
Partie 1 General

1.1 RELATED REQUIREMENTS

- .1 The list of Work in this division is indicative but non-limiting. It does not exclude Work described in other specification divisions shown on the drawings or required for full execution of the Work as intended on the drawings.
- .2 Section 03 30 00 Cast-in-place Concrete.
- .3 Section 06 10 00 Rough Carpentry.
- .4 Section 06 20 00 Carpentry.
- .5 Section 07 21 13 Board Insulation.
- .6 Section 07 21 16 Blanket Insulation.
- .7 Section 07 26 00 Vapour Retarder.
- .8 Section 07 62 00 Sheet Metal Flashing and Trim.
- .9 Section 07 72 33 Roof Hatches.
- .10 Section 08 11 00 Metal Doors and Frames.
- .11 Section 08 11 16 Aluminum Doors and Frames.
- .12 Section 08 44 13 Glazed Aluminum Curtain Walls.
- .13 Section 08 50 00 Windows.
- .14 Section 08 90 00 Louvres and Vents.
- .15 Section 09 21 16 Gypsum Board Assemblies.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM C919-08, Standard Practice for Use of Sealants in Acoustical Applications.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB19-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 CGSB19-GP-14M-76, 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 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.
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS)g.
- .5 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.3 ACTION AND INFORMATIONAL 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 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .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 78 00 - Closeout Submittals.
- .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 Section 01 61 00 - Common Product Requirements.
- .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 Store joint sealant in original containers, sealed, with manufacturer's label intact.
 - .3 Replace defective or damaged materials with new.

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.

1.7 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 Departmental Representative 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 Departmental Representative by use of approved portable supply and exhaust fans.

1.8 ACCEPTABLE PRODUCTS AND MATERIALS

- .1 Where a particular brand name is stipulated, see Instructions to Bidders for procedure for requesting approval of substitute materials and products

Partie 2 Product

2.1 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, or are applied several months before occupancy to maximize off gas time.
- .3 Match joint colour to facing colour.
- .4 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

- .1 Type 1: Sealing compound, two-component, urethane
 - .1 Self-levelling, to CAN/CGSB-19.24, Type 2, Class B.
- .2 Type 2: One-component, urethane base.
 - .1 Self-levelling compound, to CAN/CGSB-19.13-M87, Type 1.
- .3 Type 3: Sealing compound, one-component, urethane base.
 - .1 Non-sag, to CAN/CGSB-19.13, Type 2.
- .4 Type 4: One-component sealing compound, silicon base: to CAN/CGSB-19.13.
- .5 Type 5: One-component sealing compound, acrylic resin base: to CAN/CGSB-19.17.
- .6 Type 6: Elastomeric sealing compound, strength coefficient: to ASTM C920.
- .7 Type 7: Intumescent sealing compound, one-component, fire-resistant: to CAN/CGSB-19.13.
- .8 Type 8: Elastomeric sealing compound, one component, structural, silicon base: to ASTM C920
- .9 Type 9: Acoustical sealant: to ASTM C919.
- .10 Preformed compressible and non-compressible back-up materials:
 - .1 Polyethylene, urethane, neoprene or vinyl foam.
 - .1 Extruded cell foam backer rod.
 - .2 Size: oversize 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/m³ 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 SEALANT SELECTION - LOCATIONS

- .1 Surface joints at copper and masonry junctures (as indicated): Type 1.

- .2 Perimeters of exterior openings where frames meet exterior facade of building (i.e. brick, block, precast masonry): Type 3.
- .3 Expansion and control joints in exterior surfaces of poured-in-place concrete walls: Type 6.
- .4 Expansion and control joints in exterior surfaces of precast, architectural wall panels: Type 2.
- .5 Control and expansion joints in exterior surfaces of unit masonry walls: Type 6.
- .6 Coping joints and coping-to facade joints: Type 1.
- .7 Cornice and wash (or horizontal surface joints): Type 1.
- .8 Exterior joints in horizontal wearing surfaces (as indicated): Type 1.
- .9 Seal interior perimeters of exterior openings as detailed on drawings: Type 5.
- .10 Control and expansion joints on the interior of exterior poured-in place concrete walls: Type 2.
- .11 Expansion and control joints on the interior of exterior precast, architectural wall panels: Type 2.
- .12 Joints of underside of precast beams or planks: Type 2.
- .13 Control and expansion joints on the interior of exterior surfaces of unit masonry walls: Type 2.
- .14 Interior control and expansion joints in floor surfaces: Type 1.
- .15 Perimeters of interior frames, as detailed and itemized: Type 5.
- .16 Interior masonry vertical control joints (block-to-block, block-to-concrete, and intersecting masonry walls): Type 5.
- .17 Joints at tops of non-load bearing masonry walls at the underside of poured concrete: Type 7.
- .18 Joints at tops of non-load bearing masonry walls at the underside of poured concrete: Type 4.
- .19 Exposed interior control joints in drywall: Type 5.
- .20 Joints at surfaces adjacent to carpentry: Types 4 or 5, at Architect's choice.
- .21 Joints at tops and bottoms of sound-rated partitions and sound-rated elements penetrating construction: Type 9.
- .22 Joints at tops and bottoms of fire-rated partitions and fire-rated elements penetrating construction: Type 7.

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.

Partie 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 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

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.
 - .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 74 11 - 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 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse / recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

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