
SECTION 05 73 00

DECORATIVE METAL RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provide decorative metal railing system with applied perforated metal panels including railings, panels, and accessories as required for complete, finished installation for deck railings as indicated.
- B. Related Sections:
 - 1. Section 05 50 20: Steel stair rails.
 - 2. Section 05 70 00: Decorative metal other than decorative metal railings.

1.2 REFERENCES

- A. National Association of Architectural Metal Manufacturers: Metal Finishes Manual.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Design/Build: Provide special engineering to ensure compliance with applicable codes and Contract Documents.
- B. Pre-Installation Meeting: Convene not less than one week prior to commencing work of this Section. Require attendance of those directly affecting work of this Section.
 - 1. Review installation procedures and coordination required with related work.

1.4 SUBMITTALS

- A. Product Data: Furnish manufacturer's literature, including recommendations for cleaning.
- B. Shop Drawings: Show detailing including profiles, sizes, connection, anchorage, accessories, and supporting members.
- C. Samples: Submit samples of metal rail cap and perforated metal panel.
- D. Design/Build Certificates: Submit California licensed civil or structural engineer certification indicating railings comply with Contract Documents and code requirements.

PART 2 - PRODUCTS

2.1 SYSTEMS MANUFACTURERS

- A. C.R. Laurence Co.
- B. Livers Bronze Co.
- C. Substitutions: Refer to Section 01 25 00.

2.2 MATERIALS

- A. System Description: Provide decorative metal railing system with applied glass including railings, glass, and accessories.
- B. Design Requirements: Design railings to support following minimum loads.
 - 1. Railings: Support a lateral force of 50 lbs./lin. ft. uniform load and 200 lbs. at any point without permanent set or damage; ASTM E935.
 - a. Top Rails: Design to support minimum 300 lb. concentrated single point load applied at any point vertically or horizontally.
- C. Regulatory Requirements:
 - 1. Code: Comply with requirements of California Building Code for railing design, except where more restrictive requirements are specified.
 - 2. Safety Glass Standard: Comply with applicable codes, CPSC 16 CFR 1201, and pass ANSI Z97.1.
 - 3. Access: Comply with California Building Code and Americans with Disabilities Act Accessibility Guidelines requirements for railing design to provide access for persons with disabilities.
- D. Rails, Handrails, and Rail Caps: Custom configurations indicated; welded construction, metal finished after welding; concealed connections where field joining is required due to sizes and transportation and site access limitations.
 - 1. Aluminum: ASTM B221 or ASTM B429, 6063 or 6061 alloy, T5 or T6 alloy aluminum.
 - 2. Finish: Comply with following finishes as designated by NAAMM "Metal Finishes Manual" and referenced standards.
 - a. High Performance Organic Coating Finish: AA-C12C42R1x, prepared, pretreated, and coated with minimum two coat Kynar 500 or Hylar 5000 system; AAMA 2605; color as selected by Architect.
 - b. Colors: Custom colors as selected by Architect.
- E. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron ASTM A47, or cast steel ASTM A27. Provide bolts, washers and shims as required, hot-dip galvanized, ASTM A153.
- F. Grout: Non-shrink meeting ASTM C1107, non-metallic, pre-mixed, factory-packaged, non-staining, non-corrosive; type specifically recommended by manufacturer as applicable to job condition.
- G. Brackets and Anchors: Unexposed steel plates, angles and supports shall be steel; exposed items to match exposed metal on decorative metal railings.

- H. Fasteners: Type required for specific usage; provide concealed fasteners except where specifically approved; where exposed match type and finish of metal being fastened.
 - 1. Concealed Steel Fasteners: Hot-dipped galvanized minimum G90 where built into exterior walls or subject to high humidity.
- I. Bituminous Paint: Cold applied asphalt mastic conforming with SSPC-P12.

2.3 FABRICATION

- A. Design system with glass panels removable for replacement without dismantling entire railing assembly.
- B. Select materials for straightness, free of defects and irregularities.
 - 1. Exposed-to-view surfaces exhibiting pitting, seams, stains, discolorations, and imperfections on finished units are not acceptable.
- C. Fabricate component connections to support specified design loads.
- D. Make exposed joints flush butt type, hairline joints where mechanically fastened; provide concealed connection devices with hidden fasteners.
 - 1. Fabricate continuous items with joints neatly fitted and secured.
 - 2. Ease exposed metal edges to approximate 1/32" uniform radius.
 - 3. Fabricate joints exposed to weather in manner to exclude water or provide weep holes where water could accumulate.
- E. Comply with AWS for recommended practices in welding each type of material; provide welds behind finished surfaces without distortion or discoloration on exposed side; dress exposed and contact surfaces.
- F. Exposed Mechanical Fastenings: Flush countersunk fasteners unobtrusively located, consistent with design of structure.
- G. Fit and shop assemble in largest practical sections for site delivery.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible; do not delay job progress; allow for trimming and fitting where necessary.

3.2 PREPARATION

- A. Coordinate setting of anchorages that are to be embedded in substrates.

3.3 INSTALLATION

- A. Install decorative metal railings in accordance with manufacturer's instructions and approved shop drawings.
 - 1. Install glass in accordance with railing manufacturer recommendations, approved shop drawings, and GANA Glazing Manual; glass shall not touch metal.
- B. Install plumb, true and in correct relation to adjacent work, free from distortion or defects detrimental to appearance and performance.
- C. Prior to securing continuous items, adjust to ensure proper matching at butt joints and correct alignment throughout their length.
 - 1. Separate concealed surfaces subject to corrosion with heavy coat of bituminous paint.

3.4 PROTECTION

- A. Protect railings during remainder of construction period through Substantial Completion. Repair or replace damaged materials and finishes to match undamaged materials and finishes.

END OF SECTION