SECTION 07920

SEALANTS AND CAULKING

PART 1 - GENERAL

1.01 SUMMARY

A. Throughout the Work, seal and caulk joints where shown on the Drawings and elsewhere as required to provide a positive barrier against passage of moisture and passage of air.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

C. Codes: Materials and work shall conform to the governing Building Code. In case of conflict between these specifications, the standard specifications, and the Building Code, the more stringent shall govern.

1.02 SUBMITTALS

A. Comply with pertinent provisions of Section 01300.

B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
   3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

C. Samples: Upon request of the Architect, submit Samples of each sealant, each backing material, each primer, and each bond breaker proposed to be used.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01600.

B. Do not retain at the job site material which has exceeding the shelf life recommended by its manufacturer.

PART 2 - PRODUCTS

2.01 SEALANT

A. Provide the following sealants, or equals approved in advance by the Architect, where called for on the Drawings or otherwise required for a complete and proper installation.
   1. Sealant Type A (at joints subjected to horizontal traffic):
      a. Self-leveling, complying with ASTM C920-79, grade P, class 25;
      b. Acceptable products:
         (1) "Vulkem 45, one-part";
         (2) "Vulkem 921, one-part";
   2. Sealant Type B (at joints subject to extreme movement):
      a. Non-sag, complying with ASTM C920-79, type S, grade NS, class 25, use NT, M, A, and O;
      b. Acceptable products:
         (1) "Vulkem 116, one-part";
         (2) "Vulkem 921, one-part";
   3. Sealant Type C (at joints not listed above):
      a. Acrylic latex, complying with ATM C834-78;
      b. Acceptable products:
         (1) "Pecora AC20".

B. For other services, provide products especially formulated for the proposed use and approved in advance by the Architect.

C. Colors:
   1. Colors for each sealant installation will be selected by the Architect from standard colors normally available from the specified manufacturer.
   2. Should such standard color not be available for an approved substitute manufacturer except at additional charge, provide such colors at no additional cost to the Owner.
   3. In concealed installations, and in partially or fully exposed installations, where so approved by the Architect, use standard gray or black sealant.

2.02 PRIMERS

A. Use only those primers which have been tested for durability on the surfaces to be sealed and are specifically recommended for this installation by the manufacturer of the sealant used.

2.03 BACKUP MATERIALS

B. Use only those backup materials which are non- absorbent, non-staining, and specifically recommended for this installation by the manufacturer of the sealant used.

2.04 MASKING TAPE

A. For masking around joints, provide an appropriate masking tape which will effectively prevent application of sealant on surfaces not scheduled to receive it, and which is removable without damage to substrate.

2.05 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

A. Concrete and ceramic tile surfaces:
   1. Install only on surfaces which are dry, sound, and well brushed, wiping free from dust.
   2. At open joints, remove dust by mechanically blown compressed air if so required.
   3. To remove oil and grease, use sandblasting or wire brushing.
   4. Where surfaces have been treated, remove the surface treatment by sandblasting or wire brushing.
   5. Remove laitance and mortar from joint cavities.

B. Steel surfaces:
   1. Steel surfaces in contact with sealant:
      a. Sandblast as required to achieve acceptable surface for bond.
      b. If sandblasting is not practical, or would damage adjacent finish, scrape the metal or wire brush to remove mill scale and rust.
      c. Use solvent to remove oil and grease, wiping the surfaces with clean white rags only.
   2. Remove protective coatings on steel by sandblasting or by using a solvent which leaves no residue.

C. Aluminum surfaces:
   1. Aluminum surfaces in contact with sealant:
      a. Remove temporary protective coatings, dirt, oil, and grease.
      b. When masking tape is used for protective cover, remove the tape just prior to applying the sealant.
   2. Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturer of the aluminum work, and which are non-staining.

3.03 INSTALLATION OF BACKUP MATERIAL

A. When using backup of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock.

B. Installation tool:
   1. For installation of backup material, provide a blunt-surfaced tool of wood or plastic, having shoulders designed to ride on the adjacent finished surface and a protrusion of the required dimensions to assure uniform depth of backup material below the sealant.
   2. Do not, under any circumstance, use a screwdriver or similar tool for this purpose.
   3. Using the approved tool, smoothly and uniformly place the backup material to the depth indicated on the Drawings or otherwise required, compressing the backup material 25% to 50% and securing a positive fit.

3.04 PRIMING

A. Use only the primer approved by the Architect for the particular installation, applying in strict accordance with the manufacturer's recommendations as approved by the Architect.

3.05 BOND-BREAKER INSTALLATION

A. Provide an approved bond-breaker where recommended by the manufacturer of the sealant, and where directed by the Architect, adhering strictly to the manufacturers' installation recommendations.

3.06 INSTALLATION OF SEALANTS

A. Prior to start of installation in each joint, verify the joint type according to details on the Drawings, or as otherwise directed by the Architect, and verify that the required proportion of width of joint to depth of joint has been secured.

B. Equipment:
   1. Apply sealant under pressure with power-actuated hand gun or manually-operated hand gun, or by other appropriate means.
   2. Use guns with nozzle of proper size, and providing sufficient pressure to completely fill the joints as designed.

C. Thoroughly and completely mask joints where the appearance of primer or sealant on adjacent surfaces would be objectionable.

D. Install the sealant in strict accordance with the manufacturer's recommendations, thoroughly filling joints to the recommended depth.

E. Tool joints to the profile shown on the Drawings, or as otherwise required if such profiles are not shown on the Drawings.
   1. Provide uniformly smooth joints with slightly concave surface.
   2. Do not use tooling agent unless specifically so recommended in writing by the manufacturer of the sealant.

F. Cleaning up:
   1. Remove masking tape immediately after joints have been tooled.
   2. Clean adjacent surfaces free from sealant as the installation progresses, using solvent or cleaning agent recommended by the manufacturer of the sealant used.

3. Upon completion of the work of this Section, promptly remove from the job site all debris, empty containers, and surplus material derived from this portion of the Work.

END OF SECTION - 07920