

**Part 1            Généralités**

**1.1               RELATED SECTIONS**

- .1       This Section specifies caulking and sealants not specified in other Sections.
- .2       Refer to other sections for other caulking and sealants.

**1.2               SECTIONS CONNEXES**

- .1       Section 01 33 00 – Submittal procedures
- .2       Section 01 74 21 – Construction/Demolition waste management and disposal
- .3       Section 01 45 00 – Quality control
- .4       Section 01 61 00 – Common product requirements

**1.3               REFERENCES**

- .1       American Society for Testing and Materials International, (ASTM)
  - .1       ASTM C919-08, Standard Practice for Use of Sealants in Acoustical Applications.
- .2       Canadian General Standards Board (CGSB)
  - .1       CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.
  - .2       CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.
- .3       Health Canada - Workplace Hazardous Materials Information System (WHMIS)
  - .1       Material safety data sheets (MSDS)

**1.4               SUBMITTALS**

- .1       Submit duplicate samples of each type of material and colour to be used in accordance with Section 01 33 00 - Submittals.

**1.5               DELIVERY, STORAGE, AND HANDLING**

- .1       Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
  - .2       Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.
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## **1.6 ENVIRONMENTAL AND SAFETY REQUIREMENTS**

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of material safety data sheets acceptable to Labour Canada.
- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

## **1.7 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .5 Unused sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .6 Divert unused joint sealing material from landfill to official hazardous material collections site approved by Departmental Representative.

## **1.8 PROJECT CONDITIONS**

- .1 Environmental Limitations
    - .1 Do not proceed with installation of joint sealants under following conditions:
      - .1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 5 degrees C.
      - .2 When joint substrates are wet.
  - .2 Joint-Width Conditions
    - .1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
  - .3 Joint-Substrate Conditions
    - .1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.
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**Part 2 Products**

**2.1 SEALANT MATERIALS**

- .1 Use caulking that does not emit strong odours, contain toxic chemicals or is not certified as mould resistant in air handling units.
- .2 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.
- .3 Where sealants are qualified with primers use only approved primers.

**2.2 SEALANT MATERIAL DESIGNATIONS**

- .1 Urethanes One Part
    - .1 Self-Leveling to CAN/CGSB-19.13, Type 1, colour as selected.
  - .2 Urethanes One Part
    - .1 Non-Sag to CAN/CGSB-19.13, Type 2, MCG-2-40, colour as selected.
  - .3 Silicones One Part
    - .1 To CAN/CGSB-19.13, one-part, acetoxysilicone sealant, cures to a flexible rubber when exposed to moisture present in the air, containing a fungicide, suitable for use in bathrooms, high humidity areas and similar applications where joints need protection against fungi and bacteria.
  - .4 Acrylic Latex One Part
    - .1 To ASTM C919, one-part, no film development, non-hardening synthetic rubber, dark grey colored, developed for usage in drywall to inhibit any air movement or control vibrations.
  - .5 Non-Compressible back-up materials
    - .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
      - .1 Extruded closed cell foam backer rod.
      - .2 Oversized element by 30 to 50 %.
    - .2 Neoprene or Butyl Rubber
      - .1 Round solid rod, Shore A hardness 70.
    - .3 High Density Foam
      - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m<sup>3</sup> density, or neoprene foam backer, size as recommended by manufacturer.
    - .4 Bond Breaker Tape
      - .1 Polyethylene bond breaker tape which will not bond to sealant.
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## **2.3 SEALANT SELECTION**

- .1 Interior control and expansion joints in floor surfaces: Sealant type: one component urethane self leveling.
- .2 Fireproof sealant adapted to the types of piping through the concrete block wall with fire resistance of one hour.
- .3 For combustible pipe penetrations in a 1 hours fire rated wall, provide a firestop system with ULC rating of 1 hour:
- .4 Fire collars devices or attaching to the member about a combustible plastic pipe (piping systems or closed to air) tested at a pressure differential of up to 50 Pa.
- .5 Concealed joints in sound attenuated walls and ceilings: acoustic Sealant.
- .6 Colour of sealants: selected by Departmental Representative Engineer from manufacturer's standard range to match adjacent surfaces.

## **2.4 JOINT CLEANER**

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.
- .2 Primer: as recommended by manufacturer.

## **Part 3 Execution**

### **3.1 PROTECTION**

- .1 Protect installed Work of other trades from staining or contamination.

### **3.2 PREPARATION OF JOINT SURFACES**

- .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.
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**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 Clean adjacent surfaces immediately and leave work neat and clean.
- .2 Remove excess and droppings, using recommended cleaners as work progresses.
- .3 Remove masking tape after initial set of sealant.

**END OF SECTION**

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