



Pei Evaluation Service® is an accredited ISO Standard 17065 Product Certifier, accredited by the IAS. This **Product Evaluation Report** represents a product that **Pei ES** has Evaluated. This product has a Product Evaluation Service Agreement & Follow-up Inspection Service Agreement. This **Product Evaluation Report** in no way implies warranty for this product or relieves **Boral Composites Inc.** of their liabilities for this product. This **PER** is an official document if it is within one year of the Initial or Re-Approved date.

Initial Approval
February, 2014

Re-Approved
February, 2018

See all **Pei ES** Reports at: www.p-e-i.com

Report Owner

Boral Composites Inc.
200 Mansell Court East
Suite 310
Roswell, GA 30076

Approved Manufacturing Location

Boral Composites Inc.
500 Correll Street
East Spencer, NC 28039

Product

Boral TruExterior® Siding

For Evaluation Report Questions

www.boralamerica.com
Boral Contact: Amitabha Kumar - 210-862-7261

General Details

Boral TruExterior® Siding is manufactured in East Spencer, North Carolina. The manufacturing facility has an approved Quality Control Manual for the manufacture of this product. **Boral Composites Inc.** has an Evaluation and Follow-Up Service Agreement with **Pei Evaluation Service® (Pei ES)** / Inspection Agreement with **Progressive Engineering Inc. (Pei)** and is audited periodically by **Pei**.

Product Description

Boral TruExterior® Siding is manufactured from a proprietary polymeric blend, fly ash and glass fibers. These materials are formed in a continuous process, cut to 16ft. lengths and milled to give a surface texture. The lap siding is then coated with a primer. The lap siding is formed into a variety of different widths based on a selected profile. This product has been tested to ASTM E84 with a Flame Index of less than 25 and a Smoke Developed Index of less than 450.

Boral TruExterior® Siding is milled into six (6) different cross section profiles, shown on pages four (4), five (5) and six (6) of this report.

General Product Use

- Boral TruExterior®** Siding is to be used as an exterior wall covering over approved sheathing on wood stud framing of 16" o.c. or 24" o.c. Approved sheathing must meet IBC Section 2304.6.1 or IRC Section 602.3.
- Boral TruExterior®** Siding should never be used in load-bearing or structural applications. Proper care should be taken to understand the desired application and ensure that proper framing and fasteners are adequate for the installation.
- Boral TruExterior®** Siding shall be installed in accordance with the manufacturer's Installation Instructions. A copy of the manufacturer's Installation Instructions shall be made easily available to the installer.
- Product should be cut using a standard carbide tipped saw blade.
- The siding material can be drilled and routed using standard woodworking tools. Carbide tipped bits are recommended for use on this product.
- Fasteners and fastening solutions for this product are shown in Tables 1 and 2 and Figures 1, 2 and 3 of this report.
- Painting of the installed siding material is required.** Failure to do so will void the warranty from the manufacturer.

Building Code and Standard Compliance

<u>2012 International Residential Code</u> Section R104.11 Section R703	<u>2012 International Building Code</u> Section 1403 Section 1404.1 Section 1405.17
<u>2015 International Residential Code</u> Section R104.11 Section R703	<u>2015 International Building Code</u> Section 1403 Section 1404.1 Section 1405.17

Meets California Building Code: CA SFM 12-7A-1 - for Wildfire Exposure Test. See Test Report for fastener details.
Material Density Test using ASTM D 1622 measured 49.5 lb./ft³
Impact Resistance Test using ASTM D 1037
Accelerated Weathering Test using ASTM G 155, Cycle 1 for 2,000 hours
Water Absorption Test using ASTM C 1185

Design Values

Table 1 - Wind Components & Cladding Allowable Design Pressures ^{1,2}
V-Rustic Shiplap, Channel Bevel, Cove/Dutch Lap, Shiplap and Channel Shiplap

Fastener Description	Wood Framing	Siding Width			
		5-1/2"	7-1/2"	9-1/2"	11-1/2"
8d x 2-1/2" lg. SS Ring Shank Nail	16" o.c.	(+/-) 76.4	(+/-) 76.4	(+/-) 76.4	(+/-) 76.4
	24" o.c.	(+/-) 50.9	(+/-) 50.9	(+/-) 50.9	(+/-) 50.9
8d HDG x 2-1/2" lg. Ring Shank Box Nail	16" o.c.	(+/-) 76.4	(+/-) 76.4	(+/-) 76.4	(+/-) 76.4
	24" o.c.	(+/-) 50.9	(+/-) 50.9	(+/-) 50.9	(+/-) 50.9
6d HDG x 2" lg. Smooth or Ring Shank Nail	16" o.c. ³	(+/-) 40.5	(+/-) 40.5	(+/-) 40.5	(+/-) 40.5
	24" o.c. ³	(+/-) 27.0	(+/-) 27.0	(+/-) 27.0	(+/-) 27.0
	16" o.c. ⁴	(+/-) 67.6	(+/-) 67.6	(+/-) 67.6	(+/-) 67.6
	24" o.c. ⁴	(+/-) 45.1	(+/-) 45.1	(+/-) 45.1	(+/-) 45.1

1. Framing of SPF with a minimum Specific Gravity of .42

2. Minimum nail head diameter of .21" to be used.

3. For 0.75-inch embedment depth - through 3/4" thick siding and max. of 1/2" thick sheathing, then into framing.

4. For 1.25-inch embedment depth - through 3/4" thick siding only and into framing.

Table 2 - Cladding Allowable Design Pressures ¹
Bevel

Fastener Description	Blind / Face Nail	Wood Framing	Siding Width		
			5-1/2"	7-1/4"	9-1/4"
1-1/4" Coil Roofing Nail 11 Gauge Average Head Diameter 0.361"	Blind	12" o.c.	(+/-) 22.8	-	-
	Blind	16" o.c.	(+/-) 17.1	-	-
	Face	12" o.c.	(+/-) 41.6	(+/-) 30.0	(+/-) 23.4
	Face	16" o.c.	(+/-) 31.2	(+/-) 22.5	(+/-) 17.6
	Face	24" o.c.	(+/-) 20.8	-	-
6d SS 2" x .092 - 15 Degree Ring Shank Collated Nail Average Head Diameter 0.218"	Blind	12" o.c.	(+/-) 18.0	-	-
	Blind	16" o.c.	-	-	-
	Face	12" o.c.	(+/-) 89.7	(+/-) 66.2	(+/-) 52.0
	Face	16" o.c.	(+/-) 50.4	(+/-) 49.6	(+/-) 39.0
	Face	24" o.c.	(+/-) 22.4	(+/-) 22.5	(+/-) 22.5
1-3/4" x .120 - 15 Degree Galvanized Coil Roofing Nail Average Head Diameter 0.364"	Blind	12" o.c.	(+/-) 23.4	-	-
	Blind	16" o.c.	(+/-) 17.5	-	-
	Face	12" o.c.	(+/-) 75.2	(+/-) 54.6	(+/-) 42.8
	Face	16" o.c.	(+/-) 50.4	(+/-) 40.9	(+/-) 32.1
	Face	24" o.c.	(+/-) 22.4	(+/-) 22.5	(+/-) 21.4
6d 2" x .113 Smooth Shank Strip Nail Average Head Diameter 0.283"	Blind	12" o.c.	(+/-) 18.3	-	-
	Blind	16" o.c.	-	-	-
	Face	12" o.c.	(+/-) 86.4	(+/-) 62.8	(+/-) 49.4
	Face	16" o.c.	(+/-) 50.4	(+/-) 47.1	(+/-) 37.0
	Face	24" o.c.	(+/-) 22.4	(+/-) 22.5	(+/-) 22.5

1. Framing of SPF with a minimum Specific Gravity of .42

Fastening Application

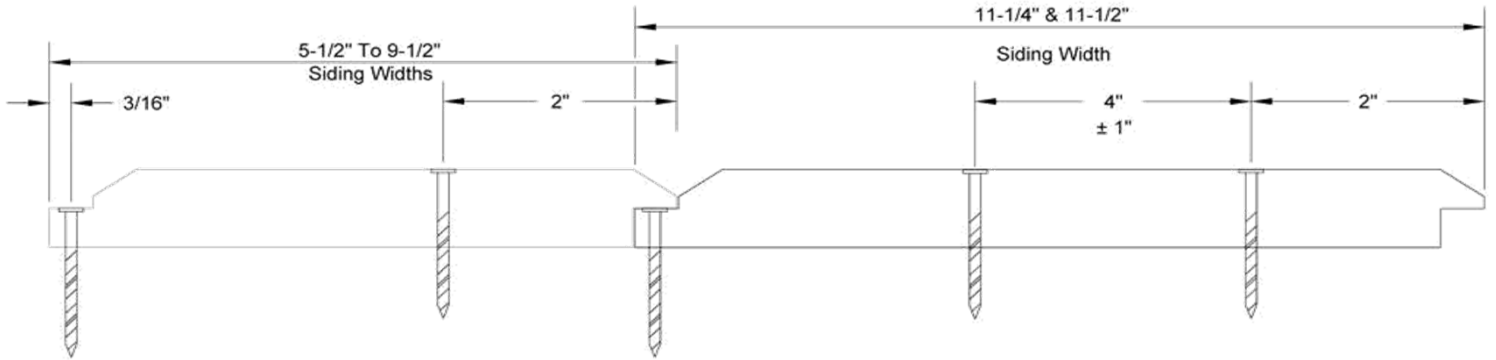


Figure 1

1. Overall siding widths will vary depending on the selected profile. See Table 3 on following page.
2. Applies to following profiles: V-Rustic Shiplap, Channel Bevel, Cove/Dutch Lap, Shiplap and Channel Shiplap

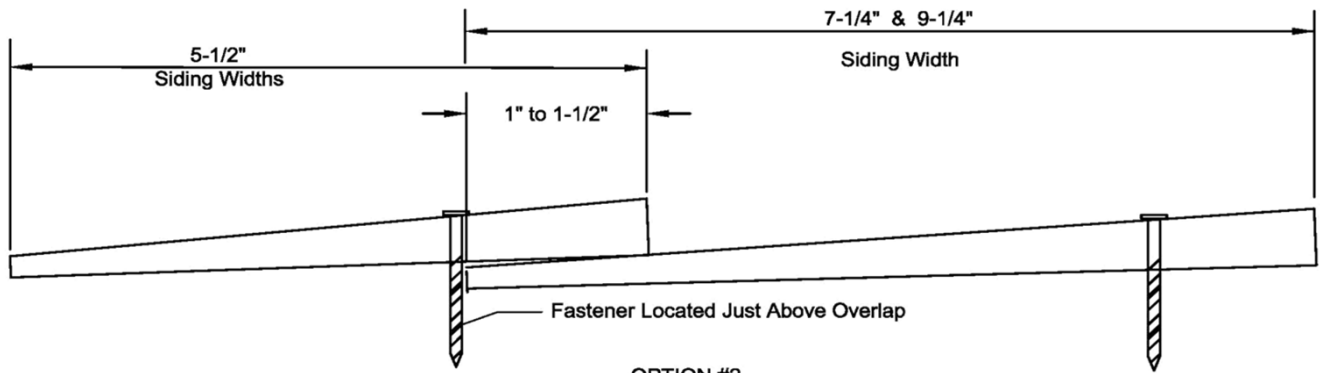
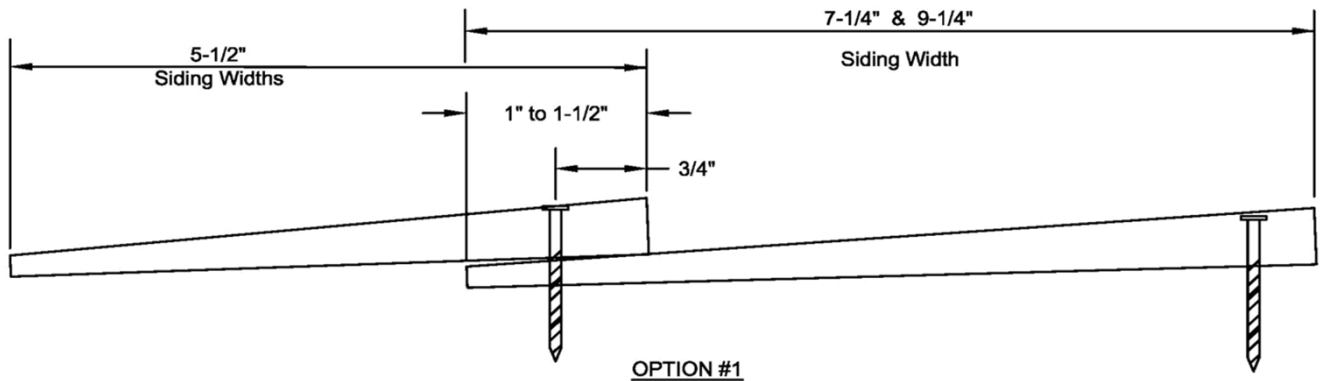


Figure 2

Bevel Siding Face-Nailed

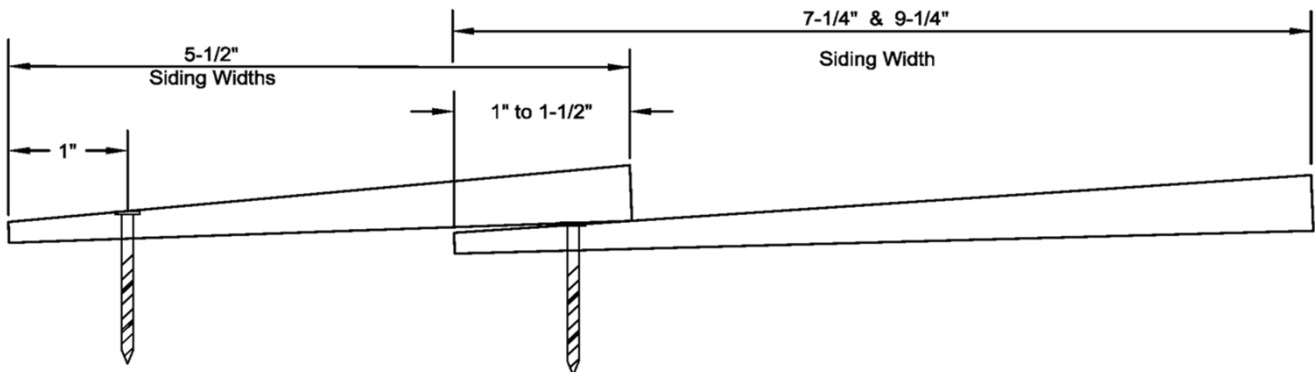


Figure 3

Bevel Siding Blind-Nailed

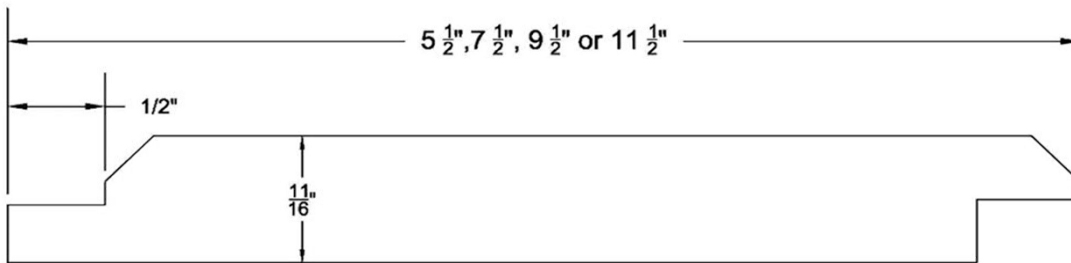
Siding Dimensions

Table 3 - Boral TruExterior® Siding Size Chart

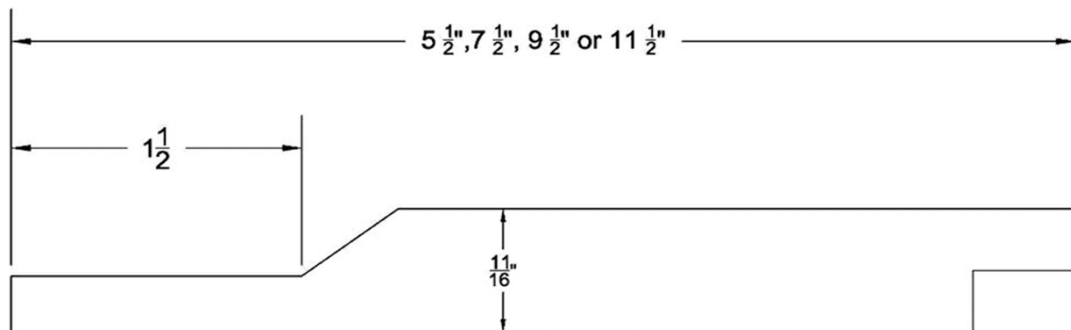
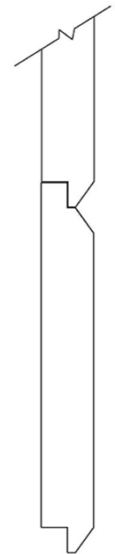
	V-Rustic Shiplap (Figure 4)	Channel Bevel (Figure 5)	Cove/Dutch Lap (Figure 6)	Shiplap (Figure 7)	Channel Shiplap (Figure 8)	Bevel (Figure 9)
Nominal	Actual	Actual	Actual	Actual	Actual	Actual
1 x 6	11/16" x 5-1/2"	11/16" x 5-1/2"	11/16" x 5-1/2"	11/16" x 5-1/2"	11/16" x 5-1/2"	*5-1/2"
1 x 8	11/16" x 7-1/2"	11/16" x 7-1/2"	11/16" x 7-1/4"	11/16" x 7-1/4"	11/16" x 7-1/4"	*7-1/4"
1 x 10	11/16" x 9-1/2"	11/16" x 9-1/2"	11/16" x 9-1/4"	11/16" x 9-1/4"	11/16" x 9-1/4"	*9-1/4"
1 x 12	11/16" x 11-1/2"	11/16" x 11-1/2"	11/16" x 11-1/4"	11/16" x 11-1/4"	11/16" x 11-1/4"	-

*Siding thickness is 3/16" to 1/2" taper

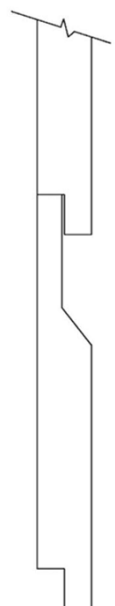
Siding Profiles and Orientation



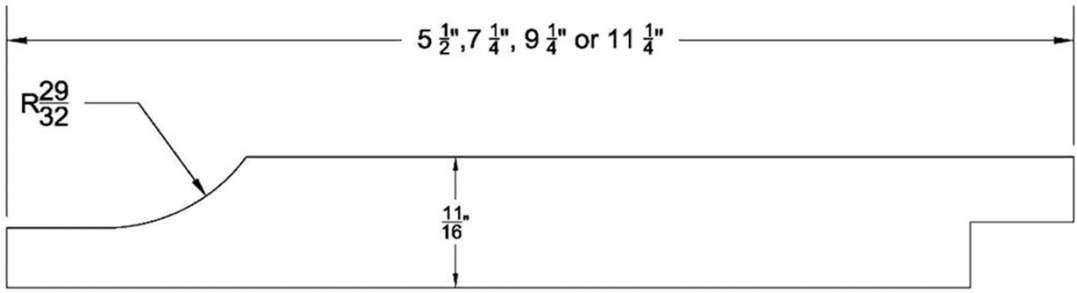
**Figure 4
V-RUSTIC SHIPLAP**



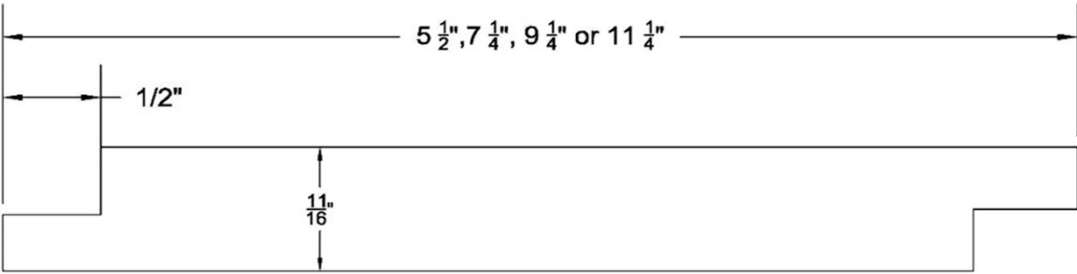
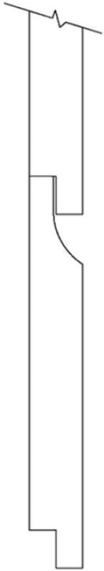
**Figure 5
CHANNEL BEVEL**



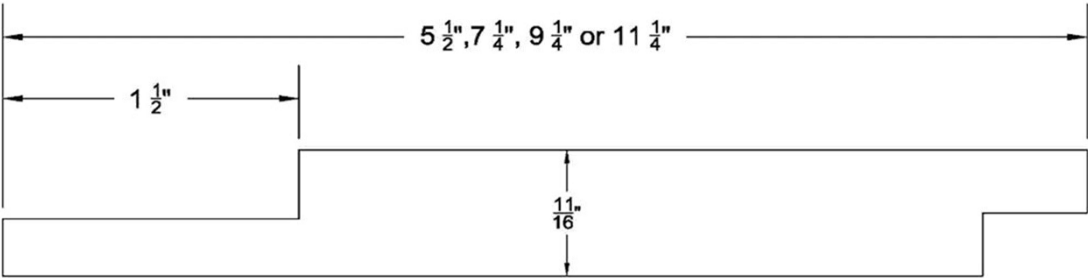
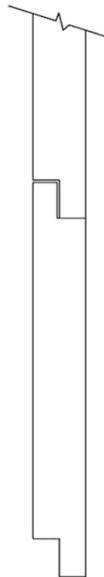
Siding Profiles and Orientation Continued



**Figure 6
COVE/DUTCH LAP**



**Figure 7
SHIPLAP**



**Figure 8
CHANNEL SHIPLAP**



Siding Profiles and Orientation Continued

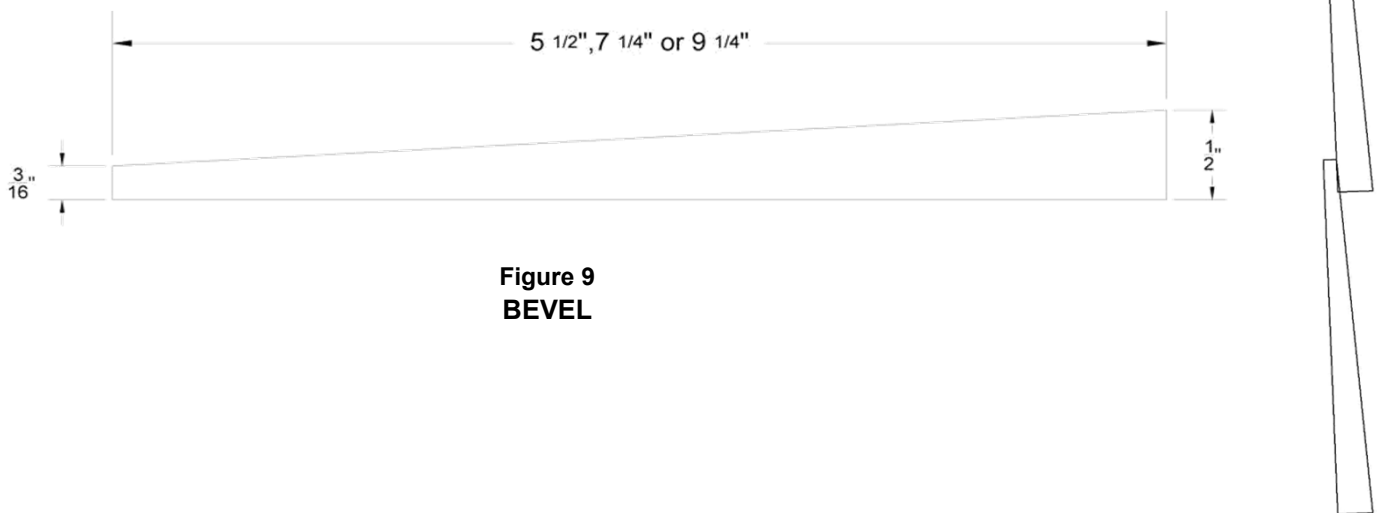


Figure 9
BEVEL

Storage and Handling

Each **Boral TruExterior**® Siding board is manufactured with a factory applied water based primer. The siding is placed on pallets, which are shipped from the manufacturing facility in a protective covering. The covering contains labels showing date of manufacture and siding widths. Care shall be taken to keep the siding covered until installed. Siding shall be stored on a flat, level surface. Storing the material off the ground, being supported properly underneath and covered will help keep the product free of dirt and debris.

Packaging and Shipping



Figure 10 - Bundle Packaged for Shipping



Figure 11 - Bundle with Boral TruExterior® Label

Product Labeling

Each pallet shipped of **Boral TruExterior®** Siding, that is covered by this **PER**, must have a label attached with at least the following information:

1. **Boral Composites Inc.** Name
2. Date of Manufacture
3. This **PER** Number & *Pei* **ES** Logo
4. Product Name

Acceptable Evaluation Marks**Product Documentation**

A Product Evaluation Service Agreement between *Pei Evaluation Service®* and **Boral Composites Inc.**

A Follow-up Inspection Service Agreement between *Progressive Engineering Inc.* and **Boral Composites Inc.**

A **BCI** Quality Control Manual - Dated: March 7, 2017

A SDS for Boral TruExterior® Trim, Beadboard and TruExterior™ Siding - Dated: May, 2015

Test report No. 102304409SAT-001A - ASTM E84 - Dated September 28, 2015

Pei test report No. 2015-0476 ASTM D1037 Flexural Strength and Nail Head pull Through Testing TruExterior™ Bevel Siding - Stamped by a Professional Engineer - Dated: 9/21/15

Test report No. 01.20684.15.311a - California Building Code: CA SFM 12-7A-1 - Dated: November 10, 2015

Pei Project No. 2015-1772 - Face-Nailed and Blind-Nailed Design Calculations - Boral TruExterior™ V-Rustic Bevel Siding - Stamped by a Professional Engineer - Dated: 11/13/15

A *Pei* Opinion Letter Summarized Engineer Calculations - Stamped by a Professional Engineer - Dated: 11/13/15

A **Boral Composites Inc.** Affidavit Letter - Dated: 1/6/16

Test report No. 41621912312013: - ASTM E330 - Dated: December 31, 2013

Test report No. 416223007312014: - ASTM D1037 - Dated: July 31, 2014

Pei test report No. 2014-1609 (A) - ASTM D 1037 Flexural Strength and Nail Head Pull Through Testing on TruExterior™ Bevel Siding - Stamped by a Professional Engineer - Dated: 12/15/2014

Pei test report No. 2014-1609 (B) - ASTM D 1037 Nail Head Pull Through Testing on TruExterior™ Bevel Siding Face Nail Condition - Stamped by a Professional Engineer - Dated: 1/6/2015

Pei test report No. 2014-0553 - ASTM E 330 Negative Wind Load Testing on 11/16" x 5-1/2" TruExterior™ Siding - Dated: 6/24/2014