



### **Elevation™ Rail with Cable Guide Specification**

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

ELEVATION™ RAIL with cable is available in DIY-friendly pre-assembled kits that require no special tools and can install 38% faster than the competition. Offering a modern, industrial design and a continuous top rail, this horizontal cable railing presents unobstructed views. Featuring pre-strung continuous stainless-steel cables with the OneTen™ built-in centralized tensioning system, adjustable panels can span up to 6 feet. May be used for both interior and exterior applications.

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. 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: From original date of purchase.
  - a. Aluminum Railing: 20 years.
  - b. Cables: 10 years.

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 Elevation™ Rail with cable Dealers.

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

2.2 MANUFACTURER

- A. Basis of Design: [Elevation™ Rail](#) with cable manufactured by RDI Railing; Atlanta, Georgia 30346; (877) 265-2220; [www.rdirail.com](http://www.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: 68 inches unless otherwise indicated on the Drawings.
3. Color: Matte black.
4. Post Mounting: Flat to deck. Provide all required post-mounting brackets and hardware.
5. Trim: Include trim rings, post caps, and all required components for a complete installation.

C. Top Rail:

1. Beam: 1.5 by 1.86 inches, 0.075-inch thickness.
2. Rail: 2.0 by 3.0 inches, 0.07-inch thickness.

D. Posts: With pre-mounted aluminum base plates welded to posts.

1. Standard End and Mid Posts: 2.0 by 4.0 inches, 0.13-inch thickness.
2. Corner Posts: 4.0 by 4.0 inches, 0.13-inch thickness.

E. Infill:

1. Cables: 7x7 stainless steel cables, 1/8-inch diameter.
2. Mid-Baluster Support: Provide vertical steel mid-baluster supports at center of spans as recommended by manufacturer.
3. Tensioning System: Built-in system for tensioning all cables at once and locking in place.

Specifier: Elevation™ Rail with cable's unique OneTen™ centralized tensioning system eliminates the need to tension each cable individually and decreases the need for seasonal adjustment. [Watch install video.](#)

- a. Basis of Design Product: RDI Railing, OneTen™.

## 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.

Specifier: Delete subparagraph below if no stairs.

1. Stair Applications: Provide manufacturer's standard stair fittings and guides to allow cables to follow contour of stair.

C. 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: Elevation™ Rail with cable 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.

### 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. Cable Installation: Pre-tension and tension cables according to manufacturer's instructions using guides and locker mechanisms provided by manufacturer. Use power tools to tighten tensioners and lock into place.
- D. Stair Installation: Install according to manufacturer's written instructions.
- E. 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

Specifier: Cleaning and protecting this product's cables are required to maintain its warranty. Use a stainless-steel cleaner and protectant like E-Z Clean Cable Cleaner and Protectant or equivalent every 6 months. For areas within 1 mile of salt or brackish water every 3 months is required.

- A. Clean finished surfaces according to manufacturer's written instructions and as required by product warranty.
- B. Replace damaged or discolored components that cannot be restored by field repair.

END OF SECTION