

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Urethane joint sealants.
2. Silicone joint sealants.
3. Mildew-resistant joint sealants.
4. Latex joint sealants.

1.2 SUBMITTALS

1. Product Data: For each joint-sealant product indicated.
2. Samples: For each type and color of joint sealant required.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.4 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.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.
- B. Do not paint over silicone joint sealants.
- C. Do not paint over urethane sealants until cured for time as recommended by sealant manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Provide products listed in other Part 2 articles by one of the following manufacturers. Shortened versions (shown in parentheses) of the manufacturers' names are used in Part 2:
1. (DOW) Dow Corning Corporation
 2. (GE) GE Construction Sealants; Momentive Performance Materials, Inc.
 3. (MBS) Master Builders Solutions; brand of MBCC Group.
 4. (PEC) Pecora Corporation
 5. (PPG) PPG Paints; PPG Industries, Inc.
 6. (SIK) Sika Corporation; Joint Sealants.
 7. (SWC) Sherwin-Williams Company (The).
 8. (TRM) Tremco, Inc.

2.2 MATERIALS, 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 sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As specified in Division 1 Sections "Exterior Finishes and Colors" and "Interior Finishes and Colors."

2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.4 JOINT SEALANTS

- A. **S-1:** Urethane Sealant: Hybrid urethane, S or M, NS, 35 or 50, NT, nonsag, nontraffic-use, minimum plus 35 percent and minus 35 percent movement capability, urethane joint sealant; ASTM C920, Type S or M, Grade NS, Class 50, Use NT.
1. Products:
 - a. MBS MasterSeal NP 100.
 - b. PEC Dynatrol I-XL Hybrid.
 - c. SIK SikaHyflex 150 LM.
 - d. TRM Dymonic FC.
 2. Exterior Locations:

- a. Vertical expansion and control joints in masonry.
3. Interior Locations:
 - a. Vertical expansion and control joints in masonry.
 - b. Joints at concrete curbs and concrete slabs.
 - c. Joints at concrete curbs and walls.
 - d. Gypsum board to masonry.
- B. **S-2:** Silicone, S, NS, 50, NT: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.
 1. Products:
 - a. DOW DOWSIL 791.
 - b. GE SCS2000 Silpruf.
 - c. PEC 864 NST.
 - d. SIK Sikasil WS 295.
 - e. TRM Spectrem 3.
 2. Exterior Locations:
 - a. Aluminum or steel to masonry including windows, storefronts, and doors.
 - b. Aluminum to aluminum.
 - c. Steel to steel.
 3. Interior Locations:
 - a. Aluminum or steel to masonry including windows, storefronts, and doors.
 - b. Aluminum to aluminum.
 - c. Steel to steel.
- C. **S-3:** Silicone Sealant: 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 C920, Type S, Grade NS, Class 25, Use NT.
 1. Products:
 - a. DOW 786 Mildew Resistant.
 - b. GE SCS1700 Sanitary.
 - c. PEC 898 NST.
 - d. PPG Top Gun 350 Acid Curing Silicone Sealant, 1419 Series.
 - e. SIK Sikasil GP.
 - f. TRM Tremsil 200.
 2. Interior Locations:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters and joints requiring NSF, USDA and other sanitary code requirements.

D. **S-4:** Latex Sealant: Acrylic latex or siliconized acrylic latex, ASTM C834, Type OP, Grade NF.

1. Products:

- a. PEC AC-20.
- b. PPG 140 Acrylic Sealant, 1413 Series.
- c. SWC 850A.
- d. TRM Tremflex 834.

2. Interior Locations:

- a. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and other interior non-moving joints.

E. **S-5:** Exterior expansion and control joints in EIFS.

- 1. As specified in Division 07 Section "Exterior Insulation and Finish Systems."

F. **S-6:** Exterior horizontal surfaces subject to traffic requiring caulking, unless otherwise indicated.

- 1. As specified in Division 32 Section "Paving Joint Sealants."

G. **S-7:** Interior horizontal surfaces in concrete slabs subject to traffic requiring caulking.

- 1. As specified in Division 03 Sections.

2.5 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are 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), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

- 1. Rod Diameter: 1.5 times opening width.

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 where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

- 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 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer. 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.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant 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.

3.2 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 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.
- 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 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 configuration per Figure 5A in ASTM C 1193, unless otherwise indicated. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.3 JOINT SIZES

- A. Elastomeric Sealants, Non-Traffic Joints: Depth equal to 50 percent of normal joint width, but not more than **1/2 inch (12.7 mm)** and not less than **1/4 inch (6.4 mm)**.
- B. Non-Elastomeric Sealants, Non-Traffic Joints: Depth in range of 75 percent to 125 percent of normal joint width.

3.4 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.

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

END OF SECTION 07 92 00