

## **SECTION 519 – PAVEMENT JOINT SEALANTS**

### **519.01      DESCRIPTION**

This work shall consist of placement of cold-applied joint sealants.

### **519.02      REFERENCE STANDARDS**

ASTM      C1021 – Standard Practice for Laboratories Engaged in Testing of Building Sealants  
C 1087 – Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems  
C1193 – Standard Guide for Use of Joint Sealants  
D5893 – Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

### **519.03      DEFINITIONS**

Not Applicable.

### **519.04      MATERIALS**

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.
- B. Cold applied joint sealants: Single component, self-leveling, silicone joint sealant for concrete. ASTM D5893, Type SL.
- C. Joint sealant backer materials: Provide joint sealant backer materials that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint sealant manufacturer based on field experience and laboratory testing.
- D. Primers: product recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealant substrate tests and field tests.

### **519.05      SUBMITTALS**

- A. Product Data: For each joint-sealant product indicated.
- B. Provide manufacturer's full range of colors.

- C. Samples for Verification: For each kind and color of joint sealant required, provide samples with joint sealants in 1/2-inch wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Pavement-Joint-Sealant Schedule: Include the following information:
1. Joint-sealant application, joint location, and designation.
  2. Joint-sealant manufacturer and product name.
  3. Joint-sealant formulation.
  4. Joint-sealant color.
- E. Product Certificates: Manufacturer's for each type of joint sealant and accessory.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for joint sealants.
- F. Preconstruction Compatibility and Adhesion Test Reports: From joint-sealant manufacturer, indicating the following:
1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility with and adhesion to joint sealants.
  2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

#### **519.06            QUALITY ASSURANCE**

- A. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency who is an independent and qualified according to ASTM C1021 to conduct the testing indicated.

#### **519.07            CONSTRUCTION**

- A. Project Conditions. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
  2. When joint substrates are wet.
  3. Where joint widths are less than those allowed by joint-sealant manufacturer for application indicated.

4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.
- B. Examination: Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance. Proceed with installation only after unsatisfactory conditions have been corrected and area has been approved by the M-NCPPC CM.
- C. Preparation: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions. Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction 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.
- D. Installation of Joint Sealants
1. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
  2. Joint Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
  3. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
    - a. Do not leave gaps between ends of joint-sealant backings.
    - b. Do not stretch, twist, puncture, or tear joint-sealant backings.
    - c. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
  4. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:
    - a. Place joint sealants so they directly contact and fully wet joint substrates.
    - b. Completely fill recesses in each joint configuration.
    - c. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
  5. Provide joint configuration to comply with joint sealant manufacturer's written instructions unless otherwise indicated.

6. Clean: Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
7. Protection: 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 and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.
6. Joints within cement concrete pavement and as indicated elsewhere on the drawings. Joint location shall be at expansion joints in cast-in-place concrete pavement. Also, expansion joints between rigid vertical elements and pavement.

**519.08            MEASUREMENT AND PAYMENT**

Payment shall be incidental to the pavement for concrete facilities, i.e. sidewalk.