

## 1.0 **GENERAL**

### 1.1 **Related Work and UBC Guidelines**

- .1 *Section 03 33 00 Architectural Concrete*
- .2 *Division 7 – related sections therein*
- .3 *Division 8 – related sections therein*
- .4 *UBC Resilience-Based Design Guide for Nonstructural Systems*

### 1.2 **Related External Documents**

1. *Latest edition of the British Columbia Building Code (BCBC) – where applicable.*

### 1.3 **Description**

1. *Section includes joint sealants used in wall assemblies, around windows and doors (interior and exterior), including within curtainwall and storefront systems.*

### 1.4 **Coordination**

1. *The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.*
2. *In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.*
3. *These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.*
4. *The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.*
5. *The CRP is to develop envelope details and select sealants so as to obtain high performance, durability, and low-maintenance details. Details are to be reviewed by a building envelope consultant.*

### 1.5 **Submittals**

- .1 *Submit required documents to consultants in accordance with Section 013300 Submittal Procedures*
- .2 *O&M Submittals*
  - .1 *Shop drawings (including all enclosure interface details) sealed and signed by a professional engineer registered in the Province of BC.*
  - .2 *Product data and specifications, type and colour, manufacturer and distributor name.*
  - .3 *Environmental Product Declaration (EPD).*
  - .4 *Manufacturers Safety Data sheet (MSDS) for all toxic or potentially toxic materials.*
  - .5 *Manufacturer performance test data to confirm performance criteria.*
  - .6 *Maintenance data and instructions.*
  - .7 *Warranties - applicable extended warranties for each product as offered by sealant manufacturers.*

### 1.6 **Quality Control and Assurance**

- .1 *Quality Assurance*
  - .1 *Installation by trade contractor who specializes in the application of sealant systems.*
  - .2 *Incorporate quality assurance programs in the contract documents particular to the project and developed in concert with manufacturers and suppliers of this trade, and the envelope consultant.*

## 2.0 DESIGN AND PERFORMANCE REQUIREMENTS

### 2.1 *Design Requirements*

- .1 *Proper joint design to be reviewed, especially with regard to sealant movement.*
- .2 All joints to receive sealant shall be designed to be 4 times as wide as the anticipated movement. This should include movement due to thermal expansion and contraction as well as structural movement. This is of particular importance at window and door frames.
- .3 *Sealants selected on a project should be compatible with adjacent surfaces that they come into contact with.*

### 2.2 **Performance Standards**

- .1 Only high-performance elastomeric sealants are to be used. Sealants must be capable of withstanding dynamic *movement* in exterior applications for long periods of time (typically 20+ years).
- .2 *Durability of sealants is important, especially when considering the service life of the building.*

## 3.0 MATERIALS

### 3.1 *Product Selection*

- .1 Exterior weather seal sealants shall be high performance neutral cure silicone *with excellent adhesion to both porous and non-porous surfaces, high movement capability and excellent weatherability. Acceptable products are* : Dow Corning 991, 790 and 795 or GE SILPRUF and GE SILPRUF NB.
- .2 Use non-staining sealants for sensitive substrates such as stone unless testing has been done to ensure compatibility *and use of* regular sealants.

## 4.0 LESSONS LEARNED AND COMMON MISSES ON UBC PROJECTS

*Items in this section are lessons learned, and may be code or industry best practices which have been missed on past projects. If not applicable to a project, a variance is not required.*

- .1 *UBC experiences continual failures in exterior caulking around door and window frames, louver frames, in cladding joints and other areas of non-movement. Consequently, joint sealants are not to be used as a primary method of waterproofing or shedding water. Appropriate penetration details complete with flashing and counter flashing to be provided.*

\*\*\*END OF SECTION\*\*\*