

**Part 1            General**

**1.1            RELATED REQUIREMENTS**

- .1        Section 09 21 16 – Gypsum Board Assemblies.
- .2        Section 08 11 00 - Standard Metal Doors and Frames.

**1.2            REFERENCES**

- .1        ASTM International
  - .1        ASTM C834-17, Standard Specification for Latex Sealants.
  - .2        ASTM C920-18, Standard Specification for Elastomeric Joint Sealants

**1.3            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Product Data:
  - .1        Submit manufacturer's instructions, printed product literature and data sheets for joint sealants and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2        Manufacturer's product to describe:
    - .1        Caulking compound.
    - .2        Primers.
    - .3        Sealing compound, each type, including compatibility when different sealants are in contact with each other.
- .3        Manufacturer's Instructions:
  - .1        Submit instructions to include installation instructions for each product used.

**1.4            DELIVERY, STORAGE AND HANDLING**

- .1        Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2        Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3        Storage and Handling Requirements:
  - .1        Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2        Replace defective or damaged materials with new.

**1.5            SITE CONDITIONS**

- .1        Ambient Conditions:

- .1 Proceed with installation of joint sealants only when:
  - .1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.
  - .2 Joint substrates are dry.
  - .3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .2 Joint-Width Conditions:
  - .1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.
- .3 Joint-Substrate Conditions:
  - .1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

## **Part 2 Products**

### **2.1 SEALANT MATERIALS**

- .1 Where sealants are qualified with primers use only these primers.

### **2.2 SEALANT MATERIAL DESIGNATIONS**

- .1 Acoustical sealant: to ASTM C919, single component, non-hardening, non-skinning, synthetic rubber.
- .2 Acrylic latex: to ASTM C 834, single component general purpose siliconized acrylic latex sealant.
- .3 Epoxy, flexible: Poured flexible 100% solids epoxy joint filler.
- .4 Polyurethane, self-levelling: to ASTM C 920, Type S, Grade P, Class 25, single component self-levelling polyurethane sealant with plus or minus 25 percent movement capability for horizontal joints.
- .5 Silicone, one part: to ASTM C 920, Type S, Grade NS, Class 25, single component neutral cure silicone sealant, plus minus 50% joint movement capability.
- .6 Silicone, mildew resistant: to ASTM C 920, single component mildew resistant silicone sealant, +/- 25% movement capability.

### **2.3 ACCESSORIES**

- .1 Primer: Type recommended by the sealant manufacturer and compatible with joint forming materials.

- .2 Joint Cleaner: Non-corrosive and non-staining type recommended by sealant manufacturer and compatible with joint forming materials.
- .3 Closed-Cell Backer Rod: to ASTM C 1330, closed-cell polyethylene rod designed for use with cold-applied joint sealants for on-grade or below-grade applications. Size required for joint design.
- .4 Joint Filler: closed-cell polyethylene joint filler designed for use in cold joints, construction joints, or isolation joints wider than 6 mm. Size required for joint design.
- .5 Bond Breaker: Pressure-sensitive tape recommended by sealant manufacturer to suit application.

## 2.4 SEALANT SCHEDULE

- .1 The following schedule covers locations requiring sealant whether shown on the drawings or not.
  - .1 All cracks and joints are to be caulked.
    - .1 Locations not included in this schedule shall be caulked at the discretion of the Consultant at no extra cost.
  - .2 Perimeters of exterior openings where frames meet exterior of building.
    - .1 Sealant type: Silicone, one part.
  - .3 All other exterior applications.
    - .1 Sealant type: Silicone, one part.
  - .4 Perimeters of interior door, windows, edges of drywall and other frames and surfaces.
    - .1 Sealant type: Acrylic latex or Silicone, one part.
  - .5 Perimeter of plumbing fixtures, countertop backsplash at wall, window sills, FRP panels, ceramic tile.
    - .1 Sealant type: Silicone, mildew resistant.
  - .6 Building envelope applications (vapour retarder, vapour barrier, vapour barrier/wall openings and vapour retarder/ wall openings, etc):
    - .1 Sealant type: Acoustical sealant.
  - .7 Interior partitions acoustic applications:
    - .1 Sealant type: Acoustical sealant.
  - .8 Interior masonry: walls to floor, wall to steel
    - .1 Sealant type: Silicone, one part.
  - .9 Perimeter and annular space around all interior non rated penetrations in floors, walls, ceilings, partitions etc.,:
    - .1 Sealant type: Acoustical sealant.

- .10 Perimeter all interior walls, ceilings, partitions etc...
  - .1 Sealant type: Silicone, one part.
- .11 Interior concrete control joints and saw cuts.
  - .1 Sealant type: Epoxy, flexible.
- .12 Perimeter of interior concrete slab. – Radon gas seal.
  - .1 Sealant type: Polyurethane, self-levelling.
- .13 Top of masonry walls; 25 mm space between top of non-load bearing wall and structural elements.
  - .1 Non-exposed: Acoustical sealant.
  - .2 Exposed: Silicone, one part.
- .14 Perimeter all countertops, joints between millwork and walls.
  - .1 Sealant type: Silicone, one part.
- .15 Perimeter all stairs and stringers.
  - .1 Sealant type: Silicone, one part.
- .16 Perimeter of cover plates, access doors and other similar items.
  - .1 Sealant type: Silicone, one part.
- .17 For locations not included in this schedule, consult with Departmental Representative for proper selection of sealants.

### **Part 3 Execution**

#### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

#### **3.2 SURFACE PREPARATION**

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.

- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.
- .6 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .7 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.
- .8 Apply bond breaker tape where required to manufacturer's instructions.
- .9 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

### **3.3 MIXING**

- .1 Mix materials in strict accordance with sealant manufacturer's instructions.

### **3.4 APPLICATION**

- .1 Apply sealant in accordance with manufacturer's written instructions.
- .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
- .3 Apply sealant in continuous beads.
- .4 Apply sealant using gun with proper size nozzle.
- .5 Use sufficient pressure to fill voids and joints solid.
- .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
- .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
- .8 Remove excess compound promptly as work progresses and upon completion.
- .9 Cure sealants in accordance with sealant manufacturer's instructions.
- .10 Do not cover up sealants until proper curing has taken place.

### **3.5 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**3.6 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by joint sealants installation.

**END OF SECTION**