

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 08 11 00 –Metal doors and frames

**1.2 REFERENCES**

- .1 ASTM International
  - .1 ASTM C542-05, Standard Specification for Lock-Strip Gaskets.
  - .2 ASTM D790-07e1, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
  - .3 ASTM D1003-07e1, Standard Test Method for Haze and Luminous Transmittance of Plastics.
  - .4 ASTM D1929-96(R2001)e1, Standard Test Method for Determining Ignition Temperature of Plastics.
  - .5 ASTM D2240-05, Standard Test Method for Rubber Property - Durometer Hardness.
  - .6 ASTM E84-10, Standard Test Method for Surface Burning Characteristics of Building Materials.
  - .7 ASTM E330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
  - .8 ASTM F1233-08, Standard Test Method for Security Glazing Materials and Systems.
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
  - .2 CAN/CGSB-12.2-M91, Flat, Clear Sheet Glass.
  - .3 CAN/CGSB-12.3-M91, Flat, Clear Float Glass.
  - .4 CAN/CGSB-12.8-97, Insulating Glass Units.
  - .5 CAN/CGSB-12.8-97 (Amendment), Insulating Glass Units.
  - .6 CAN/CGSB-12.9-M91, Spandrel Glass.
  - .7 CAN/CGSB-12.11-M90, Wired Safety Glass.
- .3 Environmental Choice Program (ECP)
  - .1 CCD-045-95(R2005), Sealants and Caulking Compounds.
- .4 Glass Association of North American (GANA)
  - .1 GANA Glazing Manual - 2008.
  - .2 GANA Laminated Glazing Reference Manual - 2009.
- .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 ADMINISTRATIVE REQUIREMENTS**

- .1 Arrange for site visit with Departmental Representative prior to start of Work to examine existing site conditions adjacent to demolition Work.

### **1.4 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 glass, sealants, and glazing accessories and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
  - .1 Submit for review and acceptance of each unit.
  - .2 Samples will be returned for inclusion into work.
  - .3 Submit one samples of glazing.
- .4 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

### **1.5 CLOSEOUT SUBMITTALS**

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

### **1.6 QUALITY ASSURANCE**

- .1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .2 Mock-ups:
  - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
  - .2 Construct mock-up to include glass glazing, and perimeter air barrier and vapour retarder seal. Mock-up will be used:
    - .1 To judge quality of work, substrate preparation, operation of equipment and material application.
  - .3 Locate where directed where indicated.
  - .4 Allow 24 hours for inspection of mock-up before proceeding with work.
  - .5 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished work.

## **1.7 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 in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect glazing from nicks, scratches, and blemishes.
  - .3 Protect prefinished aluminum surfaces with wrapping.
  - .4 Replace defective or damaged materials with new.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Design Criteria: Ensure continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:
  - .1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.
  - .2 Size glass to withstand wind loads, dead loads and positive and negative live loads acting normal to plane of glass to design pressure of to ASTM E330.
  - .3 Limit glass deflection to 1/200 flexural limit of glass with full recovery of glazing materials.
- .2 Wired glass: to CAN/CGSB-12.11, 6 mm thick.
  - .1 Type 1-polished both sides (transparent)
  - .2 Wire mesh styles 3-square.
- .3 Sealant: in accordance with manufacturer's recommendations..

### **2.2 ACCESSORIES**

- .1 Setting blocks: neoprene or EPDM, 80-90 Shore A durometer hardness to ASTM D2240, to suit glazing method, glass light weight and area.

- .2 Spacer shims: neoprene silicone, 50-60 Shore A durometer hardness to ASTM D2240, 75 mm long x one half height of glazing stop x thickness to suit application. Self adhesive on one face.
- .3 Glazing tape:
  - .1 Preformed butyl compound with integral resilient tube spacing device, 10-15 Shore A durometer hardness to ASTM D2240; coiled on release paper; black colour.
  - .2 Closed cell polyvinyl chloride foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume 2 %, designed for compression of 25 %, to effect an air and vapour seal.
- .4 Glazing splines: resilient polyvinyl chloride, extruded shape to suit glazing channel retaining slot, colour as selected.
- .5 Glazing clips: manufacturer's standard type.
- .6 Lock-strip gaskets: to ASTM C542.

### **Part 3 Execution**

#### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for glazing installation in accordance with manufacturer's written instructions.
  - .1 Verify that openings for glazing are correctly sized and within tolerance.
  - .2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.
  - .3 Visually inspect substrate in presence of Departmental Representative.
  - .4 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .5 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

#### **3.2 PREPARATION**

- .1 Clean contact surfaces with solvent and wipe dry.
- .2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- .3 Prime surfaces scheduled to receive sealant.

#### **3.3 INSTALLATION: EXTERIOR - DRY METHOD (PREFORMED GLAZING)**

- .1 Manufacturer's Instructions: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

- .2 Perform work in accordance with GANA Glazing Manual for glazing installation methods.
- .3 Cut glazing tape to length; install on glazing light. Seal corners by butting tape and sealing junctions with sealant.
- .4 Place setting blocks at 1/4 1/3 points, with edge block maximum 150 mm from corners.
- .5 Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
- .6 Install removable stops without displacing glazing tape. Exert pressure for full continuous contact.
- .7 Trim protruding tape edge.

### **3.4 INSTALLATION: INTERIOR - DRY METHOD (TAPE AND TAPE)**

- .1 Perform work in accordance with GANA Glazing Manual for glazing installation methods.
- .2 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.
- .3 Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners.
- .4 Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit.
- .5 Place glazing tape on free perimeter of glazing in same manner described.
- .6 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
- .7 Knife trim protruding tape.

### **3.5 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
    - .1 Remove traces of primer, caulking.
    - .2 Remove glazing materials from finish surfaces.
    - .3 Remove labels.
    - .4 Clean glass and mirrors using approved non-abrasive cleaner in accordance with manufacturer's instructions.
  - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

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**3.6 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 After installation, mark each light with an "X" by using removable plastic tape or paste.
- .3 Repair damage to adjacent materials caused by glazing installation.

**END OF SECTION**