

**1 GENERAL**

**1.01 REFERENCE STANDARDS**

- .1 ASTM International
  - .1 ASTM C 542-05, Standard Specification for Lock-Strip Gaskets.
  - .2 ASTM D 790-07e1, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
  - .3 ASTM D 1003-07e1, Standard Test Method for Haze and Luminous Transmittance of Plastics.
  - .4 ASTM D 1929-96 (R2001) e1, Standard Test Method for Determining Ignition Temperature of Plastics.
  - .5 ASTM D 2240-05, Standard Test Method for Rubber Property - Durometer Hardness.
  - .6 ASTM E 84-10, Standard Test Method for Surface Burning Characteristics of Building Materials.
  - .7 ASTM E 330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
  - .8 ASTM F 1233-08, Standard Test Method for Security Glazing Materials and Systems.
  - .9 ASTM F1915-05 Grade 3
- .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-12.4-M91, Heat Absorbing Glass.
  - .5 CAN/CGSB-12.6-M91, Transparent (One-Way) Mirrors.
  - .6 CAN/CGSB-12.8-97, Insulating Glass Units.
  - .7 CAN/CGSB-12.8-97 (Amendment), Insulating Glass Units.
  - .8 CAN/CGSB-12.9-M91, Spandrel Glass.
  - .9 CAN/CGSB-12.10-M76, Glass, Light and Heat Reflecting.
  - .10 CAN/CGSB-12.11-M90, Wired Safety Glass.
  - .11 CAN/CGSB-12.12-M90, Plastic Safety Glazing Sheets.
  - .12 CAN/CGSB-12.13-M91, Patterned Glass.
- .3 Glass Association of North American (GANA)
  - .1 GANA Glazing Manual - 2008.
  - .2 GANA Laminated Glazing Reference Manual - 2009.

**1.02 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 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Nunavut, Canada.

- .4 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

### **1.03 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.

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

### **1.08 AMBIENT CONDITIONS**

- .1 Ambient Requirements:
  - .1 Install glazing when ambient temperature is -5 degrees C minimum. Maintain ventilated environment for 24 hours after application.
  - .2 Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

## **2 PRODUCTS**

### **2.01 MATERIALS**

- .1 Design Criteria:
  - .1 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 1 kPa to ASTM E330.
  - .3 Limit glass deflection to 1/200 with full recovery of glazing materials.
  - .4 Wired glass: to CAN/CGSB-12.11, 6 mm thick.
    - .1 Type 1-polished both sides (transparent).
    - .2 Wire mesh styles 3-square.
- .2 Silvered mirror glass: 6 mm thick.
  - .1 Type 1B-float glass for high humidity use.
  - .2 Size: 610 mm wide x 914 mm high.

- .3 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
  - .1 VOC limit 250 g/L maximum to SCAQMD Rule 1168.
    - .1 VOC limit: 5 % maximum by weight to CCD-045.
    - .2 Ensure sealant does not contain chemical restrictions to CCD-045.

## **2.02 ACCESSORIES**

- .1 Setting blocks: neoprene, shore "A" durometer hardness 70, 6 mm high x 100 mm long width to support full width of glass or triple glass units or as recommended by window manufacturer.
- .2 Glazing Compounds: oil type to CGSB 19-GP-6 type 1-gun grade.
- .3 Sealant: Silicone base, one component, to CGSB 19-GP-9 of colour to match framing. Dow-Corning 781 or approved equal.
- .4 Glazing Gasket: flexible EPDM (Ethylene Propylene Dyene Monimer) rubber gasket.
- .5 Glazing clips: manufacturer's standard type.
- .6 Lock-strip gaskets: to ASTM C 542.
- .7 Mirror attachment accessories:
  - .1 Stainless steel clips.

## **3 EXECUTION**

### **3.01 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.
  - .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.

### **3.02 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.

### **3.03 INSTALLATION: INTERIOR WET/DRY METHOD (TAPE AND SEALANT)**

- .1 Perform work in accordance with GANA Glazing Manual and GANA Laminated Glazing Reference Manual for glazing installation methods.
- .2 Cut glazing tape to length and install 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 to ensure full contact at perimeter of light or unit.
- .5 Install removable stops, with spacer shims inserted between glazing and applied stops at 600 mm intervals, 6 mm below sight line.
- .6 Fill gaps between light and applied stop with sealant to depth equal to bite on glazing, to uniform and level line.
- .7 Trim protruding tape edge.

### **3.04 INSTALLATION: MIRRORS**

- .1 Set mirrors with adhesive, applied in accordance with adhesive manufacturer's instructions.
- .2 Set mirrors with clips. Anchor rigidly to wall construction.
- .3 Set in frame.
- .4 Place plumb and level.

### **3.05 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 mirror] 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.

### **3.06 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.
  - .1 Do not mark heat absorbing or reflective glass units.
- .3 Repair damage to adjacent materials caused by glazing installation.

### **3.07 SCHEDULE**

- .1 Refer to drawing schedules.

**END OF SECTION**