



## 3-Part Specification Aluminum Railing System

### GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING 01 25 13-PRODUCT SUBSTITUTION PROCEDURES, 01 33 00-SUBMITTAL PROCEDURES, 01 45 00-QUALITY CONTROL, 1 62 00-PRODUCT OPTIONS, 01 66 00-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00-CLEANING AND WASTE MANAGEMENT, 01 77 00-CLOSEOUT PROCEDURES, AND 01 78 00-CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS THAT COMPLY WITH THE CRITERIA SPECIFIED HEREIN.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. \_\_\_\_\_.

OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE SELECTED OR DELETED AS DESIRED ARE SHOWN IN BOLD FACE TYPE. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES; DELETE THEM IF NOT REQUIRED FOR THE PROJECT.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

### **SPECIFICATION BEGINS ON THE FOLLOWING PAGE.**

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## SECTION 05 52 14

(MasterFormat 1995 Edition: 05520)

### ALUMINUM RAILING SYSTEM

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. Section Includes: Extruded aluminum railing system with [aluminum picket] [tempered glass] [cable] infill.
- B. Related Sections:

INSERT SECTION NUMBER AND TITLE BELOW FOR WORK TO WHICH RAILINGS WILL BE ANCHORED, SECTION INCLUDING SPECIFICATION FOR PROVISION OF WOOD CAP RAILS IF DESIRED, SECTION FOR FINISHING WOOD CAP RAILS, AND ELECTRICAL SECTION FOR INSTALLATION OF HANDRAIL LIGHTS, IF SPECIFIED. VERIFY THAT RELATED SECTIONS ALSO REFERENCE THIS SECTION.

1. \_\_\_\_\_
2. \_\_\_\_\_

##### C. Products Supplied But Not Installed Under This Section: Low voltage lights.

##### 1.02 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit following items:
  1. Product Data including color chart for initial color selection.

SHOP DRAWINGS MAY NOT BE REQUIRED FOR SMALL, SIMPLE PROJECTS. DELETE FOLLOWING PARAGRAPH IF SHOP DRAWINGS ARE NOT DESIRED.

2. **Shop Drawings: Indicate materials, sizes, styles, fabrication, anchorage and installation details for railing system and infill.**
3. **Samples:**
  - a. **Post and rail sections– minimum 4 inch (100 mm) long piece of each type specified herein.**
  - b. **Infill:**
    - 1) **Cable – minimum 8 inch (200 mm) long piece with end fittings.**
    - 2) **Picket – minimum 4 inch (100 mm) long piece.**

FOLLOWING GLASS SAMPLES ARE RECOMMENDED FOR TINTED OR SPECIAL GLASS ONLY.

- 3) **Glass – minimum 4x4 inch (100x100 mm) glass piece.**

FOLLOWING PAINT SAMPLES ARE AVAILABLE FOR THE EIGHT STANDARD COLORS LISTED IN ARTICLE 2.05, BUT NOT FOR CUSTOM COLORS.

- 4) **Aluminum chip with selected paint color for final color verification.**
4. Quality Assurance/Control Submittals:
  - a. Qualifications: Proof of manufacturer’s qualifications.
  - b. Manufacturer’s Installation Instructions.

- B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:
1. Maintenance Instructions.
    - a. Manufacturer’s recommendation for periodic checking and adjustment of cables to maintain uniform cable tension.
    - b. Manufacturer’s recommendation for periodic cleaning of cables, glass panels, railing frames and related components to remove accumulated dirt, debris and stains.
  2. Special Warranties.

### 1.03 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer Qualifications: Minimum five years experience in producing aluminum railing systems.

CONSIDER INCLUDING FIELD SAMPLES FOR LARGE PROJECTS WITH MULTIPLE RAILINGS OF THE SAME CONFIGURATION. OTHERWISE DELETE FOLLOWING PARAGRAPH.

- B. Field Samples:**
- 1. Reference Section 01 45 00 – Quality Control.**
  - 2. Install one complete railing including infill panel at location selected by Architect.**
  - 3. Obtain Architect’s approval prior to installing additional railings.**
  - 4. Approved sample may remain as part of completed work.**

### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Reference Section 01 66 00–Product Storage and Handling Requirements.

### 1.05 WARRANTY

COMPLETE TEXT OF FOLLOWING WARRANTIES IS AVAILABLE FROM FEENEY UPON REQUEST.

- A. Special Warranty:
1. Cable and Connectors: 5 year limited warranty against defects in materials and workmanship.
  2. Paint Finish on Aluminum Extrusions and Components: 5 year limited warranty against cracking, flaking, blister, and peeling.

### 1.06 MAINTENANCE

- A. Extra Materials: Provide one, approximately 3 ounce (85 grams) can, of touch-up paint per 100 feet (30 m) of each color railing.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURER

- A. Feeney, Inc.  
2603 Union St  
Oakland, CA 94607

Toll Free: (800) 888-2418  
Tel: (510) 893-9473  
Fax: (510) 893-9484  
E-mail: [sales@feeneywire.com](mailto:sales@feeneywire.com)

- B. Product: DesignRail® Aluminum Railing Systems.
- C. Substitutions: Reference Section 01 63 00–Product Substitution Procedures.

## 2.02 MATERIALS

- A. Extruded Aluminum Rails, Tubes, Profiles, Pipes, Plate & Sheet: 6000-series aluminum.

MOST COMMON TYPE OF GLASS IS SHOWN BELOW. CONTACT FEENEY, INC. FOR ADDITIONAL OPTIONS.

- B. **Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated), Type 1 (transparent flat), Quality q3 (glazing select), Class 1 (clear), 1/4 inch (6.4 mm) thick.**
- C. **Cables: 1/8 inch (3.2 mm) diameter, 1 by 19 construction, Type 316 stainless steel, polished finish, commercial, dry grade cable with fittings specified below.**
  - 1. Fittings:
    - a. **Vertical Cables: Provide a 2 inch (51mm) long stainless steel Threaded Terminal factory attached to one end of each cable and a stainless steel Fixed Button End factory attached to the other end.**
    - b. **Horizontal Cables: Provide a 4-1/4 inch (108mm) long stainless steel Threaded Terminal factory attached to one end of each cable and a stainless steel Quick-Connect®SS fitting for field attachment on the other end.**
    - c. Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions or as shown on Drawings.

## 2.03 COMPONENTS

VERIFY THAT DRAWINGS SHOW METHOD OF POST ATTACHMENT TO BUILDING STRUCTURE. SELECT DESIRED POSTS FROM OPTIONS BELOW; DELETE THOSE NOT USED.

- A. Posts: Types(s) specified below.
  - 1. **Square Post: 2-3/8 inch (61mm) square with 3/32 inch (2.4 mm) thick extruded aluminum tube. [surface mount] [fascia mount] [fascia bracket mount] [stanchion mount] as shown on Drawings.**
  - 2. **Angled 45° Corner Post: 2-3/8 inch (61mm) outside faces with 3/32 inch (2.4 mm) thick extruded aluminum tube. [surface mount] [fascia mount] [stanchion mount] as shown on Drawings.**

SELECT DESIRED CAP RAILS FROM OPTIONS SHOWN BELOW. SERIES 150 IS TYPICALLY USED FOR STAIRWAYS; SERIES 400 IS TYPICALLY USED AS A BASE FOR FINISHED WOOD CAPS. IF MORE THAN ONE IS SELECTED, VERIFY THAT SERIES NUMBERS ARE CLEARLY SHOWN ON DRAWINGS. DELETE THOSE NOT USED.

- B. Cap Rail: Type(s) specified below.
  - 1. **Series 150: 2 by 1-1/4 inch (51 by 32 mm) by 1/16 inch (1.6 mm) thick extruded aluminum graspable profile.**
  - 2. **Series 200: 3-1/2 inch by 1-1/4 inch (89 by 32 mm) by 3/32 inch (2.4 mm) thick extruded aluminum rectangular profile.**
  - 3. **Series 300: 3 by 2-5/16 inch (76 by 59 mm) by 3/32 inch (2.4 mm) thick extruded aluminum round profile.**

4. **Series 350: 3-1/2 inch by 1-1/4 inch (89 by 32 mm) by 3/32 inch (2.4 mm) thick extruded aluminum elliptical profile.**
  5. **Series 400: 2-11/16 by 3/4 inch (68 by 19 mm) by 1/16 inch (1.6 mm) thick extruded aluminum channel profile to support finished wood cap rail.**
- C. Cap Infill Channel: Extruded aluminum profile configured to secure specified infill.
- D. **Intermediate Horizontal Rail: Series 110, 1-11/16 by 1-3/4 inch (43 by 45 mm) by 1/16 inch (1.6 mm) thick extruded aluminum rounded channel profile.**
- E. **Foot Rail: Extruded aluminum profile configured to secure specified infill.**
- F. Infill:
1. **Pickets: 3/4 inch (19 mm) square extruded aluminum tubes.**
  2. **Glass panel.**
  3. **Cables: [Horizontal placement] [Vertical placement].**
- G. Fasteners for Interconnecting Railing Components: Stainless steel screws of type and size recommended by railing manufacturer.

VERIFY THAT TYPE AND SIZE OF FASTENERS FOR CONNECTING POSTS AND OTHER COMPONENTS TO OTHER CONSTRUCTION ARE SHOWN ON THE DRAWINGS AND HAVE BEEN APPROVED BY A STRUCTURAL ENGINEER.

- H. Fasteners for Connecting Components to Other Construction: Type and size as shown on Drawings.
- I. Aluminum end caps for exposed open ends of rails, tubes, and profiles.

#### 2.04 ACCESSORIES

- A. **Grab Rail: 1-1/2 inch (38 mm) diameter extruded aluminum tube. Provide where shown on Drawings.**
1. Brackets: Cut from extruded aluminum profile.
- B. **Gate: Custom design as shown on Drawings with welded extruded aluminum frame.**
1. Infill: [Match railing system infill] [Pickets] [Glass] [Horizontal cables] [Vertical cables].
  2. Provide complete with hardware including hinges, latch, **and drop bolt for double gates.**

VERIFY THAT LOCATION/SPACING OF LED AND/OR CAN LIGHTS, IF SPECIFIED, IS INDICATED ON THE DRAWINGS.

- C. **Low Voltage Lights: Locate as shown on Drawings.**
1. **Cap railing mounted, recessed 12 volt LED.**
  2. **Post mounted, 12 volt LED, aluminum can light powder coated to match railing color.**

#### 2.05 FINISH

- A. Shop Finish: Powder coat aluminum components in compliance with AAMA 2604.

IN ADDITION TO THE COLORS LISTED BELOW, OVER 200 CUSTOM COLORS ARE AVAILABLE. CONTACT FEENEY, INC. FOR FURTHER INFORMATION.

- B. Color: [White] [Black Matte] [Bronze Matte] [Green] [Gray] [Taupe] [Cream] [Silver] [Standard color as selected by Architect] [As shown on Drawings].

### **PART 3 - EXECUTION**

#### 3.01 EXAMINATION

- A. Examine work upon which railings will be installed.
- B. Coordinate with responsible entity to correct unsatisfactory conditions.
- C. Commencement of work by installer is acceptance of substrate conditions.

#### 3.02 INSTALLATION

MANUFACTURER'S INSTALLATION INSTRUCTIONS COVER PROCEDURES FOR TYPICAL INSTALLATION CONDITIONS. INSERT ADDITIONAL REQUIREMENTS AS NECESSARY TO COVER SPECIAL OR UNUSUAL CONDITIONS.

- A. Follow manufacturer's installation instructions.

VERIFY THAT DRAWINGS INDICATE WHERE ISOLATION OF DISSIMILAR METALS IS REQUIRED AND TYPE OF ISOLATION.

- B. Isolate dissimilar metals where indicated on the Drawings with grommets, bushings, or coatings as appropriate.
- C. Touch-up damaged paint surfaces with touch-up paint provided.

#### 3.03 CLEANING

- A. Reference Section 01 74 00–Cleaning and Waste Management.
- B. Clean soiled surfaces **and [glass] [cables]** using a mild detergent and warm water solution with soft clean cloths.

INCLUDE FOLLOWING PARAGRAPH FOR EXTERIOR CABLES IN COASTAL AREAS.

- C. **Clean cables thoroughly using synthetic scotch type pads and hot soapy water (or denatured alcohol) to remove residual lubricants; rinse thoroughly with clear water and wipe dry.**

END OF SECTION