



CONSTRUCTION MATERIALS

TECHNOLOGIES

Laboratory Test Report

Report for: Global Innovation, LLC
496 SW Ring Court
Lake City, FL 32025

Attention: Nick Rimert

Product Name: Endureed "Regions"	Manufacturer: Global Innovation, LLC
Project No.: CCR-011-02-01	Source: Global Innovation, LLC
Date Received: July 27, 2016	Date Tested: August 8, 2016

Purpose: Determine the wind resistance performance of *Global Innovation, LLC's Endureed* in accordance with **Florida Building Code (High Velocity Hurricane Zone) Testing Application Standard (TAS) 107-95: Test Procedure for Wind Resistance Testing of Non-Rigid, Discontinuous Roof System Assemblies** and **ASTM D 3161/D 3161M-13: Standard Test Method for Wind Resistance of Steep Slope Roofing Products (Fan-Induced Method)**.

Test Methods: Testing was completed as described in FBC (HVHZ) TAS 107-95: *Test Procedure for Wind Resistance of Non-Rigid, Discontinuous Roof System Assemblies* and ASTM D 3161/D 3161M-09: *Standard Test Method for Wind Resistance of Asphalt Shingles (Fan-Induced Method)* and ASTM D 3616/D3161M-14 *Standard Test Method for Wind Resistance of Steep Slope Roofing Products (Fan-Induced Method)* at a continuous velocity of 110 mph. Specimens were prepared and maintained at a 2:12 slope and 80°F ±15°F prior to testing. Testing was performed at a 2:12 slope for 0° and 45° test angles and 0:12 slope for the 90° test angle.

Sampling: **Endureed "Regions"** samples were provided by Global Innovation, LLC from Lake City, FL. All other sample components were provided by PRI Construction Materials Technologies and purchased through local distribution.

Test Specimens: Three (3) 50 in. by 66 in. test panels were solidly sheathed with APA rated 15/32 CAT PS1-09, CDX plywood sheathing. **Endureed** panels were installed with an 8-inch exposure in accordance with the manufacturer's instructions using 11 ga. x 1-3/4" in. ring shank roofing nails placed at the nailing strip in the pre-drilled holes approximately 1.25 to 1.75" from either end and approximately 13" o.c. between end nails for a total of four (4) nails per panel. Appendix A contains detailed drawings of the installation.

CCR-011-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 11-0429.05; Florida TST5878; LADBS TA24819; CRRC

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Conditioning: Specimen conditioning was not required prior to testing.

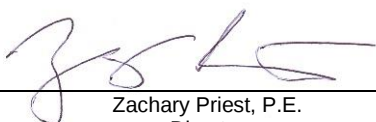
Results:

Property	Test Method	Remarks	Requirement
Wind Resistance [Pass/Fail]; 110±5 mph for 2h; Slope 2:12	ASTM D 3161 Class F FBC (HVHZ) TAS 107		
Specimen No. 1 0° test angle		¹ Meets requirements 2 & 4	1) Restrains full tabs from lifting beyond perpendicular to the deck 2) Shows no evidence of permanent damage as result of the test 3) Has the leading edge return within 1/2" of its pre-test location within 1h of cessation of the test 4) No part of the steep slope roofing product shall detach from the deck during the test
Specimen No. 2 45° test angle		¹ Meets requirements 2 & 4	
Specimen No. 3 90° test angle		¹ Meets requirements 1, 2 & 4	

Notes: None

Statement of Compliance:

The laboratory test results presented in this report are representative of the material supplied by the client. Testing was completed in accordance with standard test methods and protocols as described herein.

Signed: 
 Zachary Priest, P.E.
 Director

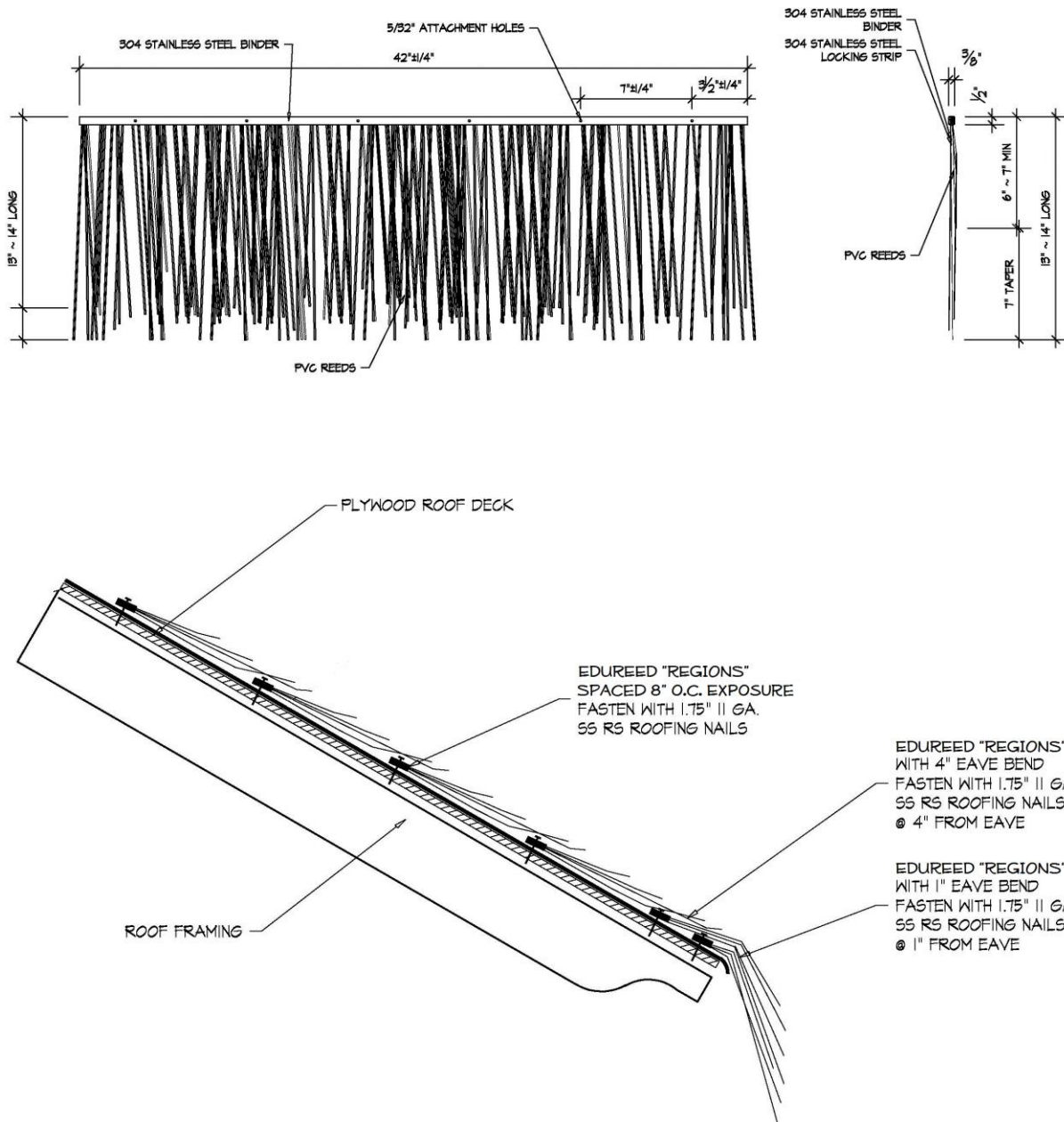
Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	08/22/2016	8	NA

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Manufacturer's Installation Instructions



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Specimen 1 photograph of Endureed prior to start



Specimen 1 photograph of Endureed at 120 minutes

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Specimen 1 photograph of Endureed After Testing



Specimen 2 photograph of Endureed prior to start

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Specimen 2 photograph of Endureed at 120 minutes



Specimen 2 photograph of Endureed After Testing

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Specimen 3 photograph of Endureed prior to start



Specimen 3 photograph of Endureed at 120 minutes

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Specimen 3 photograph of Endureed After Testing

END OF REPORT

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