



Product Evaluation Report

PER-01043

Page 1 of 3

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Progressive Engineering Inc.

Initial Listing
February-10

Re-Approved

58640 State Road 15 574-533-0337
Goshen, Indiana 46528 www.p-e-i.com

Listed Product
Novation Decking Systems

Listed For
Royal Outdoor Products
P.O. Box 360
Milford, IN 46542
www.royaloutdoor.com

Approved Manufacturer
Royalguard Vinyl
850 Highway 77 East
Newbern, TN 38059

Progressive Engineering Inc. is an accredited Testing Laboratory and Third Party Quality Control Agency. This **Product Evaluation Report** represents a product that Pei has a follow-up service agreement with. This **Product Evaluation Report** in no way implies warranty for this product or relieves **Royal Outdoor Products** of their liabilities for this product. Pei is accredited to ISO Standard 17020 and 17025. This **PER** is an official document if it is within one year of the initial or renewal date and can be found on our website at <http://www.p-e-i.com/reports.html>

Listing Details

Novation™ Decking is used as an alternative for wood decks, balconies, porches and stairs. Novation™ Decking is restricted for use to exterior and combustable applications in residential buildings of type V-N (UBC) or Type V-B (IBC & IRC) construction. Novation™ Decking used in balcony constructions on a Type III, IV and V construction shall be permitted to be of Type V construction and shall not be required to have a fire-resistance rating. Novation™ Decking cannot be used as structural framing.

Novation™ Decking has been tested and evaluated for flexural performance, structural strength, weathering, and surface burning characteristics to meet design loads and requirements of the codes listed under Code Compliance section of this Listing Sheet.

Product Descriptions

Novation™ Decking is a composite material manufactured from a high-quality cellular PVC that does not absorb moisture, does not rot, crack or splinter. The nominal size available is 1" thick by 5.50" wide. The boards are composed of a cellular pvc core wrapped on the tread surface and the sides with capstock. One side of the deck board has a usable tread surface with an embossing pattern running the length of the board while the other side consists of a smooth surface with light brush marks running the length of the board. The Novation Decking comes in two (2) colors which are Graystone and Kanyon. Two (2) fastening options are available when assembling the Novation™ Decking.

Novation™ has a flame-spread index of less than 25 in accordance with ASTM E84 Testing.

When subjected to weathering, Novation™ Decking has been evaluated to determine that it can withstand long term weathering defects such as rotting, molding or cracking.

General Product Usage

1. Novation™ Decking shall be installed in accordance with the manufacturer's Installation Instructions and subject to the conditions of this PER. A copy of the manufacturer's Installation Instructions shall be made easily available to the installer.
2. All framing needed to support Novation™ Decking is outside of the scope of this PER. All framing shall follow applicable codes or be designed by a licensed Engineer.
3. Novation™ Decking must be installed straight and square. Install Deck Boards using #8 x 2-1/2" SS painted trim head screws for each joist. Deck boards should be spaced at a minimum of 1/8" - 1/4" gap. The screw is driven just below the deck surface.

Test Documentation to show compliance with AC174 (approved June, 2009)

Pei test report No. 2009-1202A - Flexural Performance Test on Novations Deck Board - Dated 1/08/2010
Pei test report No. 2009-1202B - ASTM D7032 Creep-Recovery Test on Novations Deck Board - Dated 10/22/2009
Pei test report No. 2009-1202C - ICC-ES AC174 Duration of Load Test on Novations Deck Board - Dated 1/25/2010
Pei test report No. 2009-1202D - ASTM D7032 Concentrated Load Test on Novations Deck Stair Tread with 12" o.c. Supporting Members - Dated 11/10/2009
Pei test report No. 2009-1202(E) - AC174 Mechanical Fastener Test on Novations Deck Board Using Trim Head Stainless Steel Screws - Dated 12/28/2009

Test Documentation to show compliance with AC174 (approved June, 2009)

Pei test report No. 2009-1202(F) - AC174 Mechanical Fastener Test on Novations Deck Board Using HID Fasteners - Dated 12/28/2009

Pei Test Report No. 2009-1202(G) - Elevated Surface Temperature Testing on Novations Deck Board - Dated 12/17/2009.

NGC Testing Services Report No. FH-2009 ASTM E-84 Flame Spread Test

Quality Assurance Documentation

Novation™ Decking Installation Instructions

A Quality Control Manual for Novation™ manufacturing - Dated 1/04/2010

A follow-up Listing & Inspection agreement between Pei and Royalguard Vinyl Company

Evaluated Fasteners

#8 X 2-1/2" SS Painted Trim Head Screws

HID Fast, Hidden Deck Fasteners, Part No. HF3

Code Compliance

2009 International Residential Code

Section R317.4

Section R104.11 and R104.11.1

Section R502.1.7 and R502.2.2.4

2009 International Building Code

Section 1711 & 1712

Section 104.11 and 104.11.2

1997 Uniform Building Code

Product Labeling

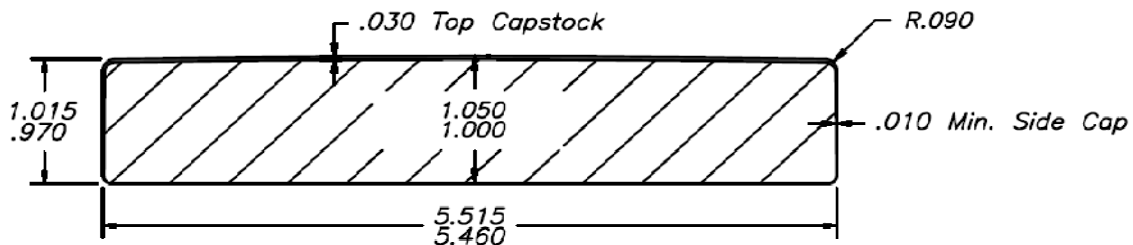
All Novation™ Decking that is to be covered by this PER must be labeled with at least the following information:

1. The Novation™ name
2. The part number
3. Manufacturing Date Code
4. QA Number
5. This PER number & Pei's name or Logo
6. Plant Location
7. Line Number
8. Front or Rear Line Production

Table 1

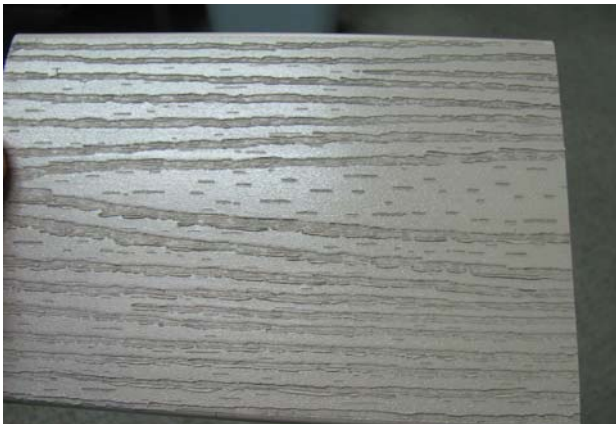
Member	Maximum Space Between Supports	Maximum Live Load
Deck Board	16" o.c.	100 psf uniform load
Stair	12" o.c.	300 lbs. concentrated

1. Design loads for Stair Tread is a concentrated load of 300 lbs. in a 2" x 2" area.
2. The spans listed in table 1 are valid for air temperature up to 125° F (52° C).
3. The spans listed in Table 1 are based on on L/180 deflection.





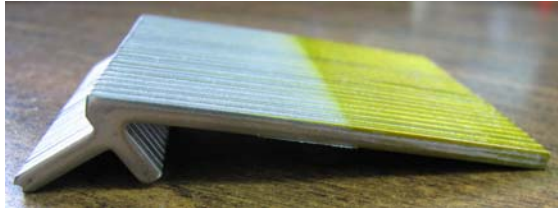
Tread Surface w/Emboss Pattern (Graystone)



Tread Surface w/Emboss Pattern (Kanyon)



#8 x 2-1/2" SS Trim Head Screw



HID Fast Hidden Deck Fastener



HID Fast Air Driven Fastener Tool