

**Supplemental Architectural Specifications**

City of Winnipeg  
Water and Waste  
Department

**JOINT SEALANTS**

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**Part 1      General**

**1.1      SECTION INCLUDES**

- .1      Materials, preparation and application for caulking and sealants.
- .2      Text to complete other various Sections containing sealant or caulking specifications.

**1.2      ACTION AND INFORMATIONAL SUBMITTALS**

- .1      Submit submittals.
- .2      Submit 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      Submit duplicate samples of each type of material and colour.
- .4      Cured samples of exposed sealants for each color where required to match adjacent material.
- .5      Submit manufacturer's instructions provide manufacturer's installation instructions and special handling criteria, installation sequence, and cleaning procedures for each product used.

**1.3      DELIVERY, STORAGE, AND HANDLING**

- .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 (MSDS) acceptable to Labour Canada.
- .2      Deliver materials to the site in undamaged condition and in original unopened containers, marked to indicate brand name and manufacturer.
- .3      Deliver materials in clean, dry, well-ventilated area, and in accordance with manufacturer's written instructions

**1.4      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 4.4 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.

**1.5 ENVIRONMENTAL 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 (MSDS) 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.

**1.6 QUALITY ASSURANCE**

- .1 Perform the work by experienced and skilled mechanics thoroughly trained and competent in the use of caulking and sealing equipment and the specified materials with at least five (5) years' experience.
- .2 Arrange with the caulking and sealant manufacturers for a visit at the job site by one (1) of their technical representatives before beginning the caulking and sealing installation to discuss with the Contractor and the Consultant the procedures to be adopted, to analyse site conditions and inspect the surfaces and joints to be sealed, in order that type of sealant recommendations may be made for typical joint configuration.
- .3 Discuss the following items and provide a written report indicating:
  - .1 Sealants and caulking materials selected for use from those specified;
  - .2 Surface preparation requirements;
  - .3 Priming and application procedures;
  - .4 Verification that sealants and caulking are suitable for purposes intended and joint design;
  - .5 Sealants and caulking are compatible with other materials and products with which they come in contact including but not limited to sealants provided under other Sections, insulation adhesives, bitumens, block, concrete, metals and metal finishes.

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- .6 Verification that sealant and caulking are suitable for temperature and humidity conditions at time of application and will not stain adjacent surfaces;
- .7 Recommended sealant for each type of joint configuration;
- .8 Joint design;
- .9 Anticipated frequency and extent of joint movement.
- .10 Number of beads to be used in the sealing operation;
- .11 Suitability of durometer hardness and other properties of material to be used;
- .12 Weather conditions under which work will be done.

**Part 2 Products**

**2.1 SEALANT MATERIALS**

- .1 One part non sagging silicone .
  - .1 Acceptable material: Dow 795.
- .2 Acoustical Sealant: to ASTM C919 non-hardening, non-skinning, synthetic rubber .
- .3 Colours: Colours shall be selected from manufacturer's standard colour range. Colours to match material / background colour upon which they occur. Final colour selection by Consultant.

**2.2 ACCESSORIES**

- .1 Preformed Compressible and Non-Compressible back-up materials.
  - .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
    - .1 Extruded closed cell foam backer rod.
    - .2 Size: oversize 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.

**2.3 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.

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**Part 3 Execution**

**3.1 PROTECTION**

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

**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.

**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.

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**Bid Opportunity 930-2015 Wilkes Reservoir North Cell Rehabilitation**

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- .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 Clean-up
  - .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**