



Livers Bronze Co.
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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) *MasterFormat™ 2004 Edition*.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the drawings.

Delete all "Specifier Notes" when editing this section.

SECTION 05 73 00

ORNAMENTAL RAILING SYSTEM

MATRIX

Specifier Notes: This section covers Livers Bronze Co. "MATRIX" pre-engineered, component based, ornamental railing systems. Consult Livers Bronze for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pre-engineered, component-based, ornamental railing system.

1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 05 51 00 - Metal Stairs.
- B. Section 05 52 00 - Metal Railings.
- C. Section 05 71 00 – Decorative Metal Stairs.

1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. ANSI Z97.1 - Safety Glazing Material Used in Buildings.
- B. ASTM E 985 – Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.

1.4 DESIGN REQUIREMENTS

Specifier Notes: Edit the following paragraphs as required for the specific application. Consult building code for minimum load requirements.

- A. Railing system shall be designed to conform to building code and ADA requirements for openings and stress.
- B. Railing system shall withstand a minimum [concentrated load of _____ pounds applied horizontally or vertically down at any point on top rail] [uniform load of _____ pounds per foot applied vertically down and horizontally, but not simultaneously on top rail].

1.5 SUBMITTALS

- A. Comply with Section 01 33 00 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including description of materials, components, fabrication, finishes and installation instructions. Installation instructions include all structural computations and test reports provided by the manufacturer evidencing compliance with the specifications.
- C. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating materials, components, sizes, dimensions, tolerances, hardware, fasteners, finishes, options, accessories, and installation. Show details of attaching railing system to supports.
- D. Submit manufacturer's samples of standard materials, finishes, colors, and textures.
- E. Test Reports: Submit test reports from qualified independent testing agency indicating compliance with ASTM E 985.
- F. Manufacturer's Quality Assurance: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application. Submit certification that the manufacturer has not less than 5 years experience producing the product specified in this section. Installation of this product will be done by the manufacturer or an approved installer.
- G. Maintenance Instructions: Submit manufacturer's maintenance and cleaning instructions.
- H. Warranty: Submit manufacturer's standard warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finish from damage during handling and installation.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Livers Bronze Co., 4621 East 75th Terrace, Kansas City, Missouri 64132. Phone (816) 300-2828. Fax (816) 300-0864. Web Site www.liversbronze.com. E-Mail livers@liversbronze.com.
- B. Basis of Design: Drawing and specifications have been prepared based on Livers Bronze "MATRIX" railing system. Substitutions must be made and approved a minimum of 4 weeks prior to the project bid and comply with (C) below. Failure to provide substitution request will result in rejection.
- C. Substitutions: Comply with Section 01 62 00.
 - a. Submit the following with the substitution request.
 - 1. Detailed specifications of construction and fabrication
 - 2. Independent certified test reports indicating compliance with design and performance requirements specified in this section.
 - 3. Full size sample of railing post.
 - 4. 12 inch long sample of top railing.
 - 5. Sample of each type of fitting.

2.2 ORNAMENTAL RAILING SYSTEM

Specifier Notes: The **MATRIX** railing system can be custom designed. Consult Livers Bronze for additional information.

- A. Railing System: **MATRIX**
 - 1. Description: Pre-engineered, component-based, ornamental railing system with glass infill.
- B. Glass Infill:
 - 1. Guardrail Posts with side-mounted rail.
 - a. Material: 1/2" x 2-1/2" stainless steel bar, Type 304 or powder coated steel
 - b. Height: 42 inches.
 - c. Spacing: 4'-0" on center maximum.
 - 2. Stair Rail Posts with top-mounted handrail.
 - a. Post Material: 1/2" x 2-1/2" stainless steel bar, Type 304 or powder coated steel
 - b. Glass supports: Formed steel or stainless steel. #4 finish stainless steel, blackened steel or powder coated steel. Mounting spacers satin brass/lacquered.
 - c. Glass support buttons: Machined aluminum
 - d. Height: 34 inches.
 - e. Spacing: 4'-0" on center maximum.
 - 3. Handrails: 1-1/2-inch OD stainless steel tube, Type 304.
 - 4. Wall Bracket: WB-1051. Stainless Steel Wall Bracket Assembly. 4' 0" Maximum spacing.

- 5. Glass:
 - a. Type: Tempered plate glass.
 - b. Thickness: 3/8 inch.

Specifier Notes: Specify glass color. Consult Livers Bronze for availability of other colors and custom patterns.

- c. Color: [Clear] [Gray tint] [Bronze tint] [_____].
- d. Glazing Material: ANSI Z97.1.
- e. Field glaze glass panels.

- C. Finish:
 - 1. Stainless Steel Handrails and Posts: Circular #4 satin on handrails – posts to be straight grain or powder coated finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive railing system. Notify Architect if areas are not acceptable. Do not begin installation until unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Install railing system in accordance with manufacturer's instructions using manufacturer's trained installers or an installer acceptable to the specified manufacturer.
- B. Install railing system plumb, level, square, true to line, and rigid.
- C. Attach railing system securely in place using fasteners supplied or approved by manufacturer. All embedded anchor plates and supporting steel shall be provided by another trade and coordinated with the railing supplier.
- D. Attach railing system to supports as indicated on the drawings and as approved by manufacturer.
- E. Field-weld components as approved by manufacturer.
- F. Use manufacturer's supplied hardware.
- G. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- H. Remove and replace defective or damaged components that cannot be successfully repaired as determined by Architect.

3.3 CLEANING

- A. Clean railing system promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials or methods that could damage glass or finish.
- C. Do not use abrasive cleaners.

3.4 PROTECTION

A. Protect installed railing system and finish from damage during construction.

END OF SECTION