

SECTION 07 90 00 - JOINT PROTECTION**PART 1 - GENERAL**

1.01 SUMMARY

- A. Section Includes:
 - 1. Sealants and joint backing.
 - 2. Pre-compressed foam sealers.
 - 3. Accessories.

- B. Related Requirements:
 - 1. Section 07 26 00 - Vapor Retarders: Sealants required in conjunction with vapor retarders.
 - 2. Section 08 80 00 - Glazing: Glazing sealants and accessories.

1.02 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM C834 - Standard Specification for Latex Sealants.
 - 2. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
 - 3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
 - 4. ASTM C1193 - Standard Guide for Use of Joint Sealants.
 - 5. ASTM D1056 - Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
 - 6. ASTM D1667 - Standard Specification for Flexible Cellular Materials - Poly(Vinyl Chloride) Foam (Closed-Cell).
 - 7. ASTM D2628 - Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements.

- B. California Department of Health Services:
 - 1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.

- C. South Coast Air Quality Management District:
 - 1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.03 COORDINATION

- A. Section 01 31 13 – Project Coordination: Requirements for coordination.

- B. Coordinate Work of this Section with Sections referencing this Section.

1.04 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

- B. Product Data: Submit manufacturer information indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer Instructions: Submit special procedures, surface preparation requirements, and perimeter conditions requiring special attention.
- E. Qualifications Statements:
 - 1. Submit qualifications for manufacturer and applicator.

1.05 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.
- B. Applicator: Company specializing in performing Work of this Section with minimum three years' documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 61 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store products according to manufacturer instructions.
- D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

1.07 AMBIENT CONDITIONS

- A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.
- B. Maintain temperature and humidity as recommended by sealant manufacturer during and after installation.

1.08 WARRANTY

- A. Section 01 73 00 - Execution Requirements: Requirements for warranties.
- B. Furnish two-year installer's warranty for sealants.
- C. Include coverage for:
 - 1. Installed sealants and accessories failing to achieve airtight or watertight seal.

2. Installed sealants and accessories exhibiting loss of adhesion or cohesion.
3. Sealants that do not cure.

PART 2 - PRODUCTS

2.01 JOINT SEALERS

A. Manufacturers:

1. Sika
2. Substitutions: As specified in Section 01 60 00 - Product Requirements.

2.02 JOINT SEALERS BY APPLICATION

A. High-Performance General-Purpose Exterior Non-traffic Sealant:

1. Material: Polyurethane.
2. Comply with ASTM C920, Grade NS, Class 25, Uses M, G, and A.
3. Type: Single or multiple component.
4. Color: As selected.
5. Applications:
 - a. Control, expansion, and soft joints in masonry.
 - b. Joints between concrete and other materials.
 - c. Joints between metal frames and other materials.
 - d. Other exterior nontraffic joints for which no other sealant is indicated.

B. General-Purpose Traffic-Bearing Sealant:

1. Material: Polyurethane.
2. Comply with ASTM C920, Grade P, Class 25, Use T.
3. Type: Single or [multiple-component.
4. Color: As selected.
5. Applications: Exterior and interior pedestrian traffic-bearing joints.

C. Exterior Foam Expansion Joint Sealer:

1. Description: Pre-compressed foam sealer.
2. Material: Polyurethane with water repellent.
3. Color: Black or Face color as selected.
4. Size: As required to provide weathertight seal when installed.
5. Applications: Exterior wall expansion joints.

D. Exterior Metal Lap Joint Sealant:

1. Material: Butyl or polyisobutylene.
2. Type: Non-drying, non-skinning, non-curing.
3. Applications: Concealed sealant bead in sheet metalwork.

E. General Purpose Interior Sealant:

1. Material: Acrylic-emulsion latex.
2. Comply with ASTM C834.
3. Type: Single-component; paintable.
4. Color: As selected.
5. Applications:

- a. Interior wall and ceiling control joints.
- b. Joints between door and window frames and wall surfaces.
- c. Other interior joints for which no other type of sealant is indicated.

2.03 JOINT SEALERS BY TYPE

A. Acrylic Sealant:

1. Comply with ASTM C920, Grade NS, Class 12-1/2, Uses NT, M, A, and O.
2. Type: Single-component; solvent release curing; non-staining, non-bleeding, non-sagging.
3. Color: As selected.
4. Movement Capability: Plus and minus 12-1/2 percent.
5. Service Temperature Range: Minus 13 to plus 180 deg. F.
6. Hardness Range: Shore A, 25 to 50.

B. Butyl Sealant:

1. Comply with ASTM C920, Grade NS, Class 12-1/2, Use NT.
2. Type: Single-component; solvent release curing; non-skinning, non-sagging.
3. Color: As selected.
4. Movement Capability: Plus and minus 12-1/2 percent.
5. Service Temperature Range: Minus 13 to plus 180 deg. F.
6. Hardness Range: Shore A, 10 to 30.

C. Non-sag Polyurethane Sealant:

1. Comply with ASTM C920, Grade NS, Class 25, Uses NT and M.
2. Type: Single or Multiple-component; chemical curing; non-staining, non-bleeding, non-sagging.
3. Color: As selected.
4. Movement Capability: Plus and minus 25 percent.
5. Service Temperature Range: Minus 40 to plus 180 deg. F.
6. Hardness Range: Shore A, 20 to 35.

D. Self-Leveling Polyurethane Sealant:

1. Comply with ASTM C920, Grade P, Class 25, Uses T, M, and A.
2. Type: Single or Multiple-component; chemical curing; non-staining, non-bleeding; self-leveling.
3. Color: As selected.
4. Movement Capability: Plus and minus 25 percent.
5. Service Temperature Range: Minus 40 to plus 180 deg. F.
6. Hardness Range: Shore A, 20 to 35.

E. Silicone Sealant:

1. Comply with ASTM C920, Grade NS, Class 25, Uses NT and A.
2. Type: Single-component; solvent curing; non-sagging, non-staining, non-bleeding; fungus resistant.
3. Color: as selected.
4. Movement Capability: Plus 25 percent, minus 25 percent.
5. Service Temperature Range: Minus 65 to plus 180 deg. F.

6. Hardness Range: Shore A, 15 to 35.

2.04 ACCESSORIES

- A. Primer:
 1. Type: Non-staining.
 2. As recommended by sealant manufacturer to suit application.
- B. Joint Cleaner:
 1. Type: Non-corrosive and non-staining.
 2. As recommended by sealant manufacturer.
 3. Compatible with joint forming materials.
- C. Joint Backing:
 1. Description: Round foam rod, compatible with sealant.
 2. Comply with ASTM D1056, sponge or expanded rubber or D1667, closed-cell PVC.
 3. Size: Oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker:
 1. Description: Pressure-sensitive tape.
 2. As recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Section 01 73 00 - Execution Requirements: Requirements for application examination.
- B. Verify that substrate surfaces and joint openings are ready to receive Work of this Section.
- C. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Section 01 73 00 - Execution Requirements: Requirements for application preparation.
- B. Comply with ASTM C1193.
- C. Remove loose materials and foreign matter that could impair adhesion of sealant.
- D. Clean and prime joints.
- E. Protect elements surrounding Work of this Section from damage or disfiguration.

3.03 APPLICATION

- A. Comply with ASTM C1193.
- B. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.

- C. Install bond breaker where joint backing is not used.
- D. Apply sealant free of air pockets, foreign embedded matter, ridges, and sags.
- E. Joint Tooling: Concave.
- F. Precompressed Foam Sealant:
 - 1. Do not stretch.
 - 2. Avoid joints except at corners, ends, and intersections.
 - 3. Apply with face 1/8 to 1/4 inch below adjoining surface.
- G. Compression Gaskets:
 - 1. Avoid joints except at ends, corners, and intersections.
 - 2. Seal joints with adhesive.
 - 3. Install with face 1/8 to 1/4 inch below adjoining surface.

3.04 CLEANING

- A. Section 01 73 00 - Execution Requirements: Requirements for cleaning.
- B. Clean adjacent soiled surfaces.

3.05 PROTECTION

- A. Section 01 73 00 - Execution Requirements: Requirements for protecting finished Work.
- B. Protect sealants until cured.

3.06 ATTACHMENTS

- A. Exterior Joints for Which No Other Sealant Type is Indicated: polyurethane.
- B. Joints between Concrete Panels and between Panels and Adjacent Work: polyurethane.
- C. Control, Expansion, and Soft Joints in Masonry and between Masonry and Adjacent Work: polyurethane.
- D. Lap Joints in Exterior Sheet Metal Work: polyurethane.
- E. Butt Joints in Exterior Metal Work and Siding: polyurethane.
- F. Under Exterior Door Thresholds: polyurethane or butyl.

END OF SECTION 07 90 00