# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 and 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. Section Includes:
1. Nonstaining silicone joint sealants.
2. Urethane joint sealants.
3. Mildew-resistant joint sealants.
4. Butyl joint sealants.
5. Latex joint sealants.

B. Related Requirements:
1. Section 018113 “Sustainable Design Requirements.”
2. Section 078413 "Penetration Firestopping" for sealing joints in fire-resistance-rated construction.
3. Section 088000 "Glazing" for glazing sealants not specified in this Section.
4. Section 092900 "Gypsum Board" for sealing perimeter joints of gypsum board partitions to reduce sound transmission.
5. Section 093000 "Tiling" for tile sealant joints.
6. Section 095113 "Acoustical Panel Ceilings" for sealing edge moldings at perimeters of acoustical ceilings.

## 1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

## 1.4 SUBMITTALS

A. Product Data: For each joint-sealant product.

B. LEED Submittals: Credits EQc2 and EQc4.1: Refer to Division 01 Section “Sustainable Design Requirements” for additional submittal requirements.

C. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

D. 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.

E. 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.

F. Qualification Data: For qualified testing agency.

G. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.

H. Preconstruction Laboratory Test Schedule: Include the following information for each joint sealant and substrate material to be tested:
   1. Joint-sealant location and designation.
   2. Manufacturer and product name.
   3. Type of substrate material.
   4. Proposed test.
   5. Number of samples required.

I. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:
   1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
   2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

J. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.

K. Field-Adhesion-Test Reports: For each sealant application tested.

L. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and recommended by manufacturer.

B. Manufacturer Qualifications: The manufacturer of the sealant used shall have been in the business of manufacturing the specified types of such sealants with not less than 10 years documented experience.

C. Product Testing: Test joint sealants using a qualified testing agency.
   1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.
   2. Testing by manufacturer with independent validation conducted by SWRI or AAMA.

D. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer. Materials shall be from a single manufacturer and of same color when used in adjacent installations.

E. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.6 PRECONSTRUCTION TESTING

A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
   1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
   2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
   3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with stone or masonry substrates.
   4. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
   5. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
   6. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
   7. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials exactly matching those submitted.

B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
   1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
   2. Conduct field tests for each kind of sealant and joint substrate.
   3. Notify Architect seven days in advance of dates and times when test joints will be erected.
   4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
      a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
         1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
   6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.7 FIELD CONDITIONS

A. 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 without obtaining and submitting for approval manufacturer’s cold-weather caulking instructions.
   2. When joint substrates are wet.

3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.
5. To substrates that are determined not to be sound.

1.8 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
   1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
   2. Disintegration of joint substrates from causes exceeding design specifications.
   3. Mechanical damage caused by individuals, tools, or other outside agents.
   4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, 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. LEED Material Credits EQc2 and EQc4.1: (inside the weatherproofing system and applied on-site): Refer to Division 01 Section “Sustainable Design Requirements” for additional product requirements.

C. VOC Content of Interior Sealants: Provide adhesives, sealants, sealant primers and caulks shall meet the local or regional Air Pollution Control or South Coast AQMD Rule 1168 VOC and Statewide VOC standards and LEED Credit EQc2 Requirements.
   1. Provide sealants and sealant primers for use inside the weatherproofing system that comply with the current General Emissions Evaluation requirements of California Department of Public Health.

D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range, unless noted as custom color.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT. Custom color selected by Architect.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; 864NST or 895NST.
      b. Dow Corning 756 SMS.
      c. Sika Corporation U.S.; Sikasil WS-295 FPS.
      d. Momentive Performance Materials; SilPruf NB.

C. Silicone, Nonstaining, S, NS, 100/50, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora 890 FTS or 890NST.
      b. Dow Corning 790.

2.3 URETHANE JOINT SEALANTS

A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; Dynatrol I-XL.
      b. BASF Construction Chemicals, LLC, Building Systems; Sonalastic NP1.
      c. Tremco Incorporated; Dymonic.

B. Urethane, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; NR-201.
      b. BASF Construction Chemicals, LLC, Building Systems; Sonolastic SL 1.
      c. Sika Corporation; Sikaflex 1CSL

C. Urethane, M, P, 25, T, NT: Multicomponent, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type M, Grade P, Class 25, Uses T and NT.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; Dynatred Shore A, 40-45 or greater or NR-200.
      b. Tremco Incorporated; THC 900/901, Shore A of 30-35.
      c. Sika Corporation; Sikaflex 2C-SL TG

2.4 IMMERSIBLE JOINT SEALANTS

A. Immersible Joint Sealants. Suitable for continuous immersion in liquids; ASTM C 1247, Class 1; tested in deionized water unless otherwise indicated

B. Urethane, Immersible, S, P, 25, T, NT, I: Immersible, single-component or two-part, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T, NT, and I.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; Dynaflex.
      b. Meadows, W. R., Inc.; Pourthane SL.
      c. Sika Corporation U.S.; Sikaflex 1c SL.
      d. Tremco Incorporated; Vulkem 45 SSL

2.5 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid or Neutral Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Dow Corning Corporation; 786.
      b. Pecora Corporation; 860 or 898NST.
      c. GE Construction Sealants; SCS1700 Sanitary.
      d. Sika Corporation U.S.; Sikasil GP
      e. Tremco Incorporated; Tremsil 200.

2.6 BUTYL JOINT SEALANTS

A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Bostik, Inc.; Chem-Calk 300.
      b. Pecora Corporation; BC-158.

2.7 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. BASF Construction Chemicals, LLC, Building Systems; Sonolac.
      b. Pecora Corporation; AC-20.
      c. Tremco Incorporated; Tremflex 834.

2.8 ACOUSTICAL SEALANTS

A. Acoustical Sealant for Exposed and Concealed Joints: Non-hardening permanently flexible, paintable and non-staining. Composed of a latex base of a consistency conforming to ASTM C 834.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; AC-20 FTR or AIS 919.

b. Momentive Performance Materials; RCS20 Acoustical.
c. OSI; SC-175.

2.9 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining, non-outgassing; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.10 MISCELLANEOUS MATERIALS

A. Primer: Material 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.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
   a. Concrete.
   b. Masonry.
   c. Stone.
   d. Unglazed surfaces of ceramic tile.
   e. Exterior insulation and finish systems.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
   a. Metal.
   b. Glass.
   c. Porcelain enamel.
   d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by 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. Do not prime more surface area than will be subsequently caulked in the same day.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support 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.
   1. Do not leave gaps between ends of sealant backings.
   2. Do not stretch, twist, puncture, or tear sealant backings.
   3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Completely fill recesses in each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
1. Extent of Testing: Test completed and cured sealant joints as follows:
a. Perform 10 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
b. Perform one test for each 1000 feet of joint length thereafter or one test per each floor per elevation.
2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
3. Inspect tested joints and report on the following:
a. Whether sealants filled joint cavities and are free of voids.
b. Whether sealant dimensions and configurations comply with specified requirements.
c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess 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.

3.6 PROTECTION

A. 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, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

A. For locations not specified in this Article, notify Architect who will determine the sealant type to be used.

B. Joint Sealant Colors:
   1. Unless specified or directed otherwise by the Architect, match sealant color to color of adjacent materials as closely as possible using colors selected from manufacturer's standard palette, unless noted otherwise.
      a. Sealants adjacent to aluminum framing and steel fire-rated framing assemblies shall be custom colors as selected by Architect.
   2. The Architect shall select sealant color where adjacent materials on each side of the joint are of different colors.
   3. Colors desired by the Architect are not necessarily the colors available in any one particular manufacturer's color range.
   4. The unavailability of the colors desired by the Architect will be sufficient reason to disqualify any manufacturer not capable of providing such colors.

C. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
   1. Joint Locations:
      a. Control and expansion joints in brick pavers.
      b. Isolation and contraction joints in cast-in-place concrete slabs.
      c. Joints between plant-precast architectural concrete paving units.
      d. Joints in stone paving units, including steps.
      e. Tile control and expansion joints if not provided by tile setting manufacturer.
      f. Joints between different materials listed above.
      g. Other joints as indicated on Drawings.
   2. Joint Sealant: Urethane, M, P, 25, T, NT, NS.

D. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces subject to water immersion.
   1. Joint Locations:
      a. Joints in pedestrian concrete plazas.
      b. Other joints as indicated on Drawings.
   2. Joint Sealant: Urethane, immersible, S or M, P, 25, T, NT, I.

E. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Construction joints in cast-in-place concrete.
      b. Joints between plant-precast architectural concrete units.
      c. Control and expansion joints in unit masonry.
      d. Joints in dimension stone cladding.
      e. Joints in exterior insulation and finish systems.
      f. Joints between metal panels.
      g. Joints between different materials listed above.
      h. Perimeter joints between materials listed above and frames of doors, windows and louvers.
      i. Control and expansion joints in overhead surfaces.
      j. Other joints as indicated on Drawings.
   2. Joint Sealant: Silicone, non-staining, S, NS, 100/50, NT.

F. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
   1. Joint Locations:
      a. Isolation joints in cast-in-place concrete slabs.
      b. Control and expansion joints in stone flooring.
      c. Control and expansion joints in brick flooring.
      d. Control and expansion joints in tile flooring if not provided by tile setting manufacturer.
      e. Other joints as indicated on Drawings.
   2. Joint Sealant: Urethane, S, P, 25, T, NT.

G. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Vertical joints on exposed surfaces of unit masonry, concrete walls and partitions.
      b. Joints on underside of plant-precast structural concrete beams and planks.
      c. Other joints as indicated on Drawings.
   2. Joint Sealant: Urethane, S, NS, 25, NT.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

H. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.
   1. Joint Locations:
      a. Control joints on exposed interior surfaces of exterior walls.
      b. Hidden perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
      c. Other joints as indicated on Drawings.
   2. Joint Sealant: Acrylic latex.

I. Joint Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Location:
      a. Wall expansion and control joints.
      b. Tile control and expansion joints if not provided by tile setting manufacturer.
   2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.

J. Joint Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces at porous materials.
   1. Joint Location:
      a. Joints between cut stone veneer and stone tile.
   2. Joint Sealant: silicone, nonstaining, S, NS, 100/50, NT.

K. Joint Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Location:
      a. Openings and intersections where acoustical sealant is required.
      b. Paintable at exposed locations.
   2. Joint Sealant: Latex, paintable, acoustical sealant.

L. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
      b. Tile control and expansion joints where indicated if not provided by tile setting manufacturer.
      c. Other joints as indicated on Drawings.
   2. Joint Sealant: Silicone, mildew resistant, acid or neutral curing, S, NS, 25, NT.

M. Joint-Sealant Application: Concealed mastics.
   1. Joint Locations:
      a. Aluminum thresholds.
      b. Sill plates.
      c. Other joints as indicated on Drawings.
   2. Joint Sealant: Butyl-rubber based.

END OF SECTION