



### **Glazed Decorative Metal Railings Guide Specification**

eGlass Railing™ has three glass railing systems designed to provide unobstructed views whether indoors or outdoors. Each system has unique features and benefits, but all are easy to clean, durable, and engineered for safety without compromising style. Available in 36 or 42 inch railing heights and four colors.

eGlass Element™ is our thinnest rail option, providing minimal view obstruction. This system design has rails that run post to post, allowing it to fit nearly any configuration you may need.

eGlass Solid™ is a classic frame system with a top rail that runs continuously over the top of the posts, creating a streamlined look that projects safety and stability. A wider top rail provides a usable surface, unlike thinner top rails.

eGlass Vision™ is a frameless glass railing system that replaces the top and bottom rails with glass clamps, providing the least obstructive view. Thin vertical rails keep your focus on the view, not the hardware. This system is the most economical to ship due to the lack of rails.

Leveraging over 10 years' previous experience in the cable railing industry, eGlass LLC, was established in 2016 to specialize in glass railings. Our innovative designs are the result of consulting with designers and railing installation contractors to address common industry issues, including glass panel wind rattle. We currently have two patents pending, one for our Top Rail Mounting Bracket and one for our Hinged Rail Connecting Block for Stairs.

Unlike most glass railing systems, all eGlass Railing™ products are kept in stock and ready to ship upon order, including the tempered glass panels. We produce a sophisticated product that provides the safety required combined with design options and quick, economical procurement.

For more information on our architectural range of eGlass Railings, contact our expert team today and find out how our projects can contribute to your next project. Contact eGlass Railings at (800)545-1275, Email: [sales@eglassrailing.com](mailto:sales@eglassrailing.com), [www.eglassrailing.com](http://www.eglassrailing.com).

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SECTION 057313 – GLAZED DECORATIVE METAL RAILINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Glass railing system including metal support components and glass panels configured as follows:

Specifier: Edit list below to conform to eGlass Railing system selected in Part 2.

1. Post-supported post-to-post railing system with thin top rail and glass-infill panels.
2. Post-supported continuous railing system with wide profile top rail and glass infill panels.
3. Post and clamp system with glass-infill panels.
4. Picket railing system.

1.2 REFERENCE STANDARDS

- A. American Architectural Manufacturer's Association (AAMA):

1. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

- B. American Society of Civil Engineers (ASCE):

1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

- C. ASTM International (ASTM):

1. ASTM B 209 - Specification for Aluminum and Aluminum Alloy Sheet and Plate.
2. ASTM B 221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape and Tube.
3. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass -- Kind FT Coated and Uncoated Glass.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting: Conduct preinstallation meeting at site attended by Installer, Owner, Architect, and affected trade contractors.

1. Review drawings, specifications, railing manufacturer's installation instructions including fastening requirements, and requirements of authorities having jurisdiction.
2. Coordinate installation of railing substrate and blocking in relation to support and fastening requirements for railing system.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer specified in this Section with minimum three years' experience in manufacture of similar products in successful use in similar applications.

1. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements.

- B. Installer Qualifications: Experienced Installer with successfully completed projects of a similar nature and scope.

Specifier: Retain "Mockups" Paragraph if scope of railing system installation warrants a mockup. Edit requirements to suit Project. Below recommended for projects such as multi-family developments requiring extensive number of installations. Mockup may consist of a single installation completed for approval prior to completing the scope of the Project.

- C. Mockups: Build mockup in size and location indicated on Drawings, or if not indicated, not less than one complete installation including all post and rail end fastening. Demonstrate methods and details of installation.
  - 1. Approval of mockup does not relieve Contractor of responsibility to comply with all requirements of contract documents.
  - 2. Approved mockup may become part of installation if approved by Architect.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: Manufacturer's product data for railing products indicating standard components, standard installation details, recommended or provided fasteners, compliance with requirements.
  - 1. Indicate details of supporting structure that must coordinate with railing system installation.

Specifier: Modify "Shop Drawing" if required for Contractor to comply with local requirements for engineering calculations.

- B. Shop Drawings: Indicate materials, sizes, styles, fabrication, anchorage and installation details for railing system and infill.
  - 1. Provide setting diagrams for installation of anchors, location of pockets, weld plates for attachment of rails to structure, and blocking for attachment of wall rail.
  - 2. Indicate required field measurements to be held.
- C. Samples for Initial Selection: For each product specified, when selection is specified, in manufacturer's standard sample size. Provide representative samples of manufacturer's standard colors.
- D. Samples for Verification: Provide manufacturer's standard size component samples showing finishes, horizontal joinery, vertical joinery, connectors, components and fasteners, and anchoring details.

Specifier: Retain and edit below to comply with Project requirements for LEED or other sustainable design requirements.

- E. Sustainable Design Submittals:
  - 1. Product Data: For recycled content, indicating post-consumer and pre-consumer recycled content and cost.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Information: For Installer.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Manufacturer's warranty.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect products railing system during shipping, handling, and storage to prevent staining, denting, deterioration of components or other damage.
  - 1. Deliver, unload, store, and erect railing system without misshaping panels or exposing components to surface damage from weather or construction operations.

1.9 WARRANTY

- A. Manufacturer's Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace railing system components that fail in materials under normal use within the warranty period indicated.
  - 1. Warranty Period: Ten years from date of Substantial Completion.
- B. Finish Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace railing components that evidence deterioration of finish within the warranty period indicated.
  - 1. Finish Warranty Period, High Performance Coatings: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: Provide glass railing system of **eGlass Railing**, Vancouver WA, (800) 545-1275, [sales@eglassrailing.com](mailto:sales@eglassrailing.com), [www.eglassrailing.com](http://www.eglassrailing.com).

2.2 PERFORMANCE REQUIREMENTS

- A. General: Provide railing system meeting performance requirements as determined by application of specified tests by a qualified testing agency on manufacturer's standard assemblies.
- B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Specifier: Below is based on the IBC; revise to suit Project and to comply with requirements of authorities having jurisdiction.

1. Handrails and Top Rails of Guards:
  - a. Uniform load of 50 lbf/ft. applied in any direction.
  - b. Concentrated load of 200 lbf applied in any direction.
  - c. Uniform and concentrated loads need not be assumed to act concurrently.
2. Structural Glass Railings and Glass-Infill Panels:
  - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
  - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from variations in both ambient and internal temperatures. Accommodate movement of support structure caused by thermal expansion and contraction.
  1. Temperature Change (Range): 120 deg F ambient; 180 deg F material surfaces.
- D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by isolating metals and other materials from direct contact with incompatible materials.

### 2.3 GLASS RAILING SYSTEM

Specifier: **eGlass Element Railing System** is our thinnest rail option, providing minimal view obstruction. This system design has rails that run post to post, allowing it to fit nearly any configuration.

- A. Post-Supported Modular Railing System with Glass-Infill Panels: Fully framed system with low profile rails extending from post to post, concealed rail mechanical fastener inserts, and tempered glass infill panels, [36] [and] [42] inches high.
  1. Basis of Design: **eGlass Railing, eGlass Element System.**
  2. Top Rail: Aluminum extrusion, 2 by 1-1/2 by 1/8 inches, post to post, with glass infill, glass vinyl inserts, and connecting blocks.
  3. Bottom Rail: Aluminum extrusion, 1-3/8 by 1-1/2 by 1/8 inches, post to post, with underside cover.
  4. Posts: Aluminum extrusion, 2-3/8 by 2-3/8 by 1/8 inches, with aluminum post cap, configured for 90 degree or 135 degree corners as indicated on Drawings. Provide cast aluminum post cap saddle brackets where required at top rail elevation changes.
  5. Mounting: [Deck mounted with aluminum base plate and neoprene rubber base plate pad] [Fascia mounted with 6 inch long inline and corner brackets with bottom caps and neoprene rubber pad].
  6. Aluminum Finish: Powder coated, [white] [silver] [bronze] [black].

Specifier: **eGlass Solid Railing System** is a classic frame system with a larger-profile top rail that runs continuously over the top of the posts, creating a streamlined look that projects safety and stability. A wider top rail provides a usable surface, or the optional 820 Series top rail meets code requirements for a graspable top rail.

- B. Post-Supported Continuous Railing System with Glass Infill Panels: Fully framed system with vertical and horizontal members and glass infill panels.
  1. Basis of Design: **eGlass Railing, eGlass Solid System.**

Specifier: Select one or both "Top Rail" Subparagraphs based on Project requirements. Options are for 810 Series and 820 Series, consecutively

2. **Top Rail:** Aluminum extrusion, 3 by 1-1/2 by 1/8 inches, continuous, with glass infill, glass vinyl inserts, end plates, connecting blocks, corner brackets, and mounting brackets.
3. **Top Rail:** Aluminum extrusion, grab rail profile, 3 by 3 by 1/8 inches, continuous, with glass infill, glass vinyl inserts, end plates, connecting blocks, corner brackets, and mounting brackets.
4. **Bottom Rail:** Aluminum extrusion, 1-3/8 by 1-1/2 by 1/8 inches, post to post, with underside cover.
5. **Posts:** Aluminum extrusion, 2-3/8 by 2-3/8 by 1/8 inches configured for 90 degree or 135 degree corners as indicated on Drawings. [Provide cast aluminum post cap saddle brackets where required at top rail elevation changes].
6. **Mounting:** [Deck mounted with aluminum base plate and neoprene rubber base plate pad] [Fascia mounted with 6 inch long inline and corner brackets with bottom caps and neoprene rubber pad].
7. **Aluminum Finish:** Powder coated, [white] [silver] [bronze] [black].

Specifier: eGlass Vision Railing System is a frameless glass railing system that replaces the top and bottom rails with glass clamps, providing the least obstructive view. Thin vertical rails emphasize the view.

- C. **Post and Clamp System:** Frameless modular system, rail-free, with vertical posts and glass clamps.
1. **Basis of Design: eGlass Railing, eGlass Vision System.**
  2. **Posts:** Aluminum extrusion, 2-3/8 by 2-3/8 by 1/8 inches, with aluminum post cap, configured for 90 degree or 135 degree corners as indicated on Drawings.
  3. **Mounting:** [Deck mounted with aluminum base plate and neoprene rubber base plate pad] [Fascia mounted with 6 inch long inline and corner brackets with bottom caps and neoprene rubber pad].
  4. **Aluminum Finish:** Powder coated, [white] [silver] [bronze] [black].
  5. **Glass Railing Clamps:** [Square] [Round], with neoprene rubber pad inserts [and safety plates].
    - a. **Material and Finish:** [Stainless steel, powder coat, black] [Stainless steel, powder coat, bronze] [Stainless steel, powder coat, silver] [Stainless steel, powder coat, white] [Stainless steel, mill finish] [Match post finish].

Specifier: eGlass Picket Railing System: is designed to handle stair sections, making it simple to connect glass railing systems on different levels without having to order and install custom angled glass panels. It can also be used for straight sections.

D. **Picket Railing System**

1. **Basis of Design: eGlass Railing, eGlass Picket Railing System.**

Specifier: Select one or more "Top Rail" Subparagraphs based on Project requirements. Options are for 800 Series, 810 Series, and 820 Series, consecutively.

1. **Top Rail:** Aluminum extrusion, 2 by 1-1/2 by 1/8 inches, post to post, with glass infill glass vinyl insert, and connecting blocks.

2. **Top Rail:** Aluminum extrusion, 3 by 1-1/2 by 1/8 inches, continuous, with glass infill, glass vinyl inserts, end plates, connecting blocks, corner brackets, and mounting brackets.
  3. **Top Rail:** Aluminum extrusion, grab rail profile, 3 by 3 by 1/8 inches, continuous, with glass infill, glass vinyl inserts, end plates, connecting blocks, corner brackets, and mounting brackets.
  4. **Bottom Rail:** Aluminum extrusion, 1-3/4 by 1-5/8 by 1/8 inches, post to post, with underside cover.
  5. **Posts:** Aluminum extrusion, 2-3/8 by 2-3/8 by 1/8 inches, with aluminum post cap.
  6. **Pickets:** Aluminum extrusion, 1 by 1 inches, with picket spacers.
  7. **Mounting:** [Deck mounted with aluminum base plate and neoprene rubber base plate pad] [Fascia mounted with 6 inch long inline and corner brackets with bottom caps and neoprene rubber pad].
  8. **Aluminum Finish:** Powder coated, [white] [silver] [bronze] [black].
- E. **Fasteners:** Manufacturer's recommended 316 stainless steel mechanical fasteners.
- 2.4 **ALUMINUM MATERIALS**
- A. **Extruded Tubing:** ASTM B221 (ASTM B221M), Alloy 6061-T6.
  - B. **Drawn Seamless Tubing:** ASTM B210 (ASTM B210M), Alloy 6063-T832.
- 2.5 **GLASS UNITS**
- A. **Fully Tempered Float Glass:** ASTM C1048, Kind FT (fully tempered), Type I, Class 1 (clear), Class 1 [clear] [ultra-clear], Quality-Q3, with
    1. **Low-Maintenance Glass Coating:** Coating having both photocatalytic and hydrophilic properties that act to loosen dirt and to cause water to sheet evenly over the glass instead of beading.
- 2.6 **FABRICATION**
- A. **General:** Fabricate railing system at factory identical to tested units using manufacturer's standard procedures and processes necessary to meet performance requirements.
    1. Provide components of railing system that are products of one manufacturer, including posts, rails, glass units, and attachment fittings and fasteners.
- 2.7 **FINISHES**
- A. **Powder Coating:** One-coat dry system with 70 percent fluoropolymer resin, meeting performance requirements of AAMA 2605 and the following:
    1. **Dry Film Thickness, ASTM D 1400:** Not less than thickness applied to tested specimens meeting specified performance requirements, and as recommended by manufacturer for application.
    2. **Color:** [Black] [Bronze] [Silver] [White] [As selected by Architect from manufacturer's standard colors].

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Examine railing system substrate with Installer present. Inspect for erection tolerances and other conditions that would adversely affect installation of railing system.
  - 1. Inspect substrate that will support railing system to determine if support components are installed as indicated on approved shop drawings and are within tolerances acceptable to railing system manufacturer.
  - 2. Verify that edge conditions match layout on shop drawings.
- B. Proceed with railing system installation once out-of-tolerance work and other deficient conditions are corrected.

### 3.2 RAILING SYSTEM INSTALLATION

- A. General: Install railing system in accordance with approved shop drawings and manufacturer's written instructions.
- B. Support Installation: Install blocking and other supports at locations, spacings, and with fasteners recommended by manufacturer.

### 3.3 CLEANING AND PROTECTION

- A. Clean finished surfaces as recommended by railing system manufacturer.
- B. Replace damaged or discolored components that cannot be restored by field repair.

END OF SECTION