narrow as 1/8 inch (3mm) when using RoadSaver Silicone SL. After sawing, immediately flush the joints with water to remove the saw slurry. After the joints have dried, just prior to applying sealant any remaining sawing residue must be removed by sandblasting. Both joint faces must be adequately sandblasted to remove remaining traces of sawing residue. For effective sandblasting, the nozzle should be positioned within 2 inches (5cm) of the surface being cleaned. After sandblasting the joint should be thoroughly cleaned using clean, dry, oil free compressed air with a minimum pressure of 90 psi. (620 kpa). Moisture and oil traps are required on the compressor. The objective of the above cleaning operations is to provide vertical, intact, and clean bonding surfaces which are free from all contaminants and are dry. Joints should be carefully inspected to assure that an appropriate level of cleanliness has been achieved. This can be accomplished by rubbing your finger along each joint face. If any evidence of dust and contaminants occur, additional sandblasting should be performed until all dust and contaminants are removed. Cleaning shall occur on the same day that sealant will be installed. Alternate cleaning methods that accomplish the same level of cleaning as sandblasting may be considered. Contact Crafco for approval of alternate cleaning methods. Backer rod meeting ASTM D5249, Type 3 requirements of the size specified in Table 1 shall be placed in the joint to the depth listed in Table 1. Do not puncture backer rod during installation because damage can create bubbling in sealant.

**TRAFFIC CONTROLS:** Place traffic controls in accordance with Part 6, Temporary Traffic Controls, of the FHWA Manual of Uniform Traffic Control Devices (MUTCD) to protect the work site for the duration of the repairs.

**SEALANT INSTALLATION:** RoadSaver Silicone sealant from drums or pails is installed in pavement joints using air powered bulk dispensing systems such the RoadStar Joint Sealant Pump. Sealant in caulking tubes is installed using standard quart sized manual or air powered caulking tube guns. The applicator unit must be free of all residue left from other brands or types of materials to eliminate contamination and assure proper sealant performance. If contamination occurs, sealant curing and performance may be affected. To install, sealant is dispensed directly from the container through the applicator hose, wand and nozzle and into the prepared joint. The joint should be filled from the bottom up. RoadSaver Silicone SL sealant is self-leveling and does not require tooling. RoadSaver Silicone sealant is not self-leveling, and must be tooled to the proper recess. Tooling must be done before a cured surface skin forms (usually within 5-10 minutes). Tooling is done using sections of backer rod, or other appropriately shaped objects. Tooling forces sealant against the joint sidewalls and backer rod and forms a recessed concave surface. Minimum recess depths are listed in Table 1. If insufficient recess is achieved, the sealant can be exposed to vehicle tire contact and abrasion which can cause loss of adhesion. Tooling should be done in a neat manner with no sealant excesses left on top of the pavement surface. For optimum performance, width of the sealant bead should be approximately two times the depth. **Sealant bead should be least 1/4 inch (6mm) thick but no more than 1/2 inch (12mm) thick.**

**INSTALLATION TEMPERATURES AND WEATHER CONDITIONS:** During installation, pavement and ambient temperature should be a minimum of 40°F (4°C) and the joints must be completely clean and dry for adhesion to fully develop. Sealing should not occur at temperatures below the dew point due to an increased chance of having moist or damp joints.

**SEALANT CURING:** After installation, RoadSaver Silicone sealants will start to cure and form a surface skin, generally within 10 to 30 minutes. Traffic should be kept off sealed areas until sealant is “tack free” as indicated by lightly touching with no transfer of material. RoadSaver Silicone sealants will cure throughout within 14 days after application to form a strongly bonded long lasting seal.

**Note:** With self leveling silicone sealants, air voids (bubbles) may develop if pavement moisture content and ambient temperature are high (fresh concrete during hot, humid conditions). Warm ambient temperature increases moisture vapor release. These vapors can migrate through partially cured sealant creating air voids. When sealant has fully cured, no additional voids will develop. A test section should be installed to determine if temperature and concrete moisture conditions are adequate to resist void development. Using a non-sag silicone sealant will reduce void formation. Contact Crafco for further information.

**RESEALING JOINT DESIGN AND PREPARATION FOR SEALING:** Old sealant should be removed by appropriate methods including hooks, knives, plows, sawing, etc. After sealant removal, the joint is saw cut to an appropriate width to provide clean vertical bonding surfaces which are free from contamination by old sealant. As a general rule, the joint should

be sawn to a width which is at least 1/8 to 1/4 inch (3-6mm) wider than the original joint. The recess, sealant bead thickness, backer size, and sawed joint depth shall meet requirements shown in Table 1 for joint width used. The sandblasting, cleaning and sealing operations above shall then be followed.

**CLEAN UP:** Uncured sealant can be removed from equipment and tools with naphtha or mineral spirits. All hoses and lines in the application equipment should be flushed immediately after use. Extra RoadSaver Silicone in drums should be covered with the plastic liner to prevent exposure to air and the drums should be tightly closed before storing until the next use.

**STORAGE LIFE:** Store CrafcO RoadSaver Silicone Sealants out of direct sunlight, in a cool, dry location. Sealant

temperature should not exceed 90°F (32°C), and containers of sealant should not be exposed to excessive humidity. Keep containers closed until needed for use. Storage life is approximately six months from date of shipment.

**SAFETY PRECAUTIONS:** Prior to use, please read the RoadSaver Silicone Sealant Material Safety Data Sheet for establishing appropriate practices during installation.

**ADDITIONAL INFORMATION:** Additional information regarding these products is available by contacting your distributor or CrafcO, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets and 3) Sealant Selection Guide.

**Table 1. Joint Design Recommendations for CrafcO RoadSaver Silicone Sealants for Joints in PCC Pavements**

*Joint Width	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"
Minimum Sealant Recess	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Backer Rod Diameter <sup>1</sup>	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 1/2"	1 3/4"	2"
Sealant Bead Thickness <sup>2,3</sup>	1/4"	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"
Minimum Joint Saw/Reservoir Depth	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 7/8"	2"	2 3/8"	2	2 7/8"	3 1/8"	3 3/8"
Minimum Backer Rod Depth	1/2"	1/2"	5/8"	11/16"	3/4"	13/16"	7/8"	1"	1"	1"	1"
Estimated Usage Non-Sag	245	149	112	70	51	35	26	23	18	16	15
Estimated Usage Self-leveling(ft/gal)	273	172	130	82	58	41	31	27	22	20	19

- 1 Backer rod diameter should not be varied from specified dimensions. If larger sizes are used, increased saw depth is needed.
  - 2 Sealant bead thickness can vary by  $\pm 25\%$  of design value.
  - 3 Never install Roadsaver Silicone to a depth greater than the joint width (1 to 1).
- \*Please contact CrafcO for additional joint size design recommendations.

### TYPICAL JOINT DESIGNS

