DOW CORNING® Corporation's Silicone Joint Sealants

To support the growing demand for innovative, high-performance and sustainable structures, DOW CORNING is continuously strengthening its suite of construction solutions and services for building professionals. DOW CORNING silicon-based sealants, coatings, water repellents and concrete admixtures are designed to protect, strengthen, and preserve building materials in new construction and renovation projects. For example, silicone construction sealants have a life expectancy that is typically three times longer than organic sealants used in the same applications. They waterproof, remain flexible, and resist the effects of ultraviolet (UV) light and common temperature extremes.

DOW CORNING structural glazing and weatherproofing silicone products can contribute to building performance improvements by increasing energy performance and extending building life. When used in combination with other construction materials, use of DOW CORNING silicones can contribute to earning LEED® (Leadership in Energy and Environmental Design) credits as administered by the U.S. Green Building Council.

DOW CORNING provides industry professionals with product information, technical expertise, design tools and other resources to create total building system solutions, based on decades of construction industry expertise, technical service, support resources, and customized construction services. DOW CORNING offers:

- Information regarding using silicone to achieve LEED credits
- Downloadable product selection guides and data sheets
- Application and technology development education
- Evaluations to ensure proposed applications meet DOW CORNING standards for warrantable performance
- AIA Continuing Education programs

Working with leading architects and contractors, DOW CORNING has contributed to innovative designs such as the Solano County Government Center in Fairfield, California. Solano County's first LEED-certified building. The building incorporates significant sustainable design/build elements, including extensive use of solar electricity and an award-winning co-generation plant. DOW CORNING brand silicone sealants complement its energy-efficient technologies with contributions to its weatherproofing and life-cycle.

DOW CORNING provides performance-enhancing solutions to serve the diverse needs of more than 25,000 customers worldwide. A global leader in silicones, silicon-based technology and innovation, DOW CORNING offers more than 7,000 products and services via the company's DOW CORNING and XIAMETER® (xiameter.com) brands. DOW CORNING is equally owned by The Dow Chemical Company and Corning, Incorporated. More than half DOW CORNING's annual sales are outside the United States.

We recommend you consult with your DOW CORNING construction technical representative, who can be contacted through: Dow Corning Corporation, Midland MI; (877)SEALANT ((877)732-5268); email: specification@dowcorning.com;
www.dowcorning.com/content/construction/.

DOW CORNING products appear in the following CSI MasterFormat specifications sections:
- Section 07 01 91 Joint Sealant Rehabilitation and Replacement
- Section 07 92 00 Joint Sealants
- Section 08 85 00 Glazing Sealants
- Section 09 96 53 Silicone Elastomeric Coatings
- Section 32 13 73 Concrete Paving Joint Sealants

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PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Exterior elastomeric weatherproofing sealants.
   2. Interior joint sealants.

B. Related Sections:
   1. Division 01 Section "Sustainable Design Requirements" for additional requirements, including LEED product and documentation requirements.
   2. Section 07 01 91 "Joint Sealant Rehabilitation and Replacement" for renovation of exterior joint sealant applications.
   3. Section 08 85 00 "Glazing Sealants" for sealants for glazing installation, glazing framing perimeters, and structural glazing.
   4. Section 09 96 53 "Silicone Elastomeric Coatings" for water-repelling liquid silicone elastomeric coatings for exterior surfaces.
   5. Section 32 13 73 "Concrete Paving Joint Sealants" for traffic grade joint sealants for concrete paving and parking decks.

1.2 REFERENCE STANDARDS

Specifier: If retaining References Article, edit to include only those references in edited section.

A. ASTM International (ASTM): www.astm.org:
   1. ASTM C 661 - Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer.

B. NSF International (NSF): www.nsf.org:

C. Sealant, Waterproofing, and Restoration Institute (SWRI): www.swrionline.org:
   1. SWRI Validation Program.

D. U. S. Environmental Protection Agency (EPA): www.epa.gov:

E. U.S. Food and Drug Administration (FDA): www.fda.gov:
1. 21 CFR 177.2600: Title 21 Part 177 Indirect Food Additives: Polymers.

F. US Green Building Council (USGBC): www.usgbc.org


1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.

B. Preinstallation Conference: Conduct conference at Project Site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of joint sealant product specified, including:

1. Preparation instructions and recommendations.
2. Standard drawings illustrating manufacturer's recommended sealant joint profiles and dimensions applicable to Project.

B. Joint Sealant Schedule: Indicate joint sealant location, joint sealant type, manufacturer and product name, and color, for each application. Utilize joint sealant designations included in this Section.

C. LEED Submittals:

Specifier: Retain first paragraph below for projects requiring documentation for LEED-NC, LEED-CI, or LEED-CS.

1. LEED NC Credit IEQ 4.1: Product data for sealant and sealant primers applied inside the weather envelope. Including statement of VOC content.

Specifier: Retain first paragraph below for projects requiring documentation for LEED for Schools.

2. LEED for Schools Credit EQ 4: Laboratory test reports for sealants and sealant primers applied inside the weather envelope, documents indicating compliance with California Department of Health Services testing and product requirements "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

D. Samples for Color Selection: For each joint sealant type.

E. Samples for Verification: For each exterior joint sealant product, for each color selected.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified applicator.

B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.

C. Preconstruction compatibility and adhesion test reports.

D. Preconstruction field-adhesion test reports.
E. Field quality control adhesion test reports.

F. Warranty: Sample of unexecuted manufacturer and installer special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Experienced Installer equipped and trained for application of joint sealants required for this Project with record of successful completion of projects of similar scope.

B. Single Source Responsibility: Provide exterior joint sealants by a single manufacturer responsible for testing of Project substrates to verify compatibility and adhesion of joint sealants.

Specifier: Consult Dow Corning representative for recommendations on the extent of preconstruction testing and number of samples required for project.

C. Preconstruction Manufacturer Laboratory Compatibility, Staining, and Adhesion Testing: Submit four samples of each material that will be in contact with or affect joint sealants. Test sealants with substrate materials using either ASTM or manufacturer's standard test methods to determine requirements for joint preparation, including cleaning and priming. Test sealants with related materials to verify compatibility.


E. Mockups: Provide joint sealant application within mockups required in other sections identical to specified joint sealants and installation methods.

1.7 WARRANTY

Specifier: Coordinate Installer's warranty provisions with requirements for Contractor's period for correction of work, which is frequently extended from one year to two or more years for components of the exterior weather envelope.

A. Special Installer's Warranty: Original statement on Installer's letterhead in which Installer agrees to repair or replace joint sealants that demonstrate deterioration or failure within warranty period specified.

1. Warranty Period: [Two] years from date of Substantial Completion.

Specifier: Verify warranty provisions for specified products. Dow Corning typically offers warranty periods of up to 20 years for exterior silicone sealants materials.

B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that demonstrate deterioration or failure under normal use within warranty period specified.


C. Warranty Conditions: Special warranties exclude deterioration or failure of joint sealants in normal use due to structural movement resulting in stresses on joint sealants exceeding sealant...
manufacturer's written specifications, joint substrate deterioration, mechanical damage, or normal accumulation of dirt or other contaminants.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Specifier: Retain option for substitutions below when required for project.

A. Basis-of-Design Product: Provide joint sealant products manufactured by Dow Corning Corp., Midland MI; (877)732-5268; email: specification@dowcorning.com; website: www.dowcorning.com/construction, [or comparable products of other manufacturer approved by Architect in accordance with Instructions to Bidders and Division 01 General Requirements].

2.2 MATERIALS, GENERAL

Specifier: Paragraph and related subparagraphs below apply to LEED-NC, LEED-CI, and LEED-CS Credit IEQ 4.1.

A. VOC Content for Interior Applications: Provide sealants and sealant primers complying with the following VOC content limits per 40 CFR 59, Subpart D (EPA Method 24):

1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

Specifier: Paragraph and related subparagraphs below apply to LEED for Schools Credit IEQ 4.

B. Low-Emitting Sealants for Interior Applications: Provide sealants and sealant primers complying with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Adhesion: Provide sealant manufacturer test report that shows if the chosen sealant requires priming to obtain acceptable adhesion to project joint substrates when tested per ASTM C 794.

D. Compatibility: Provide joint sealants and accessory materials that are compatible with one another, and with materials in close proximity under use conditions, as demonstrated by sealant manufacturer using ASTM C 1087 testing and related experience.

E. Joint Sealant Standard: Comply with ASTM C 920 and other specified requirements for each liquid-applied joint sealant.

F. Stain Test Characteristics: Where sealants are required to be nonstaining, provide sealants tested per ASTM C 1248 as non-staining on porous joint substrates indicated for Project.

G. Food Contact Suitability: Where sealants are required to be suitable for contact with food provide sealants complying with 21 CFR 177.2600.

Specifier: ASTM C 920 Joint Sealant Use Types, Grades, Classes, and Uses that are used in reference specifications below are as follows:

Type S: Single component
Type M: Multi-components
Grade P: Pourable
Grade NS: Non-sag
Specifier: Joint sealants listed in the WEATHERPROOFING LIQUID SILICONE JOINT SEALANTS article are non-sag silicone joint sealants with varying chemistry for use in traffic and non-traffic-bearing applications. DOW CORNING’s product data sheets provide detailed guidance on the recommended applications for these joint sealants.

2.3 WEATHERPROOFING LIQUID SILICONE JOINT SEALANTS

DOW CORNING 790 Silicone Building Sealant is a one-component, ultra-low modulus, neutral-cure silicone sealant for above-grade high movement expansion and control joints of most building materials and for both new and remedial construction. Product is also used in certain traffic bearing applications. Product complies with GSA Commercial Item Descriptions CID A-A-272A and CID A-A-1556. Product is acceptable for use in certain UL fire-resistance-rated designs; refer to www.ul.com for list and description of approved designs.

A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#__: ASTM C 920, Type S, Grade NS, Class 100/50, for Use T2, NT, G, M, A, and O; SWRI validation.

2. Hardness, ASTM D 2240: 15 durometer Shore A.
3. Volatile Organic Compound (VOC) Content: 43 g/L maximum.
4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
5. Color: [As scheduled] [As selected by Architect from manufacturers full line of not less than 10 colors] [Match Architect's custom color].

Specifier: Dow Corning 756 SMS Building Sealant is a one-component, medium-modulus, pre-pigmented neutral cure silicone sealant suitable for weatherproofing porous stone, metal panels, curtain wall framing, and other above-grade expansion and control joints for both new and remedial construction.

B. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#__: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, M, A, and O; SWRI validation.

4. Staining, ASTM C 1248: None on white marble.
5. Color: [As scheduled] [As selected by Architect from manufacturers full line of not less than 8] [Match Architect's custom color].


C. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#__: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, M, and A; SWRI validation.

4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
5. Color: [As selected by Architect from manufacturers full line of not less than 6 colors].

Specifier: Dow Corning 795 Silicone Building Sealant is a one-component, medium modulus, neutral-cure, silicone sealant for structural and non-structural glazing, structural attachment for panel systems, as well as above-grade weathersealing joints with most common construction materials for both new and remedial construction. Product complies with GSA Commercial Item Descriptions CID A-A-272A and CID A-A-1556.

D. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, A, and O; SWRI validation.

4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
5. Color: [As scheduled] [As selected by Architect from manufacturers full line of not less than 10] [Match Architect's custom color].

Specifier: Designed for excellent adhesion in structural applications, including factory or field glazing, Dow Corning 995 Silicone Structural Sealant adheres to glass, reflective glass, anodized aluminum, granite and most paints, including fluoropolymer-based paints. It exhibits a medium modulus, which offers an extremely high tensile adhesion strength. Ideal for use as a glazing sealant in high-performance protective window systems that increase personal safety from flying glass. Tolerates the differential thermal and windload movements found in structural glazing applications and the severe stresses required of an impact-resistant glazing product. Product complies with GSA Commercial Item Descriptions CID A-A-272A and CID A-A-1556.

International standards: Dow Corning 995 also meets:
Chinese National Standard GB 16776 Structural Silicone Sealant for Building
European Standard EN 13022 Glass in building. Structural sealant glazing. Assembly rules

E. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, and A; SWRI validation.

3. Volatile Organic Compound (VOC) Content: 30 g/L maximum.
4. Color: [As scheduled] [As selected by Architect from manufacturers full line].

Specifier: Below are detailed product data describing properties of Dow Corning 995. If required, retain selected characteristics from the following and modify for minimum acceptable criteria:

2. Tensile Adhesion, ASTM C 1135: 43 psi (0.30 MPa), at 25 percent extension, minimum.

Specifier: Dow Corning 758 Silicone Weather Barrier Sealant is a one-component, neutral-cure, silicone sealant for above-grade weathersealing joints with compatibility and strong adhesion to a wide array of common construction materials, including peel-and-stick window flashings, building wraps, polyolefins, and PVCs for both new and remedial construction.

F. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#: ASTM C 920, Type S, Grade NS, Class 25, for Use NT; SWRI validation.

Specifier: Dow Corning 999-A Silicone Silicone Building & Glazing Sealant is a one-component, high modulus, acid-cure, silicone sealant intended for building construction applications and is particularly effective for glazing butt and lap shear joints and sealing curtainwall projects and other glass, plastic and metal assemblies. It is also appropriate for general construction applications. Primer is usually required on plastic and metal substrates. It is not recommended as structural silicone glazing sealant, or for applications involving physical abuse or abrasion, prolonged water immersion, or in contact with materials that might bleed oils, plasticizers, or solvents. Proper cure requires presence of moisture.

G. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant JS#__: ASTM C 920, Type S, Grade NS, Class 25, for Use NT, G, and A.
   3. Volatile Organic Compound (VOC) Content: 52 g/L maximum.
   4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
   5. Color: As scheduled [As selected by Architect from manufacturers full line of not less than 6] [Match Architect's custom color].

Specifier: Joint sealants listed in the INTERIOR LIQUID SILICONE JOINT SEALANTS article are non-traffic-bearing and nonsag, silicone joint sealants with varying chemistry. Dow Corning's product data sheets provide detailed guidance on the recommended applications for these joint sealants.

2.4 INTERIOR LIQUID JOINT SEALANTS

Specifier: Dow 786 Silicone Sealant is a one-component, silicone rubber sealant that is mildew resistant when cured and is suitable for sealing tubs, showers, sinks, porcelain, cultured marble, glass, painted areas, and other nonporous surfaces and plumbing fixtures for both new and remedial construction. Dow 786 is available in clear, white, translucent white, gray, and almond.

Mildew resistance is established by Dow Corning based upon modified application of ASTM G 21 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; contact your Dow Corning representative for more information.

A. Mildew-Resistant, Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant JS#__: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
   2. NSF Standard 51 and FDA Regulation No. 21 CFR 177.2600 compliant.
   4. Volatile Organic Compound (VOC) Content: 33 g/L maximum.
   5. Color: As selected by Architect from manufacturer’s standard colors.


B. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#__: ASTM C 920, Type S, Grade NS, Class 100/50, for Use T, NT, G, M, A, and O.
3. Volatile Organic Compound (VOC) Content: 43 g/L maximum.
4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
5. Color: [As scheduled] [As selected by Architect from manufacturers full line of not less than 10] [Match Architect's custom color].

Specifier: Designed for excellent adhesion in structural applications, including factory or field glazing, Dow Corning 995 Silicone Structural Sealant adheres to glass, reflective glass, anodized aluminum, granite and most paints, including fluoropolymer-based paints. It exhibits a medium modulus, which offers an extremely high tensile adhesion strength. Ideal for use as a glazing sealant in high-performance protective window systems that increase personal safety from flying glass. Tolerates the differential thermal and windload movements found in structural glazing applications and the severe stresses required of an impact-resistant glazing product. Product complies with GSA Commercial Item Descriptions CID A-A-272A and CID A-A-1556.

International standards: Dow Corning 995 also meets:
- Chinese National Standard GB 16776 Structural Silicone Sealant for Building
- European Standard EN 13022 Glass in building. Structural sealant glazing. Assembly rules

C. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, and A; SWRI validation.

3. Volatile Organic Compound (VOC) Content: 30 g/L maximum.
4. Color: [As scheduled] [As selected by Architect from manufacturers full line].

Specifier: Below are detailed product data describing properties of Dow Corning 995. If required, retain selected characteristics from the following and modify for minimum acceptable criteria:

6. Tensile Adhesion, ASTM C 1135: 43 psi (0.30 MPa), at 25 percent extension, minimum.

D. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant JS#: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, M, A, and O; SWRI validation.

4. Staining, ASTM C 1248: None on white marble.
5. Color: [As scheduled] [As selected by Architect from manufacturers full line of not less than 8] [Match Architect's custom color].

Specifier: Dow Corning 756 SMS Building Sealant is a one-component, medium-modulus, pre-pigmented neutral cure silicone sealant suitable for weatherproofing porous stone, metal panels, curtain wall framing, and other above-grade expansion and control joints for both new and remedial construction.

Specifier: Dow Corning 795 Silicone Building Sealant is a one-component, medium modulus, neutral-cure, silicone sealant for structural and non-structural glazing, structural attachment for panel systems, as well as above-grade weathersealing joints with most common constructions materials for both new and remedial construction. Product complies with GSA Commercial Item Descriptions CID A-A-272A and CID A-A-1556.
E. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant \( \text{JS#}\_\_ \): ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, A, and O; SWRI validation.

4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
5. Color: \[\text{As scheduled}\] [As selected by Architect from manufacturer's full line of not less than 10] [Match Architect's custom color].


F. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant \( \text{JS#}\_\_ \): ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, M, and A; SWRI validation.

4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
5. Color: \[\text{As selected by Architect from manufacturer's full line of not less than 6 colors}\].

Specifier: Dow Corning 999-A Silicone Silicone Building & Glazing Sealant is a one-component, high modulus, acid-cure silicone sealant intended for building construction applications and is particularly effective for glazing butt and lap shear joints and sealing curtainwall projects and other glass, plastic and metal assemblies. It is also appropriate for general construction applications. Primer is usually required on plastic and metal substrates. It is not recommended as structural silicone glazing sealant, or for applications involving physical abuse or abrasion, prolonged water immersion, or in contact with materials that might bleed oils, plasticizers, or solvents. Proper cure requires presence of moisture.

G. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant \( \text{JS#}\_\_ \): ASTM C 920, Type S, Grade NS, Class 25, for Use NT, G, and A.

3. Volatile Organic Compound (VOC) Content: 52 g/L maximum.
4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
5. Color: \[\text{As scheduled}\] [As selected by Architect from manufacturer's full line of not less than 6] [Match Architect's custom color].

Specifier: Latex Joint Sealants and Butyl-Rubber Based Joint Sealant are not Dow Corning products but are available from a variety of other manufacturers; they are included in this guide specification for your project specifying convenience. Latex joint sealant is frequently specified for interior, non-moving, paintable joints. Butyl rubber joint sealant is frequently specified for interior and exterior concealed joints within metal assemblies.

H. Latex Joint Sealant: Siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

I. Butyl-Rubber-Based Joint Sealant: ASTM C 1311.
2.5 PRE-FORMED JOINT SEALANTS

Specifier: Dow 123 Silicone Seal is an extruded sheet product used for flashing and transitions in new construction and as a joint overlay in joint sealant rehabilitation work. It is available in widths of 1, 1-1/2, 2, 2-1/2, 3, 4, 5, and 6 inches (25, 38, 51, 64, 76, 102, 127, and 153 mm). Indicate required widths on drawing details. It is available in 6 standard colors and custom colors.

A. Preformed Silicone Elastomer Extrusion: Highly flexible low-modulus flashing and transition material for bonding to substrates with silicone sealant. SWRI validation.

2. Surface: [Smooth matte] [Textured] [Grooved to facilitate bending].
5. Color: As selected by Architect from manufacturers full line.

Specifier: Dow 123 Silicone Seal Custom Designs H.C. is preformed, custom-designed and fabricated, two- and three-dimensional, shaped silicone elastomer extrusion for repair of failed sealant joints or use in new construction splices, mitered joints (boots), and molded corners.

B. Preformed Silicone Elastomer Custom Two- and Three-Dimension Extrusion: Highly flexible flashing and transition material for bonding to substrates with silicone sealant.

1. Basis of Design Product: Dow Corning Corporation, 123 Silicone Seal Custom Designs H.C.
2. Formulation: [General Purpose] [High Tear].
3. Shape: Multi-dimensional as indicated on drawings and approved shop drawings and as required to fit and functionally seal specific application and prevent air and water penetration.

Specifier: 123 Silicone Seal Custom Designs H.C. is designed to meet aesthetic and weathersealing needs with a single product. Designs are custom-made to the customer's specification.

5. Color: As selected by Architect from manufacturers full line.

2.6 ACCESSORIES

A. Joint Substrate Primers: Substrate primer recommended by sealant manufacturer for application.

B. Cylindrical Sealant Backing: ASTM C 1330, Type B non-absorbent, bi-cellular material with surface skin, or Type O open-cell polyurethane, as recommended by sealant manufacturer for application.

C. Bond Breaker Tape: Polymer tape compatible with joint sealant materials and recommended by sealant manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joint profiles and surfaces to determine if work is ready to receive joint sealants. Verify joint dimensions are adequate for development of sealant movement capability. Proceed with joint sealant work once conditions meet sealant manufacturer's recommendations.
3.2 PREPARATION

A. Joint Surface Cleaning: Clean joints prior to installing joint sealants using materials and methods recommended by sealant manufacturer.
   1. Remove laitance, form-release agents, dust, and other contaminants.
   2. Clean nonporous and porous surfaces utilizing chemical cleaners acceptable to sealant manufacturer.

3.3 APPLICATION

A. Masking: Mask adjacent surfaces to prevent staining or damage by contact with sealant or primer.

B. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer’s recommended application techniques.

C. Joint Backing: Select joint backing materials recommended by sealant manufacturer to be compatible with sealant material. Install backing material at depth required to produce profile of joint sealant allowing optimal sealant movement.
   1. Install bond breaker tape over substrates when sealant backings are not used.

D. Sealant Application: Install sealants using methods recommended by sealant manufacturer, in depths recommended for application. Apply in continuous operation from bottom to top of joint vertically and horizontally in a single direction. Apply using adequate pressure to fill and seal joint width.
   1. Tool sealants immediately with appropriately shaped tool to force sealants against joint backing and joint substrates, eliminating voids and ensuring full contact.
   2. Using tooling agents approved by sealant manufacturer for application.

E. Cleaning: Remove excess sealant using materials and methods approved by sealant manufacturer that will not damage joint substrate materials.
   1. Remove masking tape immediately after tooling joint without disturbing seal.
   2. Remove excess sealant from surfaces while still uncured.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Perform adhesion tests in accordance with manufacturer’s instructions and with ASTM C1193, Method A.
   1. Perform [5] tests for the first [1000 feet (300 m)] of joint length for each kind of sealant and joint substrate, and one test for each [1000 feet (300 m)] of joint length thereafter or 1 test per each floor per building elevation, minimum.
   2. For sealant applied between dissimilar materials, test both sides of joint.

B. Remove sealants failing adhesion test, clean substrates, reapply sealants, and re-test. Test adjacent sealants to failed sealants.

C. Submit report of field adhesion testing to Architect indicating tests, locations, dates, results, and remedial actions taken.
3.5 EXTERIOR JOINT-SEALANT SCHEDULE


Specifier: Recommended product is Dow Corning 790.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].

B. Exterior movement joints in concrete unit masonry.

Specifier: Recommended products are Dow Corning 790 or 795.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].

C. Exterior movement joints in brick masonry.

Specifier: Recommended products are Dow Corning 790 or 795.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color, Vertical Joints: [As selected by Architect from manufacturer's full range] [Match brick at vertical joints] [Match Architect's custom color] [insert color].
3. Joint-Sealant Color, Horizontal Joints: [As selected by Architect from manufacturer's full range] [Match mortar at horizontal joints] [Match Architect's custom color] [insert color].

D. Exterior movement joints in stone masonry.

Specifier: Recommended products are Dow Corning 790, 756, or 795. For stain-sensitive stone such as marble, use Dow Corning 756.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].

E. Exterior joints within exterior insulation finish systems.

Specifier: Recommended product is Dow Corning 790.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].

F. Exterior joints in metal panel cladding systems.

Specifier: Recommended product is Dow Corning 756.
1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].

G. Exterior concealed watertight joints in cladding systems.

Specifier: Recommended product is Dow Corning 791.

1. Joint Sealant: Single-component neutral-curing silicone sealant JS#__.

H. Exterior joints between different materials listed above.

Specifier: Recommended products are Dow Corning 790, 756, or 795.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].
3. Multiple colors required to match several conditions.

I. Exterior perimeter joints at frames of doors, windows, storefront frames, curtain wall frames, and louvers.

Specifier: Recommended products are Dow Corning 790, 756, or 795.

1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].
3. Multiple colors required to match several conditions.

J. Aluminum Storefront Framing and Curtain Wall Joints, Glazing, and Structural Glazing: Refer to Division 08 Section: Glazing Sealants.

K. All other exterior non-traffic joints.

Specifier: Recommended product is Dow Corning 790.

1. Joint Sealant: Single-component neutral-curing silicone sealant JS#__.

L. Exterior horizontal traffic and traffic isolation joints: Refer to Division 32 Section: Concrete Paving Joint Sealants.

Specifier: Recommended product is Dow Corning 790.

1. Joint Sealant: Single-component pourable silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer's full range] [Match Architect's custom color] [insert color].

3.6 INTERIOR JOINT-SEALANT SCHEDULE

A. Interior movement joints in exterior concrete and unit masonry.

Specifier: Recommended product is Dow Corning 790 or 795.
1. Joint Sealant: Single-component neutral-curing silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer’s full range] [Custom match wall color] [Custom match frame color] [Multiple colors required].

B. Interior perimeter joints of exterior frames.

Specifier: Recommended product is Dow Corning 791.

1. Joint Sealant: Single-component neutral-curing silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer’s full range] [Custom match wall color] [Custom match frame color] [Multiple colors required].

C. Interior movement joints in interior unit masonry.

Specifier: Recommended product is Dow Corning 795.

1. Joint Sealant: Single-component neutral-curing silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer’s full range] [Custom match wall color] [Custom match frame color] [Multiple colors required].

D. Interior perimeter joints of interior frames.

Specifier: Recommended product is Dow Corning 791.

1. Joint Sealant: Single-component neutral-curing silicone sealant JS#__.
2. Joint-Sealant Color: [As selected by Architect from manufacturer’s full range] [Custom match wall color] [Custom match frame color] [Multiple colors required].

E. Interior sanitary joints between plumbing fixtures and food preparation fixtures and casework and adjacent walls, floors, and counters.

Specifier: Recommended product is Dow Corning 786.

1. Joint Sealant: Mildew-Resistant, Single-Component, nonsag, acid-curing silicone joint sealant JS#__.
2. Joint-Sealant Color: As selected by Architect from manufacturer’s full range to match multiple conditions.

F. Interior traffic joints in floor and between floor and wall construction.

Specifier: Recommended product is Dow Corning 790 Silicone Building Sealant.

1. Joint Sealant: Single-component, nonsag, neutral-curing silicone joint sealant JS#__.
2. Joint-Sealant Color: As selected by Architect from manufacturer’s full range.

G. Interior non-moving joints between interior painted surfaces and adjacent materials.


H. Interior concealed sealants at thresholds and sills.

I. Interior exposed and non-exposed acoustical applications:

1. Joint Sealant: Acoustical sealant specified in Division 09 finishes sections.

END OF SECTION

**Additional Specifiers Notes**

**Substitution Reviews:** When reviewing substitution requests for other products for compliance with this specification, Dow Corning recommends particular attention to the following issues:

**Primer Requirements:** Dow Corning's experience often results in requiring priming of joint sealant substrates when other manufacturers waive priming requirements as a cost-saving provision that may benefit the contractor but not the owner. Make certain that field testing of joint sealants is carried out to ensure long term adhesion.

**SWRI Certification:** This respected industry certification is an additional layer of Dow Corning's quality assurance provided by an independent agency.

**Laboratory Testing:** Dow Corning provides laboratory testing of joint sealants on proposed substrates when requested for a project – another quality assurance process that helps protect the long-term integrity of your building.

**Silicone vs. Urethane Substitutions:** Organic-based urethane sealants are not a substitute for silicone technology. The limited warranty periods available for urethane sealants indicate that their expected life is significantly less than that of silicone sealants.

**Coordination:** Make sure you coordinate the following:

- Profile of typical joints to accept joint sealant. Special attention to perimeter joints at wall openings.
- Compatibility of joint sealant chemistry with substrates in contact. Special attention to air barrier membranes and accessories.
- Extent of each type of joint sealant applications through drawing identification or editing of the joint sealant schedules.
- Cross-reference to applicable specification sections for joint sealant requirements written under other sections.
- Submittal requirements for color-matching to samples of products specified in other sections.