

## **SECTION 07250 JOINT SEALANTS**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION**

- A. Section includes specifications for joint sealants and accessories.

#### **1.02 REFERENCE STANDARDS**

- A. American Society for Testing and Materials (ASTM International):
  - 1. C920 Specification for Elastomeric Joint Sealants
  - 2. C1193 Standard Guide for Use of Joint Sealants
  - 3. D1751 Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
- B. American Concrete Institute (ACI):
  - 1. 504R Guide to Sealants for Concrete Structures

#### **1.03 SUBMITTALS**

- A. Shop Drawings: Submit details to show installation and interface between sealants and adjacent work.
- B. Product Data: Submit materials list of items proposed to be provided under this Section and manufacturer's specifications and other data needed to prove compliance with the specified requirements.
- C. Samples:
  - 1. Submit color samples including project specific non-standard colors developed by the manufacturer as required, matching the indicated color for each sealant type for initial selection. In addition, submit the manufacturer's standard color charts for initial selection.
  - 2. Submit for final approval cured color samples for each sealant type illustrating selected colors.
- D. Manufacturer's Installation Instructions: Submit manufacturer's published installation procedures. Include instructions for completing sealant intersections when different materials are joined.

- E. Manufacturer's Certificate:
  - 1. Certify products are suitable for intended use including hardness appropriate for pedestrian traffic areas and products meet or exceed specified requirements.
  - 2. Certify applicator is approved by manufacturer.
  - 3. Submit letter signed by a representative of the manufacturer confirming the compatibility of joint-shaping materials with sealant and release tapes with sealant.
  - 4. Certify joint backing is that recommended by the sealant manufacturer to suit joint sealant application.

#### **1.04 DELIVERABLES**

- A. Qualifications Data: Submit applicator's qualifications, including reference projects of similar scope and complexity, with current phone numbers and contact names of architects and owners for verification.
- B. Operation and Maintenance Data: Submit data including recommended inspection intervals and instructions for repairing and replacing failed sealant joints.

#### **1.05 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- B. Applicator Qualifications:
  - 1. Company specializing in performing work of this section with minimum three years documented experience, minimum three successfully completed projects of similar scope and complexity, and approved by manufacturer.
  - 2. Designate one individual as project foreman who shall be on site at all times during installation.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Store primers and sealants in accordance with the manufacturers' printed recommendations and the following: Store in cool dry location with ambient temperature range of 60 to 80 degrees F.

#### **1.07 ENVIRONMENTAL REQUIREMENTS**

- A. Install primers and sealants in accordance with ACI 504R and the manufacturer's printed recommendations. Do not install primers or sealants when atmospheric temperatures or joint surfaces temperatures are below 40 degrees F.

**1.08 WARRANTY**

- A. Submit signed copies of the warranties against adhesive and cohesive failure of sealant and against infiltration of water and air through sealed joint for period of 3 years from date of completion. Include the following warranties:
  - 1. Manufacturer's warranty covering sealant materials
  - 2. Applicator's warranty covering workmanship

**PART 2 – PRODUCTS**

**2.01 GENERAL**

- A. Like items of materials shall be supplied by one manufacturer to achieve standardization for appearance, maintenance, and replacement throughout the project, unless otherwise approved by the Engineer.
- B. Sealant characteristics shall be as follows:
  - 1. Uniform, homogeneous
  - 2. Free from lumps, skins, and coarse particles when mixed
  - 3. Non-staining, non-bleeding
- C. Unless specifically noted, sealant color shall match the adjoining area.
- D. Use as few sealant types as possible to meet the requirements of the Work.
- E. Joint sealants are specified in other Sections, including the following:
  - 1. Section 02700, Station Platforms, Sidewalks, Curbs and Gutters
  - 2. Section 03150, Concrete Accessories: Includes expansion joints, joint fillers, and sealers
  - 3. Section 09650, Detectable Guide Tactiles: Sealant installed with tiles
  - 4. Section 09655, Detectable Warning Tactiles: Sealant installed with panels

**2.02 SEALANT TYPES**

- A. Type A: Multi-Component Urethane: ASTM C920, Type M, Grade NS, Class 25 or Class 50 as required for application; Uses NT, M, A, and O; two component, chemical curing, non-staining, non-bleeding, color as selected.
- B. Type B: Multi-Component Self-Leveling Urethane: ASTM C920, Type M, Grade P or NS as appropriate for application, Class 25, Uses T; self leveling, multi-component, chemical curing, non-staining, non-bleeding, color as selected.

### 2.03 ACCESSORIES

- A. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- B. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- C. Joint Backing: Round foam rod compatible with sealant; oversized 25 to 50 percent larger than joint width; recommended by sealant manufacturer to suit application.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.
- E. Masking Tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces.
- F. Joint Filler: Pre-molded asphalt impregnated felt conforming to ASTM D1751.

## PART 3 – EXECUTION

### 3.01 GENERAL

- A. Use of more than a single type of sealant for the same joint will not be permitted.
- B. Horizontal and Sloping Joints of up to one (1) Percent Slope: Self-leveling joint sealant or nonsag sealant shall be used.
- C. Joints steeper than 1 Percent Slope, Vertical Joints, and Overhead Joints: Nonsag joint sealant shall be used.
- D. Prepare joints and install primers and joint sealants in accordance with ASTM C1193, the manufacturers instructions, and ACI 504R.

### 3.02 PREPARATION

- A. Verify joint dimensions and physical and environmental conditions prior to sealant application.
- B. Verify that surfaces to be sealed are clean, dry, sound, and free of dust, loose mortar, oil, and other foreign materials. Correct nonconforming conditions.
  - 1. Clean concrete surfaces by abrasive blasting
  - 2. Hand or mechanical clean as required by the product manufacturer and as approved by the Engineer
  - 3. Mask adjacent surfaces where necessary to maintain neat edges
  - 4. Apply primer, where required, to dry surfaces

### 3.03 INSTALLATION

- A. Install sealant systems to achieve the required width/depth ratios shown on the Contract Drawings. If width/depth is not indicated on the Contract Drawings, comply with the manufacturer's product data.
- B. Joint filler shall be used to achieve the required joint depths.
  - 1. Install backup material in accordance with the sealant manufacturer's printed recommendations.
  - 2. Use full-length sections of joint-filler material. Where splices are required, minimize the number of splices. Splices shall be fitted and neat.
- C. Use bond breaker as recommended by sealant manufacturer.
- D. Seal expansion joints and elsewhere as shown on the Contract Drawings.
- E. Tool joints slightly concave after the sealant is installed, unless otherwise recommended by the manufacturer and approved by the Engineer.
- F. Finish joints free of air pockets, foreign embedded matter, ridges, and sags.

### 3.04 CLEANING

- A. Clean surfaces adjacent to the sealed joints of masking tape, sealant, and foreign substances.
- B. Damaged surfaces resulting from joint sealing or cleaning activities shall be replaced.

### 3.05 SCHEDULE

- A. Exterior Sealant Joint (Type A) Applications:
  - 1. Control and expansion joints in cast-in-place concrete
  - 2. Joints between architectural and structural precast concrete units
  - 3. Control and expansion joints in unit masonry
  - 4. Joints between different materials listed above
  - 5. Other exterior joints in vertical surfaces and non-traffic horizontal surfaces for which no other sealant is specified
- B. Traffic Sealant Joint (Type B) Applications
  - 1. Control, expansion and isolation joints in cast-in-place concrete

2. Control, expansion and isolation joints in structural precast concrete units
3. Joints between architectural precast concrete paving units
4. Tactile control and expansion joints
5. Joints between different materials listed above
6. Other interior and exterior traffic bearing joints in horizontal and sloped traffic surfaces

**END OF SECTION**