

**ICC Evaluation Service, Inc.**  
[www.icc-es.org](http://www.icc-es.org)

**Business/Regional Office** ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543  
**Regional Office** ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800  
**Regional Office** ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

**DIVISION: 06—WOOD AND PLASTICS**  
**Section: 06500—Structural Plastics**  
**Section: 06610—Plastic Railings and Guards**

**REPORT HOLDER:**

**FAIRWAY BUILDING PRODUCTS**  
**53 EBY CHIQUES ROAD**  
**POST OFFICE BOX 37**  
**MOUNT JOY, PENNSYLVANIA 17552**  
**(800) 598-5245**  
[www.fairwaybuilding.com](http://www.fairwaybuilding.com)  
[John@fairwayvinyl.com](mailto:John@fairwayvinyl.com)

**EVALUATION SUBJECT:**

**FAIRWAY VINYL GUARDRAIL SYSTEMS**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

**Properties evaluated:**

- Structural
- Durability
- Surface-burning characteristics

**2.0 USES**

The Fairway vinyl guardrail systems evaluated in this report are limited to exterior use as a guard for balconies, porches and decks. The products described in this report are used in (1) one- and two-family dwellings; (2) Group R Occupancy (residential) buildings of Type V-B construction (IBC) and other types of construction in applications where untreated wood is permitted by IBC Section 1406.3; (3) buildings constructed in accordance with the IRC; and (4) Type V-N construction (UBC). See Table 1 for occupancy and other restrictions.

**3.0 DESCRIPTION**

**3.1 Fairway Vinyl Guardrail Systems:**

The guardrail systems (Standard and Contour) are made of extruded hollow profile polyvinyl chloride (PVC) manufactured in a white color. The railing is manufactured by an extrusion process in accordance with the approved quality control manual, to produce balusters and railing components.

The Standard top rail is a 2-inch-wide-by-3<sup>1</sup>/<sub>2</sub>-inch-high-by-0.115-inch-thick-wall (50.8 by 88.9 by 2.9 mm) PVC extruded hollow rectangular profile. The Contour top rail is a 3-inch-wide-by-2<sup>1</sup>/<sub>4</sub>-inch-high-by-0.085-inch-thick-wall (88.9 by 57.2 by 2.2 mm) hollow PVC extruded bread loaf profile. The bottom rails are 2-inch-wide-by-3<sup>1</sup>/<sub>2</sub>-inch-high-by-0.115-inch-thick-wall (50.8 by 88.9 by 2.9 mm) PVC extruded hollow rectangular profiles. The guardrails, as evaluated, are sections 6 and 8 feet long by 42 inches high (1.8 and 2.4 m by 1067 mm) and 10 feet long by 36 inches high (3 m by 914.4 mm). The Standard top rail section has an H section aluminum [minimum ultimate tensile strength of 38,000 psi (262 MPa)] insert for full-length reinforcement. The Contour top rail has a bread loaf-shaped aluminum [minimum ultimate tensile strength of 38,000 psi (262 MPa)] insert for full-length reinforcement. The top and bottom rails are attached to 4-inch-by-4-inch (102 mm by 102 mm) preservative-treated wood posts, which are outside the scope of this report. The balusters are 1<sup>3</sup>/<sub>8</sub> inches (35 mm) square by 0.06 inch (1.5 mm) thick. See Figure 1 for a dimensional cross-sectional profile of the rails and balusters.

**3.2 Durability:**

When subjected to weathering, insect attack, and other decaying elements, the materials used to manufacture the Fairway guardrail system are equivalent in durability to code-complying, preservative-treated or naturally durable lumber when used in locations described in Section 2.0. The Fairway guardrail system has been evaluated for structural performance when exposed to temperatures from -20°F (-29°C) to 125°F (52°C).

**3.3 Surface-burning Characteristics:**

When tested in accordance with ASTM E 84, the Fairway guardrail system has a flame spread index of no greater than 200.

**4.0 DESIGN AND INSTALLATION**

**4.1 General:**

Installation of the Fairway Vinyl guardrail system must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite at all times during installation.

**4.2 Structural:**

The Fairway guardrail system is satisfactory to resist the loads specified in Section 1607.7.1 of the IBC and Table R301.5 of the IRC, when installed in accordance with Table 1. When a railing is supported on one or both ends by the supporting construction, the maximum distance must be measured from the inside face of the post to edge-of-structure or edge-of-structure to edge-of-structure, respectively. See Table 1 notes for actual measurement of rail.

### 4.3 Installation:

**4.3.1 Rail Attachment Brackets:** The Standard rail attachment brackets are 3<sup>1</sup>/<sub>8</sub>-inch-wide-by-2<sup>3</sup>/<sub>4</sub>-inch-high (79.4 by 69.9 mm) black nylon base brackets with separate white bracket trim covers. The brackets are installed with the flange radii up (see Figure 2). The brackets must be attached to nominally 4-inch-by-4-inch (102 by 102 mm), sleeved, preservative-treated wood posts through the brackets' outboards holes with four No. 10 by 1<sup>1</sup>/<sub>4</sub>-inch (32 mm), stainless steel, pan-head square-drive, Hi-Lo wood screws.

The Contour rail brackets are 2<sup>15</sup>/<sub>16</sub>-inch-wide-by-1<sup>5</sup>/<sub>16</sub>-inch-high (74.6 by 33.3 mm) black contoured ABS handrail saddle brackets hidden within a separate white trim cover. The Contour rail brackets must be attached to nominally 4-inch-by-4-inch (102 by 102 mm), sleeved, preservative-treated wood posts with four No. 10 by 1<sup>3</sup>/<sub>4</sub>-inch (44.5 mm), stainless steel, pan-head, square-drive, Hi-Lo wood screws.

**4.3.2 Fairway Rail System:** Each bracket is secured to the Standard and Contour rails with four and two, respectively, No. 8 by 3/4-inch (19 mm), stainless steel, self-drilling, pan-head, square-drive, sheet metal screws. Balusters are inserted into pre-existing cutouts in the top and bottom rails before the rails are secured to the posts.

### 5.0 CONDITIONS OF USE

The Fairway vinyl guardrail system described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** The use of these products must be limited to exterior use as a guards for balconies, porches and decks. The products described in this report are used in (1) one-and-two-family dwellings; (2) Group R Occupancy (residential) buildings of Type V-B (IBC) and other types of construction in applications where untreated wood is permitted by IBC Section 1406.3; (3) buildings constructed in accordance with the IRC; and (4) Type V-N construction (UBC). The Fairway vinyl guardrail system has not been evaluated for use as a handrail or as a guard for stairs.
- 5.2** Installation complies with this report, the manufacturer's published installation instructions and the applicable code. Only those fasteners and fastener configurations described in this report have been evaluated for the installation of the railing system. If there is a conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.3** The use of wood posts, with or without post sleeves, is outside the scope of this report.
- 5.4** The use of 10-foot-long-by-36-inch-high (3m by 914.4 mm) Fairway guardrail assemblies is limited to one- and two-family dwellings under the IRC.
- 5.5** The compatibility of the fasteners, metal post mount brackets and other metal hardware with the supporting construction, including chemically treated wood, is outside the scope of this report.
- 5.6** Adjustment factors outlined in the AF&PA *National Design Standard* and applicable codes must not be applied to the allowable capacity and maximum spans for the railing system.
- 5.7** The Fairway vinyl guardrail system must be directly fastened to supporting construction. Where required by the code official, engineering calculations and construction documents consistent with this report must be submitted for approval. The calculations must verify that the supporting construction complies with the applicable building code requirements and is adequate to resist the loads imparted upon it from the products and systems discussed in this report. The documents must contain details of the attachment to the supporting structure consistent with the requirements of this report. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.8** The Fairway vinyl guardrail system is produced in Mount Joy, Pennsylvania; Flowery Branch, Georgia; and York, Nebraska, under a quality control program with inspections by Architectural Testing, Inc. (AA-676).

### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails) (AC174), dated February 2007.

### 7.0 IDENTIFICATION

Each railing component described in this report is identified by a label or stamp bearing the manufacturer's name (Fairway Building Products), the product name, the name of the inspection agency (Architectural Testing, Inc.) and the ICC-ES evaluation report number (ESR-2321). The label for the 10-foot-long-by-36 inch- high (3 m by 914.4 mm) guardrail system must also include the phrase "For Use in One-and Two-Family Dwellings Only."

TABLE 1—MAXIMUM GUARDRAIL SYSTEM SPANS<sup>1</sup>

PRODUCT NAME/COMPONENT	APPLICABLE BUILDING CODE <sup>2</sup>			MAXIMUM SPAN (ft-in) <sup>3,4</sup>
	IBC	IRC	UBC <sup>5</sup>	
The 8-foot-long-by-42-inch-high Fairway Guardrail System	Yes	Yes	Yes	8-0
The 10-foot-long-by-36-inch-high Fairway Guardrail System	-	Yes	-	10-0

For SI: 1 inch = 25.4 mm; 1 ft = 305 mm.

<sup>1</sup>The ability of the supporting construction to resist the reactionary loads must be confirmed by the code official.

<sup>2</sup>Indicates compliance with the respective building codes.

<sup>3</sup>Maximum span is measured from inside the mounting face of the post or structure to inside mounting face of the post or edge-of-building to edge-of-building where the rail is supported directly by the building.

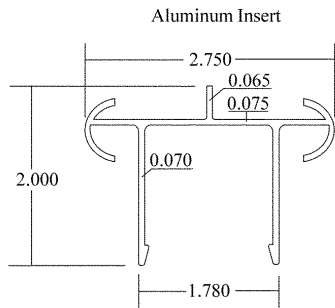
<sup>4</sup>Maximum allowable span is adjusted for durability. No further increases are permitted.

<sup>5</sup>This rail assembly meets Group R Occupancy of Type V-N only under the UBC.

### Fairway Vinyl Systems/Rail Profiles & Aluminum Inserts

#### Contour Top Rail

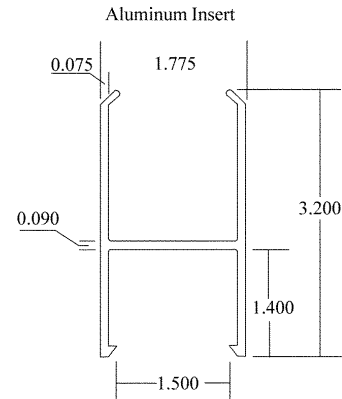
Small Contoured 2 1/4" x 3" Open Hand Rail



Material ; #6105-T5 or #6005-T5

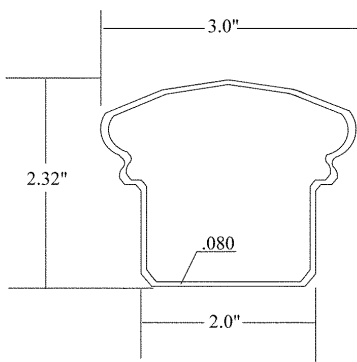
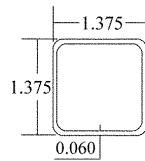
#### Standard Top Rail

Standard 2.000 x 3.500 Open Profile H- Channel

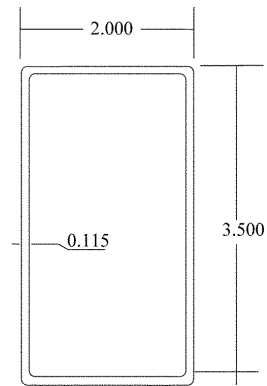


Material ; #6105-T5 or #6005-T5

#### 1 3/8"x 1 3/8" Square Baluster



Contour Top Rail  
Open Profile

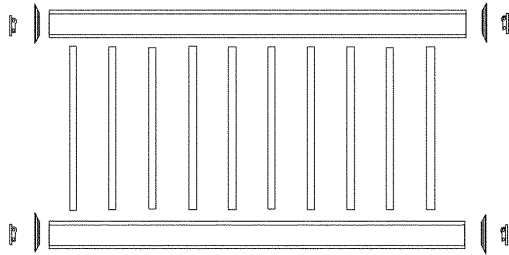


2.000 x 3.500 Standard Open - Profile

FIGURE 1—GUARDRAIL SYSTEM COMPONENT PROFILES

FAIRWAY VINYL SYSTEMS

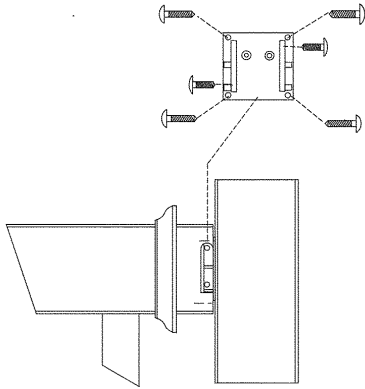
STANDARD LEVEL RAIL KIT



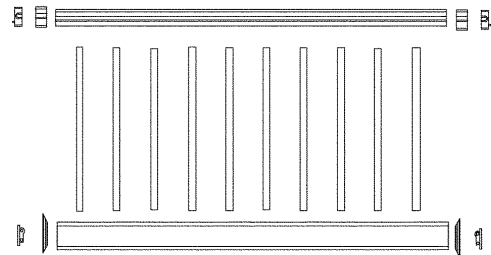
STANDARD RAIL KIT INCLUDES :

- 2 EA. - 2" x 3.5" STANDARD RAILS
- 2 EA. - STANDARD RAIL ALUMINUM INSERT
- 4 EA. - STANDARD MOUNTING BRACKETS (TWO PIECE BRACKET)
- 1 PACK - STAINLESS STEEL MOUNTING SCREWS

1 3/8" SQUARE BALUSTERS	
6' SEC. -	13
8' SEC. -	18
10' SEC. -	22



CONTOUR LEVEL RAIL KIT



CONTOUR RAIL KIT INCLUDES :

- 1 EA. - CONTOUR RAIL
- 1 EA. - 2" X 3.5" STANDARD RAIL
- 1 EA. - CONTOUR RAIL ALUMINUM INSERT
- 1 EA. - STANDARD RAIL ALUMINUM INSERT
- 2 EA. - CONTOUR MOUNTING BRACKETS (TWO PIECE BRACKET)
- 2 EA. STANDARD MOUNTING BRACKETS (TWO PIECE BRACKET)
- 1 PACK - STAINLESS STEEL MOUNTING SCREWS

1 3/8" SQUARE BALUSTERS	
6' SEC. -	13
8' SEC. -	18
10' SEC. -	22

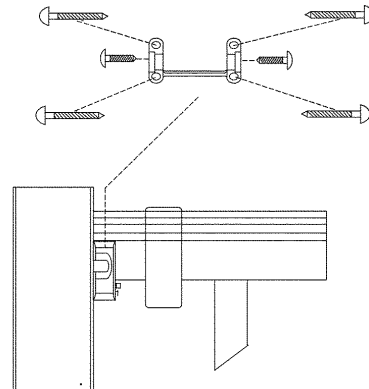


FIGURE 2—GUARDRAIL SYSTEM BRACKET PROFILES