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### Product Approval

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<p>FL #</p> <p>Application Type</p> <p>Code Version</p> <p>Application Status</p> <p>Comments</p> <p>Archived</p>	<p>FL6276-R2</p> <p>Revision</p> <p>2007</p> <p>Approved</p> <p><input type="checkbox"/></p>										
<p>Product Manufacturer</p> <p>Address/Phone/Email</p>	<p>Polyfoam Products, Inc</p> <p>11715 Boudreaux Road</p> <p>Tomball, TX 77375</p> <p>(954) 344-3566</p> <p>rylipelkonen@mmm.com</p>										
<p>Authorized Signature</p>	<p>Riku Ylipelkonen</p> <p>rylipelkonen@mmm.com</p>										
<p>Technical Representative</p> <p>Address/Phone/Email</p>	<p>Bob Ferrante</p> <p>10798 N.W. 53rd. Street</p> <p>Sunrise, FL 33351</p> <p>(954) 578-1559</p> <p>bob@polyfoam.cc</p>										
<p>Quality Assurance Representative</p> <p>Address/Phone/Email</p>	<p>Mr. Pat Donahue</p> <p>11715 Boudreaux Road</p> <p>Tomball, TX 773757370</p> <p>(281) 350-8888</p> <p>patd@polyfoam.cc</p>										
<p>Category</p> <p>Subcategory</p>	<p>Roofing</p> <p>Roof Tile Adhesives</p>										
<p>Compliance Method</p>	<p>Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer</p> <p><input checked="" type="checkbox"/> Evaluation Report - Hardcopy Received</p>										
<p>Florida Engineer or Architect Name who developed the Evaluation Report</p> <p>Florida License</p> <p>Quality Assurance Entity</p> <p>Quality Assurance Contract Expiration Date</p> <p>Validated By</p>	<p>Robert Nieminen</p> <p>PE-59166</p> <p>Underwriters Laboratories Inc.</p> <p>05/11/2013</p> <p>John W. Knezevich, PE</p> <p><input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received</p>										
<p>Certificate of Independence</p>	<p><a href="#">FL6276_R2_COI_Trinity_ERD_Certificaiton_of_Independence.pdf</a></p>										
<p>Referenced Standard and Year (of Standard)</p>	<table border="0"> <thead> <tr> <th style="text-align: left;"><b>Standard</b></th> <th style="text-align: left;"><b>Year</b></th> </tr> </thead> <tbody> <tr> <td>ASTM D1621</td> <td>1994</td> </tr> <tr> <td>ASTM D1622</td> <td>1993</td> </tr> <tr> <td>ASTM D1623</td> <td>1978</td> </tr> <tr> <td>ASTM D2126</td> <td>1999</td> </tr> </tbody> </table>	<b>Standard</b>	<b>Year</b>	ASTM D1621	1994	ASTM D1622	1993	ASTM D1623	1978	ASTM D2126	1999
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ASTM D1621	1994										
ASTM D1622	1993										
ASTM D1623	1978										
ASTM D2126	1999										

ASTM D2842	1994
ASTM D2856	1994
ASTM E84	2004
ASTM E96	2000
SSTD 11	1997

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method Method 1 Option D

Date Submitted 09/03/2008  
 Date Validated 09/05/2008  
 Date Pending FBC Approval 09/15/2008  
 Date Approved 10/14/2008

Summary of Products		
FL #	Model, Number or Name	Description
6276.1	Polyset One	Single component polyurethane foam roof tile adhesive
<b>Limits of Use</b> Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: N/A Design Pressure: +n/a/-251.2 Other: 1.) The design pressure limitation in this application refers to hip and ridge tiles. Field tiles are designed based on overturning moment resistance. 2.) Refer to ER Section 5 for other Limits of Use.		<b>Installation Instructions</b> <a href="#">FL6276 R2 II er090308FINAL Polyset One FL6276-R2.pdf</a> Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes <b>Evaluation Reports</b> <a href="#">FL6276 R2 AE er090308FINAL Polyset One FL6276-R2.pdf</a> Created by Independent Third Party: Yes

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**Department of Community Affairs**  
**Florida Building Code Online**  
**Codes and Standards**  
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 Tallahassee, Florida 32399-2100  
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Product Approval Accepts:





EXTERIOR RESEARCH & DESIGN, LLC.  
 Certificate of Authorization #9503  
 353 CHRISTIAN STREET  
 OXFORD, CT 06478  
 PHONE: (203) 262-9245  
 FAX: (203) 262-9243

**EVALUATION REPORT**

**Polyfoam Products, Inc.**  
**11715 Boudreaux Road**  
**Tomball, TX 77375**

**Evaluation Report 02768.02.06-R2**  
**FL6276-R2**  
**Date of Issuance: 03/21/2006**  
**Revision 2: 09/03/2008**

**SCOPE:**

This Evaluation Report is issued under Rule 9B-72 and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been designed to comply with the 2007 Florida Building Code.

**DESCRIPTION: Polyset® One**

**LABELING:** Each unit shall bear labeling in accordance with the requirements the Accredited Quality Assurance Agency noted herein.

**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

**ADVERTISEMENT:** The Evaluation Report number preceded by the words "Trinity | ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 4.

**Prepared by:**

**Robert J.M. Nieminen, P.E.**  
 Florida Registration No. 59166, Florida DCA ANE1983



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 09/03/2008. This does not serve as an electronically signed document. Signed, sealed hardcopies have been transmitted to the Product Approval Administrator and to the named client.

**CERTIFICATION OF INDEPENDENCE:**

1. Exterior Research & Design, LLC. d/b/a Trinity | ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Exterior Research & Design, LLC. d/b/a Trinity | ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

**ROOFING COMPONENT EVALUATION:**

**1. SCOPE:**

**Product Category:** Roofing  
**Sub-Category:** Roof Tile Adhesive  
**Compliance Statement:** Polyset One, as marketed by Polyfoam Products, Inc., has demonstrated compliance with the Florida Building Code through testing in accordance with the Standards set forth herein. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

<u>Sections</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1715.2.1	Wind	SSTD 11	1997
2603.3	Surface Burning	ASTM E84	2004
1523.6.5.2.17	Compressive	ASTM D1621	1994
1523.6.5.2.17	Density	ASTM D1622	1993
1523.6.5.2.17	Tensile	ASTM D1623	1978
1523.6.5.2.17	Dim. Stability	ASTM D2126	1999
1523.6.5.2.17	Closed Cell	ASTM D2856	1994
1523.6.5.2.17	Water Absorption	ASTM D2842	1994
1523.6.5.2.17	Permeance	ASTM E96	2000

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
PRI	SSTD 11	PFI-006-02-01	05/09/2005
PRI	SSTD 11	PFI-008-02-03	12/14/2005
PRI	SSTD 11	PFI-008-02-04	12/14/2005
Miami-Dade BCCO	Physical Properties	04-1116.01	08/24/2005

**4. PRODUCT DESCRIPTION:**

4.1 Polyset One is a single component polyurethane foam roof tile adhesive distributed in factory, pre-mixed canisters.

4.2 Typical Physical Properties:

<u>Property</u>	<u>Test</u>	<u>Results</u>
Density	ASTM D1622	1.95 lbs/ft3
Compressive Strength	ASTM D1621	7.8 psi
Tensile Strength	ASTM D1623	19.95 psi parallel to rise
Water Absorption	ASTM D2842	4.22 lbs/ft2
Moisture Vapor Permeability	ASTM E96	3.5 perm/inch
Dimensional Stability	ASTM D2126	+0.89% volume change @ 70°C, 2 weeks
Closed Cell Content	ASTM D2856	72.14%

4.3 Components or products manufactured by others: Any rigid, discontinuous roof assembly having a current Florida Statewide Product Approval or approved on a local-level by the AHJ.

**5. LIMITATIONS:**

- 5.1 This Evaluation Report is not for use in the HVHZ.
- 5.2 Fire classification is not part of this evaluation.
- 5.3 Polyset One can be used with flat, low and high profile tiles or any rigid, discontinuous roof assembly having a current Florida Statewide Product Approval or approved on a local-level by the AHJ.
- 5.4 Minimum underlayment shall be per FRSA/TRI 07320/8-05.
- 5.5 Field tiles using Polyset One are limited to projects having an Aerodynamic Uplift Moment (Ma)<sup>1</sup> or Moment Resistance (Mr)<sup>2</sup> not greater than the following Allowable Overturning Moment values. Refer to Polyfoam Products published installation instructions for Adhesive Paddy Placement details.

<b>Table 1: Field Tiles in Polyset One - Overturning Moment Performance Data</b>			
<b>Tile</b>		<b>Underlayment / Substrate</b>	<b>Allowable Overturning Moment (ft-lbf)</b>
<b>Type</b>	<b>Profile</b>		
Concrete	Flat	30/90 System	56.6
Concrete	Medium	30/90 System	43.7
Concrete	Medium	Polystick MU	53.3
Clay or Concrete	High	30/90 System	44.1
Concrete	Cap & Pan (Barrel)	30/90 System	39.5
Clay	Cap & Pan (Barrel)	30/90 System	53.2

- 5.5.1 Reference to the '30/90 System' Table 1 relates to that detailed in the *FRSA/TRI 07320*. Alternate underlayment systems include those having met the requirements of the *ICC-ES AC152*. The data in Table 1 also applies to such underlayments.
- 5.5.2 Tile roof systems using tile types or profiles other than those listed above acquiring acceptance for use with Polyset One shall be tested in accordance with SSTD 11 or TAS 101. An additional 2-to-1 margin of safety above that specified in SSTD 11 or TAS 101 shall be applied in determining the 'allowable overturning moment' or 'attachment resistance expressed as a moment (Mf)' to account for the interdependence inherent to the Polyset One installation procedures.
- 5.6 Hip and ridge tiles using Polyset One are limited to projects having hip/ridge design pressure requirements<sup>3</sup> not greater than the following values. Refer to Polyfoam Products published installation instructions for Adhesive Paddy Placement details.

<sup>1</sup> Determined in accordance with 2007 FBC Section 1609.5.3.

<sup>2</sup> Determined in accordance with RAS 127.

<sup>3</sup> Determined in accordance with FRSA/TRI 07320 Tables 2A through 2D and 3A through 3D.

<b>Table 2: Hip &amp; Ridge Tiles in Polyset One – Uplift Resistance Performance Data</b>			
<b>Tile</b>	<b>Substrate</b>	<b>Attachment Method</b>	<b>MDP (psf)</b>
Clay or Concrete	2x PT ridge board	<u>Interdependent:</u> Head: One (1) #10 x 2½" screw Tile Overlap: 1 x 6 inch (10.5 gram) Polyset® One	186.5
Concrete	Metal frame with 2-3/8" flange and ½" dip down the center (East Coast Metals)	<u>Independent:</u> Tile-to-metal, centered along tile: 3 x 6 inch, 30 gram, starting 3" from the tile head	122.6
Clay	Metal frame with 2-3/8" flange and ½" dip down the center (East Coast Metals)	<u>Independent:</u> Tile-to-metal, centered along tile: 3 x 6 inch, 30 gram, starting 4" from the tile head	251.2

**6. INSTALLATION:**

- 6.1 Polyset One and the tile roof assembly shall be installed in accordance with FRSA/TRI 07320/8-05 and Polyfoam Products, Inc. published installation instructions.
- 6.2 Hip and ridge boards shall be installed in accordance with the FRSA/TRI 07320/8-05. Hip and ridge metal shall be installed in accordance with the manufacturer's Florida Product Approval.
- 6.3 Installation shall be by a Factory Trained 'Qualified Applicator' approved and licensed by Polyfoam Products, Inc.
- 6.4 Tiles shall be adhered in freshly applied adhesive. Tile must be set within 4 minutes after Polyset One has been dispensed.

**7. LABELING:**

All Polyset One containers shall comply with the Standard Conditions listed herein.

**8. BUILDING PERMIT REQUIREMENTS:**

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

**9. QUALITY ASSURANCE ENTITY:**

Underwriters Laboratories, Inc. – QUA1743

**- END OF EVALUATION REPORT -**