BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT (BNC)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/building

NOTICE OF ACCEPTANCE (NOA)

The Dow Chemical Company (FL)
1971 West Lumsden Road # 214
Brandon, FL 33511

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County BNC - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BNC reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code. This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Styrofoam 2045 & 2060 Series Spray Polyurethane Foam

APPROVAL DOCUMENT: Engineering Report & Drawings titled "STYROFOAM™ Brand Spray Polyurethane Foam, sheets 1 through 8 of 8, dated 10/29/10, with a revision dated 03/31/11, prepared by C-Buck, Inc., Engineering, signed and sealed by James L. Buckner, P.E., bearing the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: None

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, Marietta, GA and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA 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 NOA consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**

MIAMI-DADE COUNTY APPROVED

04/06/11

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Engineering Report & Drawings titled "STYROFOAM™ Brand Spray Polyurethane Foam, sheets 1 through 8 of 8, dated 10/29/10, with a revision dated 03/31/11, prepared by C-Buck, Inc., Engineering, signed and sealed by James L. Buckner, P.E.

B. TESTS

	Test Report No.	Standard	Date	Signature
1.	CTLA 2034W	TAS 202 & 203	06/28/10	Ramesh Patel, P.E.
2.	CTLA 2034W-1	TAS 202 & 203	06/28/10	Ramesh Patel, P.E.
3.	CTLA 2034W-3	ASTM C273-07	09/21/10	Ramesh Patel, P.E.
4.	100224983MID-007 R1	ASTM D 1929	12/07/10	Rick Curkeet, P.E.
5.	01.25000.02.158	ASTM E84	03/09/11	Barry Badders, Jr., P.E.
6.	RD09249 (2)	ASTM D1621	10/07/09	Ronald S. Graves
7.	RD09249 (3)	ASTM D1623	10/07/09	Ronald S. Graves
8.	RD09249 (5)	ASTM C2856	10/07/09	Ronald S. Graves
9.	RD09254	ASTM E96	04/09/09	Ronald S. Graves
10.	RD09447/RD09448	ASTM D2842	08/12/09	Ronald S. Graves
11.	RD09459	ASTM D2126	08/18/09	Ronald S. Graves

C. CALCULATIONS:

1. Design pressure calculations, dated 09/28/10, prepared by C-Buck, Inc., Engineering, signed and sealed by James L. Buckner, P.E.

D. QUALITY ASSURANCE

1. Miami-Dade Building and Neighborhood Compliance Department (BNC)

E. MATERIAL CERTIFICATIONS

1. Product durability/performance analysis on STYROFOAM Brand Spray Polyurethane Foam per ASTM D1621, prepared by C-Buck, Inc., Engineering, Report No. 10-129-LTP1, dated 01/19/11, signed and sealed by James L. Buckner, P.E.

F. STATEMENTS

1. Statement letter of code conformance to FBC 2007, issued by C-Buck, Inc., Engineering, dated 11/11/10, signed and sealed by James L. Buckner, P.E.
2. Statement letter of no financial interest issued by C-Buck, Inc., Engineering, dated 11/11/10, signed and sealed by James L. Buckner, P.E.

04/06/11

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 10-0901.21
Expiration Date: April 14, 2016
Approval Date: April 14, 2011

Engineering Report & Drawings

Of

The Dow Chemical Company
"STYROFOAM™ Brand Spray Polyurethane Foam"

For

Miami-Dade Notice of Acceptance (N.O.A.)

Category:	**Cladding**
Sub - Category:	**Wood Connectors**
Material:	**Polyurethane**

Product Description:	Spray Polyurethane Foam Adhesive System
Application Use:	Supplemental Plywood Deck Attachment
System Type A (1):	For SPFcc, Model 2045 Series
System Type A (2):	For SPFcc, Model 2060 Series

Prepared by:
James L. Buckner, P.E., S.E.C.B.
Florida Professional Engineer # 31242
Project Manager: Youry Demosthenes

Report No.: 10-129-STYRO-SPFA-ENG REP
Date: 09/29/10
Revised: 3/31/11

Contents:

Approved as complying with the Florida Building Code
Date 04/14/2011
NOA# 10-0901.21
Miami-Dade Product Control
By

JAMES L. BUCKNER, P.E.
FLORIDA P.E. #31242
3/31/11

DOW "STYROFOAM™ Brand Spray Polyurethane Foam Adhesive
ENGINEERING REPORT

CBUCK Engineering
CBUCK, Inc. COA #8064
1334 S. Killian Dr., Ste 4
W. Palm Beach, FL 33403
(561) 491-9927

MANUFACTURER:

The Dow Chemical Company
1971 West Lumsden Road #214
Brandon, FL 33511

DATE:	10/29/10
PAGE #:	1 OF 8
PROJECT #:	10-129
DRAWN BY:	YD
REVISIONS:	3/31/11

System Type A (1): Model 2045 Series

Product:

Manufacturer:	The Dow Chemical Company
Product Name:	"STYROFOAM™ Brand Spray Polyurethane Foam Adhesive"
Category:	Cladding
Subcategory:	Wood Connectors
Material:	Polyurethane

Evaluation Scope:

Evaluation Criteria:

Florida Building Code (FBC) 2007

Code Section: High Velocity Hurricane Zone (HVHZ)

Miami-Dade Building Code Compliance Office (BCCO) Basic Requirement Checklist

Properties Evaluated:

Wind Resistance Properties

- Uniform Static Air Pressure (Structural & Negative Load only)
- Cyclic Wind Pressure Loading

Physical Properties

- Water Absorption
- Dimensional Stability
- Water Vapor Permeability
- Compressive Strength
- Tensile strength
- Shear Strength
- Closed Cell Content
- Surface Burning Characteristics

Limits of Evaluation:

This product is limited to compliance with the evaluation criteria and properties evaluated as listed above.

Evaluated Uses:

Structural:

The STYROFOAM™ Brand Spray Polyurethane Foam adhesive (SPFcc) 2045 as evaluated in this report can be used for supplemental attachment of roof plywood deck to rafters/truss top chords (dimensional lumber). This product may be used for supplemental wind resistance in new construction or for enhancing the wind uplift resistance on existing structures.

Product Description:

General:

STYROFOAM™ Brand Spray Polyurethane Foam (SPFcc) 2045 Series is a two-component, closed-cell, spray-applied, polyurethane foam plastic. STYROFOAM™ Brand Spray Polyurethane Foam 2045 Series is produced in the field by combining a polymeric isocyanate component A with a resin-based component B. This spray foam adhesive provides wind uplift resistance when applied directly to the junction of the roof plywood deck and the roof rafter/truss top chords. The SPFcc adhesive fillet is applied to both sides of the roof rafter/truss top chords.

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System Type A (1): Model 2045 Series

Evaluation Components to be Adhered:

Roof Deck:

Type: - Per FBC Section 2322.2
- 15/32" Minimum Thickness, on Existing Buildings.

Rafter/Truss Top Chord:

Function: Typically Roof Rafter or Wood Truss Top Chord
Type: Dimensional Lumber
Specific Gravity: 0.42 Minimum
Size: Nominal 2" x 4" Minimum
Spacing: 24 in. o.c. (As Tested and Evaluated)

(Design of components is outside the scope of this evaluation)

Product Assembly Performance:

Wind Resistance Properties

Allowable Design Uplift Resistance:

Resistance **- 127.5 PSF**
Standard: TAS 202 – 94

Based on Rafters/Roof Truss Top Chords Spacing of 24" o.c.

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Cyclic Wind Loading:

Results: Passed
Standard: TAS 203 – 94

Physical Properties:

Properties:	**Standards**	**Value**
Water Absorption (% by volume)	ASTM D2842	2.5%
Dimensional Stability (% by volume)	ASTM D2126	
At 84° F, ambient R.H. 28 days		-0.01%
At 158° F, ambient R.H. 28 days		-2.97%
Water Vapor Permeability	ASTM E96	2.2 perm-inch
Compressive Strength	ASTM D1621	25 psi
Tensile Strength	ASTM D1623	60 psi
Shear Strength	ASTM C273	24 psi
Closed Cell Content	ASTM C2856	96.65%
Flame Spread Index	ASTM E84	20
Smoke Developed Index	ASTM E84	400
Self-Ignition Temperature	ASTM D1929	662° F

Note: The Physical properties listed above are presented as typical average values as determined by accepted ASTM test methods and are subject to normal manufacturing variation.

System Type A (2): Model 2060 Series

Product:

Manufacturer: The Dow Chemical Company
Product Name: "STYROFOAM™ Brand Spray Polyurethane Foam Adhesive"
Category: Cladding
Subcategory: Wood Connectors
Material: Polyurethane

Evaluation Scope:

Evaluation Criteria:

Florida Building Code (FBC) 2007
Code Section: High Velocity Hurricane Zone (HVHZ)
Miami-Dade Building Code Compliance Office (BCCO) Basic Requirement Checklist

Properties Evaluated:

Wind Resistance Properties
Uniform Static Air Pressure (Structural & Negative Load only)
Cyclic Wind Pressure Loading

Physical Properties
Water Absorption
Dimensional Stability
Water Vapor Permeability
Compressive Strength
Tensile strength
Shear Strength
Closed Cell Content
Surface Burning Characteristics

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Limits of Evaluation:

This product is limited to compliance with the evaluation criteria and properties evaluated as listed above.

Evaluated Uses:

Structural:

The STYROFOAM™ Brand Spray Polyurethane Foam adhesive (SPFcc) 2060 as evaluated in this report can be used for supplemental attachment of roof plywood deck to rafters/truss top chords (dimensional lumber). This product may be used for supplemental wind resistance in new construction or for enhancing the wind uplift resistance on existing structures.

Product Description:

General:

STYROFOAM™ Brand Spray Polyurethane Foam (SPFcc) 2060 Series is a two-component, closed-cell, spray-applied, polyurethane foam plastic. STYROFOAM™ Brand Spray Polyurethane Foam 2045 Series is produced in the field by combining a polymeric isocyanate component A with a resin-based component B. This spray foam adhesive provides wind uplift resistance when applied directly to the junction of the roof plywood deck and the roof rafter/truss top chords. The SPFcc adhesive fillet is applied to both sides of the roof rafter/truss top chords.

System Type A (2): Model 2060 Series

Evaluation Components to be Adhered:

Roof Deck:

Type:	Per FBC Section 2322.2 15/32" Minimum Thickness, on Existing Buildings.

Rafter/Truss Top Chord:

Function:	Typically Roof Rafter or Wood Truss Top Chord
Type:	Dimensional Lumber
Specific Gravity:	0.42 Minimum
Size:	Nominal 2" x 4" Minimum
Spacing:	24 in. o.c. (As Tested and Evaluated)

(Design of components is outside the scope of this evaluation)

Product Assembly Performance:

Wind Resistance Properties

Allowable Design Uplift Resistance:

Resistance **- 127.5 PSF**

Standard: TAS 202 – 94

Based on Rafters/Roof Truss Top Chords Spacing of 24" o.c.

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Cyclic Wind Loading:

Results: Passed

Standard: TAS 203 – 94

Physical Properties:

Properties:	Standards	Test Values
Water Absorption (% by volume)	ASTM D2842	1.5%
Dimensional Stability (% by volume)	ASTM D2126	
At 84° F, ambient R.H. 28 days		-0.01%
At 158° F, ambient R.H. 28 days		-2.97%
Water Vapor Permeability	ASTM E96	2.2 perm-inch
Compressive Strength	ASTM D1621	20 psi
Tensile Strength	ASTM D1623	60 psi
Shear Strength	ASTM C273	24.4 psi
Closed Cell Content	ASTM C2856	96.65%
Flame Spread Index	ASTM E84	20
Smoke Developed Index	ASTM E84	400
Self-Ignition Temperature	ASTM D1929	662° F

Note: The Physical properties listed above are presented as typical average values as determined by accepted ASTM test methods and are subject to normal manufacturing variation.

General Installation Method:

- Surface Preparation:

  All surfaces intended to receive the spray foam must be dry, clean, secure, and free of any oils, grease, or other contaminant(s) that may adversely affect the adhesion of the foam. Remove sawdust and other debris from areas intended to receive the spray foam by blowing with compressed air or vacuuming with a shop vacuum. Check surfaces with moisture detection strips or other reliable method(s) to verify dryness. Spray equipment shall be capable of delivering the proper ratio of 1:1 by volume of polymeric isocyanate (component A) and poly blend (Component B) at adequate temperatures and spray pressures.

- Application Method:

  Apply the spray foam using a "picture framing" technique. Foam must cover at least 3-inches of the rafter member and 3-inches of the roof deck. The resulting triangular cant, at least 3-inches high and 3-inches wide, will cover the joint between the rafter member and the underside of the roof deck. Apply spray foam in consecutive layers no less than 0.5 inches and no more than 3 inches. Allow foam to fully expand and cool (approximately 5 - 10 minutes) between each layer.

- Install the system in compliance with the evaluated installation method(s). The installation method(s) described herein have been evaluated to address the scope of the evaluation. Refer to manufacturer's installation instructions as a supplemental guide for application.

  (Refer to installation method on Page 8 of this evaluation report.)

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Limitations of Use:

Spray Foam Adhesive shall be installed by a Dow qualified spray foam applicator trained in the processing and application of SPF systems as well as the plural component polyurethane dispensing equipment.

Fire Classification is not part of this acceptance. Refer to a current Approved Roofing Materials Directory for fire ratings of this product.

This product may be used for supplemental attachment of roof plywood deck to rafters/truss top chords

This product may be used for code plus wind resistance in new construction or for enhancing the wind uplift resistance on existing structures.

Code Compliance:

The product assembly described herein has demonstrated compliance with the Florida Building Code 2007, HVHZ, Standards TAS 202–94 and TAS 203–94.

Identification:

Each individual unit shall bear a permanent label with the manufacture's name or logo, city, state and following statement: Miami-Dade County Product control Approved", unless otherwise noted.

System Type A (1) & A (2): Model 2045 Series & 2060 Series

Referenced Data:

Test Report on:

- TAS 202-94 & TAS 203-94 – For SPFcc 2045
  Criteria for Testing Impact and Non-impact Resistant Building Envelope Components Using Uniform Static Air Pressure
  By: Certified Testing Laboratories
  Report No.: CTLA2034W, Dated: 6/28/10, Signed & Sealed 7/16/10 by Ramesh Patel, P.E.
- TAS 202-94 & TAS 203-94 – For SPFcc 2060
  Criteria for Testing Impact and Non-impact Resistant Building Envelope Components Using Uniform Static Air Pressure
  By: Certified Testing Laboratories
  Report No.: CTLA2034W-1, Dated: 6/28/10, Signed & Sealed 7/16/10 by Ramesh Patel, P.E.
- ASTM D2842 Water Absorption Test
  By: R & D Services
  Report No.: RD09448 & RD09448, Dated: 8/12/09
- ASTM D2126 Dimensional Stability Test
  By: R & D Services
  Report No.: RD09459, Dated: 8/18/09
- ASTM E96 Water Vapor Permeability Test
  By: R & D Services
  Report No.: RD09254, Dated: 4/9/09
- ASTM D1621 Compressive Strength Test
  By: R & D Services
  Report No.: RD09249(2), Dated: 10/7/09
- ASTM D1621 Tensile Strength Test
  By: R & D Services
  Report No.: RD09249(3), Dated: 10/7/09
- ASTM C273 Shear Strength Test
  By: Certified Testing Laboratories
  Report No.: CTLA 2034W-3, Dated: 9/21/10
- ASTM D1621 Closed Cell Content Test
  By: R & D Services
  Report No.: RD09249(5), Dated: 10/7/09
- ASTM E84 Flame Spread Index & Smoke Developed Index Tests
  By: Southwest Research Institutes
  Report No.: 01.14203.01.001d, 01.14203.01.001e & 01.14203.01.001f, Dated: 10/7/08
- ASTM D1929 Self-Ignition Temperature Test
  By: Intertek
  Report No.: 100224983MID-007, Dated: 10/26/10

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JAMES L. BUCKNER, P.E.
FLORIDA P.E. #31242
3/31/11

DOW "STYROFOAM™ Brand Spray Polyurethane Foam Adhesive
ENGINEERING REPORT

CBUCK Engineering
CBUCK, Inc. COA #8064
1334 S. Killian Dr., Ste 4
W. Palm Beach, FL 33403
(561) 491-9927

MANUFACTURER:

The Dow Chemical Company
1971 West Lumsden Road #214
Brandon, FL 33511

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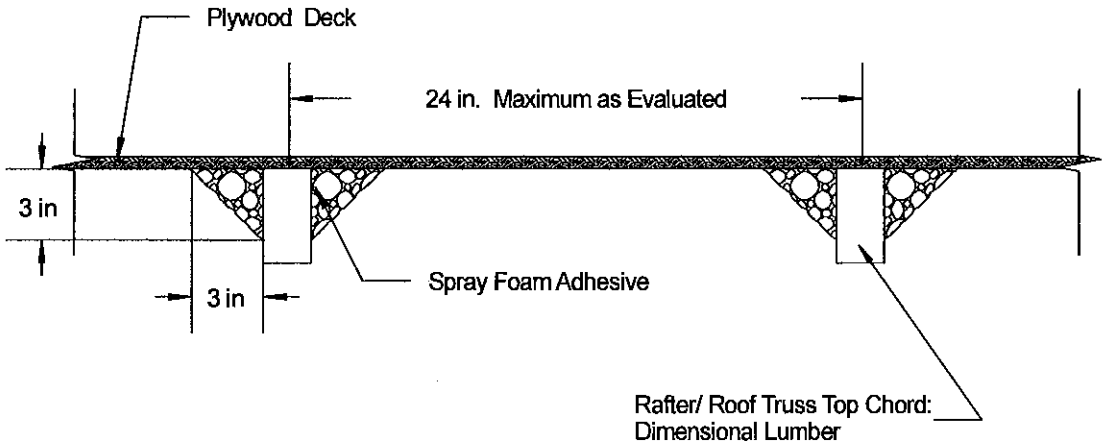
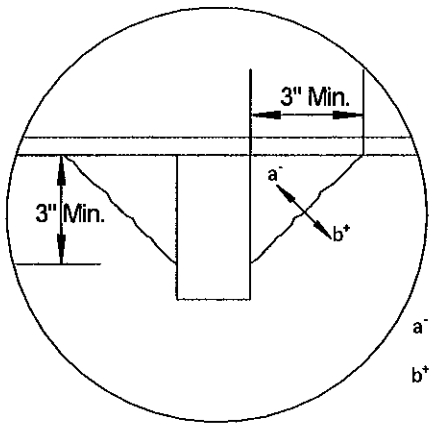
REVISIONS:	3/31/11

Installation Method
The Dow Chemical Company
STYROFOAM™ Brand Spray Polyurethane Foam
System Type A (1) & A (2): Models 2045 Series & 2060 Series

Application Type: Fillet



Typical Roof Deck Section



a^- Direction: Zero Tolerance

b^+ Direction: Any Greater

Fillet Tolerances

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DOW "STYROFOAM™ Brand Spray Polyurethane Foam Adhesive
ENGINEERING REPORT

CBUCK Engineering
CBUCK, Inc. COA #8064
1334 S. Killian Dr., Ste 4
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