

## SECTION 07920 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Sika Silbridge 300 -tape system is a pre-cured, elastomeric, silicone tape made from low modulus silicone materials for use over expansion joints, non-moving joint penetrations, control joints, window perimeters and other openings that could result in water penetration of the building exterior, in rehabilitation and new construction projects. The Sika Silbridge 300 - Tape system allows joint leak repairs without the difficulty and messiness of cut-out of existing joints and re-caulking. The tape is simply adhered to the building façade on both sides of the joint to form a flexible weather-tight seal. This system can be used over many substrates, which include the following: EIFS to EIFS, EIFS to concrete, concrete to concrete, EIFS to metal window frame, concrete to metal window frame.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Provide silicone, pre-cured elastic strip joint seal that establishes and maintains watertight and airtight continuous joint seals without staining or deteriorating façade appearance. Material should have a minimum of 950% elongation and be available in seven architectural colors. Pre-cured strip should be bonded with Sikasil WS-295 silicone sealant.

#### 1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Samples of pre-cured strip in one of seven standard architectural colors.
- C. Product Certificates: Signed by manufacturers of precured strip certifying that products furnished comply with requirements and are suitable for the use indicated.
- D. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience with Sika Silbridge 300 or products of this type.

Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

- E. Preconstruction Field Test Reports: Installer shall indicate which sealants and preparation methods resulted in optimum adhesion to substrates based on pre-construction testing.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants and pre-cured elastomeric tapes systems similar in material, design, and extent to those indicated for this Project and whose work has resulted in installations with a record of successful in-service performance.
- B. Source Limitations: Obtain elastomeric tape and bonding joint sealant through one source from a single manufacturer.

## 1.6 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: One year from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS AND MANUFACTURERS

- A. Available Products: Sika Silbridge 300 manufactured by Sika Corporation, Lyndhurst, NJ USA .

### 2.2 MATERIALS, GENERAL

- A. Compatibility: Provide bonding sealants and pre-cured silicone strips and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

### 2.3 PREFORMED JOINT SEAL

- A. Preformed Silicone Sealant System: For each product of this description indicated in the Preformed Joint-Sealant Schedule at the end of Part 3, provide manufacturer's standard system consisting of pre-cured, low-modulus silicone extrusion, in sizes to fit joint widths indicated, combined with a one-component silicone sealant for bonding extrusion to substrates.

### 2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of bonding sealant to substrates indicated, as determined from pre-construction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates indicated to receive bonding sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Cleaning Sika Silbridge 300 bonding surface: Clean surfaces properly immediately before installing Sikasil WS-295 Silicone Sealant as a bonding sealant to comply with manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from substrates that could interfere with adhesion of Sikasil WS-295 Silicone Sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous surfaces include the following:
    - a. Concrete.
    - b. Masonry.
    - c. Unglazed surfaces of ceramic tile.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
    - a. Metal.
    - b. Glass.
    - c. Porcelain enamel.
    - d. Glazed surfaces of ceramic tile.
- B. Priming: Prime substrates where recommended by joint sealant manufacturer or based on pre-construction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing bonding sealant.

### 3.3 INSTALLATION OF PRECURED STRIP

- A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Installation of Sika Silbridge 300 System:
- D. Comply with the following requirements:
  - 1. Recommended to apply masking tape to each side of joint, outside of area to be covered by sealant system.
  - 2. Apply a bead of Sikasil WS-295 Silicone Sealant to each side of joint to produce a bead of size complying with preformed Sika Silbridge 300 system printed schedule and covering a bonded area listed on the product data sheet for specific Sika Silbridge 300 size.
  - 3. Immediately following the sealant application, press extrusion into sealant to wet extrusion and substrate. Use a hard roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
  - 4. Complete installation of horizontal joints before installing vertical joints. Lap vertical joints over horizontal joints. At end of joints, cut silicone extrusion with a razor knife. Vertical strips should be kept continuous to the extent of the full roll length. Where full roll length is exceeded, a new strip should be lapped over existing strip and bonded with Sikasil WS-295 Silicone Sealant.

### 3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing:
  - 1. Test Method: To field test Sika Silbridge 300 system the following hand-pull method is described below:
    - a. Make knife cuts from one side of bonded tape to the other, followed by two cuts approximately **2 inches (50 mm)** long within the bonding sealant at sides of joint and meeting cross cut at one end. Place a mark **1 inch (25 mm)** from cross-cut end of **2-inch (50-mm)** piece.
    - b. Use fingers to grasp **2-inch (50-mm)** piece of sealant between cross-cut end and **1-inch (25-mm)** mark; pull firmly at a 90-degree angle or more in direction of side cuts while holding a ruler along side of sealant. Pull tape to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.
    - c. For joints with dissimilar substrates, check adhesion to each substrate separately. Do this by extending cut along one side, checking adhesion to opposite side, and then repeating this procedure for opposite side. To check in this, cut down the middle of the tape will be necessary so only one side is being pulled.

2. Inspect tested system and report on the following:
    - a. Whether sealants bonded to substrate connected to pulled-out portion failed to adhere to substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field- adhesion hand-pull test criteria.
    - b. Whether sealant dimensions and configurations comply with specified requirements.
  3. Record test results in a field adhesion test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
  4. Repair sealants pulled from test area by applying new sealants following same procedures used to originally seal joints. Ensure that original sealant surfaces are clean and new sealant contacts original sealant.
- B. Evaluation of Field-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements, will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

### 3.5 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints.

### 3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

## 1. END OF SECTION 07920

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

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