

Montgomery County Public Schools Facilities Guide
DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 07920

JOINT SEALERS

PART 1 GENERAL

1.01 GUIDE INCLUDES

- A. Seal joints around following exterior items:
 - 1. Metal door frames
 - 2. Cast-in-place concrete slabs and walls
 - 3. Expansion and control joints
 - 4. Flashing reglets
 - 5. Roof penetration perimeter joints
 - 6. Window perimeter joints
 - 7. Other as indicated
- B. Seal joints around following interior items:
 - 1. Control and expansion joints
 - 2. Metal door frames
 - 3. Toilet fixtures
 - 4. Casework tops
 - 5. Other as indicated

1.02 QUALITY ASSURANCE

- A. Single source responsibility: Obtain material from a single manufacturer for each product required.
- B. Installer shall have minimum 5 years experience with work compatible with and acceptable to manufacturer.
- C. Manufacturer shall provide qualified technical representative at project site when required for purpose of rendering advice concerning proper installation.

1.03 SUBMITTALS

- A. Submit manufacturer's certification that field-applied joint sealants installed in building interior meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda..
 - 1. At minimum, products need to comply with VOC limits specified in LEED-for Schools if alternatives tested to CA protocol are not available.
- B. Submit MSDS for any applicable products used to MCPS Environmental Health & Safety.

1.04 WARRANTY

- A. Product shall provide a minimum 30 year performance guarantee.

Products to be verified for LEED-for Schools compliance.

PART 2 PRODUCTS

2.01 MATERIAL GENERAL

- A. Compatibility: Provide joint sealers, joint fillers 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: Provide color of exposed joint sealers as selected by Architect from manufacturer's standard colors.
- C. Field-applied joint sealants used within building interior shall meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda..
 1. At minimum, products need to comply with VOC limits specified in LEED-for Schools if alternatives tested to CA protocol are not available.

2.02 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standards: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses.
- B. One-Part Nonacid-Curing Silicone Sealant: Type S, Grade NS, Class 25, and complying with following requirements for Uses and additional joint movement capability:
 1. Uses NT, M, G, A, and, as applicable to joint substrates indicated, O.
 2. Medium modules: Tensile strength of not less than 45 nor more than 75 psi or less at 100 percent elongation when tested after 14 days at 77 F (22 C) and 50 percent relative humidity per ASTM D 412.
 3. Additional capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand following percentage changes in joint width as measured at time of application and remain in compliance with other requirements of ASTM C 920: 50 percent.
 4. Products: Subject to compliance with requirements, provide one of following:
 - a. "Dow Corning 790"; Dow Corning Corp.
 - b. "Silpruf SCS 2000"; General Electric Co.
 - c. "Spectrum 2"; Tremco, Inc.
- C. Two-part polyurethane sealant, non-sag designed for dynamic movement meeting U.S. Federal Specification TT-S-00227E, Class A, Type II.
 1. Products: Subject to compliance with requirements, provide one of following:
 - a. "Dynatrol II"; Pecora Corp.
 - b. "Sikaflex - 2c NS"; Sika Corp.
 - c. "Sonolastic NP 2"; Sonneborn – Chemrex
 - d. "Dymeric 511"; Tremco, Inc.
- D. One-Part Mildew-Resistant Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide; intended for sealing interior joints with nonporous substrates and subject to in-service exposure to conditions of high humidity and temperature extremes such as ceramic tile, showers, sinks, and plumbing fixtures.
 1. Products: Subject to compliance with requirements, provide one of following:
 - a. "Dow Corning 786"; Dow Corning Corp.
 - b. "SCS 1702 Sanitary"; General Electric Co.
 - c. "Proglaze White"; Tremco Corp.
 - d. "OmniPlus"; Sonneborn Building Products Div., Rexnord Chemical Products Inc.
- E. One-Part Pourable Urethane Sealant: Type S, Grade P, Class 25, and complying with following requirements for uses:
 1. Uses T, M and, as applicable to joint substrates indicated, O.
 2. Products: Subject to compliance with requirements, provide one of following:
 - a. "Vulkem 245"; Mameco International, Inc.
 - b. "NR-201 Urexpam"; Pecora Corp.
 - c. "Sonolastic SL-2"; Sonneborn – Chemrex

Comment [SLE1]: SDC researched these products and they are not LEED-S compliant., but they were all <100g/l VOC content.

Comment [MSOffice2]: SDC review found products to be NON compliant for LEED-S EQc4.

Comment [MSOffice3]: SDC review found products to be NON compliant for LEED-S EQc4.

Comment [MSOffice4]: SDC review found products to be NON compliant for LEED-S EQc4.

2.03 LATEX JOINT SEALANTS

- A. Acrylic-Emulsion Sealant: Manufacturer's standard, one part, nonsag, mildew-resistant, acrylic-emulsion sealant complying with ASTM C 834, formulated to be paintable and recommended for exposed applications on interior and on protected exterior locations involving joint movement of

not more than plus or minus 5 percent.

- B. Products: Subject to compliance with requirements, provide one of following:
1. Acrylic-Emulsion Sealant:
 - a. "Chem-Calk 600"; Bostik Construction Products Div.
 - b. "AC-20"; Pecora Corp.
 - c. "Tremco Acrylic Latex 834"; Tremco Inc.

Comment [MSOffice5]: SDC review found products to be NON compliant for LEED-S EQc4.

2.04 FIRE-RESISTANT JOINT SEALERS

- A. General: Provide manufacturer's standard fire-stopping sealant, with accessory materials, having fire-resistance ratings indicated as established by testing identical assemblies per ASTM E 814 by Underwriters Laboratory, Inc., or other testing and inspecting agency acceptable to authorities having jurisdiction.
- B. One-Part Fire-Stopping Sealant: One part elastomeric formulated for use in a through-penetration fire-stop system for sealing openings around cables, conduit, pipes and similar penetrations through walls and floors.
1. Products: Subject to compliance with requirements, provide one of following:
 - a. "Hilti CP 601S Elastomeric Firestop Sealants", Hilti, Inc.
 - b. "Specseal LC Sealant", Specified Technologies, Inc.

Comment [MSOffice6]: SDC review found products to be NON compliant for LEED-S EQc4.

2.05 BUTYL SEALANT (FOR USE ON THE BUILDING EXTERIOR ONLY)

- A. One-Part, nonsag, solvent-release-curing polymerized butyl sealant complying with FS-TT-S-001657 for type 1 and formulated with minimum of 75 percent solids to be nonstaining, paintable, and have a tack-free time of 24 hours of less.
- B. Products: Subject to compliance with requirements, provide one of following:
- a. "Chem-Calk 300"; Bostik Construction Products Div.
 - b. "BC-158"; Pecora Corp.
 - c. "Tremco Butyl Sealant"; Tremco, Inc.

Comment [MSOffice7]: SDC review found products to be NON compliant for LEED-S EQc4.

2.06 ACOUSTICAL SEALANT

- A. Acoustical sealant at concealed and exposed joints:
1. "Sheetrock Acoustical Sealant," United States Gypsum Co.
 2. "AC-20 FTR Acoustical and Insulation Sealant," Pecora Corp.

2.07 JOINT FILLERS FOR CONCRETE PAVING

- A. General: Provide fillers of thickness and widths indicated.
- B. Bituminous Fiber Joint Filler: Preformed strips of composition below, complying with ASTM D 1751.
1. Asphalt saturated fiberboard.

2.08 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type which are non-staining; 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. Plastic Foam Joint Fillers: Preformed, compressible, resilient, non-waxing, non-extruding strips of flexible, non-gassing plastic foam of material indicated below; nonabsorbent to water and gas; and of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
1. Either open-cell polyurethane foam or non-gassing closed-cell polyethylene foam, unless otherwise indicated, subject to approval of sealant manufacturer, for cold-applied sealants only.
 2. Provide only non-absorptive closed-cell extruded polyethylene flexible rod at exterior finish and insulation systems.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as 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.

- D. Bituminous fiber joint filler for expansion joints between exterior concrete pads and structure shall be preformed strips of composition asphalt saturated fiberboard, complying with ASTM D 1751.

2.09 MISCELLANEOUS MATERIALS

- A. Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealer-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Provide non-staining, chemical cleaners of type which are acceptable to manufacturers of sealants and sealant backing materials, which are not harmful to substrates and adjacent nonporous materials, and which do not leave oily residues or otherwise have a detrimental effect on sealant adhesion or in-service performance.
- C. Masking Tape: Provide non-staining, nonabsorbent type compatible with joint sealants and to surfaces adjacent to joints.
- D. Accessory Materials for Fire-Stopping Sealants: Provide forming, joint fillers, packing and other accessory materials required for installation of fire-stopping sealants as applicable to installation conditions indicated.

PART 3 EXECUTION

3.01 GENERAL

ARCHITECT SHALL PROVIDE JOINT SEALANT SCHEDULE DESCRIBING CONDITIONS FOR EACH JOINT SEALANT'S USE.

- A. Sealant backing or bond breaker tape shall be used consistently.
- B. Provide clean concave joint configuration per figure 6A in ASTM C962, unless noted.
- C. Protect indoor air from exposure to sealant gaseous emissions in accordance with Division 1 Indoor Air Quality Management requirements.

END OF SECTION