A blue and white logo

AI-generated content may be incorrect.

SECTION 08810 (08 81 10)

ARCHITECTURAL GLASS GLAZING

CSI 3-Part Specification Guide

\*\* NOTE TO SPECIFIER \*\* GGI (General Glass International), architectural glass.

This section is based on the products of GGI (General Glass International), which is located at:

101 Venture Way

Secaucus, NJ 07094-1808

Toll Free: 800-431-2042

Phone: 201-553-1850

Fax: 201-553-1851

Email: [sales@generalglass.com](mailto:sales@generalglass.com), designassist@generalglass.com

Website: [www.generalglass.com](http://www.generalglass.com)

Since 1900, General Glass International (GGI) has been a leading custom fabricator and distributor of architectural glass, offering decorative, fire-rated, bird-friendly, and other specialty solutions for commercial façades, interior environments, and public art installations. With five generations of expertise, GGI combines global sourcing, local fabrication, and national distribution to deliver glass that is functional, aesthetic, and environmentally responsible— supported by precision workmanship and a commitment to long-term value. **Built on legacy. Driven by innovation.**

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. All glass entrance systems.
    2. Back-painted glass.
    3. Direct-to-glass printing on glass.
    4. Fire rated glass.
    5. Float glass.
    6. Glass markerboards.
    7. Glass surface protection.
    8. Mirrors.
    9. Patterned glass.
    10. Satin etched glass.
    11. Spandrel glass.
    12. Ultra-Clear Low iron glass.
    13. Wire glass.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 08410 - Metal-Framed Store Fronts.
    2. Section 08500 - Windows: Exterior Windows.
    3. Section 08910 - Metal Framed Curtain Wall.
  1. SUBMITTALS
     1. Submit under provisions of Section 01300.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern and color.
    2. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect’s review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard to compare with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in per manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  2. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  3. WARRANTY
     1. Manufacturer’s standard limited warranty unless indicated otherwise.

\*\* NOTE TO SPECIFIER \*\* Delete if not required or delete application option not required.

* + - 1. Enhance - Glass Surface Protection
         1. Interior Applications: A limited lifetime warranty.
         2. Exterior Applications: 10-year warranty.
      2. Direct-to-Glass Printing (Alice®)
         1. Interior or exterior applications: 10-year warranty from date of manufacture.

\*\* NOTE TO SPECIFIER \*\* Verify availability of warranties and warranty periods with products specified in Part 2. Note that glass manufacturers typically begin the warranty period at the date of manufacture. Fill in blank below or delete line as applicable. Delete options for warranty period not required.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: GGI (General Glass International), which is located at: 101 Venture Way; Secaucus, NJ 07094-1808; ASD Toll Free: 800-431-2042; Phone: 201-553-1850; Fax: 201-553-1851; Email: sales@generalglass.com; www.generalglass.com.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs: coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01600.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. ALL GLASS ENTRANCE SYSTEMS

\*\* NOTE TO SPECIFIER \*\* Specify the dimensions and desired hardware for the doors, sidelites, transom and fins if applicable and the GGI team will handle the rest, including defining the optimal door size based on the opening dimensions and all aspects of design.

* + 1. All Glass Entrance Systems:

\*\* NOTE TO SPECIFIER \*\* Delete entrance system location and construction options not required.

* + - 1. Entrance System Location: Exterior.
      2. Entrance System Location: Interior.
      3. Construction: Fully-tempered glass; standard.
      4. Construction: Laminated glass.

\*\* NOTE TO SPECIFIER \*\* Delete the following options not required.

* + - 1. Door Style: Swing doors.
      2. Door Style: Sliding doors.
      3. Door Style: Stacking doors.
      4. Door Style: Sidelites.
      5. Glazing: Clear.
      6. Glazing: Ultra Clear Low iron.
      7. Glazing: Satin etched.
      8. Glass Thickness: 3/8 inch (10 mm).
      9. Glass Thickness: 1/2 inch (13 mm).
      10. Glass Thickness: 5/8 inch (16 mm).
      11. Glass Thickness: 3/4 inch (20 mm).
      12. Decorative Doors and Storefronts: Customized with Alice Direct-to-Glass Printing.

\*\* NOTE TO SPECIFIER \*\* Extensive choice of hardware including standard and custom door pulls, and exit devices such as panic, EG, deadbolt handles, and more. Contact manufacturer for more information.

* + - 1. Hardware: \_\_\_\_\_\_\_\_.
      2. Hardware Finish: \_\_\_\_\_\_\_.
      3. Hardware Finish: Custom-painted.
      4. Hardware Finish: Powder-coated.
      5. Door Sizes: As detailed on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. BACK-PAINTED GLASS
     1. Basis of Design: Back Painted Glass as manufactured by GGI for Back-Painted.
        1. High-Opacity Coverage. Water based paint, machine sprayed and cured.
        2. Interior Use: Where glass is viewed from non-painted side; wall cladding, backsplashes, furniture, and markerboards. Additional backing is not required.

\*\* NOTE TO SPECIFIER \*\* Other glass types available. Contact manufacturer for more information.

* + - 1. Float Glass: Base glass unless specified otherwise.
         1. Annealed: ASTM C1036, Type I Transparent Flat, Class 1 - Clear, Quality-Q3.
         2. Heat-Strengthened, Tempered: ASTM C1048, Kind HS and FT.
         3. Tempered Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria.
         4. Tinted: ASTM C1036, Class 2 Tinted, Quality-Q3.

Color and performance characteristics as indicated.

* + - * 1. Patterned: ASTM C1036, Type II Patterned Flat Glass, Quality-Q5, Form 3,

Color and performance characteristics as indicated.

* + - 1. Glass Units: Type G-12 - Back Painted Glass. Painted on one surface and highly opaque, silk screened with ceramic frit, or roller coat, or sprayed.
         1. Glass Tint: Ultra clear low iron, or Clear.
         2. Glass Type: Fully tempered or heat strengthened.
         3. Glass Thickness: 3/16 to 3/4 inches (5 to 19 mm).

\*\* NOTE TO SPECIFIER \*\* Standard colors and custom matching of RAL and Pantone colors. Custom colors and patterns are available by special order. Delete color options not required.

* + - 1. Colors: \_\_\_\_\_\_\_\_.
      2. Colors: As determined by the Architect.
      3. Color: As detailed on the Drawings.
      4. Fabrication:
         1. Annealed: Yes.
         2. Tempering: Prior to painting.
         3. Polishing: Yes.
         4. Drilling and Notching: Yes.
         5. Laminating: No.
         6. Bending: No.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. DIRECT-TO-GLASS PRINTING ON GLASS

\*\* NOTE TO SPECIFIER \*\* Delete basis of design option not required.

* + 1. Basis of Design: Alice® Direct-to-Glass Printing (on glass) as manufactured by GGI. Extremely Durable Ceramic Frit: Fused into ultra-clear low iron glass creating permanent designs.
       - 1. UV, fade, and scratch-resistant.
         2. Suitable for interior or exterior applications.
         3. Unique panel sizes and shapes may be incorporated.
       1. High Resolution Printing: Large format, fine lines, typography, complex images, photographs, artwork adaptation, and material imitation.
       2. Precision Processing and Printing: Print images one-on-top of the other, creating different views on each side of glass.
          1. Tile single images across entire façade or walls. Glass Materials:
          2. Digital imaging may be applied to one or more surfaces of the glass substrate, insulating, or laminated glass configuration.

\*\* NOTE TO SPECIFIER \*\* Other glass types available. Contact manufacturer for more information.

* + - * 1. Float Glass: Base glass unless specified otherwise.

Heat-Strengthened, Tempered: ASTM C1048, Kind HS and FT.

Tempered Safety Glass: ANSI Z97.1 and 16 CFR 1201.

* + - * 1. Laminated Glass: Float glass laminated per ASTM C1172.
        2. Laminated Safety Glass: Per ANSI Z97.1 and 16 CFR 1201 test requirements
        3. Glass Thickness: 3/16 to 3/4 inches (5 to 19 mm).
      1. Applications: As indicated on drawings.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Colors: \_\_\_\_\_\_\_\_.
      2. Colors: As indicated on drawings.
      3. Printing Style: As indicated on drawings.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. FIRE-RATED GLASS
     1. Basis of Design: PyroGuard 20 Series as fabricated by GGI.
        1. Fire-rated 3-PLY laminated glass material listed for use in impact safety-rated locations such as doors.
           1. Wire-free laminated glass for door lites.
           2. Intumescent interlayer protecting against radiant heat.
           3. UV stability for interior and exterior applications.
           4. Exposed Glazing: Maximum dimensions.

Area: 1404 sq in (0.906 sq m).

Width: 28 inch (711 mm). Height: 62 inch (1575 mm).

* + - 1. Fire Rated Glazing: Composed of wired glass with a surface-applied fire-rated film.
         1. Thickness: 5/16 inches (7.2 mm).
         2. Weight: 2.4 lbs per sq ft (11.72 kg per sq m).
         3. Fire-rating: 20 minutes without hose stream for doors.
         4. Impact Safety Resistance: ANSI Z97.1 Class U/B and/or CPSC 16CFR1201 Cat. I. Positive Pressure Test: UL 10C; passes.
      2. Labeling: Permanently label each piece with, UL logo and fire rating, and appropriate marks as approved by local authority having jurisdiction.
      3. Fire Rating: Fire rating classified and labeled by UL for fire rating scheduled at opening locations on drawings, when tested in accordance with:

\*\* NOTE TO SPECIFIER \*\* Delete standards options not required.

* + - * 1. ASTM E2010-01,
        2. ULC Standards CAN4 S-104 and CAN4 S-106
        3. NFPA 257
        4. UL 9 and UL 10C.
      1. Glazing Tape: Closed cell polyvinyl chloride foam, coiled on release paper over adhesive on two sides. Maximum water absorption by volume of 2 percent.
      2. Silicone Sealant: One-part neutral curing silicone, medium modulus sealant, Type S; Grade NS; Class 25 with additional movement capability of 50 percent in both extension and compression; total 100 percent.
         1. Dow Corning 795 - Dow Corning Corp.
         2. Silglaze-II 2800 - General Electric Co.
         3. Spectrem 2 - Tremco Inc.
      3. Setting Blocks: Neoprene, EPDM, or silicone; tested for compatibility with glazing compound; of 70 to 90 Shore A hardness.
      4. Cleaners, Primers, and Sealers: As recommended by manufacturer.
    1. Basis of Design: PYRAN Platinum; manufactured by Schott; fabricated by GGI.
       1. Fire-rated glass ceramics are designed to delay spread of fire, hot gases and smoke. Provides high thermal shock resistance and stays transparent. Available with surface-applied film or laminated, meeting safety impact code requirements. Use with fire-rated frames with same rating. May be used in insulating glass units. May be lightly sandblasted or delivered with surface-applied opacity film.
       2. Standards Compliance:
          1. Classified and labeled by Underwriters Laboratories, Inc. for United States and Canada under File No. R22036.
          2. Fire Tests: Per UL 9, UL 10C, UBC 7-2 (1997), UBC 7-4 (1997), NFPA 257, NFPA 80, ASTM E2010 -01, ASTM E2074-00, and ULC CAN4-S106.

\*\* NOTE TO SPECIFIER \*\* Delete platinum options not required.

* + - 1. Pyran Platinum: Fire-rating. 90 minutes.
         1. Floated glass-ceramic does not require polishing.
         2. Impact Rating: None.
      2. Pyran Platinum F: Fire-rating. 90 minutes. 189 minutes indoors.
         1. Floated glass-ceramic; surface applied film. Does not require surface polishing.
         2. Impact Rating: ANSI Z97.1 Class A and CPSC 16 CFR1201 Cat. l and ll.
      3. Pyran Platinum L: Fire-rating. 90 minutes. 189 minutes in doors.
         1. Specially floated glass-ceramic does not require polishing.
         2. Impact Rating: ANSI Z97.1 Class A and CPSC 16 CFR1201 Cat. l and ll.
         3. STC Rating: 36 dB Approximately.
      4. Sustainability: Meets LEED Innovation in Design requirements.
         1. Cradle to Cradle Certified Silver by MBDC.
         2. Qualifies for Environmentally Preferred Purchasing Program (EPP).
      5. General Characteristics:
         1. Thickness: 3/16 inches (5 mm).
         2. Weight: 2.5 lbs per sq ft (12.2 kg per sq m).
         3. Clear. Must have neutral coloration free of amber tints.
         4. Surface Finish: Float glass quality.
         5. Transparent and wireless.
         6. Withstands thermal shock.
         7. Conforms to positive pressure test standards.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. FLOAT GLASS
     1. Basis of Design: Float Glass as furnished by GGI.
        1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
        2. Heat-Strengthened, Tempered: ASTM C1048, Kind HS and FT.
        3. Tempered Safety Glass: ANSI Z97.1 and 16 CFR 1201.

\*\* NOTE TO SPECIFIER \*\* Delete glazing types and options not required.

* + - 1. Glazing Type: Clear glass. Transparent glass with a subtle green tint.
         1. Fabrication: Alice Direct-to-Glass Printing.
         2. Fabrication: Enhance single or double sided surface protection.
         3. Fabrication: Laminated.
         4. Fabrication: Tempered.
         5. Fabrication: Insulated.
         6. Thickness: Up to 3/4 inch (20 mm).

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for sizes.

* + - * 1. Sizes: \_\_\_\_\_\_\_\_.
      1. Glazing Type: Low-iron glass. Ultra-clear float glass for the highest level of visible light transmission and truest color rendering when viewing objects through the glass. Ultra-Clear with its signature blue edge is available by request.
         1. Fabrication: Alice Direct-to-Glass Printing.
         2. Fabrication: Back painted.
         3. Fabrication: Enhance single or double sided surface protection.
         4. Fabrication: Laminated.
         5. Fabrication: Tempered.
         6. Fabrication: Insulated.
         7. Product: Cut-to-size.

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - * 1. Thickness: 3/16 inch (5 mm)
        2. Thickness: 1/4 inch (6 mm).
        3. Thickness: 3/8 inch (10 mm).
        4. Thickness: 1/2 inch (13 mm).
        5. Thickness: 3/4 inch (20 mm).

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for sizes.

* + - * 1. Sizes: \_\_\_\_\_\_\_\_.
      1. Glazing Type: Tinted float. Reduces solar heat gain, UV and glare inside a building.
         1. Fabrication: Alice Direct-to-Glass Printing.
         2. Fabrication: Back-painted.
         3. Fabrication: Enhance single or double-sided surface protection.
         4. Fabrication: Laminated.
         5. Fabrication: Tempered.
         6. Fabrication: Insulated.
         7. Product: Cut-to-size.

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - * 1. Thickness: 1/8 inch (3 mm).
        2. Thickness: 3/16 inch (5 mm).
        3. Thickness: 1/4 inch (6 mm).
        4. Thickness: 3/8 inch (10 mm).
        5. Thickness: 1/2 inch (13 mm).

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for sizes.

* + - * 1. Sizes: \_\_\_\_\_\_\_\_.
        2. Color Tint: Bronze.
        3. Color Tint: Green.
        4. Color Tint: Grey.
        5. Color Tint: Ultra-Clear Low Iron Glass.
      1. Glazing Type: Solarcool reflective glass. Reflects solar heat gain.
         1. Solarcool is applied on first or second surface facing outwards.

First Surface: Bright metallic. Mutes tinted glass substrate color.

Second Surface: Adds reflectivity. Deepens hue of tinted glass substrate.

* + - * 1. Fabrication: Alice Direct-to-Glass Printing.
        2. Fabrication: Back painted.
        3. Fabrication: Enhance single or double sided surface protection.
        4. Fabrication: Laminated.
        5. Fabrication: Tempered.
        6. Fabrication: Insulated.
        7. Thickness: 1/4 inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for sizes.

* + - * 1. Sizes: \_\_\_\_\_\_\_\_.
        2. Color Tint: Bronze.
        3. Color Tint: Grey.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. GLASS MARKERBOARDS
     1. Basis of Design: MAX™ Glassboards (glass marker boards) as manufactured by GGI. Interior applications only. Easy to clean, no staining. No special cleaning agent required. Non-porous hygienic surface.

\*\* NOTE TO SPECIFIER \*\* Delete customization options not required or delete entire paragraph.

* + - 1. Customization:
         1. Shapes: As detailed on the Drawings.
         2. Shapes: \_\_\_\_\_\_\_\_.
         3. Cut-outs, holes and notches: As detailed on the Drawings.
         4. Cut-outs, holes and notches: \_\_\_\_\_\_\_\_.
         5. Color back-painting. As detailed on the Drawings.
         6. Color back-painting. \_\_\_\_\_\_\_\_.
         7. Custom printed designs made easy. As detailed on the Drawings.
         8. Custom printed designs made easy. \_\_\_\_\_\_\_\_.
         9. Simulated chalkboards: Green or black.
         10. Simulated chalkboards: Black.
      2. Markerboard Attributes:

\*\* NOTE TO SPECIFIER \*\* Custom Sizes Are Available. Delete attribute options not required.

* + - * 1. Sheet Size (inch/mm): \_\_\_\_\_\_\_\_.
        2. Sheet Size; Minimum: 12 x 12 inch (305 x 305 mm).
        3. Sheet Size; Maximum: 70 x 144 inch (1778 x 3658 mm).
        4. Glass Thickness; Single-Sided: 3/16 to 1/4 inch (5 to 6 mm).
        5. Glass Thickness; Double-Sided: 3/8 to 1/2 inch (10 to 13 mm).
        6. Glass Type: Clear.
        7. Glass Type: Ultra-Clear Low-Iron..
        8. Glass Type: Crystal Light for a soft matte finish
        9. Magnetic.
        10. Non-Magnetic.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. GLASS SURFACE PROTECTION
     1. Basis of Design: Enhance Glass protection as fabricated by GGI.
        1. Standards Compliance: ASTM C1036 Type 1 transparent quality Q-3. ASTM C-1048, ASTM C1172, ASTM C1323, ASTM C1624, ASTM C1674, ASTM C813, ASTM C912, and ASTM D2486.
        2. Environmentally Responsible: Can contribute to LEED credits.
        3. Ultra-thin coating to protect glass surfaces from corrosion excessive exposure to water, high-humidity, minerals, dirt and other contaminants.
           1. Permanent and invisible.
           2. Protects from staining over time.
           3. Highly-resistant to UV.

\*\* NOTE TO SPECIFIER \*\* Delete application option not required.

* + - 1. Application: 1-sided.
      2. Application: 2-sided.
      3. Exterior Glass Types:
         1. Clear Float Glass; green hue.
         2. Colored, cast, special or stained glass.
         3. Clear and ultra-clear low iron glass.
         4. Satin etched glass.
         5. Digitally-printed glass.
         6. Patterned glass.
         7. Tempered, annealed or heat strengthened; monolithic, laminated, and IGU,
         8. Spandrel or other non-vision glass types.
         9. Balustrade, guard rail, balcony or other life safety glass types.
         10. Interior Glass Types:

Sliding glass doors and windows.

Door and side lites and transoms.

* + - * 1. Specialty Glass:

Bullet rated, Bomb rated or other specialty impact glass.

Overhead skylights and slope glass.

Curtain wall or ribbon wall sections.

Satin etched and sand blasted design glass.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. MIRRORS

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required.

* + 1. Basis of Design: Antique Mirror as fabricated by GGI.
       1. Select materials and provide supports to limit mirror material deflection to 1/200, or to the flexure limit of glass, with full recovery of glazing materials, whichever is less.
       2. Glass Type: Antique Mirror. Clear annealed float glass per ASTM C1036.
          1. Thickness: 1/4 inch (6 mm).
       3. Fabrication: Safety Backing to meet ANSI Z97.1-1984, HUD, CPSC, CAN 2-12.1, 16CFR1201 Category II

\*\* NOTE TO SPECIFIER \*\* Maximum Size: 48 x 96-1/2 inches (1219 x 2400 mm). Delete size options not required.

* + - * 1. Size: As dimensioned in the Drawings.
        2. Size: As determined by the Architect.
        3. Size (WxH): \_\_\_\_\_\_ inch (\_\_\_\_\_\_ mm).

\*\* NOTE TO SPECIFIER \*\* Delete pattern and edges options not required.

* + - * 1. Pattern: Arcobaleno
        2. Pattern: Bianco E Nero.
        3. Pattern: Cometa.
        4. Pattern: Golden Antique.
        5. Pattern: Grigio Argento.
        6. Pattern: Luna.
        7. Pattern: Meteora.
        8. Pattern: Policromo.
        9. Pattern: Policromo Cobalto.
        10. Pattern: Saturno.
        11. Pattern: Tramonto.
        12. Edges: Chamfered arris.
        13. Edges: Flat polished.
        14. Edges: Pencil polished
        15. Edges: Flat ground
        16. Edges: Seamed.
    1. Basis of Design: Clear Mirror as fabricated by GGI.
       1. Select materials and provide supports to limit mirror material deflection to 1/200, or to the flexure limit of glass, with full recovery of glazing.
       2. Glass Type: Clear, annealed float glass per ASTM C1036.
       3. Fabrication: Safety Backing to meet ANSI Z97.1-1984, HUD, CPSC, CAN 2-12.1, 16CFR1201 Category II

\*\* NOTE TO SPECIFIER \*\* Delete thickness option not required.

* + - * 1. Thickness: 1/4 inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for sizes.

* + - * 1. Size: As dimensioned in the Drawings.
        2. Size: As determined by the Architect.
        3. Size (WxH): \_\_\_\_\_\_ inch (\_\_\_\_\_\_ mm).
    1. Basis of Design: Ultra Clear Low Iron Mirror as fabricated by GGI.
       1. Mirror Design Criteria: Select materials and provide supports to limit mirror material deflection to 1/200, or to the flexure limit of glass, with full recovery of glazing
       2. Glass Type: Ultra clear low iron float glass.
          1. Thickness: 1/4 inch (6.4 mm).

\*\* NOTE TO SPECIFIER \*\* Maximum Size: 84 x 120 inches (2134 x 3048 mm). Delete size options not required.

* + - * 1. Size: As dimensioned in the Drawings.
        2. Size: As determined by the Architect.
        3. Size (WxH): \_\_\_\_\_\_ inch (\_\_\_\_\_\_ mm).
    1. Basis of Design: Ultra Clear Low Iron Satin Mirror as fabricated by GGI.
       1. The look of silvered stainless steel. When beveled or grooved, the surface becomes a reflective mirror.
       2. Mirror Design Criteria: Select materials and provide supports to limit mirror material deflection to 1/200, or to the flexure limit of glass, with full recovery of glazing.
          1. Glass Type: Ultra clear low iron float glass.
          2. Thickness: 1/4 inch (6 mm).
       3. Fabrication: Safety Backing to meet ANSI Z97.1-1984, HUD, CPSC, CAN 2-12.1, 16CFR1201 Category II

\*\* NOTE TO SPECIFIER \*\* Maximum Size: 88-1/2 x 126 inches (2248 x 3200 mm). Delete size options not required.

* + - * 1. Size: As dimensioned in the Drawings.
        2. Size: As determined by the Architect.
        3. Size (WxH): \_\_\_\_\_\_ inch (\_\_\_\_\_\_ mm).
    1. Basis of Design: One-Way Mirror as fabricated by GGI.
       1. One-way vision glass creates an opaque mirror-like visual barrier between subjects while allowing observers to see through the glass.
       2. Glass Type: Mirropane on Grey Glass as manufactured by Pilkington.

\*\* NOTE TO SPECIFIER \*\* Maximum Size: 96 x 130 inches (2438 x 3302). Delete size options not required.

* + - * 1. Size: As dimensioned in the Drawings.
        2. Size: As determined by the Architect.
        3. Size (WxH): \_\_\_\_\_\_ inch (\_\_\_\_\_\_ mm).
    1. Basis of Design: Tinted Mirror as fabricated by GGI.
       1. Mirror Design Criteria: Select materials and provide supports to limit mirror material deflection to 1/200, or to the flexure limit of glass, with full recovery of glazing.
       2. Glass Type: Tinted, ultra-clear low iron float glass, satin etched
          1. Thickness: 1/4 inch (6 mm).
       3. Fabrication: Safety Backing to meet ANSI Z97.1-1984, HUD, CPSC, CAN 2-12.1, 16CFR1201 Category II

\*\* NOTE TO SPECIFIER \*\* Maximum Size: 84 x 120 inches (2134 x 3048 mm). Delete size options not required.

* + - * 1. Size: As dimensioned in the Drawings.
        2. Size: As determined by the Architect.
        3. Size (WxH): \_\_\_\_\_\_ inch (\_\_\_\_\_\_ mm).

\*\* NOTE TO SPECIFIER \*\* Delete tint color options not required.

* + - * 1. Tint Color: Black.
        2. Tint Color: Bronze.
        3. Tint Color: Gold.
        4. Tint Color: Grey.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. PATTERNED GLASS
     1. Basis of Design Patterned Glass as fabricated by GGI:
        1. Glass Materials: Float Glass unless specified otherwise.
           1. Annealed: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
           2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.
           3. Tempered Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria.
           4. Patterned Glass: ASTM C1036, Type II - Patterned Flat Glass, Quality-Q5, Form 3 - Patterned glass, color and performance characteristics as indicated.
        2. Glazing Units: Type G-11 - Patterned Glazing. Rolled or textured glass; translucent, showing shadows but not form.
           1. Applications: Locations as indicated on drawings.
           2. Finish: F1 - Patterned one side; ASTM C1036.
           3. Pattern: P1 - Linear; ASTM C1036.
           4. Style: As indicated on drawings.
           5. Tint: Clear.

\*\* NOTE TO SPECIFIER \*\* Delete glass pattern and fabrication and thickness options not required. Some patterns may not be temperable in 1/8 inch (3 mm) thicknesses. Verify with GGI,

* + - * 1. Glass Patterns: Altdeutsch K. A freeform pattern also known as Glacier

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (5 mm).

* + - * 1. Glass Patterns: Antique. Manufactured by Schott in Germany with ultra-clear, low-iron glass with a vertical draw production process. Also known as German New Antique or GNA. The 3 mm product ranges from 0.098 to 0.118 inches (2.5 to 3 mm) in thickness and is non-temperable.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Aqualite. A mottled surface obscures views with a classic pattern similar to Aquatex and Spraylite.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 3/16 inch (5 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Artico.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

* + - * 1. Glass Patterns: Autumn.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Bubbles. Reminiscent of the surface of foam or water drops on a glass.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Cast. A rolled pattern with a free-flowing, organic pattern.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Chinchilla. A classic European design that creates a surface of soft fur.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

* + - * 1. Glass Patterns: Cotswold. A deeply textured pattern resembling tree bark.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Delta Frost. Thick layers of frost pattern are created with sandblasting for additional obscurity.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

* + - * 1. Glass Patterns: Diamond Cast Wire. A rough texture with 11/4 inch (6 mm) wire mesh to ensure privacy.

Fabrication: Laminated.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Flemish. The look of hand-blown glass without the seeds and bubble for a slight distortion in clear glass. Also known as English Flemish.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Flemish Low Iron. The look of hand-blown glass without the seeds and bubble for a slight distortion in low iron glass. Also known as English Flemish.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Georgian Stipolite Wire.

Fabrication: Laminated.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm). Size: 48 x 72 inch (1219 x 1829 mm).

* + - * 1. Glass Patterns: Glue Chip. Glue is applied to glass and as it dries and contracts, it creates a distinctive and totally unique design. Available in Single and Double (process is applied to same surface twice).

Fabrication: Back painting.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

Thickness: 3/16 inch (5 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Master Carre. A high-end, rolled glass with substantive, widely spaced dot grid for visual separation with plenty of light transmission.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Master Ligne. A high-end, rolled glass with uninterrupted vertical lines that diffuse light and offer privacy.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Master Point. A collection of fine lines diffuses light and offers privacy.

Fabrication: Laminated.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

* + - * 1. Glass Patterns: Master Ray: A grid of short, horizontal lines creates privacy and allows for plenty of light transmission.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Monumental. Similar to Aqualite, but with deeper patterning of organic forms for a more distinctive appearance.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Morisco.

Fabrication: Laminated.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

* + - * 1. Glass Patterns: Rain. Patterned after water cascading over a surface.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

Thickness: 5/32 inch (4 mm).

Thickness: 3/16 inch (5 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Reeded: Reeds spaced 1/2 inch (13 mm) apart create subtle distortion for limited obscurity and lots of light. Available in low-iron as well.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Seedy Import.

Fabrication: Laminated.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

* + - * 1. Glass Patterns: Seedy

Fabrication: Laminated.

Fabrication: Tempered. (Seedy Temperable Available.)

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

* + - * 1. Glass Patterns: Small Cross Reed

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 3/16 inch (5 mm).

* + - * 1. Glass Patterns: Thin Ribbed Clear

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (5 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Thin Ribbed Low Iron

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (5 mm).

Thickness: 1/4 inch (6 mm).

* + - * 1. Glass Patterns: Stipolite.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 3/32 inch (2 mm).

Thickness: 1/8 inch (3 mm).

Thickness: 5/32 inch (4 mm).

Thickness: 3/16 inch (5 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Stream Low Iron

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painting.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 3/16 inch (5 mm).

* + - * 1. Glass Patterns: Taffeta.

Thickness: 5/32 inch (4 mm).

* + - * 1. Glass Patterns: Textured Flutes.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 3/16 inch (5 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glass Patterns: Thin Ribbed.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (5 mm).

Thickness: 1/4 inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for thicknesses and sizes.

Thickness (inch/mm): \_\_\_\_\_\_\_\_.

Size (inch/mm): \_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SATIN ETCHED GLASS
     1. Basis of Design: Pearl™ Satin Etched Glass as fabricated by GGI. Smooth, pearl-like finish etched directly into glass. Does not wear down or degrade. Consistent smooth finish and appearance with no peeling or discoloration.
        1. Float Glass: Base glazing unless specified otherwise.
           1. Annealed: ASTM C1036, Type I – Transparent Flat, Class 1 – Clear, Quality-Q3.
           2. Heat-Strengthened, Tempered: ASTM C1048, Kind HS and FT.
           3. Tempered Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria.
        2. Glazing Units: Type G-17 - Satin etched glazing. Etched glass patterns as full-coverage or as discrete designs, applied to single side or to both sides.
           1. Applications: Locations as indicated on drawings.

\*\* NOTE TO SPECIFIER \*\* Delete glass type and glass thickness options not required.

* + - * 1. Glass Type: Clear Fully tempered, Heat Strengthened or Monolithic glass system.

Single-sided etched 1/4 inch (6 mm) thick. Light Transmission: 81 percent.

Single-sided etched 3/8 inch (9 mm) thick. Light Transmission: 80 percent.

Single-sided etched 1/2 inch (13 mm) thick. Light Transmission: 80 percent.

* + - * 1. Glass Type: Ultra clear low iron Satin Etched Glass as manufactured by GGI.

Single-sided etched 1/4 inch (6 mm) thick. Light Transmission: 91 percent.

Single-sided etched 3/8 inch (9 mm) thick. Light Transmission: 90 percent.

Single-sided etched 1/2 inch (13 mm) thick. Light Transmission: 90 percent.

Two-sided etched 1/4 inch (6 mm) thick. Light Transmission: 81 percent.

Two-sided etched 3/8 inch (9 mm) thick. Light Transmission: 80 percent.

Two-sided etched 1/2 inch (13 mm) thick. Light Transmission: 80 percent.

Two-sided Cross fuzzy 1/2 inch (13 mm) thick. Light Transmission: 83 percent.

Two-sided Illusion lines 1/2 inch (13 mm) thick. Light Transmission: 83 percent.

Two-sided Venetian blinds 3/8 inch (9 mm) thick. Light Transmission: 83 percent.

Two-sided Venetian blinds 1/2 inch (13 mm) thick. Light Transmission: 83 percent.

Two-sided Wavy lines 3/8 inch (9 mm) thick. Light Transmission: 83 percent.

Two-sided Wavy lines 1/2 inch (13 mm) thick. Light Transmission: 83 percent.

\*\* NOTE TO SPECIFIER \*\* Delete either the one or two sided pattern options not required.

* + - * 1. Glass Type: Patterned, One-Sided:
        2. Glass Type: Patterned, Two-Sided: Ideal for vertical interior applications such as partitions and walls. Create a three-dimensional.

\*\* NOTE TO SPECIFIER \*\* Delete pattern options not required.

Pattern: Bamboo. Thickness: 1/4 inch (6 mm).

Pattern: Coral. Thickness: 1/4 inch (6 mm).

Pattern: Coral. Thickness: 3/8 inch (9 mm).

Pattern: Coral. Thickness: 1/2 inch (13 mm).

Pattern: Dots. Thickness: 1/4 inch (6 mm).

Pattern: Dots. Thickness: 3/8 inch (9 mm).

Pattern: Dots. Thickness: 1/2 inch (13 mm).

Pattern: Ice. Thickness: 1/4 inch (6 mm).

Pattern: Ice. Thickness: 3/8 inch (9 mm).

Pattern: Ice. Thickness: 1/2 inch (13 mm).

Pattern: Ice. Thickness: 1/4 inch (6 mm).

Pattern: Ice. Thickness: 3/8 inch (9 mm).

Pattern: Ice. Thickness: 1/2 inch (13 mm).

Pattern: Lines. Thickness: 1/4 inch (6 mm).

Pattern: Lines. Thickness: 3/8 inch (9 mm).

Pattern: Lines. Thickness: 1/2 inch (13 mm).

Pattern: Linen. Thickness: 1/4 inch (6 mm).

Pattern: Linen. Thickness: 3/8 inch (9 mm).

Pattern: Linen. Thickness: 1/2 inch (13 mm).

\*\* NOTE TO SPECIFIER \*\* General Glass International (GGI) is an approved Factory Fabricator. Delete article if not required.

* 1. FACTORY ASSEMBLED SITE INSTALLED SILICONE-COATED EXTERIOR SPANDREL GLASS

\*\* NOTE TO SPECIFIER \*\* Copy paragraph for each type of spandrel glass required for the Project.

* + 1. Spandrel Glass:
       1. Basis of Design Water-Based Silicone Coating: OPACI-COAT-300. Manufactured by ICD High Performance Coatings + Chemistries. Fabricated by GGI an ICD Approved Standards Compliance: ASTM C1048, Type I, Condition C, Quality-Q3.
       2. Factory Fabricator
          1. Coating Color: \_\_\_\_\_\_\_\_. Number: \_\_\_\_\_\_\_\_.
          2. Match Paint Manufacture Color: Name: \_\_\_\_\_\_\_\_. Number: \_\_\_\_\_\_\_\_.
          3. Harmonize with Vision Glass Type: \_\_\_\_\_\_\_\_.
          4. Coating Location: Second surface.
          5. Weakening of Glass: Tested to not lower tensile strength of heat-treated glass.
          6. Coating Inspection: Pass ASTM C1048 at 10 feet for absence of pin holes, voids, screen marks and small opaque particles.
          7. Fallout-resistance: Pass ASTM C1048 for assembly of glass and adhered reinforcing material.

Coating Thickness: 13 mil wet film applied to 1/4 inch (6 mm) tempered glass.

* + - * 1. Adhesion:

Peel Adhesion: Pass ASTM C794.

Cross Hatch Adhesion: Achieve 5B on ASTM D3359.

Pull Off Adhesion: Achieve 400 PSI on ASTM D4541.

* + - * 1. Durability: Passes National Glass Association Specification No. 89-1-69 without bubbles, peeling, crazing, cracking, tunneling, shrinking, staining, discoloration, or delamination.
      1. Material Sustainability:
         1. HPD v2.1.1 threshold level 100 ppm.
         2. Living Future Institute: Contains No Red List Materials.
      2. Monolithic Glass: For interior wall cladding applications.
         1. Type: Float.
         2. Type: Heat-strengthened.
         3. Type: Fully tempered.
         4. Glass Clarity: Clear.
         5. Glass Clarity: Low Iron/Ultra clear.
         6. Glass Clarity: Tinted. Tint Color: \_\_\_\_\_\_\_\_.
         7. Minimum Thickness: 1/4 inch (6 mm).
         8. Minimum Thickness: \_\_\_\_ inch (\_\_\_\_ mm).
      3. Insulating Glazing Unit Type: \_\_\_\_\_\_\_\_.
      4. Accessory Materials:
         1. Materials required by manufacturer for a warrantable installation of installed products in a manner that meets the Performance and Design Criteria.
         2. Materials required to comply with coating manufacturers current Compatible Materials List. Neoprene gaskets and setting blocks will not be allowed.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. ULTRA CLEAR LOW IRON GLASS
     1. Basis of Design: Low-Iron Glass as fabricated by GGI. Ultra-clear for the highest visible light transmission. Provides a virtually colorless aesthetic and the truest color rendering for back-painting and Alice Direct-to-Glass Printing. Excellent quality and clarity.
        1. Thicknesses: Up to 3/4 inches (19 mm).
        2. Ultra-Clear Low Iron Glazing Options:

\*\* NOTE TO SPECIFIER \*\* Delete delete glazing type paragraphs and options not required.

* + - * 1. Glazing Type: Anti-Reflective 1-Sided:

Optical coating eliminates 99 percent of reflection, while providing very high light transmission. To be laminated to another piece of anti-reflective glass to achieve full effect.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glazing Type: Anti-Reflective 2-Sided:

Optical coating eliminates 99 percent of reflection, while providing very high light transmission.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

Thickness: 1/2 inch (13 mm).

* + - * 1. Glazing Type: Anti-Reflective Laminated:

Eliminates 99 percent of reflection, while providing very high light transmission. Two laminated glass pieces, with coating on both exterior surfaces.

Thickness: 3/16 inch (5 mm).

Thickness: 1/2 inch (13 mm).

* + - * 1. Glazing Type: Antique: Manufactured by Schott in Germany with ultra-clear, low-iron glass Also known as German New Antique or GNA. Non-temperable.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/8 inch (3 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glazing Type: Low-Iron.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painted.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Product: Cut-to-size.

\*\* NOTE TO SPECIFIER \*\* contact manufacturer for sizes.

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

Thickness: 1/2 inch (13 mm).

* + - * 1. Glazing Type: Ultra clear low iron Crystal Light.

A softer finish than traditional satin etched glass on a low-iron glass substrate.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Back painted.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

Thickness: 1/2 inch (13 mm).

* + - * 1. Glazing Type: Ultra clear low iron Mirror.

Thickness: 1/4 inch (6 mm).

* + - * 1. Glazing Type: Ultra clear low iron Satin Etch:

Virtually colorless glass, with etched surface on one or both sides for a level of translucence that allows the sharing of light between spaces without compromising privacy.

Fabrication: Alice Direct-to-Glass Printing. Only on one-sided.

Fabrication: Laminated. Only on one-sided.

Fabrication: Tempered. Only on one-sided.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

Thickness: 1/2 inch (13 mm).

* + - * 1. Glazing Type: Ultra clear low iron Satin Mirror.

The look of silvered stainless steel. When beveled or grooved, the surface becomes a reflective mirror.

Thickness: 1/4 inch (6 mm).

* + - * 1. Glazing Type: Reeded:

Reeds spaced 1/2 inches (13 mm) apart create subtle distortion for limited obscurity and lots of light. Available in low-iron as well.

Fabrication: Alice Direct-to-Glass Printing.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (6 mm).

Thickness: 3/8 inch (10 mm).

* + - * 1. Glazing Type: Thin Ribbed:

Ribs are 1/8 inch (3 mm) wide and run parallel to the long dimension.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 5/32 inch (4 mm).

Thickness: 1/4 inch (1/4 mm).

* + - * 1. Glazing Type: Venetian Blinds: Low-Iron Satin Etched Glass.

Two-sided offset line pattern for added interest, allowing designers to choose which side of the space should be very private and the other with just a hint of privacy.

Fabrication: Laminated.

Fabrication: Tempered.

Fabrication: Enhance single or double sided surface protection.

Fabrication: Insulated.

Thickness: 3/8 inch (10 mm).

Thickness: 1/2 inch (13 mm).

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. WIRE GLASS
     1. Basis of Design: New Wire Glass as fabricated by GGI:
        1. Interior applications. Fire-rating is not affected by which surface has the film.
        2. Meets impact safety standards ANSI Z97.1 Class A.

\*\* NOTE TO SPECIFIER \*\* Delete fire rating options not required.

* + - 1. Fire Ratings: UL certifications for 20 minutes.
      2. Fire Ratings: UL certifications for 45, minutes.
      3. Fire Ratings: UL certifications for 60 minutes.
      4. Fire Ratings: UL certifications for 90 minutes.
      5. Glass: Type G-10 - Safety Wired Glazing: Flat glass with embedded wire mesh.
         1. Applications: Locations as indicated on drawings.
         2. Tint: Clear.
         3. Glass Type: Annealed.
         4. Thickness: 1/4 inch (6 mm) nominal.
         5. Weight: 3.85 lbs. per sq ft (18.8 kg per sq m).
         6. Visible Light Transmittance: Approximately 78 percent.

\*\* NOTE TO SPECIFIER \*\* Delete form and mesh options not required.

* + - * 1. Form: No. 1 - Polished both sides.
        2. Form: No. 2 - Patterned Surfaces per ASTM C1036.
        3. Mesh: M1 - Diamond.
        4. Mesh: M2 - Georgian, square, per ASTM C1036.
      1. Must be glazed into appropriate fire-rated framing.
      2. Appropriate glazing compounds, such as Fiberfrax tape, closed cell PVC and Pemko FG300S45, must be used.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer’s Services: Coordinate manufacturer’s services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturers recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION