Part 1 - General

1.01 Summary
   A. This specification describes the sealing of highway/runway pavement joints with a two-component, low-modulus, self-leveling, elastomeric silicone sealant.

1.02 Quality Assurance
   A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001:2008 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
   B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
   C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.03 Delivery, Storage, and Handling
   A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
   B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
   C. Condition the specified product as recommended by the manufacturer.

1.04 Job Conditions
   A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40°F (5°C) and rising.
   B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified sealant.

1.05 Submittals
   A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.06 Warranty
   A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.
Part 2 - Products

2.01 Manufacturers

A. Sikasil 728 RCS, as manufactured by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071 is considered to conform to the requirements of this specification.

2.02 Materials

A. Silicone sealant:
   1. The joint sealant shall be a two-component, self-leveling, silicone-based material. It shall be applicable in horizontal joints. The sealant shall principally cure under the influence of atmospheric moisture to form an elastomeric substance.
   B. Backer rod or bond breaker tape as approved by engineer.

2.03 Performance Criteria

A. Properties of the uncured Silicone sealant:
   2. Initial Cure (Tack-Free Time) ASTM C-679: 20 minutes
   3. Consistency: self-leveling
   4. Color: Limestone & Gray

B. Properties of the cured silicon sealant:
   1. Tensile Properties (ASTM D-412) at 21 days
      a. Tensile Strength at break: minimum 70 psi (0.48 Mpa)
      b. Tensile Elongation: minimum >1000%
      c. Modulus of Elasticity -
         100% Elongation 20 psi (0.14 Mpa) min
   2. Shore OO Hardness (ASTM D-661) at 21 days:
      a. Self-leveling: 50+/5
   3. Peel Strength (ASTM C-794)
      a. 30-pli 0% Adhesion Loss
   4. Service Range: -80°F (-62°C) to 350°F (176°F)
   5. Joint Movement (ASTM C-920): +100% / -50%
   6. The sealant shall be non-staining.
   7. Final Cure: 3-5 days

Note: Tests were performed with material and curing conditions at 71°-75°F and 45-55% relative humidity.

Part 3 - Execution

3.01 Surface Preparation
A. The joint and adjacent substrate must be clean, dry, sound and free of surface contaminants. Remove all traces of the old sealant, dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. – sandblasting, etc., as approved by the Engineer. Blow joint free of dust using compressed air line equipped with an oil trap.

3.02 Mixing and Application

A. Mixing: Sikasil 728 RCS is a two (2) part system and requires mixing. Do not mix material until preparation work has been completed. Preferred-Use - automatic static mixing and dispensing equipment

B. Joints:

1. Install approved backer rod or bond breaker tape in all joints subject to thermal movement to prevent three-sided bonding and to set the depth of the sealant at a maximum of 1/2 in., measured at the center point of the joint width. Approval of the backer rod or bond breaker tape shall be made by the Engineer.

2. Joints shall be masked to prevent discoloration or application on unwanted areas, as directed by the Engineer. If masking tape is used, it shall not be removed before tooling, yet must be removed before the initial cure of the sealant. Do not apply the masking tape until just prior to the sealant application.

3. Install sealant into prepared joints when the joint is at mid-point of its expansion and contraction cycle. Pour or extrude the sealant into the prepared joint in one direction and allow it to flow and level as necessary. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the joint.

4. Sealant must be recessed in the joint a minimum of ¼ inch from the surface.

5. Adhere to all limitations and cautions for the silicone sealant in the manufacturer's printed literature.

B. Cracks:

1. Pour or extrude the sealant into the prepared crack in one direction and allow it to flow and level as necessary. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the crack.

2. Sealant must be recessed in the joint a minimum of ¼ inch from the surface.

3. Adhere to all limitations and cautions for the silicone sealant as stated in the manufacturers printed literature.

3.03 Cleaning

A. The uncured silicone sealant can be cleaned with an approved solvent. The cured silicone sealant can only be removed mechanically.

B. Leave work area in a neat, clean condition without evidence of spillovers onto adjacent areas.
1. Pour or extrude Sikasil-RCS SL into prepared crack, allow to flow and level as necessary. Sealant is to be recessed in the crack a minimum ¼” from the surface. Minimum depth ¼”.

2. Tool as required to properly fill crack.
1. Pour or extrude Sikasil-728 RCS SL into prepared joint, allow to flow and level as necessary. Sealant is to be recessed in the joint a minimum of 1/4” from the surface. Minimum depth 1/4”.

2. Apply sealant by bulk caulking gun, industrial pumping or other acceptable method.
The preceding specifications are provided by Sika Corporation as a guide for informational purposes only and are not intended to replace sound engineering practice and judgment and should not be relied upon for that purpose. **SIKA CORPORATION MAKES NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS OR THE CONTENTS OF THESE GUIDE SPECIFICATIONS.** Sika Corporation assumes no liability with respect to the provision or use of these guide specifications, nor shall any legal relationship be created by, or arise from, the provision of such specifications **SIKA SHALL NOT BE RESPONSIBLE UNDER ANY LEGAL THEORY TO ANY THIRD PARTY FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING FROM THE USE OF THESE GUIDE SPECIFICATIONS.** The specifier, architect, engineer or design professional or contractor for a particular project bears the sole responsibility for the preparation and approval of the specifications and determining their suitability for a particular project or application.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Technical Data Sheet, product label and Material Safety Data Sheet which are available at [www.sikaconstruction.com](http://www.sikaconstruction.com) or by calling (201) 933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions for each Sika product as set forth in the current Technical Data Sheet, product label and Material Safety Data Sheet prior to product use.