# GEneral

## Related Sections

#### Section 01060 – Regulatory Requirements

#### Section 01300 – Submittals

## References

### Comply with the latest edition of the following statutes codes and standards and all amendments thereto:

#### National Sanitation Foundation International (NSF)

##### NSF/ANSI Standard 61, Drinking Water System Components – Health Effects NSF 61 certification for products coming in contact with potable water.

##### NSF 372: Drinking Water System Components – Lead Content

#### Health Canada/Workplace Hazardous Materials Information System (WHMIS).

##### Safety Data Sheets (SDS).

#### American Society for Testing & Materials (ASTM)

##### ASTM C920: Standard Specification for Elastomeric Joint Sealants

##### ASTM C1193: Standard Guide for Use of Joint Sealants

## Submittals

### Submit samples in accordance with Section 01300 - Submittals.

### Samples for Initial Selection: Provide 150 mm (6 in.) long cured, colour samples of manufacturer’s standard range of colours in each type of sealant for selection by Consultant. Submit samples of primer, bond breaker tape and joint backing material, if requested.

### Product Data: Submit product information from sealant manufacturers prior to commencement of work of this Section verifying:

#### Selected sealant materials are from those specified.

#### Composition and physical characteristics.

#### Surface preparation requirements.

#### Priming and application procedures.

#### Suitability of sealants for purposes intended and joint design.

#### Test report on adhesion, compatibility and staining effect on samples of materials used on Project.

#### Sealants compatibility with other materials and products with which they come in contact including but not limited to sealants provided under other Sections, insulation adhesives, bitumens, brick, stone, concrete, masonry, metals and metal finishes, ceramic tile, plastic laminates, paints.

#### Suitability of sealants for temperature and humidity conditions at time of application.

## Mock-up

### Construct mock‑ups in accordance with Section 01300 - Submittals.

### Construct mock‑ups to show location, size, shape and depth of joints, complete with back‑up material, primer, caulking and sealant. Mock‑ups may be part of the finished work.

### Allow a minimum of 2 Working Days for the inspection of the mock‑up by the Consultant before proceeding with the sealant work.

## Quality Assurance

### Arrange for the sealant manufacturer’s technical representative to visit the Site prior to the commencement of sealing, to review with the Contractor, the installer and the Consultant, the installation procedures to be adopted, the conditions under which the Work will be carried out, and to review the surfaces and joints to be sealed.

### Review the weather conditions under which the Work will be done, the anticipated frequency of joint movement, the shape factor of the joint, durometer hardness, slump, and the curing characteristics of the material specified, joint characteristics as-built, and a sample of the sealed joint in order to determine an acceptable level of workmanship.

### Submit the review comments in writing to the Consultant.

### Submit certification that the sealants which may come into contact with potable water are suitable and approved for their intended use.

## Delivery, Storage, and Handling

### Deliver and store materials in their original wrappings and containers with the manufacturer's seals and labels intact. Protect materials from freezing, moisture, water and contact with the ground or floor.

## Site Conditions

### Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding the use, handling, storage, and disposal of hazardous materials; and regarding the labelling and provision of safety data sheets in a manner acceptable to Ontario Ministry of Labour.

### Conform to the manufacturer's recommended temperatures, relative humidity, and substrate moisture content for the application and curing of sealants including any special conditions governing use.

### Ventilate the area of Work as directed by the Consultant by use of Contractor- supplied and Consultant approved portable supply and exhaust fans.

## Warranty

### Submit a 2 year warranty for the work of this Section against defects in materials and workmanship

#### Warranty Period: Commencing upon the date of Substantial Performance of the Work.

#### Defects and deficiencies include: cracking, crumbling, melting, shrinkage, sag, failure in adhesion, cohesion or reversion, air and moisture leakage, marbling or streaking due to improper mixing, discolouration due to dirt pick-up during curing and staining of adjacent materials.

## Measurement and Payment

### All costs associated with the work of this Section shall be included in the price(s) for Item No(s). \_\_\_ in the Bid Form.

# PRODUCTS

## Materials

### Where joint sealing materials come in contact with potable water, the sealant shall be NSF approved with documentation provided to the Consultant*.*

### Must comply with ASTM C920 and ASTM C1193.

### Sealant Type A: Polysulfide Two Part.

#### Self‑Leveling conforming to ASTM C 920, Type M, Grade P

##### Use: NT, I, M, G, A and/or O where needed.

### Sealant Type B: Polysulfide Two Part.

#### Non‑Sag conforming to ASTM C 920, Type M, Grade NS

##### Use: NT, I, M, G, A and/or O where needed.

### Sealant Type C: Urethanes Two Part.

#### Self‑Leveling conforming to ASTM C 920, Type M, Grade P

##### Use: NT, I, M, G, A and/or O where needed.

### Sealant Type D: Urethanes Two Part.

#### Non‑Sag conforming to ASTM C 920, Type M, Grade NS

##### Use: NT, I, M, G, A and/or O where needed.

### Sealant Type E: Silicones One Part.

#### Non‑Sag conforming to ASTM C 920, Type S, Grade NS

##### Use: NT, I, M, G, A and/or O where needed.

### Sealant Type F: Silicones One Part.

#### Non‑Sag conforming to ASTM C 920, Type S, Grade NS (Mildew resistant)

##### Use: NT, I, M, G, A and/or O where needed.

### Preformed Compressible and Non‑Compressible Back‑up Materials.

#### Polyethylene, Urethane, Neoprene or Vinyl Foam.

##### Extruded open closed cell foam backer rod.

##### Size: oversized 30 to 50 %.

#### High Density Foam.

##### 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 the manufacturer.

#### Bond Breaker Tape.

##### Polyethylene bond breaker tape which will not bond to the sealant.

### Cleaning material: Non‑corrosive and non‑staining type, compatible with joint forming materials and the sealant recommended by the sealant manufacturer.

### Primer: as recommended by the manufacturer of the sealant.

## Sealant Selection

### The following table lists the sealant type acceptable for each joint location. Use as few different sealant types as possible to meet the requirements of the Contract.

|  |  |
| --- | --- |
| **Joint Locations** | **Sealant Type(s)** |
| **Expansion/Contraction & Control Joints At:** | |
| Concrete Walls (except water-holding & below grade portions of structures) | A,C,D,E |
| Concrete Floor Slabs (except for water-holding structures) | C,D |
| Slabs Subject to Vehicle and Pedestrian Traffic | C,D |
| Masonry Walls | A,C,D |
| Exterior Insulation & Finish System | C |
| Ceramic Tile Floors | C,E,F |
| Ceramic Tile Walls | C,E,F |
| Precast Concrete Wall Panels | C,D |
| **Materials Joints At:** | |
| Metal Door, Window, & Louver Frames (Exterior) | B,C,D |
| Metal Door, Window, & Louver Frames (Interior) | B,C,D |
| Wall Penetrations (Exterior) | B,C,D |
| Wall Penetrations (Interior) | B,C,D |
| Floor Penetrations | A,C,D |
| Ceiling Penetrations | A,C,D |
| Roof Penetrations | D |
| Sheet Metal Flashings | D |
| Sheet Metal Roofing & Siding | D |
| Precast Concrete Wall Panels | A,C,D |
| Glazed Concrete Masonry Unit Joints | E |
| Precast/Prestressed Floor Panels (Interior) | A,C,D |
| Precast/Prestressed Floor & Roof Panels (Exterior) | A,D |
| **Other Joints:** | |
| Threshold Sealant Bed | D |
| Between Counter Tops & Backsplashes | F |
| Around Plumbing Fixtures | F |
| Concrete Form Snap-Tie Holes | C,D,E |

# EXECUTION

## Protection

### Protect the installed work of other trades from staining or contamination.

## Preparation

### Examine all joint sizes and conditions to establish the correct depth to width relationship for the installation of backup materials and sealants.

### Clean bonding joint surfaces of any harmful matter substances including dust, rust, oil grease, and any other matter which may impair work.

### Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure the compatibility of the materials. Remove coatings as required.

### Ensure joint surfaces are dry and frost free.

### Prepare surfaces in accordance with the manufacturer's directions.

### Where necessary to prevent staining, mask adjacent surfaces prior to priming and sealing.

### Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to sealant application.

### Apply bond breaker tape where required in accordance with manufacturer's instructions.

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

## Application

### Mix materials in strict accordance with the sealant manufacturer's instructions.

### Sealant.

#### Apply sealant in accordance with the manufacturer's written instructions.

#### Mask the edges of the joint where irregular surface or sensitive joint border exists to provide a neat joint.

#### Apply sealant in continuous beads.

#### Apply sealant using a gun with a properly sized nozzle.

#### Use sufficient pressure to fill all voids and joints solid.

#### Form the surface of the sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.

#### Tool all exposed surfaces before skinning begins to give slightly concave shape.

#### Remove any excess compound promptly as work progresses and upon completion.

### Curing.

#### Cure sealants in accordance with the sealant manufacturer's instructions.

#### Do not cover up sealants until proper curing has taken place.

## Cleaning

### Clean adjacent surfaces immediately and leave work neat and clean.

### Remove excess and droppings, using Region recommended cleaners as the Work progresses.

### Remove masking tape after the initial set of the sealant.

**END OF SECTION**