



## Code Compliance Research Report

## CCRR-0108

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### 1.0 Subject

#### Fiberon Deck Boards:

fiberon® Good Life™  
fiberon® Professional  
fiberon® Pro-Tect™  
fiberon® Pro-Tect™ Advantage  
fiberon® Traditions  
fiberon® Tropics  
Horizon (aka Home Depot Sanctuary,  
CertainTeed EverNew® PT)  
Tropics  
Veranda®  
Veranda® ArmorGuard™  
Veranda® Composite  
Veranda® Traditions  
Veranda® Tropics

#### Fiberon Grooved Deck Boards:

fiberon® Good Life™ Grooved  
fiberon® Professional Grooved  
fiberon® Pro-Tect™ Grooved  
fiberon® Pro-Tect™ Advantage Grooved  
fiberon® Tropics Grooved  
Horizon Grooved (aka Home Depot Sanctuary  
Grooved, CertainTeed EverNew® PT  
Grooved)  
Tropics Grooved  
Veranda® Grooved  
Veranda® ArmorGuard™ Grooved  
Veranda® Tropics Grooved

### 2.0 Research Scope

#### 2.1. Building Codes:

- 2012 International Building Code (IBC)
- 2012 International Residential Code (IRC)

#### 2.2. Properties:

- Structural Performance
- Durability
- Surface Burning
- Decay Resistance
- Termite Resistance

### 3.0 Description

3.1. General – Fiberon deck boards are intended for use as a walking surface on exterior decks, balconies, porches, and walkways, including stairs as further defined herein.

#### 3.2. Materials and Processes

3.2.1. Fiberon® Professional, Fiberon Traditions, Tropics, Veranda®, Veranda® Traditions, and Veranda® Tropics deck boards are mono-extruded thermoplastic composite comprised of High Density Polyethylene (HDPE) and wood fiber.

3.2.1.1. Fiberon® Professional, Tropics, and Veranda® deck boards produced in three colors: Golden Cedar, Tropics Jatoba, Tropics Mahogany.

3.2.1.2. Fiberon Traditions and Veranda® Traditions are produced in four colors: Portico/Distributor Redwood, Portico/ Distributor Gray, Portico/Distributor Cedar, and Portico/Distributor Brown.

3.2.2. Horizon, Home Depot Sanctuary, and CertainTeed EverNew® PT deck boards are co-extruded with an HDPE/wood composite core and HDPE capstock produced in nine colors: Brick, Bronze, Graystone, Sand, Slate, Tropics Ipe, Tropics Rosewood, Tropics Tudor Brown, and Tropics Castle Gray.

3.2.3. Veranda® ArmorGuard™, fiberon® Pro-Tect™, fiberon® Pro-Tect™ Advantage, Fiberon® Good Life™ and Veranda® Composite boards are co-extruded with an HDPE/wood core and HDPE capstock on three sides; the underside is not capped.

3.2.3.1. Veranda® ArmorGuard™ is produced in two colors: Nantucket Gray and Brazilian Walnut.

3.2.3.2. Fiberon® Pro-Tect™ and fiberon® Pro-Tect™ Advantage are produced in five colors: Harbor Gray, Birch Gray, Canyon Brown, Chestnut, and Western Cedar.

3.2.3.3. Fiberon® Good Life™ is produced in three colors: Cabin, Cottage, and Villa.

3.2.3.4. Veranda® Composite is produced in two colors: Brown and Gray.

3.3. Profiles – Fiberon deck boards have a solid rectangular profile, up to 5.4 inch wide and 0.950 inch thick. Veranda® ArmorGuard™, fiberon® Pro-Tect™, Veranda® Composite, Veranda® Traditions, and fiberon® Traditions deck boards have five arches on the bottom side. Good Life deck boards have two arches on the bottom side. All other deck boards have a full rectangular cross-section. For section profiles, see Figure 1 through Figure 10.

3.3.1. Grooved deck boards have grooves that are continuous on each side of the deck board, milled after the extrusion process, to accommodate installation with a hidden fastener system.

#### **4.0 Performance Characteristics**

4.1. All Fiberon deck boards are rated for a uniform live load of 100 lb/ft<sup>2</sup> when installed in accordance with the Sections 5.1 and 5.2 on support framing spaced 16 inches on center.

4.2. Deck boards used as stair treads are rated for the code-required concentrated load equal to 300 lb when installed as a continuous deck board over a minimum of three supports with maximum support spans as identified in Table 3.

4.2.1. Four inch wide deck boards shall not be used as stair treads.

4.2.2. Grooved deck boards shall not be used as stair treads.

4.3. Fiberon deck boards have a flame spread index not exceeding 200 when tested in accordance with ASTM E 84.

4.4. Fiberon deck boards are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites and fungus decay.

4.5. 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 shall be installed in accordance with the fastening schedule as defined in Table 1.

5.2. Grooved deck boards shall be installed utilizing hidden fasteners as defined in Table 2.

#### **6.0 Supporting Evidence**

6.1. Manufacturer's drawings and installation instructions.

6.2. Reports of testing demonstrating compliance with ICC-ES AC174, Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails), approved January 2012.

6.3. Reports of testing demonstrating compliance with ASTM D 7032-08, Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrails Systems (Guards or Handrails).

6.4. Quality control manual in accordance with ICC-ES AC10, Acceptance Criteria for Quality Control Documentation, approved January 2014.

#### **7.0 Conditions of Use**

The Fiberon decking 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. Deck boards are limited to exterior use in Type V-B (5B) construction, dwellings regulated by the IRC, and Types II-B and III-B construction where combustible construction is permitted in accordance with IBC Section 1406.3.

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 does not exceed those indicated in Table 3.

7.3. Deck boards used as stair treads shall be installed in a minimum of a two-span condition.

7.4. 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.

7.5. Only those types of fasteners and fastening methods described in this report have been evaluated for the installation of the products listed in Section 1.0; other methods of attachment are outside the scope of this report.

7.6. Compatibility of metal fasteners with the supporting structure, including chemically-treated wood, is not within the scope of this report and is subject to approval by the code official.

7.6.1. 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.

7.7. All products recognized in this report are manufactured in New London, North Carolina in accordance with the manufacturer's approved quality control system with inspections by PFS Corporation (IAS AA-652).

## 8.0 Identification

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, PFS Corporation;

8.2. The following statement: "ASTM D 7032 compliant. See ATI CCRR-0108 at [www.ati-es.com](http://www.ati-es.com) for uses and performance levels"; and

8.3. The Architectural Testing Code Compliance Research Report designation and number (ATI CCRR-0108).

## 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 by Architectural Testing.

9.3. Reference to the Architectural Testing internet web site address at [www.ati-es.com](http://www.ati-es.com) is recommended to ascertain the current version and status of this report.

**Table 1 – Fastening Schedule for Solid Deck Boards**

Deck Board	Fastening	Wind Uplift Resistance Rating
Veranda® fiberon® Professional Tropics fiberon® Tropics Veranda® Tropics	Two 8d common nails (2 inch) at each support joist including ends. <sup>1</sup> -or- Two #6 x 2-1/2 inch deck screws at each end and two #6 x 2-1/2 inch deck screws at each support joist. <sup>2</sup>	325 psf
Horizon (aka Home Depot Sanctuary, CertainTeed EverNew® PT) fiberon® Pro-Tect™ Advantage	#8 x 2-3/4 inch <i>Tiger Claw</i> ® High Performance Deck Screw. Two at each end and two at each support joist. <sup>2</sup>	496 psf
	#8 x 2-1/2 inch <i>SplitStop</i> ™ <i>Titan III</i> Composite Screws. Two at each end and two at each support joist. <sup>2</sup>	428 psf
Veranda® ArmorGuard™ fiberon® Pro-Tect™	#8 x 2-3/4 inch <i>Tiger Claw</i> ® High Performance Deck Screw. Two at each end and two at each support joist. <sup>2</sup>	513 psf
	#8 x 2-1/2 inch <i>SplitStop</i> ™ <i>Titan III</i> Composite Screws. Two at each end and two at each support joist. <sup>2</sup>	477 psf
Veranda® Traditions fiberon® Traditions	Two #10 x 2-1/2 inch Veranda® ArmorGuard® composite deck screws at each end and two #10 x 2-1/2 inch Veranda® ArmorGuard® composite deck screws at each support joist. <sup>2</sup>	489 psf
fiberon® Good Life™ Veranda® Composite	#9 x 2-1/2 inch <i>SplitStop</i> ™ <i>Titan III</i> Composite Screws. Two at each end and two at each support joist. <sup>2</sup>	610 psf

<sup>1</sup> Ring shank or spiral shank nails with the same diameter and length may be substituted for common nails.

<sup>2</sup> Alternate deck screw fastening schedule when not prohibited by the code official having jurisdiction: Two at each end and one at each support joist in a staggered pattern throughout the length.

**Table 2 – Fastening Schedule for Grooved Deck Boards**

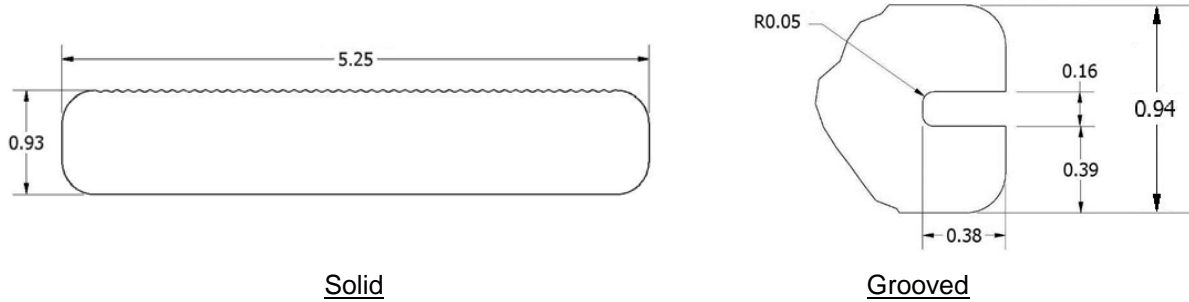
Deck Board	Fastening	Wind Uplift Resistance Rating
Veranda® Grooved fiberon® Professional Grooved Tropics Grooved fiberon® Tropics Grooved Veranda® Tropics Grooved Horizon Grooved (aka Home Depot Sanctuary Grooved, CertainTeed EverNew® PT Grooved)	Fiberon® Hidden Fasteners <sup>1</sup> secured to the support framing with a single #8 x 1.6 inch stainless steel screw at each framing member	182 psf
fiberon® Pro-Tect™ Grooved Veranda® ArmorGuard™ Grooved fiberon® Pro-Tect™ Advantage Grooved	Fiberon® Hidden Fasteners <sup>1</sup> secured to the support framing with a single #8 x 1.6 inch stainless steel screw at each framing member	172 psf
fiberon® Good Life™ Grooved	Fiberon® Hidden Fasteners <sup>1</sup> secured to the support framing with a single #8 x 1.6 inch stainless steel screw at each framing member	205 psf

<sup>1</sup> Hidden fasteners are installed between adjacent deck boards. One fastener is required at the end of each deck board and every framing support (16 inches on center) throughout the deck board length. See Figure 11 for additional details on installation.

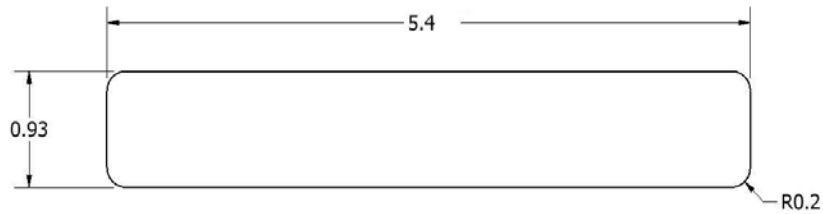
**Table 3 – Span and Stair Tread Ratings**

Deck Board	Span / Load Rating	Maximum Stair Tread Support Span
Veranda® fiberon® Professional Tropics fiberon® Tropics Veranda® Tropics Horizon (aka Home Depot Sanctuary, CertainTeed EverNew® PT)	16" / 100 psf	12"
fiberon® Pro-Tect™ Advantage	16" / 100 psf	11"
Veranda® ArmorGuard™ fiberon® Pro-Tect™ Veranda® Traditions fiberon® Traditions	16" / 100 psf	9"
fiberon® Good Life™ Veranda® Composite	16" / 100 psf	8"

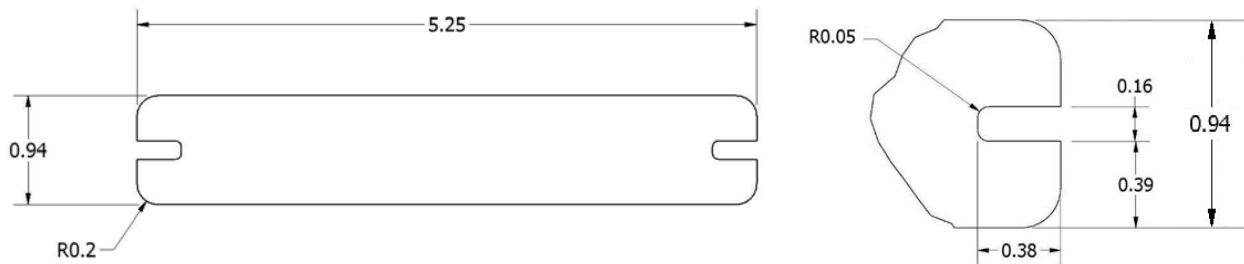
<sup>1</sup> Deck boards used as stair treads shall be installed in a minimum of a two-span condition.



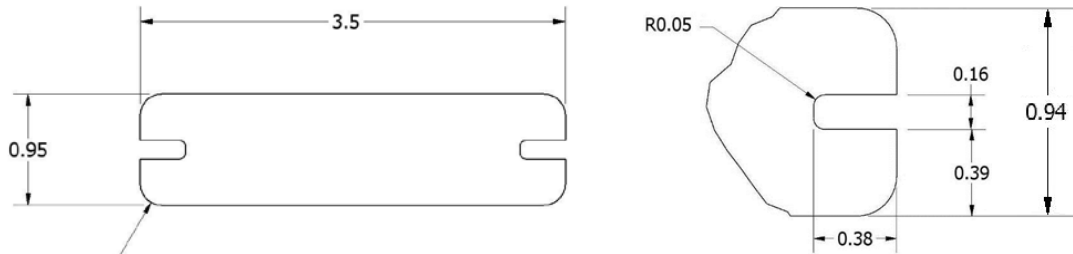
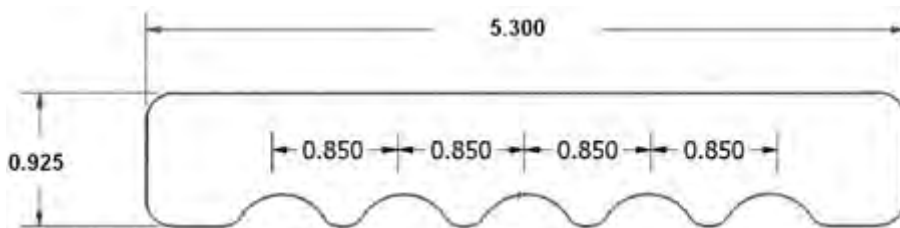
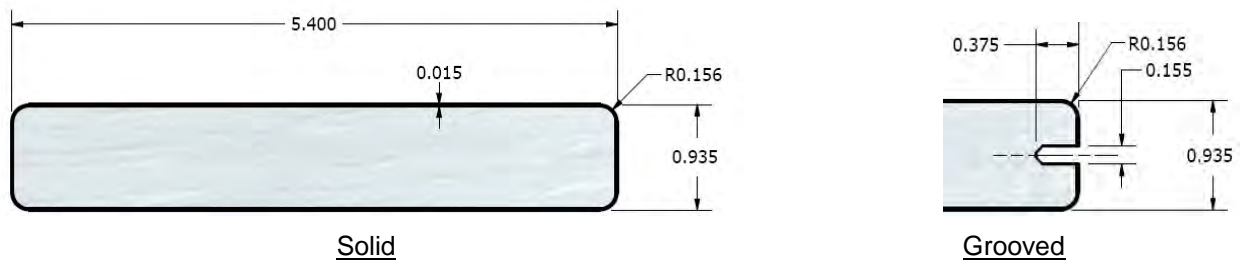
**Figure 1 - Veranda<sup>®</sup> and fiberon<sup>®</sup> Professional**



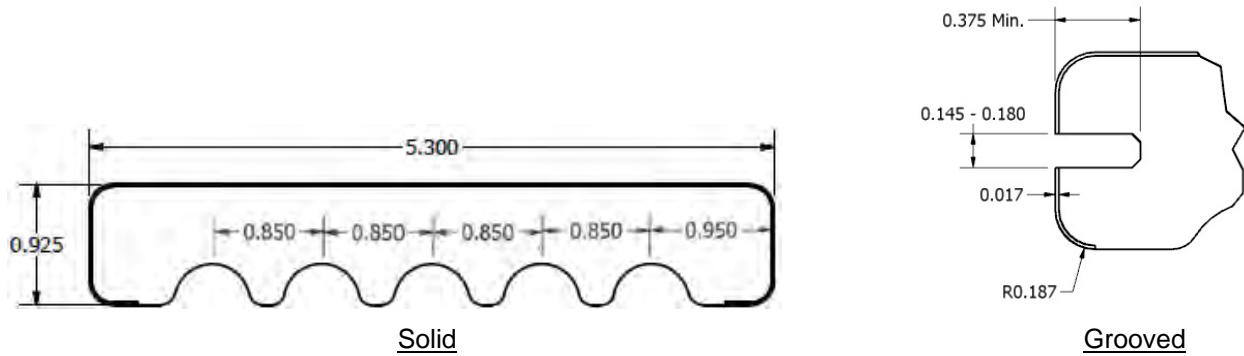
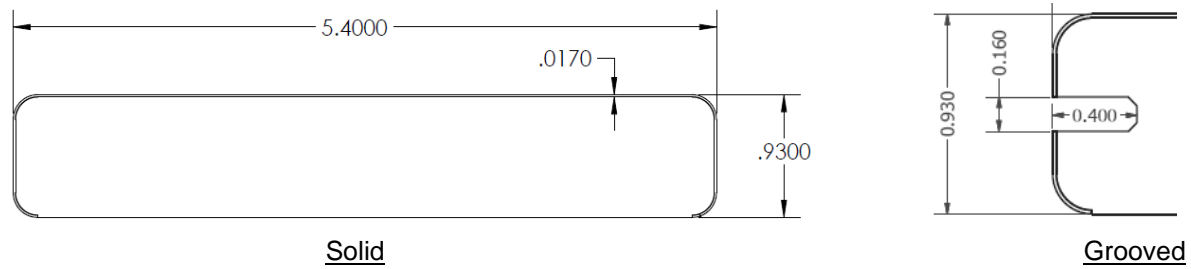
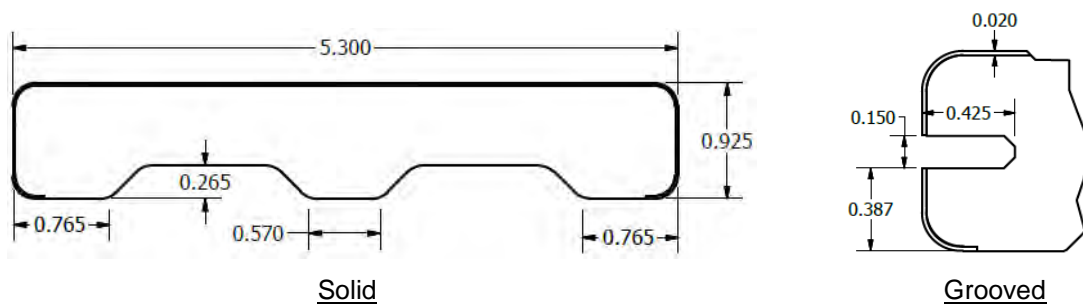
**Figure 2 – Tropics, fiberon<sup>®</sup> Tropics, Veranda<sup>®</sup> Tropics**

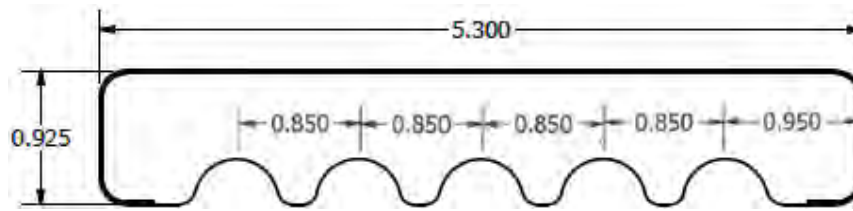
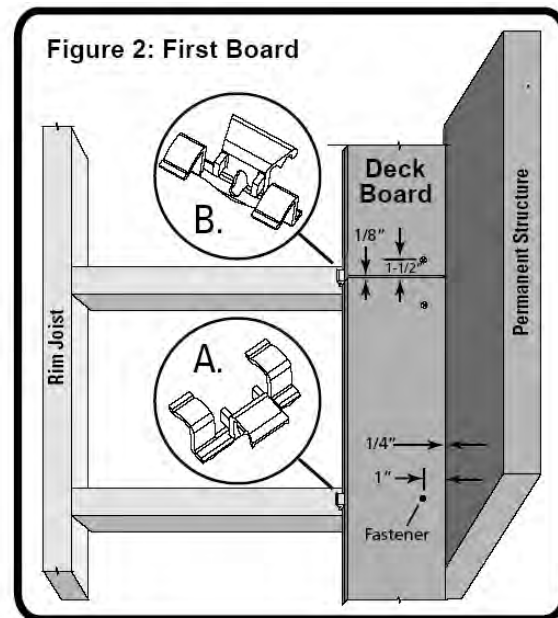
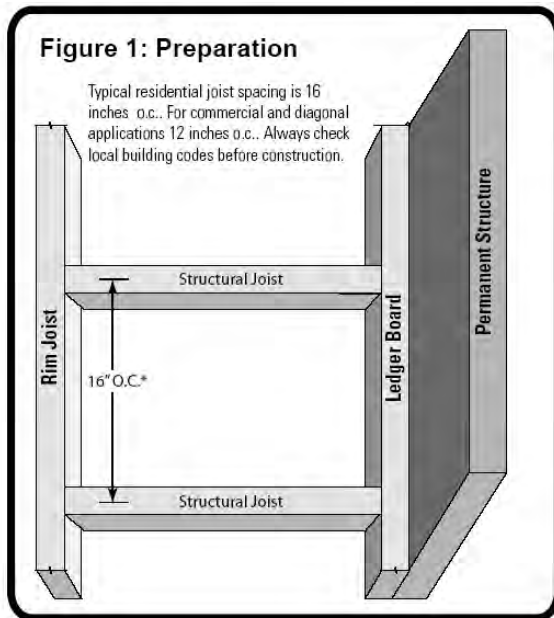


**Figure 3 – fiberon<sup>®</sup> Tropics Grooved and Veranda<sup>®</sup> Tropics Grooved**


**Figure 4 – Four Inch Tropics Grooved**

**Figure 5 – Veranda® Traditions and fiberon® Traditions**

**Figure 6 – Horizon**




**Figure 7 – Veranda® ArmorGuard™ and fiberon® Pro-Tect™**

**Figure 8 – fiberon® Pro-Tect™ Advantage**

**Figure 9 – fiberon® Good Life**


**Figure 10 – Veranda® Composite**

**A. Standard Fastener Application**

**B. End Seam Fastener Application**

**Figure 11 – Fiberon Hidden Fastener System**