



PART 1 - GENERAL

1.1 SUMMARY

- A. Work in this section includes Interior and Exterior component aluminum handrail, stair rail, and guardrails.

1.2 DESIGN / PERFORMANCE REQUIREMENTS

- A. Comply with requirements of building authorities having jurisdiction in Project location and the following:

- 1. Occupational Safety and Health Administration (OSHA):

- a. 29 CFR 1910, Occupational Safety Health Standards

- 2. International Code Council (ICC):

- a. International Building Code and associated standards, 2012 Edition including all amendments

- B. Design, fabricate and install handrail, stair rail, and guardrails to withstand a uniformly distributed load of 50 lbs./L.F. applied in any direction and a concentrated load of 200 lbs. applied at any point and in any direction, loads shall be applied separately.

- C. Structural Performance:

- 1. ASTM E935-13e1, Standard Test Methods for Performance or Permanent Metal Railing Systems and Rails for Buildings

- 2. ASTM E985-00 (2006), Standard Specification for Permanent Metal Railing Systems and Rails for Buildings

1.3 SUBMITTALS

- A. Shop Drawings:

- 1. Indicate sizes, shapes, configuration, sections, locations, fabrication, and installation details.

- 2. Certify that railings, stair rails, and guardrails have been designed and fabricated to meet the loading requirements specified.



B. Product data:

1. Confirmation that products submitted meet requirements of standards referenced.
2. Manufacturer's Installation instructions and details

C. Samples:

1. One Sample of a shortened post with top rail, intermediate fittings, vertical post, and kick plate.

D. Calculations:

1. Calculations shall be performed, sealed, signed, and dated by a registered Professional Engineer licensed in the State of the Project.

E. Cleaning and Maintenance Data:

1. Per Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum (Publication No. AAMA 609.1-85)

1.4 QUALITY ASSURANCE:

A. Manufacturer Qualifications: Minimum 5 years documented experience producing systems specified in this section.

B. Field Measurements & Coordination:

1. Take field measurements prior to preparation of shop drawings and fabrication.
2. Provide approval drawings for all fabricated material that handrail is connecting to prior to preparation of shop drawings and approved submittal drawings prior to release for fabrication.

1.5 DELIVERY, STORAGE, AND HANDLING:

A. Materials to be delivered to the job site in good condition and adequately protected against damage.



- B. Store products to avoid damage from moisture, abrasion, and other jobsite activities.
- C. Avoid handling on the jobsite and use caution to avoid damage to exterior surface and finishes.

1.6 WARRANTY:

- A. Provide owner with manufacturer's standard limited warranty for materials and installation (1-year standard).

PART 2 - PRODUCTS

2.0 MANUFACTURERS:

- A. Acceptable manufacturers:

PEAK TO PEAK ENGINEERED RAILINGS, 3000 Youngfield St, Suite 275, Wheat Ridge, CO. Phone: 720-508-3819. Fax: 720-409-3843. Email: sales@peaktopeakrailings.com. Website: www.peaktopeakrailings.com

- 1. Product:
 - a. Rivet Mechanical Railing System
 - b. TCF Mechanical Railing System
 - c. Tang Mechanical Railing System

- B. Substitutions: Not permitted.

2.1 MATERIALS

- A. Type:

- 1. Extruded Aluminum: 6005A-T61
- 2. Cast Aluminum Base Mounts: Alloy 535
- 3. Aluminum Mechanical Fittings: Alloy 1070A-O
- 4. Fasteners: 304 Stainless Steel

- B. Size:

- 1. Pipe: 1-1/2 inches (1.90 inches O.D.), Schedule 40 or Schedule 80, as required per project layout and post spacing.



2.2 FINISH:

A. 215-R1, Architectural Class 1, AA-M10C22A41, Clear Anodized

2.3 RAILING AND GUARDRAIL FABRICATION:

A. Fabricate aluminum railings, stair rails, and guardrails in accordance with approved shop drawings

B. Shop Fabrication Options:

1. Sub-Assembled:

- a. All posts are to be furnished cut to length with fittings & mounting plates attached or shipped loose per their specific details.
- b. Pipe for straight rail is furnished in up to 24'-0" stock lengths for field cutting and drilling as needed.
- c. Pipe for curved rail is furnished in 21'-0" (max) rolled lengths for field cutting and drilling as needed.
- d. Pipe for cantilever railing is furnished in up to 24'-0" stock lengths for field cutting and drilling as needed.
- e. All kick plates are furnished in up to 24'-0" stock lengths for field cutting and drilling as needed.
- f. All bends and loops will be supplied with a 3-inch centerline radius and must be field cut and installed as required.

2. Assembled:

- a. Railing Panels are furnished assembled to the greatest extent possible up to a maximum length of 24'-0" long.
- b. Pipe for curved rail is furnished only as Sub-Assembled and in 21'-0" (max) rolled lengths for field cutting and drilling as needed.
- c. Pipe for cantilever railing is furnished in up to 24'-0" stock lengths for field cutting and drilling as needed.
- d. All kick plates are furnished in up to 24'-0" stock lengths for field cutting and drilling as needed.
- e. All bends and loops will be supplied with a 3-inch centerline radius and must be field cut and installed as required.

C. Pipe cuts shall be square and accurate to minimize joint gap. Cuts shall be free of all burrs left from cutting.



PART 3 - EXECUTION

3.1 PREPARATION:

- A. Prior to installation, inspect that all substrates and support structures have been properly prepared and fully reviewed to verify that they are structurally sound for the anchoring of the railing system.

3.2 INSTALLATION:

- A. Install all handrail, stair rail, and guardrails to meet loading requirements of the Building Code.
- B. Install all material in accordance with the manufacturer's instructions.
- C. Install the railing system plumb, level, and true, free of distortion, defects and anchored securely to all substrates and support structures.