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DIVISION: 06—WOOD AND PLASTICS**Section: 06610—Plastic Railings and Guards****REPORT HOLDER:**

L.B. PLASTICS, INCORPORATED
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EVALUATION SUBJECT:**L.B. PLASTICS 3000 SERIES PLASTIC RAILING****ADDITIONAL LISTEES:**

ARNDT & HERMAN
2 GRANDVIEW STREET
NORTH WILKESBORO, NORTH CAROLINA 28659
(336) 667-5976

1.0 EVALUATION SCOPE**Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)

Properties evaluated:

- Structural
- Durability
- Surface-burning characteristics

2.0 USES

The L.B. Plastics 3000 Series Plastic Railing is limited to exterior use as rails for balconies, porches and decks. The products described in this report are used in exterior applications in Group R Occupancy buildings of Type V-B (IBC) construction, in other applications where untreated wood is permitted by IBC Section 1406.3, and in dwellings constructed in accordance with the IRC. (See Table 1 for occupancy and other restrictions.)

3.0 DESCRIPTION**3.1 General:**

The L.B. Plastics 3000 Series Plastic Railing consists of PVC components complying with cell classification 16354 as prescribed by ASTM D 1784, and aluminum rail reinforcement members. The L.B. Plastics 3000 Series railing system is manufactured by an extrusion process in three colors: white, beige and clay.

3.2 Guardrail System:

The L.B. Plastics 3000 Series Plastic Railing is manufactured for balconies, porches and decks. The system is recognized for guards having a height of 36 inches to 42 inches (914 mm to 1067 mm). Baluster spacing forms openings of approximately 3½ inches (89 mm). Each style (Square Picket and Colonial Spindle) includes extruded PVC top and bottom rails and balusters; aluminum top rail reinforcement members made from aluminum alloy 6061-T6; and intermediate support. The attachment system is designed for mounting the railing to a column or wall. There are two types of mounting brackets: (1) the PVC top rail bracket and (2) the PVC bottom rail bracket. The rail system must be field-assembled using 1½-inch-by-1½-inch (38 mm by 38 mm) square or molded PVC profile balusters. See Figures 1 through 8 for part profiles.

3.2.1 Durability: When subjected to weathering, insect attack, and other decaying elements, the material used to manufacture the L.B. Plastics 3000 Series Plastic Railing is equivalent in durability to preservative-treated or naturally durable lumber when used in locations described in Section 2.0 of this report. The L.B. Plastics 3000 Series Plastic Railing has been evaluated for a temperature range from -20°F (-29°C) to 125°F (52°C).

3.2.2 Surface-burning Characteristics: When tested in accordance with ASTM E 84, the PVC material used in the L.B. Plastics 3000 Series Plastic Railing has a flame-spread index of no more than 200.

4.0 DESIGN AND INSTALLATION**4.1 General:**

Installation of the L.B. Plastics 3000 Series Plastic Railing, described in this report, 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 L.B. Plastics 3000 Series Plastic Railing 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 at a maximum 120-inch (3 m) clear span. When a railing is supported on one or both ends by supporting construction, the maximum distance must be measured from the inside of the column to edge-of-structure, or from edge-of-structure to edge-of-structure, respectively. See Table 1 (notes) for actual measurements of rail.

4.3 Installation:

The maximum allowable span of the railing system is 96 inches (2438 mm) measured from edge to edge of column or wall for residential applications (IBC); and 120 inches (3048 mm) measured from edge to edge of column or wall for One-

and Two-Family Dwelling applications (IRC). The top rails must be reinforced with the aluminum members provided with the 3000 Series Plastic Railing System. Before installation of the rails, the baluster members must be friction-fitted into the openings provided in the rails. The railing system components must be installed in accordance with the manufacturer's published installation instructions.

Brackets attach to the column or wall with four No. 10 by 2 $\frac{1}{2}$ -inch, stainless steel, self-starting bugle-head screws. The rail brackets must be fastened to the rail with two No. 8 by 1 $\frac{1}{2}$ -inch, stainless steel, self-starting pan-head screws, one on each side of the bracket. The retaining screws must penetrate the PVC bracket, rail, and aluminum insert.

5.0 CONDITIONS OF USE

The L.B. Plastics 3000 Series Plastic Railing 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 this product must be limited to exterior use as guards for balconies, porches and decks in Group R Occupancy buildings of Type V-B (IBC) construction, in other applications where untreated wood is permitted by IBC Section 1406.3, and in dwellings constructed in accordance with the IRC.
- 5.2 Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. When the manufacturer's published installation instructions differ from this report, this report governs.
- 5.3 The compatibility of the fasteners, metal mount components and other metal hardware with the supporting construction, including chemically treated wood, is outside the scope of this report.
- 5.4 The L.B. Plastics 3000 Series Plastic Railing 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 code requirements and is adequate to resist the loads imparted upon it by 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.

- 5.5 The use of wood posts, with or without post sleeves, is outside the scope of this report.

- 5.6 The use of the top rail component of the L.B. Plastics 3000 Series Plastic Railing as a handrail for stairways or ramps is outside the scope of this report.

- 5.7 The L.B. Plastics 3000 Series Plastic Railing is produced in Mooresville, North Carolina, under a quality control program with inspections by Architectural Testing, Inc. (AA-676).

6.0 EVIDENCE SUBMITTED

- 6.1 Manufacturer's published installation instructions.
- 6.2 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

The L.B. Plastics 3000 Series Plastic Railing described in this report is identified by a stamp, on each individual piece or on the packaging, bearing the manufacturer's name (L.B. Plastics, Inc.), the product type, the name of the inspection agency [Architectural Testing, Inc. (AA-676)], and the ICC-ES evaluation report number (ESR-1912).

TABLE 1—MAXIMUM GUARDRAIL SYSTEM SPANS¹

PRODUCT NAME/COMPONENT	APPLICABLE BUILDING CODE ²		MAXIMUM SPAN ^{3,4}
	IBC	IRC	
L.B. Plastics 3000 Series Plastic Railing (42-inch-high rail with Colonial Spindle baluster)	Yes	Yes	8 ft. - 0 in.
L.B. Plastics 3000 Series Plastic Railing (42-inch-high rail with Picket baluster)	Yes	Yes	8 ft. - 0 in.
L.B. Plastics 3000 Series Plastic Railing (36- to 42-inch-high rail with Colonial Spindle baluster)	—	Yes	10 ft. - 0 in.
L.B. Plastics 3000 Series Plastic Railing (36- to 42-inch-high rail with Picket baluster)	—	Yes	10 ft. - 0 in.

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

¹The ability of the supporting construction to resist the reactionary loads must be justified to the satisfaction of the code official.

²Indicates compliance with the respective building codes.

³Maximum span is measured from edge-of-column to edge-of-column or edge-of-wall.

⁴Maximum allowable span has been adjusted for durability. No further increases are permitted.

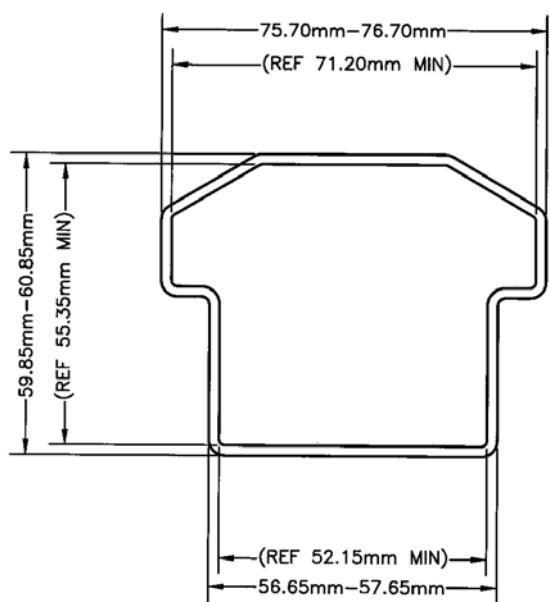


FIGURE 1

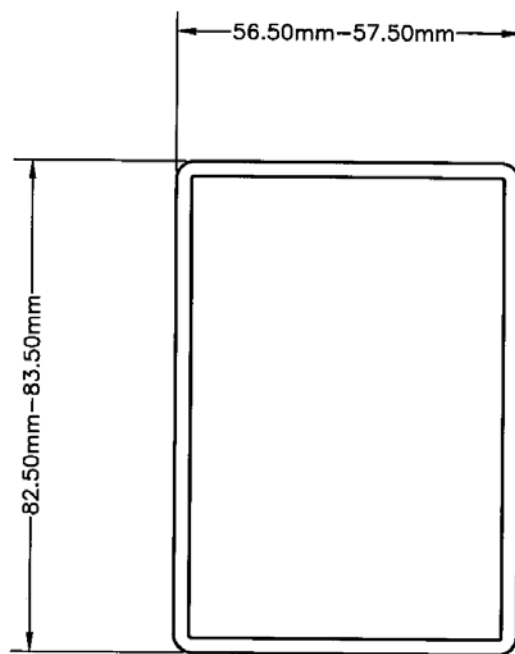


FIGURE 2

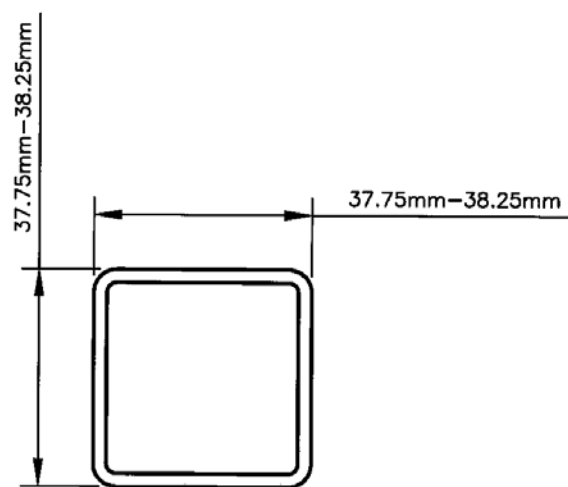


FIGURE 3

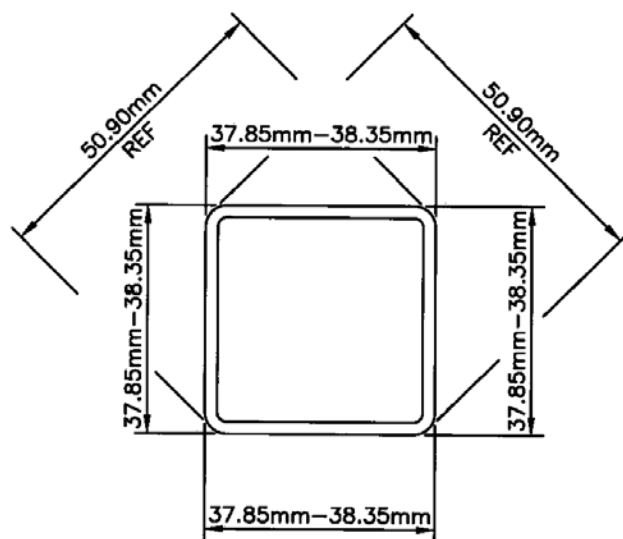


FIGURE 4

For **SI**: 25.4 mm = 1 inch.

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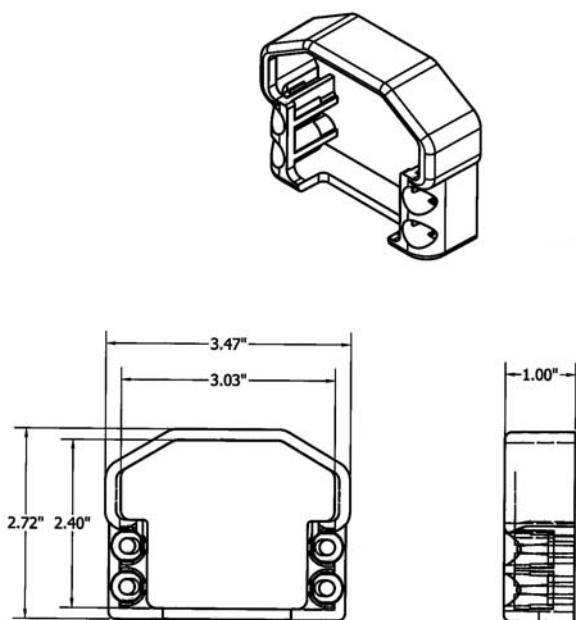


FIGURE 5

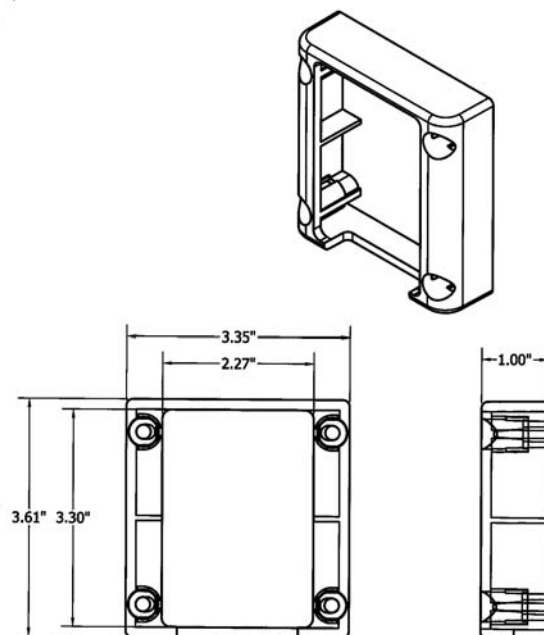


FIGURE 6

For SI: 1 inch = 25.4 mm.

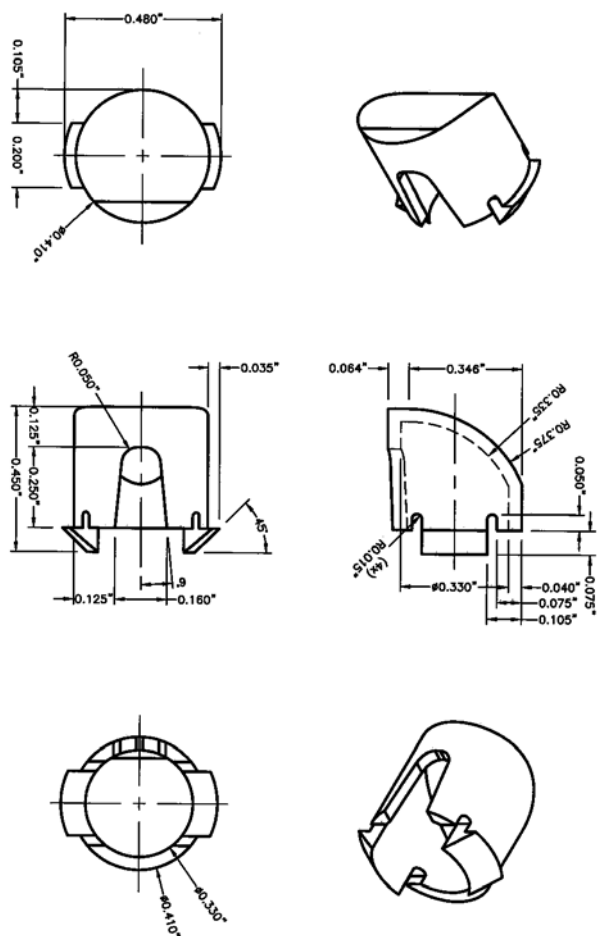


FIGURE 7

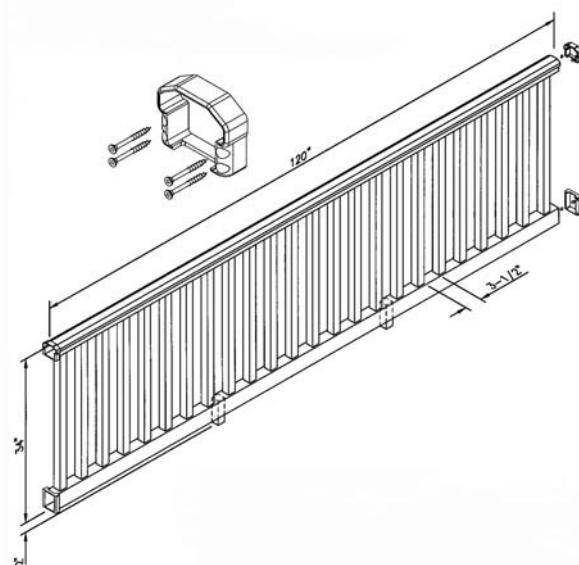


FIGURE 8

For SI: 1 inch = 25.4 mm.