Oldcastle Camden Composite Guardrail System

Oldcastle

Initial Acceptance: 11 December 2024

Expiration: 11 December 2027

Revision: 27 October 2025

Version #: 2.0

TYPE OF ACCEPTANCE

Product Material – Wood and Plastics
CSI Specification Division: 06 50 00 (Structural Plastic) and 06 63 00 (Plastic Railing)

MANUFACTURER IDENTIFICATION:

Oldcastle
400 Perimeter Center Terrace FL 10
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EVALUATION REPORT SUBJECT:

Camden **®** Composite Guardrail System for Exterior Applications
Installation on construction complying with the International Residential Code® (IRC®)

DESCRIPTION OF BUILDING COMPONENTS:

Oldcastle guardrail system is identified by the name – ***Camden***. The guardrail system is for use in areas as referenced in the Applicable Code Sections of this Report. The guardrail system provides a protective barrier for walking areas, balconies, porches and ramps. The guardrail system is manufactured by the co-extrusion process, assembled with molded components and are produced in white and other colors.

1. Guardrail – *Camden*

(a) The ***Camden*** guardrail system consists of top rail, bottom rail, and balusters. The top rail, bottom rail, and balusters are manufactured with PVC material by the co-extrusion process except for the PVC molded brackets and the aluminum baluster.

(b) The ***Camden*** guardrail system has a top rail that comes in a "T" rail profile. The top rail profile is "T" in shape, hollow in the center, has rounded edges, is pre-routed for balusters, and has cap stock on the rail. See Table 1 in this Report for drawings and dimensions of top rail.

(c) The ***Camden*** guardrail system has a bottom rail that is rectangular in shape, hollow in the center, has rounded edges, and is pre-routed for balusters. See Table 1 in this Report for drawings and dimensions of bottom rail.

(d) The ***Camden*** guardrail system has two baluster designs: square and round. The square is manufactured with PVC material, has rounded edges, and is hollow in the center. The round baluster is circular in shape, is hollow in the center, and is an extruded aluminum alloy 6063-T5 material. See Table 1 in this Report for baluster drawings and dimensions.

(e) The ***Camden*** guardrail system connections for the top and bottom rail to the supports are PVC molded brackets and adapters or two-piece adjustable brackets (Angle Wizard). The brackets and adapters shall be secured to the posts with steel screws (stainless, corrosion-resistant, or galvanized) suitable for use in preservative-treated wood. See Table 1 and 3 of this Report for a drawing of the bracket and the number of fasteners required.

(f) See Table 2 in this Report for the ***Camden*** guardrail system height and length limits. The guardrail system that is 6 feet in length requires intermediate support between the supports under the bottom rail and the guardrail system that is 8 feet in length requires two supports that are located under the bottom rail and are evenly spaced between supports. See the manufacturer's installation instructions 34117753 / Rev 06.24 for additional details.

(g) See manufacturer's published installation instructions identified as 34117753 / Rev 06.24 for additional guardrail system installation details.

2. Stair – Camden

(a) The guardrail system can be used as a stair guard. See Tables 1, 2 and 3 for maximum length between posts, bottom rail supports, top and bottom rail connection brackets, and fasteners required.

(b) When the guardrail is used with stairs, the guardrail must be installed in accordance with the applicable code, manufacturer's installation instructions, and Tables 1, 2 and 3 in this Report. When the manufacturer's installation instructions differ from this Report, this Report governs. Additionally, in order to comply with the IRC graspability requirements, a separate handrail complying with IRC Section R311.7.8.3 must be provided. Specific details regarding the construction installation and attachment to the stair guardrail and/or posts have not been evaluated and are outside the scope of this Report. Specific details when required must be furnished to the authority having jurisdiction.

(c) See Manufacturer's published installation instructions 34117753 / Rev 06.24 for additional installation details.

APPLICABLE CODES:

- 2015, 2018, and 2021 International Residential Code (IRC)

APPLICABLE CHARACTERISTICS REVIEWED:

1. **Structural Performance:**

(a) The ***Camden*** guardrail system has been reviewed for maximum spans as indicated in Table 2. Table 2 in this Report also indicates the limitations of use evaluated for each design.

2. **Temperature:**

(a) The ***Camden*** guardrail system has been reviewed for the temperature range of -20 °F (-29 °C) to 125 °F (52 °C).

3. **Flame Spread Index:**

(a) The ***Camden*** guardrail system flame spread rating was between 0-25 for PVC material when tested in accordance with ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials."

4. **Decay Resistance:**

(a) The material used in the ***Camden*** guardrail system in this Report does not contain any wood and has been deemed comparable to naturally resistant wood or to preservative-treated wood for resistance to fungal decay.

5. **Termite Resistance:**

(a) The material used in the ***Camden*** guardrail system in this Report does not contain any wood and has been deemed equivalent to naturally resistant wood or to preservative-treated wood for resistance to termite attack.

6. **UV Testing:**

(a) The UV testing was conducted, and an appropriate adjustment factor was applied in accordance with ASTM D 7032-17 "Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails)".

7. **Fastening:**
   (a) The ***Camden*** guardrail system top and bottom rails must be fastened to posts with PVC molded brackets using steel (stainless, corrosion-resistant, or galvanized) screws. See Table 3 in this Report and manufacturer's installation instructions, noted in the description section, 1(g) of this Report.

   (b) The fasteners and brackets are supplied by the manufacturer and must be used in the installation of the Oldcastle guardrail system. Use of other brackets and fasteners is not covered under this Report.

8. **Posts:**

   (a) Wood posts and other wood framing members supporting the posts are not covered under this Report and fall outside of this Report. Wood posts and other wood must be designed to meet the load requirement in the applicable building code and the wood members must have a minimum specific gravity of 0.55 (Southern Pine or better) and minimum thickness to allow full penetration of bracket mounting screws. Other wood posts or wood members not meeting these requirements are not covered under this Report.

APPLICABLE USES:

The Oldcastle Camden guardrail system evaluated in this Report are for installations on construction complying with IRC including Exceptions indicated in section 1015.3. See Table 2 for guardrail system limitations.

LIMITATIONS OF ACCEPTANCE:

The Oldcastle ***Camden*** guardrail system described in this Report comply with those codes listed in the Applicable Codes section above and are subject to the following conditions:

1. The Oldcastle ***Camden*** guardrail system guardrail system is limited to exterior construction complying with the IRC. The guardrail systems provide a protective barrier for walking areas, balconies, porches, and ramps.
2. Installation of the guardrail system must comply with this Report; the manufacturer's published installation instructions identified as 34117753 / Rev 06.24, and the applicable code. When the guardrail installation instructions differ from this Report, this Report governs.
3. The fasteners described in this Report have been evaluated for the installation of the Oldcastle ***Camden*** guardrail system only. Structural wood posts and framing support members for posts must be designed to satisfy load requirements (live and dead) indicated in the applicable building code. Material necessary for the anchorage of the guardrail system(s) and compatibility of the fasteners to the treated wood supporting construction has not been evaluated.
4. The Oldcastle ***Camden*** guardrail system indicated in the Report must be fastened to the supporting construction as indicated in the manufacturer's published installation instructions and as outlined in this Report. When guardrail fastening instructions differ from this Report, this Report governs.
5. When required, the guardrail system in this Report must be designed by a professional and submitted to the authority having jurisdiction for final acceptance.
6. The use of a corner rail connection without a post is outside the scope of this Report.
7. The Oldcastle ***Camden*** guardrail system has not been evaluated as a member of a fire resistance-rated assembly.
8. Oldcastle has Third Party inspection program provided by PFS Corporation.

DOCUMENTATION SUBMITTED:

Submitted data was provided in accordance with PFS TECO Certification and Inspection Policy: Deck Boards and Guardrails (Quality Control Manual, Specifications, Manufacturer's published installation instructions, Test data and Descriptive information). The products have been evaluated in accordance with ICC-ES AC174, *Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails)*.

PRODUCT IDENTIFICATION:

The Oldcastle guardrail assembly system must be identified with a label on each component or the packaging. The information required is as follows: Oldcastle, product identification ***(Camden)***, compliance to ASTM D7032 including the maximum guardrail span and loading, the PFS TECO Building Product Evaluation Report number (BPER 0145), and the PFS Certification Mark (see image below). Guardrails without this information are not covered under this Report.

Table 1: Schematics of Camden® Guardrail System Components

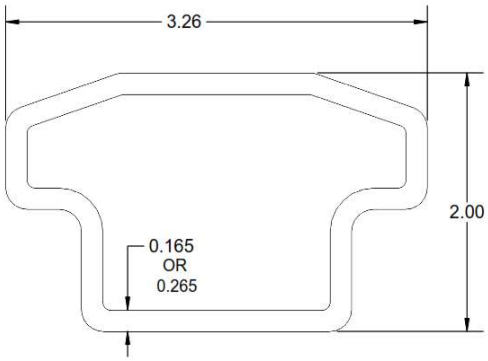
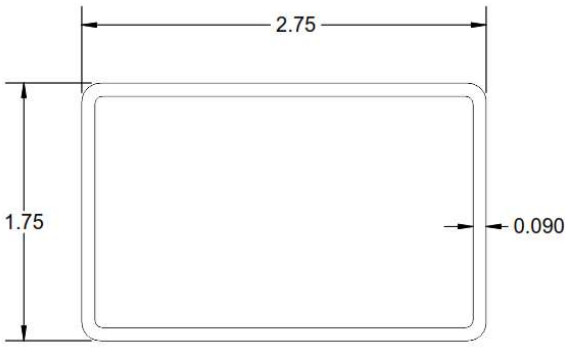
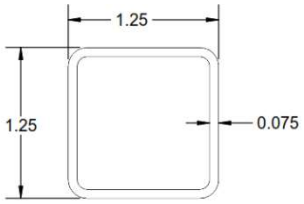
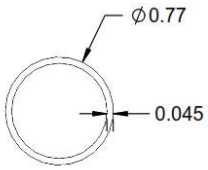
Description	***Profile***
Top Rail	
Bottom Rail	
Balusters	 Square Baluster  Round Aluminum Baluster

Table 1 Continued

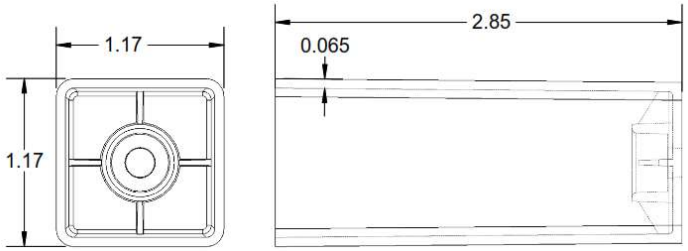
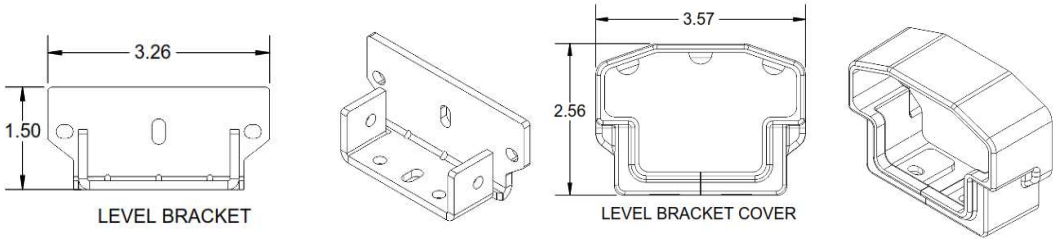
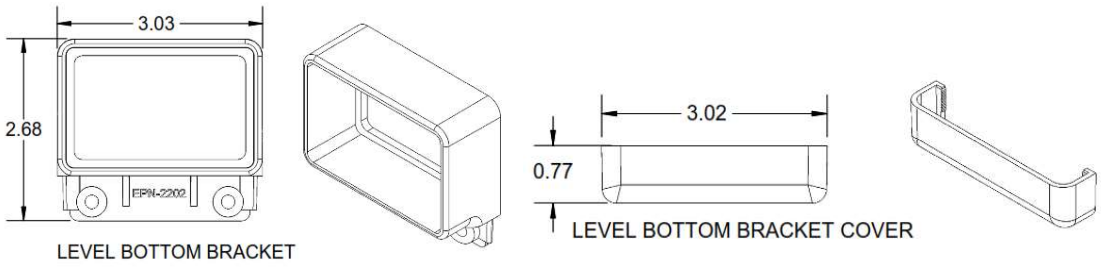
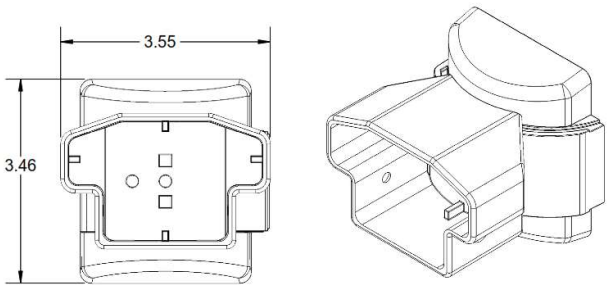
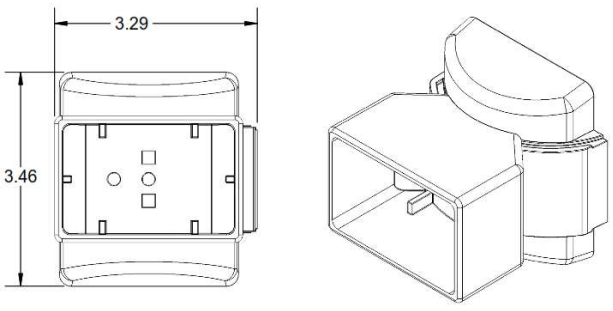
Bottom Rail Support Block	
Level Top Rail Bracket and Bracket Cover	
Level Bottom Rail Bracket and Bracket Cover	
Level Angle Top Rail Bracket	
Level Angle Bottom Rail Bracket	

Table 1 Continued

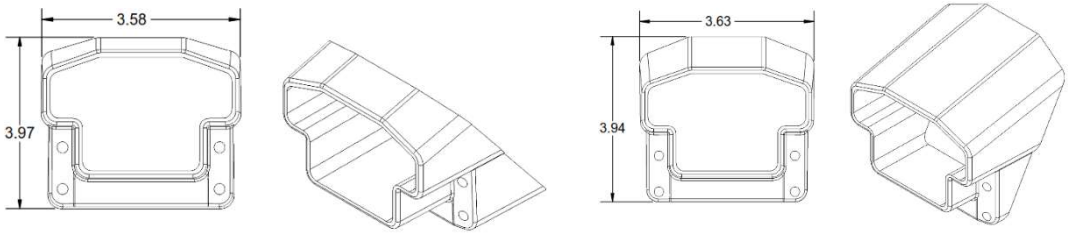
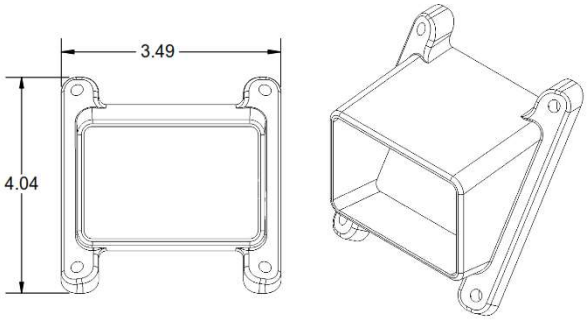
Stair Top Rail Bracket	 Top Bracket Bottom Bracket
Stair Bottom Rail Bracket	

Table 2: Span Table for Camden® Guardrail Assembly
Maximum Guardrail Height is 42-in for IRC Residential Dwellings (Type V-B)

Guardrail Type	*Top Rail Wall Thickness*	*Baluster*	*Max Guardrail Span*
Level	0.165-in	1.25-in x 1.25-in Square PVC 0.75-in Aluminum Round	67 3/4-in
	0.265-in		92 1/2-in
Level with Adjustable Angle Brackets	0.165-in	1.25-in x 1.25-in Square PVC 0.75-in Aluminum Round	67 3/4-in
	0.265-in		92 1/2-in
Stair	0.165-in	1.25-in x 1.25-in Square PVC 0.75-in Aluminum Round	64 1/4-in
	0.265-in		90 5/8-in

for SI conversion: 1 in = 25.4 mm, 1 psf = 47.9 Pa, 1 lbf = 0.0044 kN
Refer to Table 3 for fastening schedule
Maximum span is clear length between posts measured parallel to top/bottom rail

Table 3: Fastening Schedule for Camden® Guardrail Assembly

LOCATION	CONNECTION	FASTENER
LEVEL RAIL		
Camden Level Top Rail	Rail Bracket to Post	Two #10 X 2" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Rail	Four #10 X 1" Pan #2 Square Drive SDS 410 SS Screw
Camden Level Adjustable Bracket	Rail Bracket Base to Post	Four #10 X 2" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Bracket	Two #10 X 1" Flat Head Square Drive SDS 18-8 SS SM Screw
	Rail Bracket to Bracket Base	Three #10 X 1" Pan #2 Square Drive SDS 18-8 SS SM Screw
Bottom Rail Level	Rail Bracket to Post	Two #10 X 2" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Rail	Slip Fit - No mechanical connection
Bottom Rail Level Adjustable Bracket	Rail Bracket Base to Post	Four #10 X 1-1/2" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Bracket	Slip Fit - No mechanical connection
	Rail Bracket to Bracket Base	Three #10 X 1" Pan #2 Square Drive SDS 18-8 SS Screw
STAIR RAIL		
Camden Stair Top Top Stair	Rail Bracket to Post	Four #10 X 3" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Rail	Two #10 X 1" Pan #2 Square Drive SDS 410 SS Screw
Camden Stair Top Bottom Stair	Rail Bracket to Post	Four #10 X 3" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Rail	Two #10 X 1" Pan #2 Square Drive SDS 410 SS Screw
Camden Stair Bottom Top Stair	Rail Bracket to Post	Four #10 X 2" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Rail	Slip Fit - No mechanical connection
Camden Stair Bottom Bottom Stair	Rail Bracket to Post	Four #10 X 2" Pan #2 Square Drive SDS 410 SS Screw
	Rail Bracket to Rail	Slip Fit - No mechanical connection
Support Block to Bottom Rail		One #10x 3/4 Pan Square Drive Tapping 302 SS Screw