

**Part 1            General**

**1.1               RELATED SECTIONS**

- .1       Section 01 33 00 - Submittal Procedures.
- .2       Section 08 44 13 – Aluminum Curtain Walls..
- .3       Section 08 80 50 - Glazing.

**1.2               REFERENCES**

- .1       ASTM
  - .1       ASTM C 920-14a, Standard Specification for Elastomeric Joint Sealants.
  - .2       ASTM C 794, Test Method for Adhesion-in-Peel of Elastomeric Joints Sealants.
  - .3       ASTM C 920, Standard Specification for Elastomeric Joint Sealants.
  - .4       ASTM C1401 Standard Guide for Structural Sealant.
  - .5       ASTM C1249 Standard Guide for Secondary Seal for Sealed Insulating Glass Units for Structural Sealant Glazing Applications.

**1.3               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       Samples:
  - .1       Submit 2 samples of each type of material and colour.
  - .2       Cured samples of exposed sealants for each colour where required to match adjacent material.
- .4       Manufacturer's Instructions:
  - .1       Submit instructions to include installation instructions for each product used.

#### **1.4 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 00 10 - General Instructions.
- .2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

#### **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

#### **1.6 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 Type A: Urethanes one part:
  - .1 Non-sag, low VOC
  - .2 Type S, Grade NS, Class 50, Use NT, T, M, A, O to ASTM C920
  - .3 Minimum service temperature range: -40 to +80 degrees C
  - .4 Primer: as recommended by sealant manufacturer
- .2 Type B: Silicones one part: to CAN/CGSB-19.13

- .3 Type C: Structural Silicone: One-component, high tensile strength, neutral-cure, elastomeric silicone sealant and adhesive for bonding glass, metal, and other building components. Silicone Structural Glazing Sealant, to ASTM C920, Type S, Grade NS, Class 50, Use NT, G, and A, and ASTM C1401 Standard Guide for Structural Sealant.
- .4 Preformed compressible back-up materials:
  - .1 Polyethylene, urethane, neoprene or vinyl foam:
    - .1 Extruded open cell foam backer rod.
    - .2 Size: oversize 30 to 50 %.
  - .2 Bond breaker tape:
    - .1 Polyethylene bond breaker tape which will not bond to sealant.

## **2.3 SEALANT SELECTION**

- .1 Perimeters of exterior openings where frames meet exterior facade of building: Sealant type: B.
- .2 Control and rain screen joints in exterior surfaces of metal wall cladding system: Sealant type: B.
- .3 Sheet metal flashing and trim joints: Sealant type: B.
- .4 Seal interior perimeters of exterior openings as detailed on drawings: Sealant type: B.
- .5 Sealing of curtain wall pressure plate intersections: Sealant Type B.
- .6 Screws at curtain wall pressure plates: Sealant Type B.
- .7 Glazing where structural sealant noted: Sealant Type C.

## **2.4 JOINT CLEANER**

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.
- .2 Primer: in accordance with sealant manufacturer's written recommendations.

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**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      Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .2      Proceed with installation only after unacceptable conditions have been remedied.

**3.2                SURFACE PREPARATION**

- .1      Completely remove all existing caulking and existing residue on all precast joint surfaces
- .2      Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants
- .3      Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.
- .4      Apply primer to existing substrate surfaces to receiving sealant. Do not prime compressible back-up materials
- .5      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.
- .6      Ensure joint surfaces are dry and frost free.
- .7      Prepare surfaces in accordance with manufacturer's directions.

**3.3                PRIMING**

- .1      Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .2      Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

**3.4                BACKUP MATERIAL**

- .1      Apply bond breaker tape where required to manufacturer's instructions.
- .2      Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

**3.5                MIXING**

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

### **3.6 APPLICATION**

- .1 Sealant:
  - .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.
- .2 Curing:
  - .1 Cure sealants in accordance with sealant manufacturer's instructions.
  - .2 Do not cover up sealants until proper curing has taken place.

### **3.7 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 00 10 - General Instructions.
  - .1 Leave Work area clean at end of each day.
  - .2 Clean adjacent surfaces immediately.
  - .3 Remove excess and droppings, using recommended cleaners as work progresses.
  - .4 Remove masking tape after initial set of sealant.

### **3.8 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**