

Norway House Hospital  
Window Replacement Project

2003-12-31

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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 RELATED SECTIONS

- .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 C 919-[02], Standard Practice for Use of Sealants in Acoustical Applications.
- .2 Canadian General Standards Board (CGSB)
  - .1 CGSB 19-GP-5M-[1984], Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).
  - .2 CAN/CGSB-19.13-[M87], Sealing Compound, One-component, Elastomeric, Chemical Curing.
  - .3 CGSB 19-GP-14M-[1984], Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).
  - .4 CAN/CGSB-19.17-[M90], One-Component Acrylic Emulsion Base Sealing Compound.
  - .5 CAN/CGSB-19.24-[M90], Multi-component, Chemical Curing Sealing Compound.
- .3 Department of Justice Canada (Jus)
  - .1 Canadian Environmental Protection Act, 1999 (CEPA).

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- .4 General Services Administration (GSA) - Federal Specifications (FS)
  - .1 FS-SS-S-200-[E(2)1993], Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold Applied, for Portland Cement Concrete Pavement.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .6 Transport Canada (TC)
  - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).

#### 1.4 SUBMITTALS

- .1 Submit product data in accordance with Section [01 33 00 - Submittal Procedures].
- .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 Submit samples in accordance with Section [01 33 00 - Submittal Procedures].
- .4 Submit duplicate samples of each type of material and colour.
- .5 Cured samples of exposed sealants for each color where required to match adjacent material.
- .6 Submit manufacturer's instructions in accordance with Section [01 33 00 - Submittal Procedures].
  - .1 Instructions to include installation instructions for each product used.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Manufacturers instructions.
- .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.

#### 1.7 WASTE MANAGEMENT AND DISPOSAL

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- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Place materials defined as hazardous or toxic in designated containers.
- .3 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .4 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.
- .5 Divert unused joint sealing material from landfill to official hazardous material collections site approved by Project Manager
- .6 Empty plastic joint sealer containers are not recyclable. Do not dispose of empty containers with plastic materials destined for recycling.
- .7 Fold up metal banding, flatten, and place in designated area for recycling.

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 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.

1.9 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.

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- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .3 [Engineer will arrange for ventilation system to be operated on maximum outdoor air and exhaust during installation of caulking and sealants.] [Ventilate area of work as directed by [Engineer] [Consultant] by use of approved portable supply and exhaust fans.]

## PART 2 - PRODUCTS

### 2.2 SEALANT MATERIAL DESIGNATIONS

- .3 Polysulfide One Part.
  - .1 Self-Leveling to CAN/CGSB-19.13, [MC-1-40-B-N] [MC-1-25-B-N], colour [White].
- .4 Polysulfide One Part.
  - .1 Non-Sag to CAN/CGSB-19.13, [MC-2-40-B-N][MC-2-25-B-N], colour [\_\_\_\_\_].
  - .2 Acceptable material: [\_\_\_\_\_].
- .5 Urethanes Two Part.
  - .1 Self-Leveling to CAN/CGSB-19.24, Type 1, Class B, colour [\_\_\_\_\_].
  - .2 Acceptable material: [\_\_\_\_\_].
- .6 Urethanes Two Part.
  - .1 Non-Sag to CAN/CGSB-19.24, Type 2, Class B, colour [\_\_\_\_\_].
  - .2 Acceptable material: [\_\_\_\_\_].
- .7 Urethanes One Part.
  - .1 Self-Leveling to CAN/CGSB-19.13, Type 1, colour [\_\_\_\_\_].
- .8 Urethanes One Part.
  - .1 Non-Sag to CAN/CGSB-19.13, Type 2, [MCG-2-25] [MCG-2-40], colour [\_\_\_\_\_].
  - .2 Acceptable material: [\_\_\_\_\_].
- .9 Silicones One Part.
  - .1 To CAN/CGSB-19.13.
    - .1 Acceptable material: [\_\_\_\_\_].
  - .2 Mildew resistant: to [\_\_\_\_\_].
    - .1 Acceptable material: [\_\_\_\_\_].
- .10 Acrylics One Part.

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- .1 To CGSB 19-GP-5M.
- .2 Acceptable material: [\_\_\_\_\_].
- .11 Acrylic Latex One Part.
  - .1 To CAN/CGSB-19.17.
  - .2 Acceptable material: [\_\_\_\_\_].
- .12 Acoustical Sealant.
  - .1 To [ASTM C 919].
  - .2 Acceptable material: [\_\_\_\_\_].
- .13 Butyl.
  - .1 To CGSB 19-GP-14M.
  - .2 Acceptable material: [\_\_\_\_\_].

SPEC NOTE: ASTM C 570, Standard Specification for Oil- and Resin-Base Caulking Compound for Building Construction was withdrawn 2002, no replacement.

- .14 Oil-Based.
  - .1 To [\_\_\_\_\_].
  - .2 Acceptable material: [\_\_\_\_\_].

SPEC NOTE: ASTM C 570, Standard Specification for Oil- and Resin-Base Caulking Compound for Building Construction was withdrawn 2002, no replacement.

- .15 Modified Oil-Based.
  - .1 To [\_\_\_\_\_].
  - .2 Acceptable material: [\_\_\_\_\_].

SPEC NOTE: CGSB 19.20, Cold Applied Sealing Compound Aviation Fuel-Resistant has been withdrawn. Spec writer may consider using Federal Specifications (FS) SS-S-200E.

- .16 Aviation Fuel Resistant.
  - .1 To [FS-SS-S-200E] [Type 2].
  - .2 Acceptable material: [\_\_\_\_\_].

SPEC NOTE: Ensure that back-up materials are compatible with selected sealant and of type recommended by manufacturer.

- .17 Preformed Compressible and Non-Compressible back-up materials.
  - .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
    - .1 Extruded [open] [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.

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### 2.3 SEALANT SELECTION

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SPEC NOTE: A partial list of locations is specified in the following paragraphs, edit to suit project and specify locations requiring sealant and type of sealant.

- .1 Perimeters of exterior openings where frames meet exterior facade of building (i.e. brick, block, precast masonry): Sealant type: [\_\_\_\_\_].
- .2 Expansion and control joints in exterior surfaces of poured-in-place concrete walls: Sealant type: [\_\_\_\_\_].
- .3 Expansion and control joints in exterior surfaces of precast, architectural wall panels: Sealant type: [\_\_\_\_\_].
- .4 Control and expansion joints in exterior surfaces of unit masonry walls: Sealant type: [\_\_\_\_\_].
- .5 Coping joints and coping-to facade joints: Sealant type: [\_\_\_\_\_].
- .6 Cornice and wash (or horizontal surface joints): Sealant type: [\_\_\_\_\_].
- .7 Exterior joints in horizontal wearing surfaces (as itemized): Sealant type: [\_\_\_\_\_].
- .8 Seal interior perimeters of exterior openings as detailed on drawings: Sealant type: [\_\_\_\_\_].
- .9 Control and expansion joints on the interior of exterior poured-in place concrete walls: Sealant type: [\_\_\_\_\_].
- .10 Expansion and control joints on the interior of exterior precast, architectural wall panels: Sealant type: [\_\_\_\_\_].
- .11 Joints of underside of precast beams or planks: Sealant type: [\_\_\_\_\_].
- .12 Control and expansion joints on the interior of exterior surfaces of unit masonry walls: Sealant type: [\_\_\_\_\_].
- .13 Interior control and expansion joints in floor surfaces: Sealant type: [\_\_\_\_\_].
- .14 Perimeters of interior frames, as detailed and itemized: Sealant type: [\_\_\_\_\_].
- .15 Interior masonry vertical control joints (block-to-block, block-to-concrete, and intersecting masonry walls): Sealant type: [\_\_\_\_\_].
- .16 Joints at tops of non-load bearing masonry walls at the underside of poured concrete: Sealant type: [\_\_\_\_\_].
- .17 Perimeter of bath fixtures (e.g. sinks, tubs, urinals, stools, waterclosets,

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basins, vanities): Sealant type: [\_\_\_\_\_].

.18 Exposed interior control joints in drywall: Sealant type: [\_\_\_\_\_].

.19 [\_\_\_\_\_].

#### 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

SPEC NOTE: For projects with unusual or complicated caulking conditions, consider having sealant manufacturer's representative visit site prior to commencement of work to discuss installation procedures with designer and Contractor. This could be specified in paragraph entitled "Inspection".

#### 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.

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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 Cleanup.
  - .1 Clean adjacent surfaces immediately and leave Work neat and clean.
  - .2 Remove excess and droppings, using recommended cleaners as work progresses.

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.3 Remove masking tape after initial set of sealant.