

PART 1 - GENERAL

1.1 SUMMARY

1. Section includes the following products:
 1. Float glass
 2. Safety glass, including laminated and tempered glass.
 3. Heat-strengthened glass.
 4. Tinted glass.
 5. Reflective glass.
 6. Polished wire glass.
 7. One-way mirror glass.
 8. Spandrel glass.
2. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 1. Windows.
 2. Doors.
 3. Glazed curtain walls.
 4. Storefront framing.
 5. Glazed entrances.
 6. Sloped glazing.
 7. Skylights.
 8. Interior borrowed lites.
3. Types of items not described in this Section:
 1. Glass panels in decorative metal railings.
 2. Patterned glass.
 3. Decorative glass glazing.
 4. All-glass entrances and storefronts.
 5. Structural-sealant-glazed curtain walls.
 6. Mirrors.
 7. Fire-resistant glazing.
 8. Security glazing.

1.2 DEFINITIONS

1. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
2. Glass Thicknesses: Indicated by thickness designations in millimetres according to ASTM C 1036.
3. Interspace: Space between lites of an insulating-glass unit.

1.3 PERFORMANCE REQUIREMENTS

1. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

2. Delegated Design: For glass panels having a dimension in any one direction 1500 mm or greater design glass, including comprehensive engineering analysis according to CAN/CGSB-12.20 by a qualified professional engineer, using the following design criteria:
 1. Design Wind Loads: Calculated as per the National Building Code of Canada for project location, type of building and adjacent site conditions, but in no case less than 1.4 KPa and in no case less than loadings containing in *Cladding Wind Load Estimates*, if so attached with this project Manual.
 2. Design Snow Loads: As per the National Building Code of Canada for project location, type of building and adjacent site conditions.
 3. Minimum Glass Thickness for Exterior Lites: Not less than 6.0 mm.
 4. Thickness of Tinted and Heat-Absorbing Glass: Provide the same thickness for each tint colour indicated throughout Project.
 5. Probability of Breakage for Sloped Glazing: For glass surfaces sloped more than 15 degrees from vertical, design glass for a probability of breakage not greater than 0.001.
 6. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 25 mm, whichever is less.
 7. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.
 8. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
 1. Temperature Change: 67 deg C, ambient; 100 deg C, material surfaces.

1.4 ACTION SUBMITTALS

1. Product Data: For each glass product and glazing material indicated.
2. Glass Samples: For each type of [glass product other than clear monolithic vision glass] [the following products]; 300 mm square.
 1. Tinted glass.
 2. Coated glass.
 3. Wired glass.
 4. Laminated glass with coloured interlayer.
 5. Insulating glass.
3. Glazing Accessory Samples: For gaskets and sealants, in 300-mm lengths. Install sealant Samples between two strips of material representative in colour of the adjoining framing system.
4. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

1. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for tinted glass, coated glass, and insulating glass.
 1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.
2. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

1. **Installer Qualifications:** An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance.
2. **Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings:** A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.
3. **Source Limitations for Glass:** Obtain tinted float, glass coated float glass, laminated glass, and insulating glass from single source from single manufacturer for each glass type.
4. **Source Limitations for Glazing Accessories:** Obtain from single source from single manufacturer for each product and installation method.
5. **Glazing Publications:** Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 1. **GANA Publications:** GANA's *Laminated Glazing Reference Manual* and GANA's *Glazing Manual*.
 2. **AAMA Publications:** AAMA GDSG-1, *Glass Design for Sloped Glazing*, and AAMA TIR-A7, *Sloped Glazing Guidelines*.
 3. **IGMA Publication for Sloped Glazing:** IGMA TB-3001, *Guidelines for Sloped Glazing*.
 4. **IGMA Publication for Insulating Glass:** SIGMA TM-3000, *North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use*.
6. **Insulating Glass Certification Program:** Permanently marked either on spacers or at least one insulating unit component with appropriate certification label of inspecting and testing agency indicated below:
 1. **Insulating Glass Manufacturers Alliance (IGMA) or Insulating Glass Manufacturers Association of Canada (IGMAC)**
7. Provide safety glass permanently marked with the company name or logo and CAN/CGSB-12.1-M if the product meets categories 1 and 2, or mark as CAN/CGSB 12.1-M-1 if the product meets the requirements of Category 1 only.

1.7 DELIVERY, STORAGE, AND HANDLING

1. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
2. Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.8 PROJECT CONDITIONS

1. **Environmental Limitations:** Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
 1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 4.4 deg C.

1.9 WARRANTY

1. **Manufacturer's Special Warranty for Coated-Glass Products:** Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.
 1. Warranty Period: 10 years from date of Substantial Completion.
2. **Manufacturer's Special Warranty on Laminated Glass:** Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
 1. Warranty Period: Five years from date of Substantial Completion.
3. **Manufacturer's Special Warranty on Insulating Glass:** Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
 1. Warranty Period: 10 years from date of Substantial Completion.
4. **Manufacturer's Special Warranty for Opacifer Coatings on Spandrel Glass:** Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.
 1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

1. **Thickness:** Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
 1. Minimum Glass Thickness for Exterior Lites: Not less than 6.0 mm.
 2. Thickness of Tinted Glass: Provide same thickness for each tint colour indicated throughout Project.
2. **Strength:** Where float glass is indicated, provide annealed float glass, heat-treated float glass, or fully tempered float glass as needed to comply with *Performance Requirements* Article. Where heat-strengthened glass is indicated, provide heat-treated float glass or fully tempered float glass as needed to comply with *Performance Requirements* Article. Where tempered glass is indicated, provide fully tempered float glass.

2.2 GLASS PRODUCTS

1. **General**
 1. Thickness: Unless otherwise indicated, provide 6 mm.
 2. Tint: Unless otherwise indicated, provide clear glass.

3. Reflective Coating: Unless otherwise indicated, no reflective coating is required.
4. Provide safety glazing labelling for units fully tempered or laminated.
2. Float Glass: CAN/CGSB-12.3, Quality, Glazing.
3. Tinted Float Glass: CAN/CGSB-12.4-M.
 1. Provide tinted glass only if a colour is indicated.
4. Heat-Treated Float Glass: CAN/CGSB 12.9-M, Type 2, Heat-Strengthened Glass, Class A-Float Glass.
5. Safety Glass: CAN/CGSB 12.1-M, and one of the following:
 1. Laminate float glass.
 2. Fully tempered float glass
 3. Laminated fully tempered float glass.
6. Fully Tempered Glass: CAN/CGSB 12.1-M, Type 2, Tempered Glass, Class B-Float Glass.
7. Wired Glass: CAN/CGSB 12.11-M90.
8. Transparent (One-Way) Mirror: CAN/CGSB-12.6.
9. Reflective-Coated Vision Glass: CAN/CGSB-12.10, coated by pyrolytic process or vacuum deposition (sputter-coating) process, and complying with other requirements specified.
 1. Heat-strengthened, except laminated and tempered for sloped glazing.
 2. Coating Colour: Unless otherwise indicated, provide silver colour.
10. Spandrel Glass: CAN/CGSB-12.9-M, Type 1-Tempered Glass or Type 2-Heat Strengthened Glass, Class A-Float Glass.
 1. Coating: Ceramic or silicone coating.
 1. Coating Colour: Unless otherwise indicated, then selected by Public Works Representative from manufacturer's full range.
 2. Opaque Coating Location:
 1. Monolithic glass units: Second surface.
 2. Insulated glass units: Fourth surface.
 3. Fallout Resistance: Passes fallout-resistance test in ASTM C 1048 for an assembly of glass and adhered reinforcing material.
 4. Reflective Spandrel Glass: Factory apply manufacturer's standard opacifier of the following material, with resulting products complying with Specification No. 89-1-6 in GANA's Tempering Division's *Engineering Standards Manual*:
 1. Manufacturer's standard opacifier material.
 5. Use Type 1 Tempered Glass when installed in doors, sidelights, and glass lites within 900 mm of finished floor.

2.3 LAMINATED GLASS PRODUCTS

1. Laminated Glass: CAN/CGSB 12.1-M, Type 1. Use materials that have a proven record of no tendency to bubble, discolour, or lose physical and mechanical properties after fabrication and installation.
 1. Glass:
 1. Glass Type: float glass, unless otherwise noted, or otherwise required to meet performance criteria.
 2. Glass thickness: As required to meet the performance criteria but in no case less than 6 mm.

2. Construction: Laminate glass with polyvinyl butyral interlayer or cast-in-place and cured-transparent-resin interlayer to comply with interlayer manufacturer's written recommendations.
 3. Interlayer:
 1. Interlayer Thickness: Provide thickness as required to comply with performance requirements but in no case less than 1.52 mm for sloped glazing and 0.76 mm for all other glazing.
 2. Interlayer Colour: Clear, unless otherwise indicated.
 4. Coatings: Unless otherwise noted, no coatings are required.
2. Provide safety glazing labelling.

2.4 INSULATING GLASS PRODUCTS

1. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to CAN/CGSB-12.8, and complying with other requirements specified.
 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary.
 2. Spacer: Manufacturer's standard high-performance spacer material and construction.
 3. Desiccant: Molecular sieve or silica gel, or blend of both.
 4. Overall Unit Thickness: 25 mm.
 5. Thickness of Each Glass Lite: as required to meet the performance criteria but in no case less than 6.0 mm.
 6. Interspace Content: Unless otherwise indicated, provide Argon gas.
 7. Low-E Coating: Unless otherwise indicated, provide Solarban 60 Low-E coating as marketed by PPG Architectural Glass or equivalent, applied to third surface.
 8. Glass Type:
 1. Doors, sidelights, and glass lites between heated and unheated paces and within 900 mm of finished floor: Safety glass.
 2. Spandrel Panels: Spandrel glass.
 3. Curtain wall: Heat strengthened, unless otherwise required to meet performance requirements.
 4. All other locations: provide float glass, unless a stronger glass is required to meet the performance criteria.
 9. Reflective Coating: Unless otherwise indicated, no reflective coating is required.
 1. Provide any reflective coatings required on second surface, unless otherwise noted.

2.5 GLAZING GASKETS

1. Dense Compression Gaskets: Moulded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:
 1. Neoprene complying with ASTM C 864.
 2. EPDM complying with ASTM C 864.
 3. Silicone complying with ASTM C 1115.
 4. Thermoplastic polyolefin rubber complying with ASTM C 1115.
2. Soft Compression Gaskets: Extruded or moulded, closed-cell, integral-skinned neoprene, EPDM, silicone, or thermoplastic polyolefin rubber gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.
 1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.
3. Lock-Strip Gaskets: Neoprene extrusions in size and shape indicated, fabricated into frames with moulded corner units and zipper lock-strips, complying with ASTM C 542, black.

2.6 GLAZING SEALANTS

1. General:

1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Sealants used inside the weatherproofing system, shall have a VOC content of not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
4. Colours of Exposed Glazing Sealants: As selected by Public Works Representative from manufacturer's full range.

2. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.7 GLAZING TAPES

1. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and non-migrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 1. AAMA 804.3 tape, where indicated.
 2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
2. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
 1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
 2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.8 MISCELLANEOUS GLAZING MATERIALS

1. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
2. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
3. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
4. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
5. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
6. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.9 FABRICATION OF GLAZING UNITS

1. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
2. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.
3. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

1. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 2. Presence and functioning of weep systems.
 3. Minimum required face and edge clearances.
 4. Effective sealing between joints of glass-framing members.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

1. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
2. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.3 GLAZING, GENERAL

1. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
2. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
3. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
4. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
5. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
6. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

7. Provide spacers for glass lites where length plus width is larger than 1270 mm.
 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 2. Provide 3-mm minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
 8. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
 9. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
 10. Set glass lites with proper orientation so that coatings face exterior or interior as specified.
 11. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
 12. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.
- 3.4 TAPE GLAZING
1. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
 2. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
 3. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
 4. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
 5. Do not remove release paper from tape until right before each glazing unit is installed.
 6. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- 3.5 GASKET GLAZING (DRY)
1. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
 2. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints mitre cut and bonded together at corners.

3. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weather tight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
 4. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weather tight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
 5. Install gaskets so they protrude past face of glazing stops.
- 3.6 SEALANT GLAZING (WET)
1. Use sealant glazing method only if all other glazing methods are inappropriate.
 2. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
 3. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
 4. Tool exposed surfaces of sealants to provide a substantial wash away from glass.
- 3.7 LOCK-STRIP GASKET GLAZING
1. Comply with ASTM C 716 and gasket manufacturer's written instructions. Provide supplementary wet seal and weep system unless otherwise indicated.
- 3.8 CLEANING AND PROTECTION
1. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove non-permanent labels and clean surfaces.
 2. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.
 3. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.
 4. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

5. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.9 GLAZING SCHEDULE

1. Provide glass units fabricated from clear, uncoated float glass, unless noted otherwise.
 1. Provide glass units installed in doors and frames located within 900 mm of the finished floor fabricated using safety glass, unless noted otherwise.
 1. Provide glass units installed in doors and frames located in fire separations fabricated from polished wired glass, unless noted otherwise.
 2. Provide heat-strength or fully tempered glass where required to meet performance requirements.
2. Provide insulated glass units between heated and unheated spaces, and where noted otherwise.
 1. Provide monolithic glass units in all other locations, unless noted otherwise.

END OF SECTION