

Code Compliance Research Report

CCRR-0117

Subject to Renewal: 12/15/2010
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1.0 Subject

GAF Decking Systems CrossTimbers Division
CrossTimbers® Deck Boards

2.0 Research Scope

2.1. Building Codes:

- 2006 International Building Code (IBC)
- 2009 International Building Code (IBC)
- 2006 International Residential Code (IRC)
- 2009 International Residential Code (IRC)

2.2. Properties:

- Structural Performance
- Durability
- Surface Burning

3.0 Description

3.1. General – *CrossTimbers® Classic and CrossTimbers® 7/8" Solid Deck Boards* are deck boards intended for use as a walking surface on exterior decks, balconies, porches, and walkways, including stairs.

3.2. Materials and Processes - *CrossTimbers® Classic and CrossTimbers® 7/8" Solid deck boards* are extruded thermoplastic composite utilizing polypropylene and rice husk.

3.3. *CrossTimbers® 7/8" Solid deck boards* have a solid rectangular profile, 5.5" wide and 0.875" thick. Edges are rounded with a 1/8" radius. See Figure 1.

3.4. The *CrossTimbers® Classic deck boards* have a voided rectangular profile with outside dimensions of 5.5" wide and 0.875" thick. Edges are rounded with a 1/8" radius. There are six rectangular shaped voids extending throughout the interior of the extruded length. Also, an extruded groove exists on each edge of the board to facilitate fastening with Sabre™ hidden fastener system. The walking surface is finished with an embossed simulated wood grain. See Figure 2.

3.5. *CrossTimbers® Classic and CrossTimbers® 7/8" Solid deck boards* are recognized in two different colors: Weatheredwood and New Cedar.

4.0 Performance Characteristics

4.1. *CrossTimbers® 7/8" Solid deck board is rated for a uniform live load of 100 lbs/ft.² when installed on support framing spaced at 24"*.

CrossTimbers® Classic Deck Board is rated for a uniform live load of 100 lbs/ft.² when installed on support framing spaced 16".

4.2. *CrossTimbers® 7/8" Solid Deck Boards used as stair treads are rated for the code-prescribed concentrated load equal to 300 lb when a continuous deck board is installed over a two span support measuring a maximum of 12 in on center. Overhang must not exceed 2"*

Use of the CrossTimbers® Classic Deck Boards as stair treads is not within the scope of this report.

4.3. *CrossTimbers® 7/8" Solid Deck Boards have a wind uplift resistance rating equal to 157 lb/ft.² when installed using two #8 x 3" long deck screws into each joist with the joist spaced 24" on center.*

4.4. *CrossTimbers® Classic Deck Boards have a wind uplift resistance rating equal to 172 lb/ft.² when installed using one Sabre™ hidden fastener on each side of the deck board at each joist with the joists spaced 16" on center.*

4.5. *CrossTimbers*[®] *Classic* and *CrossTimbers*[®] *7/8" Solid Deck Boards* have a flame spread index of 85 when tested according to ASTM E 84. The referenced criteria, AC174, requires a flame spread index not exceeding 200.

4.6. *CrossTimbers*[®] *Classic* and *CrossTimbers*[®] *7/8" Solid Deck Boards* are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites and fungus decay.

5.0 Installation

Installation shall be in accordance with the manufacturer's installation instructions and this report. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

5.1. Face fastening of the *CrossTimbers*[®] *7/8" Solid Deck Boards* shall be with #8 x 3" long deck screws. Two fasteners are required at every joist $\frac{3}{4}$ " from the side and at least 1" from the end of the board.

5.2. *CrossTimbers*[®] *Classic Deck Boards* shall be attached at each joist, regardless of joist spacing, with the Sabre™ fastening clips utilizing the 2.25" long screws supplied with the clips. (See Figure 3). Board attachment at butt joints can be accomplished with the Sabre™ fastening clips in lieu of face fastening. However, face fastening along the ledger board, where Sabre™ fastening clips cannot be installed, is required using a #8 x 3" long deck screw at each joist for the length of the board.

6.0 Supporting Evidence

6.1. Manufacturer's drawings and installation instructions.

6.2. Reports of testing in accordance with ICC-ES Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails), AC174 effective June 1, 2009.

6.3. Reports of testing and engineering analysis demonstrating compliance with the performance requirements of ASTM D 7032-07.

6.4. Quality control manual in accordance with ICC-ES Acceptance Criteria for Quality Control Documentation, AC10, effective March 1, 2009.

7.0 Conditions of Use

The *CrossTimbers*[®] *Classic Deck Boards* applications identified in this report are deemed to comply with the intent of the provisions of the referenced building codes subject to the following conditions.

7.1. *CrossTimbers*[®] *Classic Deck Boards* are limited to use in Type V-B (5B) construction.

7.2. Deck boards placed at an angle other than 90 degrees to the supporting joist will require spacing such that the span of the deck boards do not exceed those indicated in sections 4.3 and 4.4.

7.3. The wind uplift resistance rating recognized in this report is based on attachment to treated Southern Pine framing (specific gravity, G=0.55). Installation on wood framing with a lesser specific gravity may result in a lower wind uplift rating.

7.4. Where required by the building official, engineering calculations and details shall be provided. The calculations shall verify that the anchorage complies with the building code for the type of framing and condition of the supporting construction.

7.5. *CrossTimbers*[®] *7/8" Solid Deck Boards* Deck boards used as stair treads shall be a continuous deck board installed over a two span support with a maximum span of 12 in. on center.

CrossTimbers[®] *Classic Deck Boards* shall not be used as stair treads.

7.6. Compatibility of fasteners with the supporting structure, including chemically treated wood, is not within the scope of this report.

7.7. All products are manufactured in Lenexa, Kansas by GAF *Decking Systems CrossTimbers Division*, in accordance with the manufacturer's approved quality control system with inspections by Architectural Testing, Inc. (AA-676).

8.0 Identification

CrossTimbers[®] *Classic Deck Boards* produced in accordance with this report shall be identified with labeling on the individual deck boards that includes the following information:

8.1. The mark of the independent inspection agency, Architectural Testing, Inc. (AA-676)

8.2. The ATI Code Compliance Research Report Number (CCRR-0117)

9.3. Reference to the Architectural Testing internet web site address at www.archtest.com is recommended to ascertain the current version and status of this report.

9.0 Code Compliance Research Report Use

9.1. Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product or manufacturer by ATI.

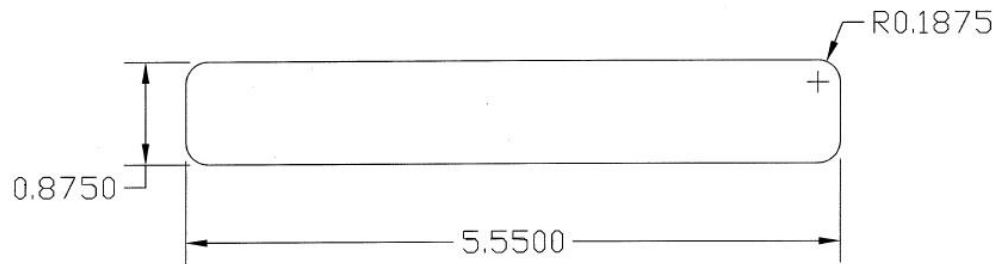


Figure 1 - CrossTimbers® 7/8" Solid Deck Board Profile

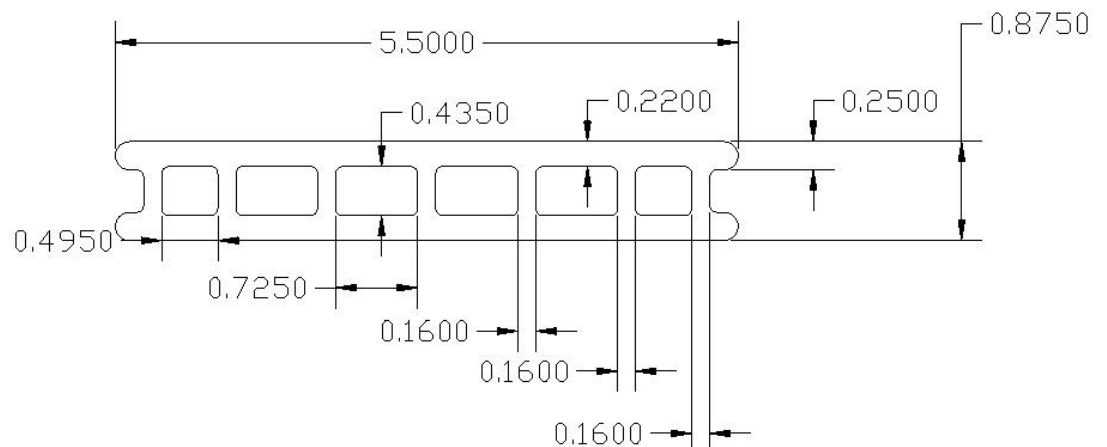


Figure 2 - CrossTimbers® Classic Deck Board Profile

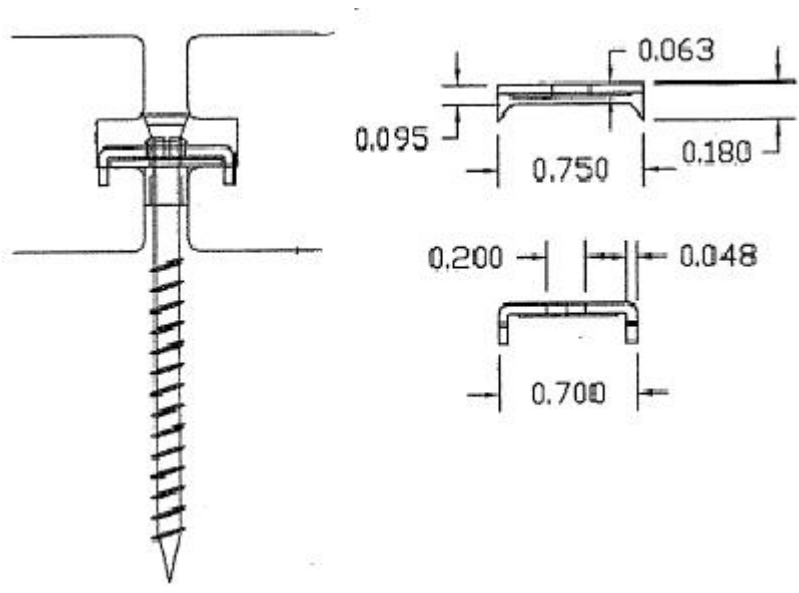


Figure 3 - GAF-Elk Composites Building Products Sabre™ Fastening Clips