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The Subcommittee on Evaluation has reviewed the data submitted for compliance with the Standard Building Code®, the Florida Building Code-Building, and the International One and Two Family Dwelling Code and submits to the Building Official or other authority having jurisdiction the following report. The Subcommittee on Evaluation, and ICC-ES and its staff are not responsible for any errors or omissions to any documents, calculations, drawings, specifications, tests or summaries prepared and submitted by the design professional or preparer of record that are listed in the Substantiating Data Section of this report.

REPORT NO.: 2405

EXPIRES: See the current EVALUATION REPORT INDEX

CATEGORY: MANUFACTURED COMPONENTS

SUBMITTED BY:

CROWN COLUMN & MILLWORK, L.L.C.
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1. PRODUCT TRADE NAME

Crown Stock Fiberglass Column

2. SCOPE OF EVALUATION

- 2.1 Structural
2.2 Surface Burning Characteristics
2.3 Weather Resistance

3. USES

Crown Stock Fiberglass Columns are used as exterior and interior columns, both load bearing and non load bearing, on buildings where combustible construction is permitted.

4. DESCRIPTION

4.1 General

Crown Stock Fiberglass Columns are hollow spuncast Fiber-Reinforced Polymer (GRP) columns produced for both exterior and interior use. The columns are available as round columns with plain and fluted surfaces and as square columns. They are tapered toward the top of the column and the wall thickness varies. The columns are produced in nominal sizes of 8, 10, 12,

14, 16, and 18 inches (203, 254, 305, 356, 406, & 457 mm) diameter. Structural load bearing columns are limited to a maximum size and length shown in Table 1. Non-load bearing columns may be any size and length produced. Column caps and bases are non-structural components that are available in various styles. Dimensions of columns are shown in the manufactures literature.

4.2 Structural

The Crown Stock Fiberglass Columns were tested for structural gravity loads applied axially. Allowable design capacities of the columns were determined using ASTM E 72. Allowable design loads for axial capacity and maximum eccentricity are show in Table 1.

4.3 Surface Burning Characteristics

Crown Stock Fiberglass Column material was tested for surface burning characteristics under ASTM E 84 and demonstrated a Flame Spread Index of less than 25 and an Smoke Developed Index of less than 450 which meets a Class A Interior Finish Rating.

4.4 Quality Assurance

Quality assurance is provide by Omega Point Laboratories, Inc. of Elmhurst, Texas.

5. INSTALLATION

5.1 General

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the job site during installation.

The instructions within this report govern if there are any conflicts between the manufacturer's instructions and this report.

5.2 Structural Load Bearing Columns

Design loads shall be determined using Chapter 16 of the Code and shall not exceed the loads shown in Table 1. The design values are applicable for temperatures not exceeding 130° F (112° C). The columns shall be designed to resist gravity axial loads only and shall not be designed to resist wind uplift, transverse or bending moment loads.

Structural design calculations shall be submitted to the code official when applying for a permit. The calculations shall be signed, sealed and dated by a registered professional engineer when required by the Code.

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TABLE 1 - ALLOWABLE LOADS

NOMINAL SIZE (in)	MAXIMUM LENGTH	MAXIMUM "e" (in) <sup>1</sup>	ALLOWABLE LOAD <sup>2</sup> (lbs)
8	10' - 0"	1¼	16,200
10	8' - 0" 12' - 0"	2¼	19,100 18,800
12	8' - 0" 16' - 0"	3⅜	24,600 17,300
14	14' - 0"	4¼	17,100
16	18' - 0"	4¼	17,000
18	8' - 0" 16' - 0"	4¼	30,900 24,800

SI: 1 inch = 25.4 mm; 1 lb = 4.5 N

1. **Maximum "e" (in)** is eccentricity measured in inches from the center line of the top of the column. Eccentric loaded columns assume a nominal 4 inch wide wood member installed to transfer axial loads to the column.
2. Allowable loads are applicable for shorter length columns of the same nominal diameter version.

## 6. SUBSTANTIATING DATA

- 6.1 Manufacturer's specifications, drawings, and installation instructions.
- 6.2 Test report on 5/8 inch Column Material in accordance with ASTM E 84, prepared by Commercial Testing Company, Report No. 02-12018, Test No. 3389-2843, dated November 27, 2002, signed by Jonathan Jackson.
- 6.3 Test report on physical testing in accordance with ASTM D 570, D 695, & D 696, prepared by Gaynes Labs, Inc., Order No. CC5413, Job No. 02356, dated August 1, 2002, signed by Philip D. Ross.
- 6.4 Test report on Freeze/Thaw testing of structural materials in accordance with ASTM G 695, prepared by Gaynes Labs, Inc., Job No. 02521, dated January 6, 2003, signed by Philip D. Ross.
- 6.5 Engineering calculations titled "Recommended Axial Loads", prepared by Walker Engineering, Inc., dated February 26, 2004, signed and sealed by Gary W. Walker, P.E.
- 6.6 Test report on axial loading in accordance with ASTM E 72, prepared by Omega Point Laboratories, Inc., Project No. 16781-117415, dated February 26, 2004, signed by Javier O. Trevino.
- 6.7 Quality control manual on Spun Cast Fiberglass Column Glass Reinforced SDA Columns, Revision A, dated February 2004, signed by Joe Livengood (Crown Column) and Tim Mattox (Omega Point).

## 7. CODE REFERENCES

*Standard Building Code* - 1999 Edition

Section 103.7	Alternate Materials and Methods
Chapter 6	Construction Types
Section 803	Restrictions on Interior Finishes
Chapter 16	Structural Loads
Chapter 17	Structural Tests and Inspection

International One and Two Family Dwelling Code -  
1998 Edition

Section 108	Alternate Materials and Systems
Section 301	Design Criteria
Section 318	Flame Spread and Smoke Developed

Florida Building Code - Building - 2001 Edition

Section 103.7	Alternate Materials and Methods
Chapter 6	Construction Types
Section 803	Restrictions on Interior Finishes
Chapter 16	Structural Loads
Chapter 17	Structural Tests and Inspection

## 8. COMMITTEE FINDINGS

The Subcommittee on Evaluation in review of the data submitted finds that, in their opinion, the Crown Stock Fiberglass Column as described in this report conforms with or is a suitable alternate to that specified in the *Standard Building Code*, International One and Two Family Dwelling Code, and the Florida Building Code-Building or Supplements thereto.

## 9. LIMITATIONS

- 9.1 The columns shall only be installed in applications where combustible construction is permitted.
- 9.2 The columns have not been evaluated for use in High Velocity Hurricane Zones as covered in the Florida Building Code 2001 - Building.

## 10. IDENTIFICATION

Each box or crate containing a Crown Stock Fiberglass Column covered by this report shall be labeled with the manufacturer's name and/or trademark, the SBCCI Public Safety Testing and Evaluation Services Inc. initials (SBCCI PST & ESI) or seal, and the number of this report for field identification.

## 11. PERIOD OF ISSUANCE

SEE THE CURRENT EVALUATION REPORT INDEX FOR STATUS OF THIS LEGACY EVALUATION REPORT.

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