



### **Avalon Aluminum Railing® Guide Specification**

This section is based on the products of RDI Railing, an Oldcastle® brand, Atlanta, GA 30346; (877) 265-2220; [www.rdirail.com](http://www.rdirail.com).

AVALON ALUMINUM RAILING® comes in rust resistant, sleek aluminum construction. Unique style options combine form, function, and versatility to add a rich, stylish look to your home while adding safety and security at the same time. Choose traditional square baluster rail panels, or for a truly high-end look, try glass slats or modern cable for your infill.

Oldcastle® APG, a CRH Company, is North America's leading provider of innovative outdoor living solutions that enable customers to Live Well Outside. The manufacturer's portfolio of premier building products inspires endless possibilities while providing enduring outdoor spaces where people can connect, reflect and recharge.

## SECTION 057300 - DECORATIVE METAL RAILINGS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Aluminum railing system.

#### 1.2 REFERENCES

**Specifier: If retaining this optional Article, edit list below to correspond to those references retained in edited specification section.**

- A. References, General: Versions of the following standards current as of the date of issue of the project or required by applicable code apply to the Work of this Section.
- B. American Architectural Manufacturer's Association (AAMA):
  - 1. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
- C. American National Standards Institute (ANSI):
  - 1. ANSI Z97.1 - Safety Glazing Material Used in Building.
- D. ASTM International (ASTM):

1. ASTM A307 - Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
2. ASTM A492 - Stainless Steel Rope Wire.
3. ASTM B117 - Operating Salt Spray (Fog) Apparatus.
4. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape and Tube.

### 1.3 SUBMITTALS

- A. Product Data: Manufacturer's technical literature for each product specified.
1. Include preparation instructions and recommendations.
  2. Include storage and handling requirements and recommendations.
  3. Include manufacturer's installation instructions.

Specifier: This product is available with load calculation documentation that is individually stamped by a Professional Engineer per state. Contact RDI Customer Service at (877) 265-2220 for documents that pertain to your region. Delete paragraph below if requirement for Delegated Design Submittal is retained.

4. Include load calculation documentation stamped by a Professional Engineer licensed in the jurisdiction in which Project is located.

B. Shop Drawings:

1. Include plans, elevations, sections, and details.
2. Include points of attachment and their corresponding static and dynamic loads imposed on deck and post foundations.

Specifier: Retain "Delegated Design Submittal" Paragraph and related paragraphs under Quality Assurance and Performance Requirements articles when required due to railing size or other exceptional Project requirements.

- C. Delegated Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Specifier: Retain both "Samples for Initial Selection" and "Samples for Verification" paragraphs below for two-stage Samples.

- D. Samples for Initial Selection: For each finish product and finish specified, sets of color chips representing manufacturer's full range of available colors.
- E. Samples for Verification: For each material and for each color, in manufacturer's standard size.

### 1.4 QUALITY ASSURANCE

A. Qualification Data:

1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum five years documented experience.
2. Installer Qualifications: Railing manufacturer, or experienced Installer with a record of successful installations of similar type and size to that specified.

Specifier: Retain below for delegated design requirement.

- B. Professional Engineer Qualifications: Documented experience with providing delegated-design engineering services of the kind required by this Section, including documentation that engineer is licensed in the jurisdiction in which Project is located.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Transport, handle, store and protect railing components so they are in undamaged condition when installed.
- B. Store railing components in manufacturer's unopened packaging.
- C. Store railing components off the ground in a dry, protected, covered and secure area.

#### 1.6 WARRANTY

- A. Special Warranty: On manufacturer's standard form in which manufacturer agrees to replace components which fail in materials or workmanship within specified warranty period.

Specifier: Warranty period below is for multifamily and commercial construction. RDI Railing also offers a limited lifetime warranty for single-family residential installations.

1. Warranty Period: 20 years from original date of purchase.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Structural Requirements: Engineer railings to withstand live and dead loads according to authorities having jurisdiction and information indicated within limits and under conditions indicated, without material failure or permanent deformation of structural members.

Specifier: Retain paragraph below if retaining requirement for delegated design. Custom engineering is available via authorized Avalon Aluminum Railing® Dealers.

- B. Delegated Design: Design railing to withstand design and operational loads.

#### 2.2 MANUFACTURER

- A. Basis of Design: [Avalon Aluminum Railing®](#) with ProLock® locking strip manufactured by RDI Railing; Atlanta, Georgia 30346; (877) 265-2220; [rdirail.com](http://rdirail.com).

Specifier: Retain one of the following two paragraphs.

1. Substitutions: Not permitted.
2. Substitutions: Submit request for substitution according to [Instructions to Bidders and] Division 01 General Requirements.

#### 2.3 RAILING SYSTEM

- A. Use manufacturer's standard components.
- B. System Description:

1. Height: [36 inches] [42 inches].
2. Length: [72 inches] [96 inches] [As indicated on the Drawings].
3. Color: [White] [Matte black] [Matte Bronze].

Specifier: Use Juliette mount option below to mount directly to the exterior wall of a building in front of full-length inswing windows to create a balconet, or small false balcony.

4. Post Mounting: [Flat to deck] [Fascia mount] [Juliette mount]. Provide all required post-mounting brackets and hardware.

C. Top Rail:

1. Mushroom Shaped: 2.1 by 2.15 inches, 0.07-inch thickness.
  - a. Basis of Design Product: RDI Railing, Pellinore.
2. Flat Top: 1.57 by 2.08 inches, 0.08-inch thickness.
  - a. Basis of Design Product: RDI Railing, Tristan.
3. Flat Top, to Support Deck Board: 3.08 by 2.08 inches, 0.08-inch thickness.
  - a. Basis of Design Product: RDI Railing, Oberon.

Specifier: Subparagraph below describes unique and distinctive three rail design.

4. 2-to-3 Railing:
  - a. Basis of Design Product: RDI Railing, 2-to-3 Rail Adapter.

Specifier: Delete Bottom Rail below if using cable infill.

- D. Bottom Rail: 1.7 inches by 1.13 inches, 0.08-inch thickness.

Specifier: Retain first option below for flat-to-deck mounting; retain second for fascia mount.

- E. Posts: With [pre-mounted aluminum base plates welded to posts, and with bottom sandwich plates included] [fascia brackets].
1. Standard End Posts: 2.5 by 2.5 inches, 0.08-inch thickness.
  2. Post/Sleeve: 4.3 by 4.3 inches, 0.08-inch thickness.
  3. Mid Posts: 2 by 2 inches, 0.08-inch thickness.

F. Infill:

Specifier: Delete infills not used. If more than one type of infill, indicate locations on Drawings.

1. Vertical Balusters: 3/4 inches square, 0.045-inch nominal thickness.
2. Glass Slats: ANSI Z97.1 safety glass, 4.125 nominal width by 0.25 nominal thickness.
3. Cables: 1x19 stainless steel cables, 1/8-inch diameter. Provide intermediate steel vertical supports color-matched to cable at locations as needed to meet performance requirements.

Specifier: Verify availability of decorative screen panel patterns and colors with [RDI Railing \(877\) 891-5267](tel:8778915267). Sanibel, Optic and River Rock are only available in black.

4. Decorative Screen Panels: Manufacturers prefabricated screen panels. Provide adaptor kit for attachment to framing.:
  - a. Size: 33 by 68 by 0.3 inches.
  - b. Pattern: [Boardwalk] [Sanibel] [River Rock] [Optic].
  - c. Color: [White] [Gray] [Black].
5. Steel Rods: Horizontal, 1/2 -inch-diameter aluminum rods with welded center supports and secure-fit bushings in upright

G. Accessories: Include locking strips preinstalled into top and bottom rails, brackets, trim rings, and flat caps.

## 2.4 MATERIALS

- A. Aluminum, General: Provide alloys and tempers with not less than the strength and durability properties of alloy and temper designated in paragraphs below for each aluminum form required.
  1. Extrusions: ASTM B221, Alloy 6005-T5.
- B. Cables and Cable Fittings: ASTM A492, Type 316 stainless steel cable, factory swaged. Provide stainless steel fittings and connectors capable of sustaining load required to meet performance requirements.

Specifier: Delete subparagraph below if no stairs.

1. Stair Applications: Provide manufacturer's standard "hinged" fittings to allow cables to follow contour of stair.
- C. Decorative Screen Panels: Manufacturer's proprietary polypropylene panels.
- D. Fasteners:
  1. Stainless steel fasteners, all to be concealed upon installation.
  2. Attachment to Wood Decking: 3/8-inch diameter A307 bolts for through bolt attachment.
  3. Attachment to Concrete: Comply with manufacturer's instructions.

## 2.5 FINISHES

- A. Powder Coatings, Coating Finish Process: One-coat dry system with 70 percent fluoropolymer resin, meeting performance requirements of AAMA 2604 and the following:

Specifier: Avalon Aluminum Railing® finishes test to 10,000 hours, likely the only manufacturer to do so. Modify requirement below if higher performance is required and a closed specification is acceptable.

1. Dry Film Salt Spray, ASTM B117: Minimum 3,000 hours.

Specifier: Retain first paragraph below for square baluster infill panels.

## 2.6 FABRICATION

- A. Factory pre-assemble square baluster infill panels.

## 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.
- B. Proceed with railing installation once out-of-tolerance work and other deficient conditions are corrected.

### 3.2 RAILING 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.
- C. During installation, carefully handle and store aluminum components to avoid contact with abrasive surfaces. Install components in sequence as 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