



Code Compliance Research Report

CCRR-0151

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Page 1 of 4

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1.0 Subject

DuraLife[®] HDPE Decking

Veranda Decking

2.0 Research Scope

2.1. Building Codes:

2009 International Building Code (IBC)

2009 International Residential Code (IRC)

2.2. Properties:

Structural Performance

Durability

Surface Burning

Decay Resistance

Termite Resistance

3.0 Description

3.1. General – *DuraLife*[®] and *Veranda* deck boards are intended for use as a walking surface on exterior decks, balconies, porches, and walkways, including stairs.

3.2. Materials and Processes - *DuraLife*[®] and *Veranda* deck boards are an extruded composite material comprised of rice hulls and High-Density Polyethylene (HDPE) in the following colors; *DuraLife*[®]: Driftwood, Burnt Walnut, Western Redwood, Golden Oak
Veranda: Antique Brown, Slate Grey, and Burnt Walnut.

3.3. Profiles - *DuraLife*[®] deck boards have either a solid or grooved cross-section with nominal dimensions of 0.938 inch thick by 5.375 inches wide. *Veranda* deck boards have a solid cross-section with nominal dimensions of 0.938 inch thick by 5.250 inches wide. See Figures 1 through 3.

3.4. Walking Surface - *DuraLife*[®] and *Veranda* deck boards use an embossed simulated wood-grain pattern surface.

4.0 Performance Characteristics

4.1. *DuraLife*[®] and *Veranda* deck boards are rated for a uniform live load of 100 lb/ft.² when installed on support framing spaced at 16 inches.

4.2. Deck boards used as stair treads are rated for the code-prescribed concentrated load equal to 300 lb. when installed with a maximum span of 8 inches. Deck boards used as stair treads shall be installed in a minimum two-span condition. Grooved deck boards may not be used as stair treads.

4.3. *DuraLife*[®] and *Veranda* deck boards have the following wind uplift resistance ratings, as determined by the fastening method, when installed on support framing spaced at 16 inches;

- Solid deck board face-fastened using #8 x 2-1/2 in composite deck screw or stainless steel deck screw – 189 lb/ft.².
- Grooved deck board fastened using Sabre™ Clip hidden fasteners – 200 lb/ft.².

4.4. Materials used have a flame spread index of 40 when tested in accordance with ASTM E 84.

4.5. Materials used are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites and fungus decay.

4.6. Structural performance has been demonstrated for a temperature range from -20°F to 125°F.

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. Solid deck boards may be face-fastened and require two (2) #8 x 2-1/2 in composite deck screw or stainless steel deck screw at each support. Minimum edge and end distance for fasteners is 0.75 inch from the board edge and 1.0 inch from the end of each board.

5.2. Grooved deck boards may be fastened using Sabre™ Clip hidden fasteners. Sabre fastening clips utilize a #8 x 2.25 inch long self tapping screw supplied with the clip. Each deck board requires two (2) fasteners at each support (both edges of each deck board secured). Face-fastening is required where the Sabre fastening clips cannot be installed or where the clip does not engage both sides of the deck board. Where face-fastening is required, a #8 x 2-1/2 in composite deck screw or stainless steel deck screw shall be installed as identified in Section 5.1.

6.0 Supporting Evidence

6.1. Manufacturer's drawings and installation instructions.

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

6.3. The 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 Documentation, AC10, approved February 2009.

7.0 Conditions of Use

The *DuraLife*® and *Veranda* deck board 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. The deck boards identified in this report 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 support framing at a reduced spacing such that the span of the deck board does not exceed 16 inches.

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. Compatibility of the supporting construction materials with all fasteners, metal post mount components and other hardware components is subject to approval by the code official.

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

8.0 Identification

DuraLife® and *Veranda* 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. Name and/or trademark of manufacturer

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

8.3. The ATI Code Compliance Research Report Number (CCRR-0151)

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.

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.

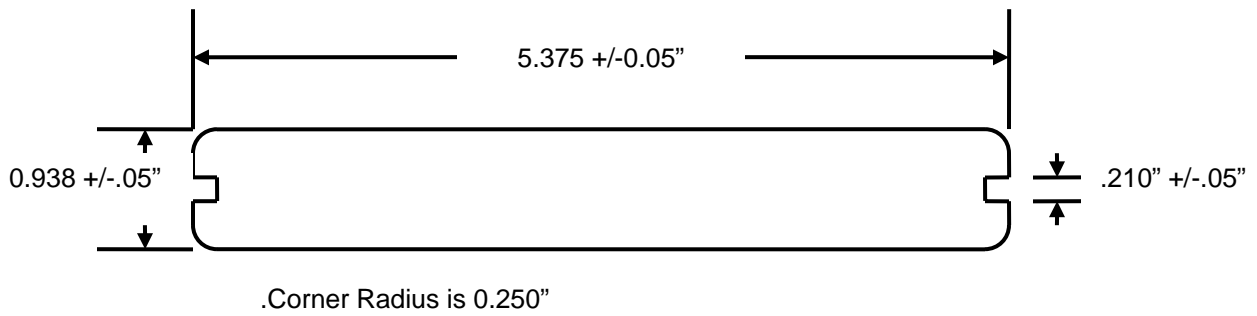


Figure 1 – DuraLife® Grooved Deck Board

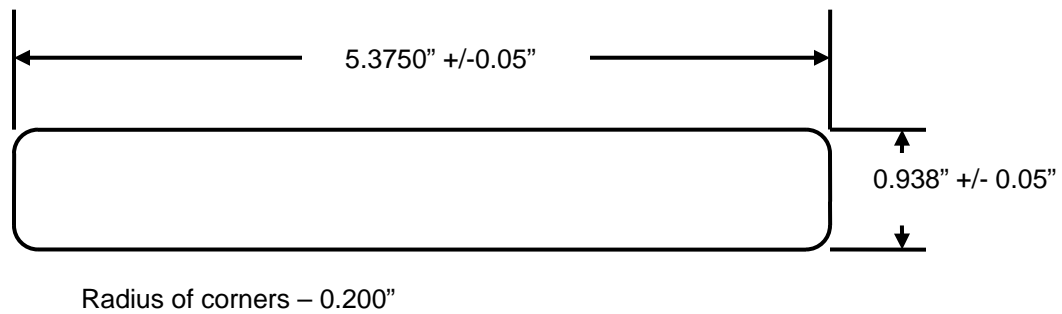


Figure 2 – DuraLife® Solid Deck Board

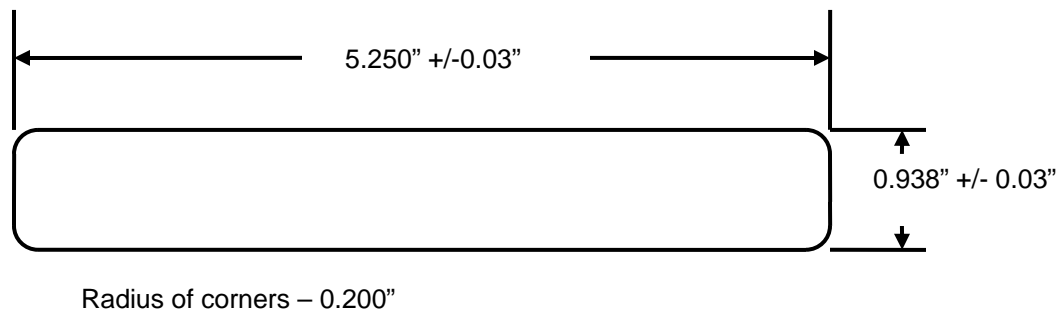


Figure 3 – Veranda Deck Board

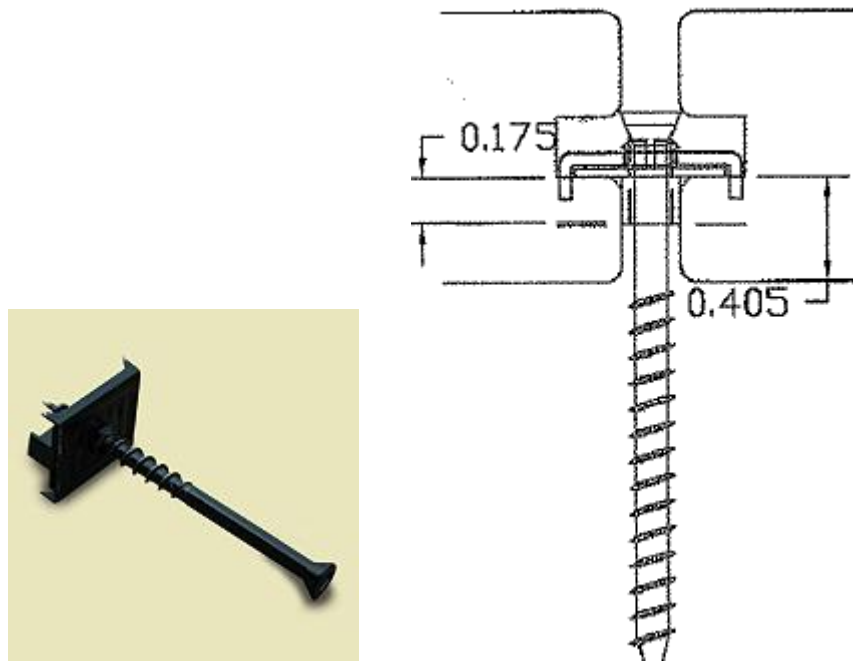


Figure 4 – Sabre™ Clip Hidden Fastener