



PFS TECO Research Report 0100

Date of Acceptance: August 23, 2016
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Expiration Date: August 23, 2017

Revision Date: _____
Page: 1 of 9

TYPE OF ACCEPTANCE: Product Material - Wood and Plastics
CSI Specification Division 060000 (Structural Plastic) and Section 065300 (Plastic Decking)

MANUFACTURER IDENTIFICATION:

UFP Ventures II, Inc.
1801 East Lessard Street
Prairie Du Chien, WI 53821
1-608-326-0900
www.ufpi.com

Distributor Identification:

The Wolf Organization, LLC
20 West Market Street,
York, PA 17401
1-717-852-4800
www.wolfhomeproducts.com

RESEARCH REPORT SUBJECT: UFP Ventures II, Deck Boards and Stair Treads for Exterior Applications
Installation on Residential and Commercial Structures

DESCRIPTION OF BUILDING COMPONENTS:

UFP Ventures II deck board is a wood thermoplastic composite lumber (WTCL) product consisting of high-density polyethylene, wood flour filler plus additives and color. The product specifications are listed in the approved quality control manual. The UFP Ventures II deck board components are manufactured by an extrusion process (mono-extruded or co-extruded) in several colors.

1. Deck Boards: Solid

The **Veranda** deck board is rectangular in shape, has rounded edges and is completely solid. See attached drawing in Table 1 Section A. This deck board is also named **Everex VE Reversible** and **Latitudes Wave**.

The **Latitudes Captiva** deck board is rectangular in shape, has rounded edges, is completely solid and has a polyethylene cap on top of the board. See attached drawing in Table 1 Section A. This deck board is also named **Latitudes Capricorn** and **Wolf Decking**.

The **Deckorators Classic Solid** deck board is rectangular in shape, has rounded edges, is completely solid and has a polyethylene cap on top of the board. See attached drawing in Table 1 Section A. This deck board is also named **Deckorators Vista Solid**, **Deckorators Heritage Solid** and **Wolf Captiva Plus Solid** and **Carolina Stair Deck**.

The **Latitudes Marine Decking** deck board is rectangular in shape, has rounded edges and is completely solid. See attached drawing in Table 1 Section A. This deck board is also named **Veranda Marine Decking**.

The **Latitudes Intrepid** deck board is rectangular in shape, has rounded edges and is completely solid. See attached drawing in Table 1 Section A.

2. Deck Boards: Solid with Lobes

The **EverX** deck board is rectangular in shape, has rounded edges, is completely solid and has four lobes on the bottom of the board. See attached drawing in Table 1 Section B.

The **Style Selections** deck board with three lobes is rectangular in shape, has rounded edges, is completely solid and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section B.

The **Style Selections** deck board with four (4) lobes is rectangular in shape, has rounded edges, is completely solid and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section B.

The **Latitudes Captiva Contour Solid Edge** deck board is rectangular in shape, has rounded edges, is completely solid, has four (4) lobes on the bottom of the board and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section B. This deck board is also named **Latitudes Capricorn Contour Solid Edge**.

The Veranda Solid deck board is rectangular in shape, has rounded edges, is completely solid and has three (3) lobes on the bottom of the board. See attached drawing in Table 1 Section B. This deck board is also named **Veranda Elite Solid**, **Veranda HP Solid**, **Pacific Collection Solid**, **Veranda Tropics Solid** and **Composite E Profile**.

3. Deck Boards: Solid with Side Grooves

The **Latitudes Serrated Intrepid** deck board is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board. See attached drawing in Table 1 Section C. This deck board is also named **Intrepid Slotted Reversible**.

The **Latitudes Classic** deck board is rectangular in shape, has rounded edges, is completely solid and has a groove on each side of the board. See attached drawing in Table 1 Section C. This deck board is also named **Veranda Slotted**.

The **Deckorators Classic Slotted** deck board is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section C. This deck board is also named **Deckorators Vista Slotted**, **Deckorators Heritage Slotted** and **Wolf Captiva Plus Slotted**.

4. Deck Boards: Solid with Side Grooves and Lobes

The **Style Selections** deck board with four (4) lobes is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section D.

The **Style Selections Slotted** deck board with three (3) lobes is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section D.

The **Latitudes Wave Slotted** deck board is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board and has four (4) lobes on the bottom of the board. This board is also named **Veranda Contour Slotted**. See attached drawing in Table 1 Section D.

The **Latitudes Captiva Slotted** deck board is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board, has four (4) lobes on the bottom of the board and has a polyethylene cap on the top of the board. See attached drawing in Table 1 Section D. This deck board is also named **Latitudes Capricorn Slotted**, **Wolf Decking Slotted** and **Wolf Captiva Contour Slotted**.

The **Veranda Slotted** deck board is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board and has three (3) lobes on the bottom of the board. See attached drawing in Table 1 Section D. This deck board is also named **Veranda Elite Slotted/Rainuree**, **Veranda HP Slotted**, **Pacific Collection Slotted**, and **Veranda Tropic Slotted**.

APPLICABLE CODES:

- 2015 *International Building Code*® (IBC)
- 2012 *International Building Code*® (IBC)
- 2009 *International Building Code*® (IBC)
- 2006 *International Building Code*® (IBC)
- 2015 *International Residential Code* (IRC)
- 2012 *International Residential Code* (IRC)
- 2009 *International Residential Code* (IRC)
- 2006 *International Residential Code* (IRC)

APPLICABLE CHARACTERISTICS REVIEWED :

1. Deck Board: Structural Performance

- (a) The deck boards have been reviewed for a uniform load, maximum span and deck board direction when installed on support framing members. See attached Table 1.
- (b) The deck boards have been reviewed for wind uplift resistance and have an uplift load rating when installed as indicated in Table 1 in this report.
- (c) The deck boards used as stair treads meet the code prescribed concentrated load of 300 lbf when installed in accordance with the manufacturers' installation instructions and Table 1 in this report. Figure 1 provides a typical installation for the 3 Lobed Deck Board.

2. Deck Board: Fastening

- (a) Solid Deck Boards and Solid Deck Boards with lobes must be fastened in accordance with the manufacturer's installation instructions and Table 1 in this report. When manufacturer's installation instructions differ, from this report, this report governs.
- (b) Solid Deck Boards with side grooves and Solid Deck Boards with side grooves and lobes can be installed with the Equator Hidden Fastener, Trex Hideaway Hidden Fastener or the Stowaway Hidden Fastener. These fasteners must be installed in accordance with manufacturer's installation instructions and Table 1 of this report. When manufacturer's installation instructions differ from this report, this report governs.

(c) The deck board attachment to rim and floor joist is outlined in the manufacturers' installation instructions and Table 1 of this report. When the manufacturer's installation instructions differ from this report, this report governs.

(d) When deck boards are used as stair treads, they must be installed in accordance with the manufacturer's installation instructions and Table 1, in this report. When the manufacturer's installation instructions differ from this report, this report governs.

3. Deck Board Durability: Temperature

(a) The deck boards have been reviewed for the temperature range of -20 degrees F (-29 degrees C) to +125 degrees F (52 degrees C).

4. Deck Board Flame Spread Index:

(a) The flame spread rating for the deck boards, described in this report was less than 100 when tested with ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials."

5. Deck Board Decay Resistance:

(a) The deck boards have been reviewed for this report and have been deemed comparable to naturally durable wood for resistance to fungal decay.

6. Deck Board Termite Resistance:

(a) The deck boards reviewed for this report have been deemed comparable to preservative treated wood for resistance to termite attack.

APPLICABLE USES:

The UFP Ventures II deck boards evaluated in this report are limited to exterior uses for balconies, porches, stair treads, walking surfaces and decks.

LIMITATIONS OF ACCEPTANCE:

The UFP Ventures II deck boards described in this report comply with those codes listed in Applicable Codes section above and are subject to the following conditions:

1. This product must be limited to Type V-B (IBC) and residential construction in accordance with the IRC construction for exterior use as a deck board for balconies, porches, decks and stair treads.
2. Installation of the deck board must comply with this report; the manufacturer's published installation instructions (dated 8/2014 and/or 11/ 2014) and the applicable code. When deck board manufacturer's installation instructions differ from this report, this report governs.
3. The fasteners described in this report have been evaluated for the installation of the UFP Ventures II deck boards only. Compatibility of the fasteners to the treated supporting construction has not been evaluated.
4. The UFP Ventures II deck boards indicated in the report must be fastened to the supporting construction as indicated in the manufacturer's installation manual and outlined in this report. When deck board manufacturer's fastening instructions differ from this report, this report governs.
5. When required, the structural deck board layout must be designed by a professional and submitted to the authority having jurisdiction for final acceptance.
6. The UFP Ventures II deck boards have not been evaluated as a member of a fire-resistance-rated assembly.
7. UFP Ventures II has Third Party inspections program provided by PFS Corporation (AA-652).
8. Solid and 4 lobed deck boards used as stair treads require a minimum of two span installation conditions. All 3 lobed deck boards used as stair treads are to be fully supported.

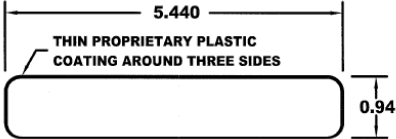
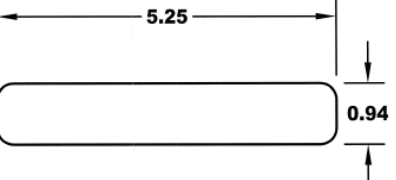
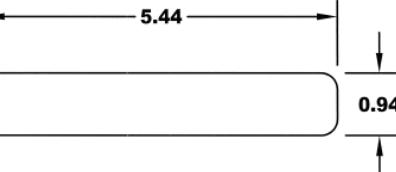
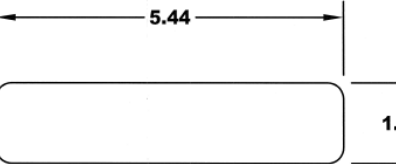
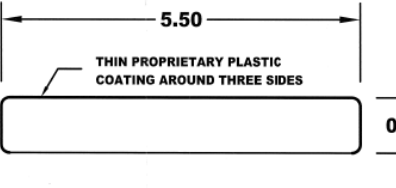
DOCUMENTATION SUBMITTED:

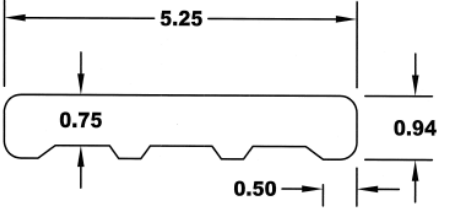
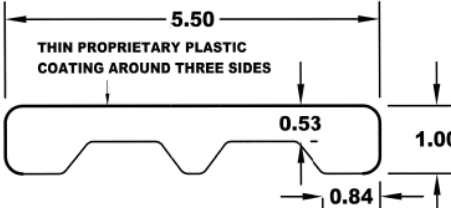
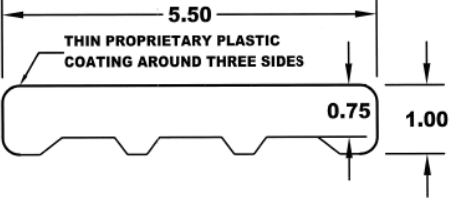
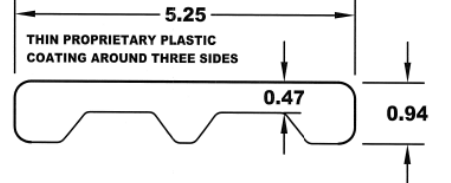
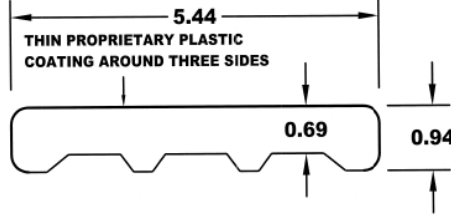
Submitted data was provided in accordance with PFS TECO 1601 (Quality control manual, Specifications, Manufacturer's installation instructions, Test data and Descriptive information) and tested in accordance with "Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (AC174)."

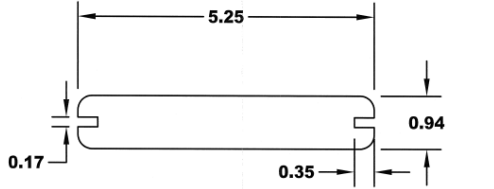
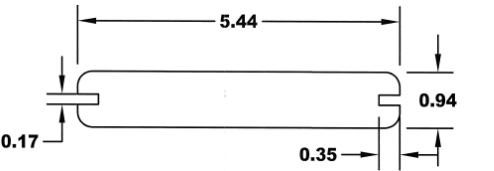
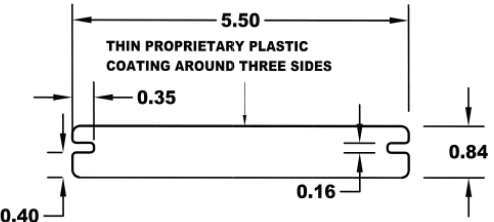
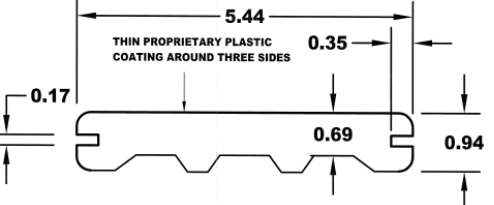
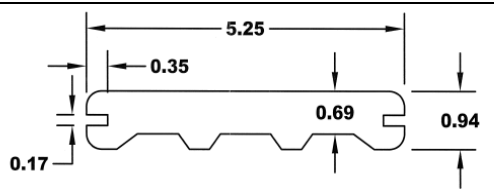
PRODUCT IDENTIFICATION:

The UFP Ventures II deck boards evaluated in this Research Report must be identified with a label, stamp, or laser on every deck board. The information that is required is as follows: UFP Ventures II, Inc., product identification, compliance to ASTM D7032 including the maximum deck board span and loading (inches on center/psf), the Research Report number (RR 0100), and PFS Certification Mark. Deck boards without this information are not covered under this report.

Table 1: Span Table and Fastening Schedule

Deck Board ID	Deck Board Profile	Maximum Span Rating (in/psf) with Deck Board Orientation to Support Joists		Fastening Schedule ¹ and Uplift Values	Maximum Stair Tread Span (in)
		90°	45°		
A. Solid Deck Board					
Latitudes Captiva Latitudes Capricorn Wolf Decking		16/100	12/100	296 lbf per #8 x 3-in Deck Screw	8 in
Veranda Latitudes Wave Everex VE Reversible		16/100	12/100	296 lbf per #8 x 3-in Deck Screw	8 in
Latitudes Intrepid		16/100	12/100	296 lbf per #8 x 3-in Deck Screw	8 in
Latitudes Marine Decking Veranda Marine Decking		24/100	16/100	296 lbf per #8 x 3-in Deck Screw	12 in
Deckorators Classic Solid Deckorators Vista Solid Deckorators Heritage Solid Wolf Captiva Plus Solid Carolina Stair Deck		16/100	12/100	296 lbf per #8 x 3-in Deck Screw	8 in
B. Solid Deck Board with Lobes on Bottom					

<p>EverX</p>		<p>16/100</p>	<p>12/100</p>	<p>296 lbf per #8 x 3-in Deck Screw</p>	<p>8 in</p>
<p>* Style Selections</p>		<p>16/100</p>	<p>12/100</p>	<p>212 lbf per #8 x 3-in Deck Screw</p>	<p>16 in Fully Supported (Fig. 1)</p>
<p>Style Selections</p>		<p>16/100</p>	<p>12/100</p>	<p>296 lbf per #8 x 3-in Deck Screw</p>	<p>8 in</p>
<p>* Veranda Solid * Veranda Elite Solid * Veranda HP Solid * Pacific Collection Solid * Veranda Tropics Solid * Composite E Profile</p>		<p>16/100</p>	<p>12/100</p>	<p>212 lbf per #8 x 3-in Deck Screw</p>	<p>16 in Fully Supported (Fig. 1)</p>
<p>Latitudes Captiva Contour Solid Edge Latitudes Capricorn Contour Solid Edge</p>		<p>16/100</p>	<p>12/100</p>	<p>296 lbf per #8 x 3-in Deck Screw</p>	<p>8 in</p>

C. Solid Deck Board with Side Grooves						
Latitudes Classic Veranda Slotted		16/100	12/100	100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)	8 in	
Latitudes Serrated Intrepid Intrepid Slotted Reversible		16/100	12/100	100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)	8 in	
Deckorators Classic Slotted Deckorators Vista Slotted Deckorators Heritage Slotted Wolf Captiva Plus Slotted		16/100	12/100	100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)	8 in	
D. Solid Deck Board with Lobes on Bottom and Side Grooves						
Latitudes Captiva Slotted Latitudes Capricorn Slotted Wolf Decking Slotted Wolf Captiva Contour Slotted		16/100	12/100	100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)	8 in	
Latitudes Wave Slotted Veranda Contour Slotted		16/100	12/100	100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)	8 in	

<p>* Style Selections Slotted</p>		<p>16/100</p>	<p>12/100</p>	<p>100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)</p>	<p>16 in Fully Supported (Fig. 1)</p>
<p>Style Selections</p>		<p>16/100</p>	<p>12/100</p>	<p>100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)</p>	<p>8 in</p>
<p>* Veranda Slotted * Veranda Elite Slotted / Rainuree * Veranda HP Slotted * Pacific Collection Slotted * Veranda Tropics Slotted</p>		<p>16/100</p>	<p>12/100</p>	<p>100 psf with Equator (Fig. 2) or Trex (Fig. 3); 80 psf with Stowaway (Fig. 4)</p>	<p>16 in Fully Supported (Fig. 1)</p>

for SI conversion: 1 in = 25.4 mm, 1 psi = 47.9 Pa, 1 lbf = 0.0044 kN

¹ Deck boards installed with screws must be attached to each joist with 2 #8 x 3-in. deck screws with a recommended minimum end/edge distance of 1-1/2 in. All fasteners installed with an end/edge distance closer than 1-1/2 in. must be predrilled. Deck boards with side grooves installed with hidden fasteners (Equator, Stowaway, or Trex) must be attached to each joist with a fastener as per manufacturer's installation instructions.

The joist to which the deck boards are attached must have a minimum specific gravity of 0.50 or better (treated Southern Pine) or the fastening must be designed.

No duration of load increase is allowed for the uplift values noted in Table 1 in this report.

* Denotes that deck board used as a stair tread must be fully supported, see Figure 1.

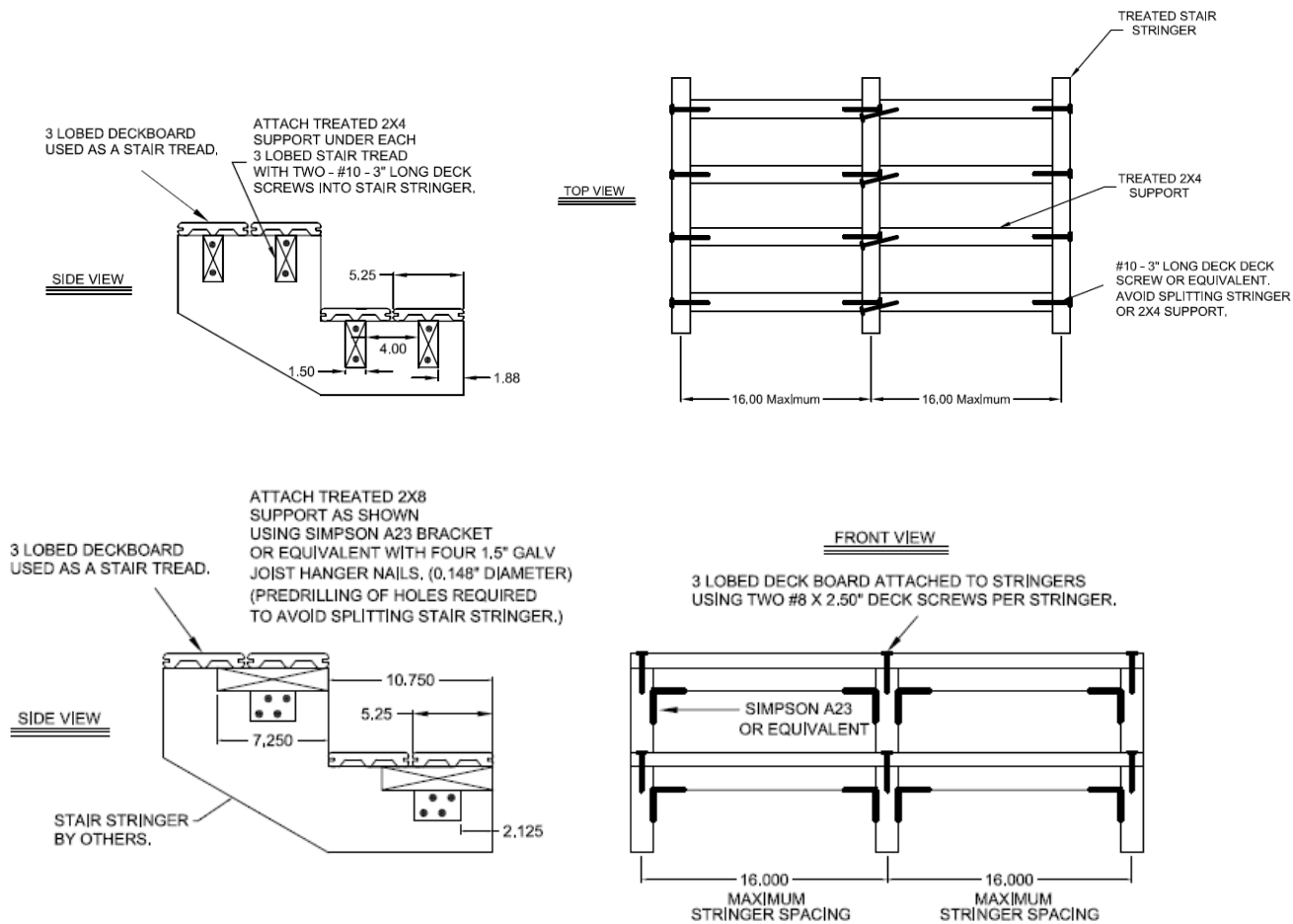


Figure 1: Typical Installation Schematics for a Fully Supported Stair Tread Applicable to Only 3 Lobed Deck Boards Marked with a *



Figure 2: Equator Clip



Figure 3: Trex Clip



Figure 4: Stowaway Clip