

**SECTION 07900**  
**JOINT SEALANTS**

**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

- A. This Section includes the furnishing and installation of joint sealants as indicated on the Drawings and as specified herein.

**1.02 RELATED WORK**

- A. UNIT MASONRY: Section 04220.
- B. STEEL DOORS AND FRAMES: Section 08110.
- C. ALUMINUM STOREFRONT / CURTAIN WALL:
- D. GLASS AND GLAZING: Section 08800.
- E. PORTLAND CEMENT PLASTER (STUCCO): Section 09220.
- F. GYPSUM WALLBOARD: Section 09250.
- G. PAINTING: Section 09900.

**1.03 QUALITY ASSURANCE**

- A. The Installer shall have a minimum of five (5) years continuous documented experience in the application of the types of materials required.

**1.04 PRODUCT DELIVERY AND STORAGE**

- A. All products shall be delivered to the site undamaged, and in the manufacturer's original packing. Products shall be stored within the manufacturer's published temperature tolerances.

**1.05 SUBMITTALS**

- A. Product Data: Submit the following manufacturer's data for each manufactured item:
  - 1. Certification that each product to be furnished is recommended for the application shown.
  - 2. Complete instructions for handling, storage, mixing, priming, installation, curing, and protection of each type of sealant.

## 1.06 ENVIRONMENTAL CONDITIONS

- A. Do not install materials when the temperature is below 40 degrees F, unless the manufacturer specifically recommends application of his materials at lower temperatures. If job progress or any other condition requires installations when temperatures are below 40 degrees F (or below the minimum installation temperature recommended by the manufacturer), consult the manufacturer's representative and establish the minimum provisions required to ensure satisfactory work. Record in writing to the manufacturer, with a copy to the Architect, the conditions under which such installation must proceed, and the provisions made to ensure satisfactory work.
- B. Do not proceed with installation of bulk compounds during inclement weather unless all requirements and manufacturer's instructions can be complied with. Do not proceed with the installation of elastomeric sealants under extreme temperature conditions which would cause joint openings to be at either maximum or minimum width, or when such extreme temperatures or heavy wind loads are forecast during the period required for initial or nominal cure of elastomeric sealants. Whenever possible, schedule the installation and cure of elastomeric sealants during periods of mean temperatures (nominal joint width shown) so that subsequent stresses upon the cured sealants will be minimized.

## 1.07 GUARANTEE

- A. Provide a five (5) year written guarantee, signed by the installer and Contractor, against defects materials and workmanship for joint sealants which fail to perform as airtight or watertight joints; or fail in joint adhesion, cohesion, abrasion resistance, weather resistance, extrusion resistance, migration resistance, stain resistance, or general durability; or appear to deteriorate in any other manner not clearly specified in joint sealant manufacturer's published data as an inherent quality of the material for the exposure indicated.

## PART 2 - PRODUCTS

### 2.01 GENERAL

- A. Hardnesses shown and specified are intended to indicate the general range necessary for overall performance. The manufacturer's technical representative shall determine the actual hardness recommended for the conditions of installation and use. Except as otherwise indicated or recommended, compounds shall be provided within the range of hardness (Shore A, Fully cured, at 75 degrees F) of 25 to 40.
- B. Before purchasing each specified sealant, the Contractor shall confirm its compatibility with the joint surfaces, joint fillers, and other materials in the joint system. Only materials that are known to be fully compatible with the actual installation conditions, as shown by the manufacturer's published data or certification, shall be provided.

## 2.02 SEALANTS

- A. Exterior Sealants: Sealants for exterior locations and all interior and exterior expansion joints shall be cold-applied elastomeric joint sealant, single component polyurethane non-sag sealant meeting ASTM C 920.
1. Products, Provide one of the following:
    - a. Tremco; Vulkem 116.
    - b. Sika Corporation, Inc.; Sikaflex - 1a.
    - c. Sonneborn, Division of ChemRex Inc.; Ultra.
    - d. Sonneborn, Division of ChemRex Inc.; NP 1.
  2. Type and Grade: S (single component) and NS (nonsag).
  3. Class: 25.
  4. Uses Related to Exposure: T (traffic) and NT (nontraffic).
- B. Interior Sealants: Sealants for interior locations shall be acrylic latex sealant compound, non-staining, non-bleeding, paintable, complying with ASTM C 834.
1. Products: Provide one of the following sealants:
    - a. "Pecora AC-20"; Pecora Corp.
    - b. "Sonolac"; Sonneborn Building Products, Div. Of Chemrex, Inc.
    - c. "Tremco Acrylic Latex 834"; Tremco Inc.
- C. Acoustical Joint Sealants: Sealants for interior acoustical applications shall be nonsag, paintable, nonstaining latex sealant complying with ASTM C 834.
1. Products, Exposed Joints: Provide one of the following sealants:
    - a. "AC-20 FTR Acoustical and Insulation Sealant"; Pecora Corp.
    - b. "Sheetrock Acoustical Sealant"; USG Corp.
  2. Products, Concealed Joints: Provide one of the following sealants:
    - a. "BA-98"; Pecora Corp.
    - b. "Tremco Acoustical Sealant"; Tremco Inc.

D. Fire Stop Sealant: Fire stop sealant used to seal penetrations in fire rated partitions shall be a silicone-based sealant.

1. Products: Provide one of the following sealants or an acceptable equivalent:

- a. "Firestop Sealant 2000"; 3M Corp.
- b. "Pensil 100 Firestop Sealant"; Specified Technologies, Inc.

## 2.03 MISCELLANEOUS MATERIALS

A. Joint cleaner shall be "Xylo", or any other type of compound recommended by the sealant compound manufacturer, for the joint surfaces to be cleaned.

B. Bond breaker tape shall be polyethylene tape, or other plastic tape, as recommended by the sealant manufacturer, to be applied to sealant contact surfaces where bond to the substrate or joint filler must be avoided for the proper performance of sealant. Self-adhesive tape shall be used wherever applicable.

C. Backer rods shall be closed-cell, expanded polyethylene. The size and shape of the rod shall be that which will control the joint, form optimum shape of sealant bead on the back side, and provide a highly compressible backer to minimize the possibility of sealant extrusion when the joint is compressed.

1. Products: Provide products equivalent to one of the following backer rods:

- a. "ethafoam"; Dow Chemical Company.

## 2.04 COLORS

A. For concealed joints, provide manufacturer's standard color that has the best overall performance qualities for the application shown. For exposed joints, the Architect will select colors from the manufacturer's standard or non-standard colors.

## PART 3 - EXECUTION

### 3.01 INSPECTION

A. The sealant installer shall examine the areas and conditions under which the sealants are to be installed and notify the Contractor in writing (with a copy to the Architect) of any conditions detrimental to this phase of the work, and shall not proceed until the unsatisfactory conditions have been corrected. Commencement will be construed as acceptance of the conditions.

### 3.02 SURFACE PREPARATION

A. Sealant material shall be applied before any adjacent coating or painting is applied; otherwise, the laboratory test for durability specified in the following paragraph (B.) shall be required.

- B. Installation of sealant over joint surfaces which have been painted, lacquered, waterproofed or treated with water repellent or other treatment or coating, shall not proceed unless a laboratory test for durability (adhesion), in compliance with Paragraph 4.3.9 of FS TT-S-00227, has successfully demonstrated that sealant bond is not impaired by the particular coating or treatment. If laboratory test has not been performed, or if test results indicate bond interference, the coating or treatment shall be removed from joint surfaces before installing sealant.
- C. Concrete and masonry joint surfaces shall be etched to remove excess alkalinity with dilute muriatic acid solution, and then sprayed with water and allowed to dry before installation, unless the sealant manufacturer's published instructions indicate that alkalinity does not interfere with sealant bond.

### 3.03 INSTALLATION

- A. Comply with the sealant manufacturer's published instructions, except where more stringent requirements are shown or specified, and except where the manufacturer's technical representative recommends otherwise.
- B. The joint surfaces shall be primed or sealed wherever shown or recommended by the sealant manufacturer. Primer/sealer shall not be spilled or allowed to migrate onto adjoining surfaces.
- C. Sealant backer rod shall be installed for elastomeric sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for the application shown.
- D. Bond breaker tape shall be installed wherever required by the manufacturer's recommendations to ensure that elastomeric sealants will perform properly, or as detailed on the Drawings.
- E. Only proven installation techniques shall be employed which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the joint bond surfaces equally on opposite sides. Except as otherwise indicated, sealant joints shall be filled to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and a vertical surface, joints shall be filled to form a slight cove, so that the joint will not trap moisture and dirt.
- F. Sealants shall be installed to depths as shown, or if not shown, as recommended by the sealant manufacturer, but within the following general limitations measured at the center (thin) section of the bead.
  - 1. For sidewalks, pavements, and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposure, joints shall be filled to a depth equal to 75 percent of the joint width, but neither more than 5/8 inch deep nor less than 3/8 inch deep.
  - 2. For normal moving joints sealed with elastomeric sealants, but not subject to traffic, joints shall be filled to a depth equal to 50 percent of joint width, but not more than 3/8 inch nor less than 1/4 inch.
  - 3. For joints sealed with non-elastomeric sealant compounds, joints shall be filled to a depth in the range of 75 percent to 115 percent of the joint width.
- G. Sealant compounds shall not be overflowed or spilled onto adjoining surfaces or allowed to migrate into the voids of adjoining surfaces including rough textures. Masking tape or other precautionary devices shall be used to prevent staining of adjoining surfaces by either the primer, sealer and/or the sealant compound.

- H. Any excess or spillage of compounds shall be removed promptly as the work progresses. Adjoining surfaces shall be cleaned by whatever means may be necessary to eliminate evidence of spillage, without damage to the adjoining surfaces or finishes.
- I. Do not plug weep holes (if occurring).

3.04 CURE AND PROTECTION

- A. Sealant compounds shall be cured in compliance with the manufacturer's published instructions and current recommendations to obtain high early bond strength, internal cohesive strength, and surface durability.
- B. The installer shall advise the Contractor of procedures required for the curing and protection of sealants compounds during the construction period, so that they will be without deterioration or damage (other than normal wear and weathering), at the time of Final Acceptance.

END OF SECTION 07900