SECTION 09 62 83

STRUCTURAL GLASS FLOORING

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\*\* NOTE TO SPECIFIER \*\* Glass Flooring Systems; walkable skylights and glass flooring.
This section is based on the products of Glass Flooring Systems, which is located at:
6 Aaron Way
Sparta, NJ 07871
Tel: 862-701-5320
Email: [request info (wayne@glassflooringsystems.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Glass+Flooring+Systems&coid=50268&rep=&fax=&message=RE:%20Spec%20Question%20(09683gfs):%20%20&mf=)
Web: <https://www.glassflooringsystems.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos50/arc50268.html) ] for additional information.
Glass Flooring Systems specializes in complete walkable-skylights and glass-flooring systems. Our patented framing systems have a host of innovative features that fully address the shortcomings in traditional glass floors and skylights. As the industry leader in structural walk-on glass, we not only offer innovative walkable glass products, we provide an extensive array of glass-floor components and offer unbeatable product support.
Headquartered in Whippany, NJ, Glass Flooring Systems is a full-service manufacturing firm that designs, produces, assembles, and ships walkable skylights and glass-flooring products anywhere in the world. Why do we lead the industry? Because we not only design and build walkable glass systems, we've also had all our products independently tested and approved for listing with the NFRC, Energy Star, and Florida Product Approval. We do this to ensure we're providing superior quality and to make it as easy and seamless as possible for our products to be integrated into your designs.
We've brought many revolutionary glass-floor-design elements to market and we're constantly introducing innovative new features and solutions to the industry. In addition to our complete systems, we can also manufacture custom walkable skylight panels or glass flooring panels to complete your project with the best-quality glass in the industry. The possibilities are limited only by your imagination.
Glass Flooring Systems offer superior components, comprehensive design and building support, and unmatched flexibility. Because we provide complete systems, there is no need to source individual components from various manufacturers to create a skylight or floor system. Together, all of these advantages result in products that are an unbeatable value.
Glass Flooring Systems isn't just a manufacturer - we're your partner, working together to ensure the result is exceptional.
every time.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete products not required.

* + 1. Walkable Skylights: Thermally broken.
			1. Recessed configuration.
			2. Pedestal-pavers configuration.
		2. Interior glass flooring.
		3. Exterior glass decking system.
		4. Structural glass stair treads, landings, and fixturing hardware.
		5. Glass bridge and catwalk systems.
		6. Structural glazing for walkable glass applications.
		7. Anti-slip surface texture for glazing.
	1. REFERENCES
		1. American Architectural Manufacturers Association (AAMA).
			1. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2008 and 2011.
			2. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).
		2. American National Standards Institute (ANSI):

\*\* NOTE TO SPECIFIER \*\* ASTM C1028 was withdrawn in 2014 and therefore not listed in this specification. Glass Flooring Systems are tested according to and complies with ANSI A326.3

* + - 1. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
			2. ANSI Z97.1 - For Safety Glazing Materials Used In Buildings - Safety Performance Specifications And Methods Of Test.
			3. ANSI/NFRC 100-2014: "Procedure for Determining Fenestration Product U-Factors".
			4. ANSI/NFRC 200-2014: "Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence".
		1. ASTM International (ASTM):
			1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
			2. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.
			3. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass.
			4. ASTM C1184 - Standard Specification for Structural Silicone Sealants.
			5. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
			6. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
			7. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
			8. ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
			9. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
			10. ASTM E2751 - Standard Practice for Design and Performance of Supported Laminated Glass Walkways.
		2. Code of Federal Regulations(CFR):
			1. Part 1201 - Safety Standard for Architectural Glazing Materials.
		3. Florida Department of Business and Professional Regulation (DBPR):
			1. FL22835 - Sky Lights / Skylights.
		4. International Building Code:
			1. IBC 2409.1 - Glass walkways.
		5. International Code Council (ICC):
			1. ICC-ES Evaluation Report ESR-5009
		6. National Fenestration Rating Council (NFRC).
			1. NFRC 500-2014: "Procedure for Determining Fenestration Product Condensation
			2. Resistance Values".
			3. Therm 7.x / Window 7.x NFRC Simulation Manual (Approved at test date).
			4. NFRC 2010 Technical Interpretations Manual.
		7. Window and Door Manufacturers Association (WDMA).
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Submit manufacturer's standard product data for each type of product.
		3. Shop Drawings: Include fabrication and installation details.
			1. Include plans, elevations, sections, and details and their connections. Show anchorage and accessory items.
			2. Provide templates for anchors and bolts specified for installation under other Sections.
		4. Samples for Verification: For each type of structural glass flooring and accessory, approximately 6 inches square and of same thickness and material indicated for the Work and showing the full range of normal color, pattern and texture variations expected.

\*\* NOTE TO SPECIFIER \*\* Glass Flooring Systems is the top glass flooring systems manufacturer. Structural-glass systems require engineering to ensure optimal functionality and safely. Engineering is essential to what we do. We offer a depth and breadth of engineering services unmatched in the industry.

* + 1. We are capable of certifying our glass flooring system designs in all 50 states of the USA.
		2. Delegated-Design Submittal: For framing and glazing indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by professional engineer responsible for their preparation and licensed in the project location.
			1. Pre-engineered systems based on various live load requirements.
			2. PDF, AutoCAD, and BIM format drawings.
			3. Sealed/stamped state-specific shop drawings.
			4. Glass-specific engineering reports.
			5. Glass and frame engineering reports.
			6. Framing/system load charts.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum 2 years experience manufacturing similar products.
		2. Installer Qualifications: Minimum 2 years experience installing similar systems, and acceptable to the structural glass flooring manufacturer.
		3. Delegated Design: Engineer glass flooring systems, including comprehensive engineering analysis by a qualified professional engineer licensed in the jurisdiction of the project.
			1. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of metal fabrications that are similar to those indicated for this Project in material, design, and extent.
		4. Source Limitations: Obtain each type of structural glass flooring panels and components from one source with resources to provide materials and products of consistent quality in appearance and physical properties.
		5. Physical Performance: Provide structural glass flooring, including anchorage, capable of withstanding, without defects, the effects of the following:
			1. Structural loads, including wind, snow, seismic or other anticipated loads.
			2. Thermal movements.
			3. Movements of supporting structure.
			4. Dimensional tolerances of building frame and other adjacent construction.
		6. Performance: Provide structural glass flooring which does not exhibit any of the following defects after installation:
			1. Water leakage.
			2. Noise or vibration created by wind and thermal and structural movements.
			3. Framing members transferring stresses to glazing.
			4. Loosening or weakening of fasteners, attachments, and other components.
			5. Sealant failure.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver, store and handle glass flooring systems as recommended by manufacture. Store off the ground to prevent contamination by mud, dust, or other materials likely to cause staining or other defects.

\*\* NOTE TO SPECIFIER \*\* The Manufacturer offers Nemo Grabo battery powered suction cups for sale on their website.

* + 1. Glass Handling: Glazing Industry suction cups.
	1. WARRANTY
		1. Manufacturer's standard limited warranty.
			1. Products Covered: ' System' means only products supplied by Glass Flooring System and installed by an authorized installer or in accordance with proper installation procedures.
			2. Warranty Terms: The following is the term for each component of the System.
				1. Framing Components: 10 years.
				2. Laminated Glass: 2 years.
				3. Insulated Glass: 2 years.
				4. Paint: 2 years.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Glass Flooring Systems, which is located at: 6 Aaron Way; Sparta, NJ 07871; Tel: 862-701-5320; Email: [request info (wayne@glassflooringsystems.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Glass+Flooring+Systems&coid=50268&rep=&fax=&message=RE:%20Spec%20Question%20(09683gfs):%20%20&mf=); Web: <https://www.glassflooringsystems.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 the provisions of Section 01 60 00 - Product Requirements.

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

* 1. WALKABLE SKYLIGHTS

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

* + 1. Basis of Design: SkyFloor Walkable Skylights Series 1000 as engineered and manufactured by Glass Flooring Systems Inc.
			1. Standards Compliance:
				1. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2008 and 2011.
				2. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
				3. ANSI/NFRC 100-2014 - Procedure for Determining Fenestration Product U-Factors.
				4. ANSI/NFRC 200-2014: - Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence.
				5. ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
				6. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
				7. FL22835 - Skylights. Florida Product Approval's stringent requirements.
				8. ENERGY STAR rated.
			2. Application: Exterior.
			3. Configuration: Exterior, integrated with pedestal pavers.
			4. Configuration: Recessed.
			5. Configuration: Customized to meet project design requirements.

\*\* NOTE TO SPECIFIER \*\* Delete thermally broken system option if not required.

* + - 1. Thermally Broken System: Azon poured and debridged continuous barrier between exterior framing elements and interior living space.
			2. Frame Construction: Independent, self-supported structural framing.
				1. Live Load Capacity: Engineered for 100 lbs per sq ft (4.79 kPa).
				2. Aluminum 6063-T6. Reduces weight for faster installation.
				3. Stepped Frame Assembly: Shifts weight away from the IG spacer.

Designed-in, snap-on setting gasket.

* + - * 1. Waterproofing Barrier: Fully welded seamless top cap.
				2. Flashing: Designed to meet application performance requirements.
				3. Painted Finish per AAMA 2605: PPG Coraflon paint.

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

Frame Color: White.

Frame Color: Black.

Frame Color: Custom. As determined by the Architect.

Frame Color: As detailed on the Drawings.

Frame Color: \_\_\_\_\_\_\_\_\_.

* + - 1. Insulated Structural Glazing: Engineered for passive redundancy.
				1. Triple layer. 3/8 inch (10 mm). Float glass. Laminated, tempered for strength, security, and maximum energy efficiency.
				2. Interlayers: Structural Saflex DG or SentryGlas.

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

Interlayer: Clear.

Interlayer: Digital printed.

Interlayer: Decorative mesh.

Interlayer: Colored as determined by the Architect from Manufacturer's selection.

Finish: Nexus-T.

* + - * 1. Gas Filled: Argon or Krypton for optimal thermal performance.
				2. Spacer Sealer: Quanex Tri-Seal Super Spacer. Thermally efficient insulated-glass warm-edge spacers.
				3. Low-Iron: Enhances beauty and improves glass clarity.
				4. Coating: Guardian Glass low-E.
				5. Back Painted: Around perimeter for a clean, crisp appearance.

\*\* NOTE TO SPECIFIER \*\* Anti-slip surface textures can be found in the "Anti-SlipSurface Texture for Glazing" Article. Fill in the anti-slip surface texture required or delete paragraph and specify in the "Anti-SlipSurface Texture for Glazing" Article.

* + - * 1. Anti-Slip Surface Texture Walking Surface: \_\_\_\_\_\_\_\_.
			1. Fasteners: 316 stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete edge lighting if not required.

* + - 1. Edge Lighting: Perimeter LED light channel with frosted-lens diffuser. LEDs not included.
		1. Basis of Design: SkyFloor Walkable Skylights Series 2000 Ultra-High Performance as engineered and manufactured by Glass Flooring Systems Inc.
			1. Standards Compliance:
				1. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2008 and 2011.
				2. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
				3. ANSI/NFRC 100-2014 - Procedure for Determining Fenestration Product U-Factors.
				4. ANSI/NFRC 200-2014: - Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence.
				5. FL22835 - Skylights. Florida Product Approval's stringent requirements.
				6. ENERGY STAR rated.
			2. Application: Exterior.
			3. Configuration: Exterior, integrated with pedestal pavers.
			4. Configuration: Recessed.
			5. Configuration: Customized to meet project design requirements.

\*\* NOTE TO SPECIFIER \*\* Delete thermally broken system option if not required.

* + - 1. Thermally Broken System: Polymide 66 extrusion. An Ensinger Insulbar design.
			2. Frame Construction: Independent, self-supported structural framing.
				1. Live Load Capacity: Engineered for 100 lbs per sq ft (4.79 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete if not required. The mechanical glass-hold down system is not required if uplift pressures are not an issue.

* + - * 1. Mechanical glass-hold down system to restrict uplift pressures.
				2. Aluminum 6063-T6. Reduces weight for faster installation.
				3. Stepped Frame Assembly: Shifts weight away from the IG spacer.

Designed-in, snap-on setting gasket.

* + - * 1. Integrated internal gutter/weep system in perimeter and rafter framing members.
				2. Rafter Supports: Available in ' I' and ' T' shapes.
				3. Flashing: Designed to meet application performance requirements.
				4. Painted Finish per AAMA 2604:

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

Frame Color: White.

Frame Color: Black.

Frame Color: Custom. As determined by the Architect.

Frame Color: As detailed on the Drawings.

Frame Color: \_\_\_\_\_\_\_\_\_.

* + - 1. Insulated Structural Glazing: Engineered for passive redundancy.

\*\* NOTE TO SPECIFIER \*\* Double pane insulation units are available. Contact the manufacturer for more details.

* + - * 1. Triple layer. 3/8 inch (10 mm). Float glass. Laminated, tempered for strength, security, and maximum energy efficiency.
				2. Interlayers: Structural Saflex DG or SentryGlas.

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

Interlayer: Clear.

Interlayer: Digital printed.

Interlayer: Decorative mesh.

Interlayer: Colored as determined by the Architect from Manufacturer's selection.

Finish: Nexus-T.

* + - * 1. Gas Filled: Argon or Krypton for optimal thermal performance.
				2. Spacer Sealer: Quanex Tri-Seal Super Spacer. Thermally efficient insulated-glass warm-edge spacers.
				3. Low-Iron: Enhances beauty and improves glass clarity.
				4. Coating: Guardian Glass low-E.

\*\* NOTE TO SPECIFIER \*\* U-values fall in a range of 0.32 to 0.49. Contact the manufacturer to work out design options to meet your U-value requirements.

* + - * 1. U-Value: \_\_\_\_. Range from .32 to range .49.
				2. Solar Heat Gain Coefficient: 0.27.
				3. Back Painted: Around perimeter for a clean, crisp appearance.

\*\* NOTE TO SPECIFIER \*\* Anti-slip surface textures can be found in the "Anti-Slip Surface Texture for Glazing" Article. Fill in the anti-slip surface texture required or delete paragraph and specify in the "Anti-Slip Surface Texture for Glazing" Article.

* + - * 1. Anti-Slip Surface Texture Walking Surface: \_\_\_\_\_\_\_\_.
			1. Fasteners: 316 stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete edge lighting if not required.

* + - 1. Edge Lighting: Perimeter LED light channel with frosted-lens diffuser. LEDs not included.

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

* 1. INTERIOR GLASS FLOORING
		1. Interior Glass Flooring: Skyfloor Structural Glass Flooring as engineered and manufactured by Glass Flooring Systems, Inc. with the following characteristics:
			1. Standards Compliance:
				1. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
			2. Pre-engineered systems based on various live load requirements.
				1. Application: Interior.
			3. Structural Glazing: Engineered for passive redundancy.
				1. Triple layer. 3/8 inch (10 mm). Float glass. Laminated, tempered for strength, security, and maximum energy efficiency.
				2. Interlayers: Structural Saflex DG or SentryGlas.

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

Interlayer: Clear.

Interlayer: Digital printed.

Interlayer: Decorative mesh.

Interlayer: Colored as determined by the Architect from Manufacturer's selection.

Finish: Nexus-T.

* + - * 1. Gas Filled: Argon or Krypton for optimal thermal performance.
				2. Spacer Sealer: Quanex Tri-Seal Super Spacer. Thermally efficient insulated-glass warm-edge spacers.
				3. Low-Iron: Enhances beauty and improves glass clarity.
				4. Coating: Guardian Glass low-E.
				5. Back Painted: Around perimeter for a clean, crisp appearance.

\*\* NOTE TO SPECIFIER \*\* Anti-slip surface textures can be found in the "Anti-Slip Surface Texture for Glazing" Article. Fill in the anti-slip surface texture required or delete paragraph and specify in the "Anti-Slip Surface Texture for Glazing" Article.

* + - * 1. Anti-Slip Surface Texture Walking Surface: \_\_\_\_\_\_\_\_.
			1. Fasteners: 316 stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete edge lighting if not required.

* + - 1. Edge Lighting: Perimeter LED light channel with frosted-lens diffuser. LEDs not included.

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

* 1. EXTERIOR GLASS DECKING SYSTEM
		1. Exterior Glass Decking: Skyfloor Structural Glass Exterior Decking as engineered and manufactured by Glass Flooring Systems, Inc. with the following characteristics:
			1. Standards Compliance:
				1. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2008 and 2011.
				2. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
				3. ANSI/NFRC 100-2014 - Procedure for Determining Fenestration Product U-Factors.
			2. Application: Exterior.
			3. Configuration: Exterior, integrated with pedestal pavers.
			4. Configuration: Recessed.
			5. Configuration: Customized to meet project design requirements.
			6. Frame Construction: Independent, self-supported structural framing.
				1. Live Load Capacity: Engineered for 100 lbs per sq ft (4.79 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete if not required. The mechanical glass-hold down system is not required if uplift pressures are not an issue.

* + - * 1. Permanently bond glass panels to frame with Dow Corning's 995 structural silicone. Hold-down fasteners restrict uplift pressures.
				2. Aluminum 6063-T6. Reduces weight for faster installation.
				3. Frame Assembly with snap-on setting blocks; 80 to 90 shore as required.

Standard sizes.

* + - * 1. Rafter Supports: Available in ' I' and ' T' shapes.
				2. Flashing: Designed to meet application performance requirements.
				3. Painted Finish per AAMA 2605:

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

Frame Color: White.

Frame Color: Black.

Frame Color: Custom. As determined by the Architect.

Frame Color: As detailed on the Drawings.

Frame Color: \_\_\_\_\_\_\_\_\_.

* + - 1. Structural Glazing: Engineered for passive redundancy.

\*\* NOTE TO SPECIFIER \*\* Double pane insulation units are available. Contact the manufacturer for more details.

* + - * 1. Triple layer. 3/8 inch (10 mm). Float glass. Laminated, tempered for strength, security, and maximum energy efficiency.
				2. Interlayers: Structural Saflex DG or SentryGlas.

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

Interlayer: Clear.

Interlayer: Digital printed.

Interlayer: Decorative mesh.

Interlayer: Colored as determined by the Architect from Manufacturer's selection.

Finish: Nexus-T.

* + - * 1. Low-Iron: Enhances beauty and improves glass clarity.
				2. Back Painted: Around perimeter for a clean, crisp appearance.

\*\* NOTE TO SPECIFIER \*\* Anti-slip surface textures can be found in the "Anti-Slip Surface Texture for Glazing" Article. Fill in the anti-slip surface texture required or delete paragraph and specify in the "Anti-Slip Surface Texture for Glazing" Article.

* + - * 1. Anti-Slip Surface Texture Walking Surface: \_\_\_\_\_\_\_\_.
			1. Fasteners: 316 stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete edge lighting if not required.

* + - 1. Edge Lighting: Perimeter LED light channel with frosted-lens diffuser. LEDs not included.

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

* + - 1. Railings, Custom Design: Glass railings.
			2. Railings, Custom Design: Cable railings.
			3. Railings, Custom Design: Metal railings.
			4. Railings, Custom Design: Combination glass and cable railings.
			5. Railings, Custom Design: \_\_\_\_\_\_\_\_.

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

* 1. MODULAR GLASS DECK SYSTEM
		1. Basis-of-Design: SkyFloor Modular Glass Deck System, Inc.: Modular Laminated low iron walkable, structural glass deck panel system. Non-structural extruded aluminum framing, with fitted EPDM setting gasket. Dow Corning structural silicone and stainless-steel fasteners. Can be used as single units or grouped to produce a large glass floor area.
			1. Uniform Live Load Capacity: 100 lbs per sq ft (4.8 kPa).
			2. Concentrated Live Load Capacity: 300 lbs (1.33 kN).
			3. Uniform Wind Load Capacity: 220 lbs per sq ft (4.8 kPa).
				1. Maximum Deflection at Allowable Loads: L/175.
			4. Installs with standard 15 inch (381 mm) on-center joist deck framing.
			5. Certifications and Standards Compliance:
				1. IBC 2409.1.
				2. ICC. ICC-ES Evaluation Report: ESR-5009.
				3. Anti-Slip Surface: ANSI A326.3.
			6. Application: Interior or exterior.

\*\* NOTE TO SPECIFIER \*\* Delete panel size option not required.

* + - 1. Glass Panel Sizes: 32 x 32 inches (813 x 813 mm). Weight: 106 lbs (48 kg).
			2. Glass Panel Sizes: 32 x 48 inches (813 x 1219 mm). Weight: 160 lbs (72.6 kg).
			3. Weight of modular Glass Deck System: 15 lbs per sq ft (718 Pa).

\*\* NOTE TO SPECIFIER \*\* Larger panel systems are available upon request. Please send inquiries to sales@glassflooringsystems.com or call us 862-701-5320.

* + - 1. Modular Multi-Panel System: 96 x 128 inches (2438 x 3251 mm) maximum. Uses eight 32 x 48 inch (813 x 1219 mm) panels.
			2. Glass Deck Panels: 1.300 inches (33.04 mm) thick, consisting of triple tempered, laminated low iron structural walkable glass.
				1. Compliance: ASTM C1172. Category 11 of CPSC 16 CFR Part 1201 or ANSI Z97.1 Class A. Tempered Glass Layers: Comply with ASTM C1048/
				2. Glass Panel Construction:

Glass Layer: 0.394 inches (10 mm) Low Iron Tempered.

Saflex DG clear structural interlayer: 0.060 inches (1.52 mm) thick.

Minimum Shear Modulus: 60 psi up to 122 degrees F (0.414 MPa up to 50 degrees C).

Glass Layer: 0.394 inches (10 mm) Low Iron Tempered.

Saflex DG clear structural interlayer: 0.060 inches (1.52 mm) thick.

Minimum Shear Modulus: 60 psi up to 122 degrees F (0.414 MPa up to 50 degrees C).

Glass Layer: 0.394 inches (10 mm) Low Iron Tempered.

Ceramic back paint on the perimeter of glass.

Painted only where the glass sits over the EPDM setting gasket of the frame. This perimeter border of the glass is a crisp "black" finish when viewed through the glass panel.

* + - * 1. Slip-Resistant Floor Glass:

Finish: NanoDot.

Finish: LuxRaff Regular.

* + - 1. Aluminum Framing: Alloy 6063-T6 extruded aluminum.
				1. Finish: PPG Coraflon painted finish "black" meets AAMA 2605.
			2. Setting Rubber Gasket: EPDM 80 shore hardness, "black" snap on / fitted to frame.
			3. Sealant: Dow Corning 995 structural silicone with closed cell backer rod.
			4. Fasteners: Stainless steel.
			5. Lighting Option: Integrated LED lighting at perimeter.

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

* 1. STRUCTURAL GLASS STAIR TREADS AND LANDINGS
		1. Structural Glass Stair Treads and Landings: Stair treads and landings engineered and manufactured by Glass Flooring Systems, Inc. with the following characteristics:
			1. Standards Compliance:
				1. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.

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

* + - 1. Application: Interior.
			2. Application: Exterior.

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

* + - 1. Stringers: Glass or metal.
			2. Stringers: Metal.

\*\* NOTE TO SPECIFIER \*\* Delete Railings and posts options not required.

* + - 1. Railings and Posts: Glass.
			2. Railings and Posts: Cable.
			3. Railings and Posts: Metal.
			4. Railings and Posts: Combination glass and cable.
			5. Railings and Posts: \_\_\_\_\_\_\_\_.
			6. Structural glass beams.
			7. Embedded mechanical fixturing components within the glass.
			8. Post-lamination polished edges.
			9. Structural Glazing: Triple layer. 3/8 inch (10 mm). Float glass. Laminated, tempered for strength, security, and maximum energy efficiency.
				1. Interlayers: Structural Saflex DG or SentryGlas.

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

Interlayer: Clear.

Interlayer: Digital printed.

Interlayer: Decorative mesh.

Interlayer: Colored as determined by the Architect from Manufacturer's selection.

Finish: Nexus-T.

* + - * 1. Low-Iron: Enhances beauty and improves glass clarity.
				2. Back Painted: Around perimeter for a clean, crisp appearance.

\*\* NOTE TO SPECIFIER \*\* Anti-slip surface textures can be found in the "Anti-Slip Surface Texture for Glazing" Article. Fill in the anti-slip surface texture required or delete paragraph and specify in the "Anti-Slip Surface Texture for Glazing" Article.

* + - * 1. Anti-Slip Surface Texture Walking Surface: \_\_\_\_\_\_\_\_.
			1. Fasteners: 316 stainless steel.
			2. Stair Fixturing Hardware:
				1. Embedded in-glass fixturing.
				2. Spider brackets.
				3. Point fixturing.
				4. Mounting brackets.

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

* 1. GLASS BRIDGE AND CATWALK SYSTEMS
		1. Exterior Glass Decking: Glass bridge and Catwalk as engineered and manufactured by Glass Flooring Systems, Inc. with the following characteristics:
			1. Standards Compliance:
				1. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2008 and 2011.
				2. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
				3. ANSI/NFRC 100-2014 - Procedure for Determining Fenestration Product U-Factors.
			2. Application: Exterior.
			3. Application: Interior.
			4. Configuration: Recessed.
			5. Configuration: Customized to meet project design requirements.
			6. Frame Construction: Independent, self-supported structural framing.
				1. Live Load Capacity: Engineered for 100 lbs per sq ft (4.79 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete if not required. The mechanical glass-hold down system is not required if uplift pressures are not an issue.

* + - * 1. Permanently bond glass panels to frame with Dow Corning's 995 structural silicone. Hold-down fasteners restrict uplift pressures.
				2. Aluminum 6063-T6. Reduces weight for faster installation.
				3. Frame Assembly with snap-on setting blocks; 80 to 90 shore as required.

Standard sizes.

* + - * 1. Rafter Supports: Available in ' I' and ' T' shapes.
				2. Flashing: Designed to meet application performance requirements.
				3. Painted Finish per AAMA 2605: PPG Coraflon paint.

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

Frame Color: White.

Frame Color: Black.

Frame Color: Custom. As determined by the Architect.

Frame Color: As detailed on the Drawings.

Frame Color: \_\_\_\_\_\_\_\_\_.

* + - 1. Structural Glazing: Engineered for passive redundancy.

\*\* NOTE TO SPECIFIER \*\* Double pane insulation units are available. Contact the manufacturer for more details.

* + - * 1. Triple layer. 3/8 inch (10 mm). Float glass. Laminated, tempered for strength, security, and maximum energy efficiency.
				2. Interlayers: Structural Saflex DG or SentryGlas.

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

Interlayer: Clear.

Interlayer: Digital printed.

Interlayer: Decorative mesh.

Interlayer: Colored as determined by the Architect from Manufacturer's selection.

Finish: Nexus-T.

* + - * 1. Low-Iron: Enhances beauty and improves glass clarity.
				2. Back Painted: Around perimeter for a clean, crisp appearance.

\*\* NOTE TO SPECIFIER \*\* Anti-slip surface textures can be found in the "Anti-Slip Surface Texture for Glazing" Article. Fill in the anti-slip surface texture required or delete paragraph and specify in the "Anti-Slip Surface Texture for Glazing" Article.

* + - * 1. Anti-Slip Surface Texture Walking Surface: \_\_\_\_\_\_\_\_.
			1. Fasteners: 316 stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete edge lighting if not required.

* + - 1. Edge Lighting: Perimeter LED light channel with frosted-lens diffuser. LEDs not included.

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

* + - 1. Railings, Custom Design: Glass railings.
			2. Railings, Custom Design: Cable railings.
			3. Railings, Custom Design: Metal railings.
			4. Railings, Custom Design: Combination glass and cable railings.
			5. Railings, Custom Design: \_\_\_\_\_\_\_\_.

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

* 1. STRUCTURAL GLAZING FOR WALKABLE GLASS APPLICATIONS
		1. Structural Glazing: Glazing for walkable glass applications as engineered and manufactured by Glass Flooring Systems, Inc.

\*\* NOTE TO SPECIFIER \*\* Delete standards, features, and attributes not required

* + - 1. Standards Compliance:
				1. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2008 and 2011.
				2. ANSI A326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials.
				3. ANSI/NFRC 100-2014 - Procedure for Determining Fenestration Product U-Factors.
				4. ANSI/NFRC 200-2014: - Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence.
				5. ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
				6. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
				7. FL22835 - Skylights. Florida Product Approval's stringent requirements.
			2. Low-Iron: Greatly Reduces green or blue coloring from glass offering outstanding clarity.
			3. Insulated glass panels
			4. Non-insulated glass panels.
			5. Ceramic back-painting.
			6. Custom-engineered structural-glass interlayer options.
			7. Embedded mechanical fixturing components within the glass.
			8. Post-lamination polished edges.
			9. Heat-soaking.
			10. Tempering.
			11. Heat-strengthening.
			12. Engineering calculations, shop drawings, and other resources.

\*\* NOTE TO SPECIFIER \*\* Delete options not required. Delete article altogether if anti-slip surface texture is specified elsewhere in the document.

* 1. ANTI-SLIP SURFACE TEXTURE FOR GLAZING
		1. Slip-Resistant Floor Glass: Seeded Organic.
			1. Standards Compliance: ANSI A326.3.
			2. Finish: Seeded Organic Clear. DCOF Wet: 0.42 minimum.
			3. Finish: Seed Organic with Blur. DCOF Wet: 0.42 minimum.
		2. Slip-Resistant Floor Glass: LuxRaff Series, non-patterned finish.
			1. Standards Compliance: ANSI A326.3
			2. Finish: LuxFine. DCOF:
			3. Finish: LuxRaff Regular. DCOF Wet: 0.44 minimum.
			4. Finish: LuxRaff Solid. DCOF Dry: 0.67 minimum.
			5. Finish: LuxRaff Stone. DCOF Dry: 0.68 minimum.
		3. Slip-Resistant Floor Glass: CriSamar STEP T-Series, transparent.
			1. Standards Compliance: Surpass maximum safety requirements for pedestrian traffic established by international standards and methods.
				1. UNE ENV 12633 Pendulum: Classes 1, 2 and 3; Rd greater than 45.
				2. DIN 51130 Ramp: R9 to R13.
				3. DIN 51097 Barefoot: Classes A, B and C.
				4. UL 410: Slip Resistance of Floor Surface Materials
				5. ANSI A326.3 - Static Coefficient of Friction
				6. ASTM C1028 - Static Coefficient of Friction
				7. MOHS Certification: Scratch resistance.
			2. Finish: Lunaris-T. DCOF Dry: 0.78 minimum.
			3. Finish: Aluminum-T. DCOF Dry: 0.55 minimum.
			4. Finish: Nexus-T. DCOF: \_\_\_\_\_\_\_\_
			5. Finish: Incus-T. DCOF Dry: 0.66 minimum.
			6. Finish: Omicron-T. DCOF Dry: 0.61 minimum.
			7. Finish: Trapecius-T. DCOF Dry: 0.65 minimum.
		4. Slip-Resistant Floor Glass: CriSamar STEP S-Series, satin design.
			1. Standards Compliance: Surpass maximum safety requirements for pedestrian traffic established by international standards and methods.
				1. UNE ENV 12633 Pendulum: Classes 1, 2 and 3; Rd greater than 45.
				2. DIN 51130 Ramp: R9 to R13.
				3. DIN 51097 Barefoot: Classes A, B and C.
				4. UL 410: Slip Resistance of Floor Surface Materials
				5. ANSI A326.3 - Static Coefficient of Friction
				6. ASTM C1028 - Static Coefficient of Friction
				7. MOHS Certification: Scratch resistance.
				8. Finish: Lunaris-S. DCOF Wet: 0.47 minimum.
				9. Finish: Aluminum-S. DCOF Wet: 0.58 minimum.
				10. Finish: Nexus-S. DCOF Wet: 0.55 minimum.
				11. Finish: Incus-S. DCOF Wet: 0.54 minimum.
				12. Finish: Omicron-S. DCOF Wet: 0.46 minimum.
				13. Finish: Codex-S. DCOF Wet: 0.51 minimum.
				14. Finish: Versus-S. DCOF Wet: 0.45 minimum.
		5. Slip-Resistant Floor Glass: CriSamar STEP X-Series, extra anti-slip.
			1. Standards Compliance: Surpass maximum safety requirements for pedestrian traffic established by international standards and methods.
				1. UNE ENV 12633 Pendulum: Classes 1, 2 and 3; Rd greater than 45.
				2. DIN 51130 Ramp: R9 to R13.
				3. DIN 51097 Barefoot: Classes A, B and C.
				4. UL 410: Slip Resistance of Floor Surface Materials
				5. ANSI A326.3 - Static Coefficient of Friction
				6. ASTM C1028 - Static Coefficient of Friction
				7. MOHS Certification: Scratch resistance.
				8. Finish: Lunaris-X. DCOF Wet: 0.66 minimum.
				9. Finish: Aluminum-X. DCOF Wet: 0.69 minimum.
				10. Finish: Nexus-X. DCOF: \_\_\_\_\_\_\_\_.
				11. Finish: Incus-X. DCOF Wet: 0.63 minimum.
				12. Finish: Omicron-X. DCOF Wet: 0.60 minimum.
				13. Finish: Codex-X. DCOF Wet: 0.66 minimum.
1. EXECUTION
	1. EXAMINATION
		1. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for existing conditions, installation tolerances, and other conditions affecting performance of structural glass flooring.
			1. Verify that substrates comply with tolerances and other requirements specified in other Sections.
			2. Verify that a pitch of 1/8 inch per foot is achievable.
			3. Proceed with installation only after unsatisfactory conditions have been corrected.
	2. INSTALLATION
		1. Install glass flooring in accordance with manufacturer's instructions and approved submittals and the following:
			1. Do not use panels with chips, cracks, voids, discolorations, and other defects that might be visible in finished work.
			2. Rigidly secure non-movement joints.
			3. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
			4. Seal joints watertight.
		2. Erection Tolerances: Install glass flooring systems to comply with the following maximum tolerances:
			1. Alignment: Limit offset from true alignment to 1/16 inch where surfaces abut in line, edge to edge, at corners, or where a reveal or protruding element separates aligned surfaces by less than 3 inches; otherwise, limit offset to 1/8 inch.
			2. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet but no greater than 1/2 inch over total length.
	3. CLEANING AND PROTECTION
		1. Protect structural glass flooring from damage during construction until date of Substantial Completion. Do not apply markers to the glass surface. Remove nonpermanent labels, and clean surfaces. Clean glass on both surfaces.
		2. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged during the construction period.

END OF SECTION