

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

- .1 Section 02 41 13 – Selective Site Demolition.
- .2 Section 08 03 52.71 – Historic - Wood Window Rehabilitation.
- .3 Section 09 03 91 – Historic - Painting.

1.02 REFERENCES

- .1 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.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
 - .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 Submit copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .2 Samples:
 - .1 Submit 3 samples of each type of material and colour.
 - .2 Cured samples of exposed sealants for each colour.
- .3 Manufacturer's Instructions:
 - .1 Submit instructions to include installation instructions for each product used.
- .4 Photographic Documentation:

- .1 Submit photographs of exiting conditions, prior to commencing work, in accordance with Section 02 41 13 – Selective Site Demolition.

1.04 QUALITY ASSURANCE

- .1 Mock-ups:
 - .1 Construct mock-up in accordance with Section 01 45 00 - Quality Control.
 - .2 Construct a full-size mock-up for the preparation and application, and for each sealant and substrate type.
 - .3 Notify Departmental Representative 5 working days in advance of mock-up preparation.
 - .4 Mock-up will be used:
 - .1 To judge quality of work, substrate preparation and material application.
 - .5 When accepted, mock-up demonstrates minimum standard for this work.
 - .6 Mock-up may remain as part of finished work.

1.05 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

1.06 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and 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 off ground 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.
- .4 Packaging Waste Management: remove for reuse and return of pallets, crates, padding, and packaging materials in accordance with Section 01 00 10 – General Instructions, Waste Management.

1.07 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.

1.08 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 Health Canada.
- .2 Ventilate area of work as directed by Departmental Representative by use of approved portable supply and exhaust fans.

PART 2 PRODUCTS

2.01 SEALANT MATERIALS

- .1 Do not use caulking that emits strong odours, contains 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 to maximize off gas time.
- .3 Where sealants are qualified with primers use only these primers.

2.02 SEALANT MATERIAL DESIGNATIONS

- .1 Polyurethane one part: to CAN/CGSB-19.13, non-staining, colour selected by Departmental Representative.
- .2 Acrylic latex one part: to CAN/CGSB-19.17, colour selected by Departmental Representative.
- .3 Preformed non-compressible back-up materials:
 - .1 Polyethylene:
 - .1 Extruded closed 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.

2.03 SEALANT SELECTION

- .1 Exterior perimeters of window frames where they meet the exterior facade of building (masonry and copper): sealant type: polyurethane with preformed non-compressible back-up materials.
- .2 Interior perimeters of upper double hung sash, top and sides, and transom sash as detailed on drawings: sealant type: acrylic latex.

2.04 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.

PART 3 EXECUTION

3.01 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.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied.

3.02 SURFACE PREPARATION

- .1 Remove existing perimeter caulking from wood window frame and adjacent substrate.
 - .1 Obtain approval of removal methods from Departmental Representative.
- .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 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.

3.03 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.

3.04 BACKUP MATERIAL

- .1 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.05 MIXING

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

3.06 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.

3.07 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 00 10 – General Instructions, Cleaning.
 - .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.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 00 10 – General Instructions, Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 00 10 – General Instructions, Waste Management.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.08 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