

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 74 19 – Waste management and disposal.
- .2 Section 05 50 00 – Metal fabrications.
- .3 Section 06 40 00 – Architectural woodwork.
- .4 Section 09 63 40 – Stone Flooring.
- .5 Section 09 65 19 – Resilient tile flooring.
- .6 Division 14.

1.2 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 119-16a, Standard Test Methods for Fire Tests of Building Construction and Materials
 - .8 ASTM E 330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
 - .9 ASTM F 1233-08, Standard Test Method for Security Glazing Materials and Systems.
 - .2 American national standards institute
 - .1 ANSI Z97.1-2015, For safety glazing materials used in buildings - safety performance specifications and methods of test
 - .3 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.
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- .4 National Fire Protection Association (NFPA).
 - .1 NFPA 80-2016, Standard for Fire Doors and Fire Windows.
 - .2 NFPA 251-2006, Standard Methods of Tests of Fire Resistance of Building Construction and Materials
 - .3 NFPA 252-2017, Standard Method of Fire Tests of Door Assemblies.
 - .4 NFPA 257-2017, Standard Method of Fire Tests for windows and glass block assemblies.
- .5 Laboratoire des assureurs du Canada (ULC).
 - .1 CAN/ULC S101-14 (5th edition), Standard Methods of Fire Endurance Tests of Building Construction and Materials.
 - .2 CAN/ULC S104-15 (4th edition), Standard Method for Fire Tests of Door Assemblies
 - .3 CAN/ULC S105-15 (4th edition), Standard Specification for Fire Door Frames Meeting the Performance Required by CAN/ULC-S104.
 - .4 CAN/ULC S106-15 (4th edition), Standard Method for Fire Tests of Window and Glass Block Assemblies.
- .6 Environmental Choice Program (ECP)
 - .1 CCD-045-95(R2005), Sealants and Caulking Compounds.
- .7 Glass Association of North American (GANA)
 - .1 GANA Glazing Manual - 2008.
 - .2 GANA Laminated Glazing Reference Manual - 2009.
- .8 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 WORK DESCRIPTION

- .1 Performance requirements
 - .1 Comply with the following requirements relating to glazing and glass materials in order to ensure the continuity of the air and water vapor barrier system of the building envelope.
 - .1 The interior glass of multiple sealed units must ensure continuity of the air and water vapor barrier system.
 - .2 The dimensions of the glazing must be determined in such a way that they resist the dead loads, the overloads due to the wind as well as the forces of pressure and wind suction calculated according to the standard ANSI / ASTM E330.
 - .3 The maximum bending of the glazing must not exceed 1/200, and this deformation must not in any way alter the physical properties of the glass materials.

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting 1 week prior to beginning work of this Section and on-site installation, with Contractor's Representative and Departmental Representative, which will cover the following:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's written installation instructions and warranty requirements.
- .2 Arrange for site visit with Departmental Representative prior to start of Work to examine existing site conditions adjacent to demolition Work.

- .3 Ensure key personnel, site supervisor and subcontractor representatives attend.
- .4 Departmental Representative will submit written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.

1.5 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 Province of Quebec, Canada.
- .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate mm size samples of 300mm x 300mm and sealant material.
- .5 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .6 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
 - .1 Submit testing and analysis of glass under provisions of Section 01 45 00 - Quality Control.

1.6 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.

1.7 QUALITY ASSURANCE

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

1.8 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, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Protect prefinished aluminum surfaces with strippable coating.
 - .3 Replace defective or damaged materials with new.
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- .4 Waste Management and Disposal:
 - .1 Waste Management and Disposal
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.
 - .2 Packaging Waste Management: remove for reuse of pallets, crates, padding, and packaging materials in accordance with Section 01 74 19 - Waste Management and Disposal.

1.9 AMBIENT CONDITIONS

- .1 Ambient Requirements:
 - .1 Install glazing when ambient temperature is 10 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.

1.10 WARRANTY

- .1 Provide a written warranty, issued in the name of the owner, certifying that the fire-rated glass work specified in this section will be free from all defects in materials and components as well as labor, for a period of five (5) years and that the glazing is free of any material obstructing the vision, for a period of ten (10) years, starting from the date of delivery.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Design Criteria:
 - .1 Limit glass deflection to 1/200 flexural limit of glass with full recovery of glazing materials.
- .2 Flat Glass:
 - .1 Float glass: to CAN/CGSB-12.3, glazing quality, 6 mm thick.
 - .2 Sheet glass: to CAN/CGSB-12.2, AA-special selected, 6 mm thick.
 - .3 Safety glass: to CAN/CGSB-12.1, transparent, 6 mm thick.
 - .1 Type 2-tempered.
 - .2 Class B-float.
 - .3 Category 1.

2.2 ELEVATOR CAB GLAZING

- .1 Matte glass type VE1, in accordance with standards ASTM C1048 and ANSI Z97.1, having the following characteristics:
 - .1 Ultra-clear Clear Vision float glaze, 6mm thick, clear tempered, acid-etched finish (mat) on side 1
 - .2 Backing (side 2) is coated with a white lacquer chosen by the Departmental Representative
 - .3 Edges: chamfered
- .2 Glossy glaze type VE2, in accordance with standard ASTM C1048 and ANSI Z97.1, having the following characteristics:
 - .1 Ultra-clear Clear Vision float glass, 6mm thick, clear tempered,
 - .2 Backing (side 2) is coated with a white lacquer chosen by the Departmental Representative
 - .3 Edges: chamfered

- .3 Prepare the glaze, pre-drilled to receive the fastening rods for the handrails and bumpers. Leave sufficient space between the glass and the fastening rod of the handrails and bumpers.

2.3 ACCESSORIES

- .1 Silicone-based adhesive, for interior application, type recommended by the glass manufacturer.
- .2 Double-sided rubber-based adhesive tape, for mounting type recommended by the glass manufacturer.
- .3 Glazing clips: manufacturer's standard type.
- .4 Lock-strip gaskets: to ASTM C 542.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTION

- .1 Compliance: comply with manufacturer's written requirements, recommendations and specifications, including technical bulletins and installation instructions specified in product catalogs and on packing boxes, as well as technical data sheets.

3.2 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.
- .2 To avoid a distortion effect, ensure that when applying the lacquer and soaking, the glass panels are placed in the same direction as their installation

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - 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 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 00 - Cleaning.

3.4 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by glazing installation.

END OF SECTION
