

DIVISION 7

SECTION 07900 - JOINT SEALERS

PART 1: GENERAL

1.01 Work Included

- A. Furnish and Install: Provide all caulking and sealant indicated on the Drawings, specified herein, and not specified under other sections. In general, seal all openings indicated on the Drawings and at other locations requiring caulking to seal visually and against infiltration from air and water, including but not limited to the following:
 - 1. Expansion joints in concrete walks
 - 2. Exterior wall joints
 - 3. Masonry control joints
 - 4. Isolation joints, between structure and other elements
 - 5. Joints at penetrations of walls, decks, and floors by piping and other service equipment
 - 6. Joints between items of equipment and other construction
 - 7. Joints between door and window frames and adjacent materials, exterior and interior
 - 8. Bedding for door thresholds
 - 9. Open joints between dissimilar materials as required to close and conceal jointing of the work
 - 10. Construction and expansion of joints, joints between dissimilar materials; joints around windows, door frames, louvers, and other penetrations and openings
 - 11. Other joints as indicated

1.02 Submittals for Review

- A. Color Samples: Submit color chart for each type of sealant in accordance with Division 1.
- B. Product Data: Submit for each material intended for use and location of application in accordance with Division 1.

1.03 Delivery, Storage and Handling

- A. General: Comply with Section 01600. Deliver in original unopened containers and store in an area not subject to extreme heat or cold.

1.04 Project Conditions

- A. Environmental Conditions: Do not apply exterior sealants during wet weather or when the outside temperature is below 40°F. Do not apply interior sealants when the inside temperature is below 60°F.

1.05 Warranty

- A. Provide a written three year warranty in writing covering materials and workmanship in accordance with Section 01700. Warranty shall require installer, at no cost to Owner, to repair or replace sealants which fail to perform as air-tight and water-tight joints; or fail in joint adhesion, cohesion, abrasion resistance, weather resistance, extrusion resistance, migration resistance, stain resistance, or general durability; or appear to deteriorate in any other manner not clearly specified as an inherent quality of the material by submitted manufacturer's data.

PART 2: PRODUCTS

2.01 Joint Backing Material

- A. General: Size joint backing material for minimum 30% compression when inserted in that joint. Material shall be round or semi-circular type.
- B. Acceptable Manufacturers:
 - 1. Dow Chemical Company, Ethafoam
 - 2. Sonneborn, Sonofoam
 - 3. Schlegel Manufacturing Company, Schlegelfoam
 - 4. Denver Foam
 - 5. Accepted Substitute

2.02 Sealant Material

- C. Acceptable Manufactures:
 - 1. DAP Incorporated
 - 2. Parr, Inc.
 - 3. Pecora Corporation
 - 4. Products Research and Chemical Corporation
 - 5. Sonneborn Building Products
 - 6. Tremco Manufacturing Company
 - 7. Mameco International
 - 8. W.R. Grace and Company
 - 9. Accepted Substitute
- D. Silicone Sealant Manufacturer:
 - 1. General Electric
 - 2. Dow Corning
 - 3. Accepted substitute in accordance with Section 01600
- E. Acceptable Materials:
 - 1. Interior and Under Thresholds: Latex acrylic, ASTM C834-761.
 - 2. Other Caulking: Two component polyurethane, FS IT-S-00227E, Type II, Class A, non-sag
 - 3. Primer: As recommended by the sealant manufacturer.
 - 4. Sealant at Concrete Paving: Two-component self-leveling polyurethane, FS IT-S-00227E, Type I, Class, pourable type.
 - 5. Sealant at Lavatories: Silicone sealant.
 - 6. Colors: As selected by Architect from standard colors.

2.03 Bond Breaker Tape

- A. Tape: Polyethylene tape or other plastic tape as recommended by the sealant manufacturer to be applied to sealant-contact surfaces where bond to the substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape wherever possible. Site Benches

PART 3: EXECUTION

3.01 Inspection

- A. Inspection: Inspect work of others prior to application of any work under this section. If any joint or space to receive this work is not according to detail and cannot be put into proper condition to receive the work by specified methods; notify the General Contractor in writing or assume responsibility for and rectify any unsatisfactory caulking and sealing resulting.

- B. Acceptance: Beginning of installation means acceptance of existing conditions.

3.02 Preparation

A. Preparation of Surfaces

1. Clean surfaces in accordance with manufacturer's recommendations.
2. Mask edges, if required to protect adjoining surfaces and produce a straight finish line.
3. Clean joint surfaces immediately before installation of sealant. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant.
4. Do not proceed with installation of sealant over joint surfaces which have been painted, lacquered, waterproofed or treated with water repellent or other treatment of coating. Remove coating or treatment joint surfaces before installing sealant.
5. Each concrete masonry joint surfaces to remove excess alkalinity unless sealant manufacturer's printed instruction indicates that alkalinity does not interfere with sealant bond and performance. Etch with 5% solution of muriatic acid, neutralize with diluted ammonia solution, rinse thoroughly with water and allow to dry before sealant installation.

- B. Priming: If required, prime surfaces which are to be caulked with manufacturer's recommended or standard primer, after the surfaces have been prepared as specified. Before use, check primers for discoloration and dirt pick-up on adjacent surfaces. If staining occurs, after exposure, take adequate measures to prevent the primer from being applied over the face of adjacent porous materials by masking or other suitable measures.

C. Joint Backing:

1. Joints shall be of depth necessary to provide for the specified allowable thickness of sealant and also the required backing where and as specified. Provide backing of extent and type as specified and required to provide for the allowable depth of the sealant.
2. Back-up Materials for Sealants: Non-staining, compatible with the sealant and primer, shall be of a resilient nature and as recommended by the manufacturer of the sealant. Size and shape of the backing shall be as required by the width of the joint and specified. Do not use materials impregnated with oil, solvents, or bituminous materials.
3. Compress backing material a minimum of 30% when inserted in the joint. Backing material for the upper portion of joint shall be a round rod or semi-circular in cross-section with the arc in contact with the sealant.

- D. Bond Breaker Tape: Install where indicated and as required by manufacturer's recommendations to ensure that sealants will perform properly.

3.03 Application

- A. Exterior Metal Sills: Set in full bed of polyurethane sealant.

- B. Thresholds: Set in full bed of latex acrylic sealant.

C. Caulk Joints:

1. Apply sealants in continuous beads without open joints, voids, or air pockets, using a ratchet hand gun or mechanical powered gun.
2. Confine sealants to joint areas with masking tapes or other precautions. Apply compounds in concealed compression joints accurately so that excess compound will not extrude from joints.

3. Remove excess compound or sealant promptly as work progresses, and clean adjoining surfaces.
 4. In rough surfaces or joints of uneven widths, install sealant, well back into joint. Recess equal to width of joint, or 3/8" minimum at masonry.
 5. Use anti-tack agent where necessary to protect freshly applied sealant from public traffic and dirt.
 6. Slightly recessed joints as to facilitate a painter's line. Handtool and finish joints throughout construction.
 7. Comply with manufacturer's printed instructions and specifications.
- D. Concrete Paving Expansion Joints: Cut expansion joint filler down to allow joint depth equal to 75% of joint width, but neither more than 0.625" deep nor less than 0.375" deep. Seal over expansion joint filler with poured sealant.
- E. Workmanship: Employ only proven installation techniques, which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
- F. Joint Sizes: Install sealants to depths as indicated or, as recommended by the sealant manufacturer but within the following general limitations:
1. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but not more than 1/2" deep or less than 1/4" deep.
 2. For joints sealed with non-elastomeric sealants and caulking compounds, fill joints to a depth in the range of 75% to 125% of joint width.
- G. Spillage:
1. Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces. Use masking tape or other precautionary devices to prevent staining of adjoining surfaces, by either the primer/sealer or the sealant.
 2. Remove excess and spillage of compounds promptly as the work progresses. Clean the adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage. Do not damage the adjoining surfaces or finishes.

3.04 FIELD QUALITY CONTROL

- A. Samples: Where directed by the Architect, cut out and remove a total of three samples consisting of the undisturbed sealant and back-up material from the joint. Samples shall be 6" in length. Reseal cut out areas with the same materials.

3.05 CURING, PROTECTION AND CLEANING

- A. Curing: Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.
- B. Protection:

1. Advise the General Contractor of procedures required for the protection of sealants during the construction period, so that they will be without deterioration or damage (other than normal weathering) at the time of acceptance.

C. Cleaning:

1. Protect surfaces from damage. Clean soiled surfaces immediately. Replace with new material any damaged material which cannot be cleaned with new material.

END OF SECTION