

**Part 1 General****1.1 RELATED REQUIREMENTS**

- .1 Section 09 21 16 - Gypsum Board Assemblies.

**1.2 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit catalogue details for each type of door illustrating profiles, dimensions and methods of assembly.

**1.3 SAMPLES**

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit one sample of each type of hand entry access door.
- .3 Submit one 300 x 300 mm corner sample of each type of body entry door.

**1.4 CLOSEOUT SUBMITTALS**

- .1 Provide maintenance data for cleaning and maintenance of stainless steel finishes for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

**1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management and Disposal, and with the Waste Reduction Workplan.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities. Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.

**1.6 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Apply temporary protective coating to finished surfaces. Remove coating after erection. Do not use coatings that will become hard to remove or leave residue.
- .3 Leave protective covering in place until final cleaning of building.

**ACCESS DOORS - MECHANICAL****Part 2 Products****2.1 ACCESS DOORS**

- .1 Sizes: Except as indicated otherwise, to be minimum sizes as follows:
  - .1 For body entry: 600 x 600 mm and 450 x 450 mm. Refer to ceiling plans for size.
  - .2 For hand entry: 300 x 300 mm.
- .2 Construction: Rounded safety corners, concealed hinges, screwdriver latch, anchor straps, able to open 180 degrees.
- .3 Materials:
  - .1 Prime coated steel all locations.

**Part 3 Execution****3.1 INSTALLATION**

- .1 Installation:
  - .1 Drywall surfaces: to Section 09 21 16 - Gypsum Board Assemblies.

**3.2 LOCATION**

- .1 Location: Ensure that equipment is within view and accessible for operating, inspecting, adjusting, servicing without using special tools.

**END OF SECTION**

**Part 1 General****1.1 REFERENCES**

- .1 American Society for Testing and Materials International, (ASTM).
  - .1 ASTM C920-11. Standard Specification for Elastomeric Joint Sealants.
  - .2 ASTM C1281-03(2009). Standard Specification for Preformed Tape Sealants for Glazing Applications.
  - .3 ASTM D2240-05(2010). Standard Test Method for Rubber Property - Durometer Hardness.
  - .4 ASTM E330-02(2010). Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- .2 Canadian General Standards Board (CGSB).
  - .1 CAN/CGSB-12.1-M90. Tempered or Laminated Safety Glass.
  - .2 CAN/CGSB-12.3-M91. Flat, Clear Float Glass.
  - .3 CAN/CGSB-12.8-97(2001). Insulating Glass Units.
- .3 Glass Association of North America (GANA).
  - .1 GANA Glazing Manual - 2008.

**1.2 SYSTEM DESCRIPTION**

- .1 Performance Requirements:
  - .1 Provide continuity of building enclosure vapour and air barrier using glass and glazing materials as follows: 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 a design pressure of 22 kPa as measured in accordance with ASTM E330.
  - .3 Limit glass deflection to 1/200 with full recovery of glazing materials.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide Submittals as specified in Section 01 33 00 – Submittal Procedures.
- .2 Submit manufacturer's printed product literature, specifications and data sheet. Submit two copies of WHMIS MSDS - Material Safety Data Sheets. Indicate VOC's for glazing materials during application and curing.
- .3 Submit shop drawings. Submit manufacturer's installation instructions.
- .4 Submit samples. Submit duplicate 300 x 300 mm size samples of glass and 300 mm lengths of glazing splines.
- .5 Closeout Submittals. Provide maintenance data including cleaning instructions for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

**GLAZING****1.4 QUALITY ASSURANCE**

- .1 Submit certified test reports showing compliance with specified performance characteristics and physical properties. Provide testing and analysis of glass under provisions of Section 01 45 00 - Quality Control. Provide shop inspection and testing for glass.
- .2 Provide product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

**1.5 SITE CONDITIONS**

- .1 Environmental Requirements: Install glazing when ambient temperature is 10 degrees C minimum. Maintain ventilated environment for 24 hours after application. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

**1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities. Dispose of corrugated cardboard, polystyrene and plastic packaging material in appropriate on-site bin for recycling in accordance with site Waste Management Plan.

**Part 2 Products****2.1 MATERIALS: FLAT GLASS**

- .1 Safety glass: to CAN/CGSB-12.1, transparent, 6 mm thick.
  - .1 Type 2 tempered. Provide tempered glass with tempered distortion parallel to floor in final installation. Class B-float. Category 1.
- .2 Low emissivity (LOW E) glass, 6 mm thick. Metallic coating: hard, pyrolitic.
- .3 Float glass: to CAN/CGSB-12.3, Glazing quality, 6 mm thick.

**2.2 MATERIALS: SEALED INSULATING GLASS**

- .1 Insulating glass units: to CAN/CGSB-12.8, double glazed, hermetically sealed unit, 25 mm overall thickness.
  - .1 Interior Glass: clear float glass panes.
  - .2 Exterior Glass: clear float glass panes with an SHGC of 0.51 in a 25mm insulating glass unit.
  - .3 Glass thickness: 6.0 mm.

**GLAZING**

- .4 Inter-cavity space thickness: 12.5 mm between panes.
- .5 Spacer: non metallic warm edge technology, low conductive spacer. Thickness as required to create specified cavity.
- .6 Inert gas fill: argon.
- .7 Glass coating: surface number 2, inside surface of the outer pane. Low "E" pyrolytic deposition. Clear.
  - .1 Visible Light Transmittance: 41%
  - .2 Solar Heat Gain Coefficient: 0.46
  - .3 Light to Solar Gain ratio: 1.35
  - .4 Summer Daytime U-value: 0.28

**2.3 MATERIALS**

- .1 Sealant: as specified in Section 07 92 00 - Sealants.
  - .1 Cap bead: to ASTM C920. Commercial glazing. Single or multi-component, non-acid, neutral curing, medium modulus, silicone sealant.
  - .2 Heel and Toe bead: to ASTM C920. Commercial glazing. Single or multi-component, non-acid, neutral curing, medium modulus, silicone sealant.
  - .3 Perimeter Seals: to ASTM C920. Commercial glazing. Single or multi-component, non-acid, neutral curing, medium modulus, silicone sealant.

**2.4 ACCESSORIES**

- .1 Setting blocks: Neoprene, EPDM or Silicone, 80-90 Shore A durometer hardness to ASTM D2240 to suit glazing method, weight of glass panel and surface area. Length of 25 mm for each square meter of glazing. Minimum 100 mm x width of glazing rabbet space minus 1.5 mm x height.
- .2 Spacer shims: Neoprene or 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 Balance blocks: EPDM or Neoprene, 50-60 Shore A durometer hardness to ASTM D2240. Continuous, thickness to suit application.
- .4 Glazing tapes:
  - .1 Compression: 100% solids, preformed macro-polyisobutylene / butyl rubber with integral synthetic rubber spacing rod. Coiled on release paper. Size as required for frame stop heights.
  - .2 Non-Compression: 100% solids, preformed butyl rubber to ASTM C1281. 66 Shore 00 durometer hardness to ASTM D2240. Coiled on release paper. Black colour. Size as required for frame stop heights.
  - .3 Bond breaker: pressure sensitive plastic tape. Formulated for non adhesion to sealants for installation where minimum specified depth of joint is not possible.
- .5 Glazing splines: Resilient polyvinyl chloride or silicone, extruded shape to suit glazing channel retaining slot, black colour. To approval of Manufacturer of entrance or door system.
- .6 Glazing clips: manufacturer's standard type.

**Part 3 Execution****3.1 MANUFACTURER'S INSTRUCTIONS**

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

**3.2 EXAMINATION**

- .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.

**3.3 PREPARATION**

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

**3.4 INSTALLATION**

- .1 Install glazing panels and seal into framing to meet performance criteria as specified. Perform work in accordance with manufacturer's recommendations.
- .2 Secure glazing panels from exterior.

**3.5 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated dirt.
- .2 Remove traces of primer, caulking. Remove glazing materials from finish surfaces. Remove labels after work is complete.
- .3 Clean glass using approved non-abrasive cleaner in accordance with manufacture's instructions.
- .4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .5 After installation, mark light with an "X" by using removable plastic tape or paste.

**END OF SECTION**