DIVISION 7 - THERMAL AND MOISTURE PROTECTION
Section 07900 Joint Sealers
Elastomeric and non-Elastomeric Sealant

Part 1 - General

1.01 Summary

A. This specification describes the sealing of highway/runway pavement joints with a one-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 receivced 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 40ºF (5ºC) 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 SL**, 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 one-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: 110 minutes
3. Consistency: self-leveling
4. Color: Limestone & Gray

B. Properties of the cured silicone sealant:

1. Tensile Properties (ASTM D-412) at 21 days — Self-Leveling
   a. Tensile Strength at break: minimum — 100 psi (0.69 Mpa)
   b. Tensile Elongation: minimum — 1200%
   c. Modulus of Elasticity -
      100% Elongation — 30 psi (0.21 Mpa) min
2. Shore OO Hardness (ASTM D-661) at 21 days:
   a. Self-leveling: 50+/-5
3. Peel Strength (ASTM C-794)
   a. 25-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: 7 to 10 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. 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 polyurethane 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. Selant must be recessed in the joint a minimum of ¼ inch from the surface.
3. Adhere to all limitations and cautions for the polyurethane 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.

SC-174 Sikasil®-728 SL Crack Filler

Figure 1 - Sikasil-728 SL (self-leveling)

1. Pour or extrude **Sikasil-728 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.

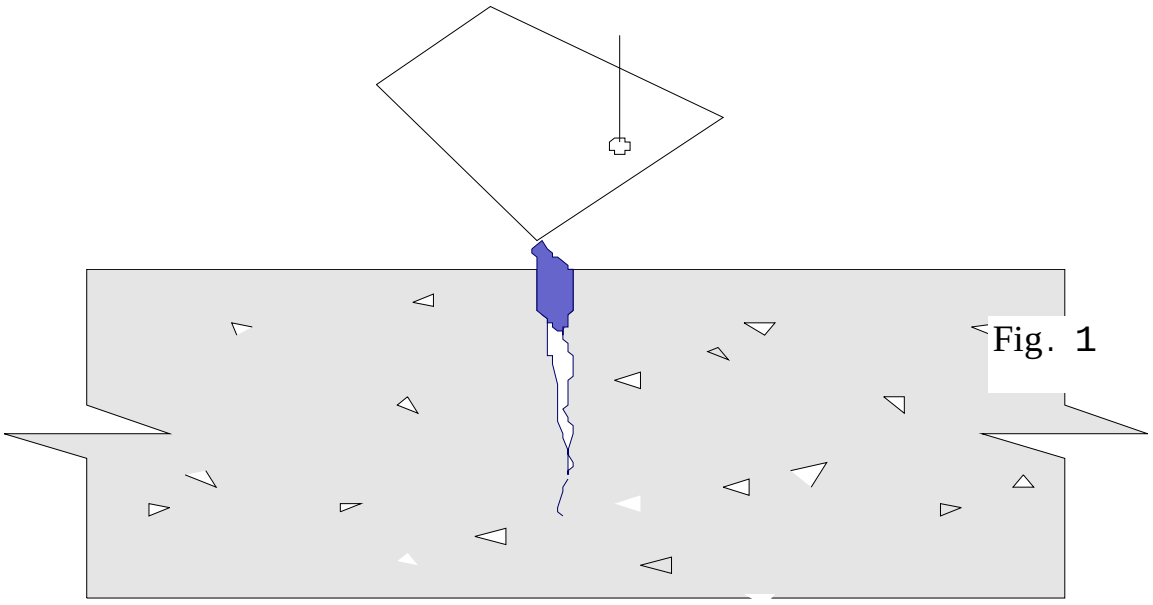


Fig. 1

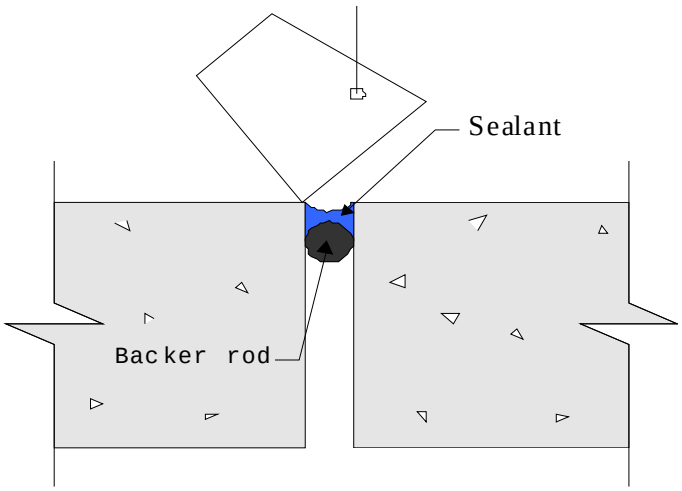
SCA-174

Sikasil® -728 SL
Expansion Joint Filler

Figure 1 - Sikasil-728 SL (self-leveling)

1. Pour or extrude **Sikasil-728 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.



Concrete Restoration Systems by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071

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