PART 1 GENERAL

1.01 WORK INCLUDED

A. Furnish labor, materials, equipment and services necessary to caulk and seal openings and joints indicated by drawings, specified herein or required to make structures weather and watertight. Work includes, but is not necessarily limited to:

1. Examine other sections for work related to those other sections and required to be included as work under this section.
2. Caulking and sealing.
3. Compressible filler behind caulking and sealant at expansion joint.
4. Caulking of wall openings for accessories in public and private toilets, including, but not limited to, grab bars, towel bars, dispensers, soap dishes, and receptacles.
5. Coordination for caulking required under other sections.

1.02 RELATED WORK

A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and sections in Division 1 of this Specification.

B. Adhere strictly to caulking and sealant details shown on Drawings.

1.03 QUALITY ASSURANCE

A. Codes and Standards: Comply with latest edition of codes and standards specified herein as amended to the date of this Specification.

1. Federal Specification (FS):

(FS) TT-S-1657 – “Single component, Butyl Rubber, Sealant”

(FS) TT-S-00230C - "Single component, Elastomeric, Sealant."

(FS) TT-S-001543A - "Single component, Silicone, Sealant."

ASTM C-834-95 – “Single component, Acrylic Latex with Silicone Sealant”
B. Responsibility:
1. This Specification covers technical requirements for sealants and method of installation. Furnishing and installing of sealants shall be done by trades responsible for such in the various sections of this Specification.
2. When not specifically indicated, provide sealant material described in this Section best suited for indicated use to make installations weathertight. Use sealants compatible with adjoining materials.

B. Qualifications of Manufacturer: Products used in work of this Section shall be produced or supplied by manufacturers or authorized distributors regularly engaged in manufacture of similar items and with a history of successful production acceptable to Owner’s Representative [Architect/OSA].

C. Qualifications of Installers:
1. Proper caulking and proper installation of sealants require that installers be thoroughly trained and experienced in necessary skills and thoroughly familiar with specified requirements.
2. For caulking and installation of sealants throughout the Work, use only personnel who have been specifically trained in such procedures and who are completely familiar with the joint detail shown on the Drawings and the installation requirements called for in this Section.

D. Manufacturer's printed technical data and instruction sheets are considered the standard for establishing proper procedure for preparation, use, and application of various proprietary materials specified in this Section.

E. Verify that materials are suitable for intended applications, will provide long-term adhesion, and are compatible when materials of different manufacturers intersect or contact one another. No claims for additional costs shall be allowed because of changes of sealants required to comply with the provisions of this paragraph.

F. Project Meeting:
1. Prior to commencing the work of this Section, schedule a job-site meeting to discuss conformance with the requirements of the contract Documents, sealant applications, joint size limitations, aesthetic concerns and mock-up.
2. Attending:
   a. Architect's representative.
   b. General Contractor's representative.
   c. Subcontractor's representative for all trades whose work interfaces with the work of this Section.
   d. Others as appropriate.

G. Mock-up:
1. Sealant applicator shall install 10-100 feet of sealant in accordance with the project meeting and perform field adhesion tests within 7-14
days before proceeding to verify aesthetics, workmanship, proper sealant and surface preparation procedures.

1.04 SUBMITTALS

A. General: Comply with provisions of Section 01340.

B. Manufacturer's Data:
   1. Submit a complete materials list showing all items proposed to be furnished and installed under this Section, with sufficient data to demonstrate that all such materials meet or exceed specified requirements.
   2. When no specific material is called for, manufacturer shall state that materials and installation procedures proposed are his recommendation for accomplishing best results for each condition, considering joint size, shape, expected differential movement, temperature range, and exposure to weather, wear and abuse.
   3. Colors: Submit manufacturer's standard color samples for selection of colors by [Architect] Owner's Representative. Furnish samples of proposed sealant, primer and backup material when requested.

C. Warranty: Furnish a written warranty signed jointly by the supplier and installer against defects in materials for 5 years and defects in workmanship for 2 years, covering loss of adhesion or cohesion, deterioration, leaking, and other defects. In addition, warrant that material has been installed according to manufacturer's written specifications.

D. Manufacturer's Recommendations: Manufacturer's specifications, installation instructions and general recommendations, when accepted by [Architect/OSA] Owner's Representative, shall become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

1.05 PRODUCT HANDLING

A. Delivery and Storage: Deliver all materials of this section to the job site in the original unopened containers with all labels intact and legible at time of use. Store only under conditions recommended by the manufacturers. Do not retain on the job site any materials which has exceeded the shelf life recommended by its manufacturer.

B. Protection: Protect the materials of this Section before, during and after installation and protect the work and materials of all other trades.

C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of [Architect/OSA] Owner's Representative and at no additional cost to Owner [District].
1.06 JOB CONDITIONS

A. Joint configuration, joint surfaces, and backing forming the sealant rabbet shall be as detailed on the Drawings and as specified herein. Report all known detrimental conditions immediately, in writing, to the General Contractor and the [Architect/OSA] Owner’s Representative for correction by the Sealant Contractor.

B. Do not proceed with the installation of sealant if the joint width is less than design until written notification of these conditions is submitted to the General Contractor and a written acknowledgement with an order to proceed is provided by the Owner's Representative [Architect/OSA]

C. Do not proceed with the installation of sealants under adverse weather conditions when joint to be sealed is damp, wet, or frozen or when temperatures are below or above the manufacturer's recommended limitations for installation. Consult the manufacturer for specific instructions before proceeding.

PART 2 PRODUCTS

2.01 GUIDE FOR SEALANT USAGE:

A. Significant Movement Sealants (± 25% movement capability)
   1. Expansion wall joints; masonry and metal curtainwall joints; precast concrete joints and concrete panels; perimeter sealing (windows, doors, and panels); control joints; interior and exterior vertical joints; and non-traffic horizontal joints.
      Sealant type S-1, 2, 3, or 4.

B. Glazing Sealants
   1. Non-structural Glazing.
      Sealant type S-2, 3, 4 or 6.

C. Extreme Movement Sealants (± 50% movement capability)
   1. Non-structural glazing of glass, metal, plastic, and other common building materials.
      Sealant type S-2.

D. Interior Sealant and Caulking
   1. General. Sealant type C-1
   2. Special.
      a. Bathroom and kitchens.
         Sealant type S-5.
      b. Exposed acoustical.
         Sealant type S-4 or C-2.
      c. Non-exposed acoustical.
         Sealant type S-4 or C-3.
E. **Primer:** The primer shall be used in accordance with manufacturer’s instructions, with all primers being applied prior to the installation of any backer rod or bond breaker tape. Manufacturer shall be consulted for all surfaces not specifically covered in submittal application instructions.

F. **Backer Rod:** Shall be open or closed cell polyethylene or polyurethane as recommended by the sealant manufacturer. CRL Closed Cell Backer Rod, CRL Open Cell Polyurethane Backer Rod, or CRL Sof Rod by C.R. Laurence Co., Inc. (800) 421-6144.

G. **Bond Breaker Tape:** Catalog number 827T by C.R. Laurence Co., Inc. (800) 421-6144.

### 2.02 SEALANT AND CAULKING MATERIALS

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<tr>
<th>REF</th>
<th>ASTM</th>
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<th>SPEC</th>
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<tr>
<td>S-1</td>
<td>C-920-98</td>
<td>TT-S-00230C</td>
<td>Class A</td>
<td>Type II</td>
<td>Low to medium modulus, one component, polyurethane sealant - Shore A hardness of 20-40 - Joint movement range of ± 25% - Catalog number M66 or M64 by C.R. Laurence Co., Inc. (800) 421-6144</td>
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<tr>
<td>S-2</td>
<td>C-920</td>
<td>TT-S-001543A AAMA 808.3-92</td>
<td>Class A</td>
<td>Type II</td>
<td>Medium modulus, one component, non-sag, neutral cure, silicone sealant - Shore A hardness of 25-30 - Joint movement range of ± 50% - Catalog number 95C Silicone Building Sealant by C.R. Laurence Co., Inc. (800) 421-6144</td>
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<td>S-3</td>
<td>C-920</td>
<td>TT-S-001543A AAMA 808.3-92</td>
<td>Class A</td>
<td>Type II</td>
<td>One component, non-sag, neutral cure, silicone sealant - Shore A hardness of 25-30 - Joint movement range of ± 25% - Catalog number RTV408 Silicone Sealant by C.R. Laurence Co., Inc. (800) 421-6144</td>
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| S-4   | C-920-79   | TT-S-001543A | - One component, acetoxy cure, non-sag, silicone sealant  
|       |            | Class A     | - Shore A hardness of 25-30  
|       |            | Class 25    | - Catalog number 33S Silicone Sealant by C.R. Laurence Co., Inc.  
|       |            | Grade NS    | (800) 421-6144  
|       |            |            | Certified by NSF  
|       |            |            | “UL Recognized Component” |
| S-5   | C-920-79   | TT-S-1543A  | - One component, non-sag, mildew resistant silicone sealant  
|       |            | Class A     | - Shore A hardness of 25-30  
|       |            | Class 25    | - Catalog number 33SMRC Silicone Sealant by C.R. Laurence Co., Inc.  
|       |            | Grade NS    | (800) 421-6144  
|       |            |            | Catalog number 33SMRC Silicone Sealant by C.R. Laurence Co., Inc.  
|       |            |            | (800) 421-6144  
| S-6   | C-920      | TT-S-00230C | - One component, non-sag, optically clear silicone sealant  
|       |            | Class 25    | - Shore A hardness of 25-30  
|       |            | Grade NS    | - Catalog number WCS1 Water Clear Silicone by C.R. Laurence Co., Inc.  
|       |            |            | (800) 421-6144  
| C     | C-834-95   | N/A         | - One component acrylic latex caulking with silicone  
|       |            |            | - Maximum joint movement of ± 7.5%  
|       |            |            | - Catalog number 800 Acrylic Latex with Silicone by C.R. Laurence Co., Inc.  
|       |            |            | (800) 421-6144  
|       |            |            | - Catalog number 321 Acrylic Latex with Silicone by C.R. Laurence Co., Inc.  
|       |            |            | (800) 421-6144  
| C-2   | C-1311     | TT-S-001657 | - One component, butyl rubber caulking  
|       |            | Class 25    | - Maximum joint movement of ± 5%  
|       |            | Grade NS    | - Catalog number 777 or 888 Butyl Rubber Sealant by C.R. Laurence Co., Inc.  
|       |            |            | (800) 421-6144  
|       |            | AAMA 808.3  |            |
PRODUCT DESCRIPTION

- One component, acoustical caulking
- Non-drying, non-hardening, synthetic rubber
- Catalog number BP-300 Sealant by C.R. Laurence Co., Inc.
  (800) 421-6144

PART 3 EXECUTION

3.01 INSPECTION:

A. Substrate surface shall be inspected to ensure that no bond-breaker materials contaminate the surface to which the sealant is to adhere and to ensure that unsound substrates are repaired. Installation of sealant shall be evidence of acceptance of the substrate.

B. Joint dimensions shall be verified prior to installation of the sealant to ensure that all dimensions are within tolerance established in the manufacturer’s literature. Unacceptable variations shall be called to the architect’s attention for resolution prior to installing any material.

3.02 PREPARATION:

A. Prepare all joints in accordance with manufacturer’s recommended instructions to ensure maximum adhesion. Prime as required, protecting all adjacent exposed surfaces.

3.03 INSTALLATION:

A. Backer rod shall be installed using only blunt or rounded tools which will ensure a uniform (± 1/8”) depth without puncturing the material. Backer rod shall be of a diameter 25% greater than the joint width, unless otherwise required by the manufacturer.

B. Surrounding surface shall be protected as required to ensure that no sealant contaminates these surfaces.

C. Sealant shall be prepared as required, including proper mixing of multi-component sealants, then installed in accordance with manufacturer’s recommendations and instructions in order to ensure proper width/depth ratio. Take all necessary steps to prevent three-sided adhesion. Sealant depth shall be one-half of joint width, with a minimum depth of 1/4”, and a maximum of 1/2”, unless otherwise required by the manufacturer.
D. Both temperature and dampness conditions may restrict application of these sealants. Comply with manufacturer's instructions.

3.04 CLEANING

A. Clean off excess compound or smears with cleaning material recommended by the manufacturer of the compound. Leave work in a condition satisfactory to the Owner's Representative [Architect].

END OF SECTION