

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) BOARD AND CODE ADMINISTRATION DIVISION PRODUCT CONTROL SECTION 11805 SW 26 Street, Room 208 Miami, Florida 33175-2474 T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

MIAMI-DADE COUNTY

NOTICE OF ACCEPTANCE (NOA)

Nucor-Vulcraft South Carolina 1501 West Darlington Street Florence, SC 29501

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 RER- 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. RER 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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: "PUNCHLOK II" Steel Roof Deck Panel

APPROVAL DOCUMENT: Drawing No. 23-575-PL2-SD-ER, titled **"PUNCHLOK II" Steel Roof Deck Panel**, sheets 1 through 9 of 9, prepared by CBuck Engineering, dated 09/14/2023, signed and sealed by James L. Buckner, P.E. on September 14, 2023, bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and the approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, Florence, SC and the 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 revises NOA #21-0602.15 and consists of this page 1, evidence submitted page E-1 as well as approval document mentioned above.

The submitted documentation was reviewed by Helmy A. Makar, P.E., M.S.



HegA.M.h. 11/16/2023

NOA No. 23-0921.04 Expiration Date: 11/04/2026 Approval Date: 11/16/2023 Page 1

Nucor-Vulcraft South Carolina

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. 20-270-PL2-SD-ER, titled **"PUNCHLOK II" Steel Roof Deck Panel,** sheets 1 through 9 of 9, prepared by CBuck Engineering, dated May 15, 2021, signed and sealed by James L. Buckner, P.E. on May 18, 2021.

B. TEST

- 1. Test report on Uniform Static Air Pressure test and Air & Water Infiltration tests on "PUNCHLOK II" 20 GA Steel Roof Deck Panel, per TAS 125 (ASTM E 1592) prepared by Farabaugh Engineering and Testing, Inc., report No. T126-21, dated March 08, 2021, signed and sealed by Daniel G. Farabaugh, P.E.
- 2. Test report on Uniform Static Air Pressure test and Air & Water Infiltration tests on "PUNCHLOK II" 22 GA Steel Roof Deck Panel, per TAS 125 (ASTM E 1592) prepared by Farabaugh Engineering and Testing, Inc., report No. T157-21, dated April 30, 2021, signed and sealed by Daniel G. Farabaugh, P.E.
- 3. Test report on the requirements of FM Approval Standard 4451 prepared by FM Approvals, report No. 3057375, dated 04/06/2016, signed by Cynthia E. Frank.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. By Miami-Dade County department of Regulatory and economic Resources.

E. MATERIAL CERTIFICATION

1. Tensile test report of metal panel, Farabaugh Engineering and Testing, Inc., report No. T126-21, dated March 08, 2021, signed and sealed by Daniel G. Farabaugh, P.E.

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

- 1. Drawing No. 23-575-PL2-SD-ER, titled "PUNCHLOK II" Steel Roof Deck Panel, sheets 1 through 9 of 9, prepared by CBuck Engineering, dated 09/14/2023, signed and sealed by James L. Buckner, P.E. on September 14, 2023.
- B. TEST
 - 1. None.
- C. CALCULATIONS 1. None.
- D. QUALITY ASSURANCE
- E. MATERIAL CERTIFICATION
 - 1. None.

Hela. M.

Helmy A. Makar, P.E., M.S. Product Control Section Supervisor NOA No. 23-0921.04 Expiration Date: 11/04/2026 Approval Date: 11/16/2023

Engineering Report & Drawings

of

Nucor – Vulcraft

"PUNCHLOK II®"

Roof Deck Panels

for

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

Category: Panels Sub - Category: Roof Deck

Product: Material: Panel Thickness: "PUNCHLOK II®" Roof Deck Panel Steel 22, 20, 18 gauge

Prepared by: James L. Buckner, P.E. Florida Professional Engineer # 31242 Project Manager: Diana Galloway Report No.: 23-575-PL2_SD-ER Date: 9 / 14 / 2023

Co	nt	en	ts:

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Allowable Load Tables	Page 6-7
Product Drawings & Details	Page 8-9





1.0 Product:

1.1	Manufacturer:	Nucor – Vulcraft
1.2	Product Name:	"PUNCHLOK II®" Structural Steel Roof Deck
1.3	Category:	Panels
1.4	Subcategory:	Roof Deck

2.0 Evaluation Scope:

2.1 **Evaluation Criteria:**

2.1.1 Florida Building Code (FBC) 8th Edition (2023)

2.1.1.1	Code Section: High Velocity Hurricane Zone (HVHZ)
2.1.1.2	Miami-Dade Department of Regulatory And Economic
	Resources, Product Control Section Checklist # 0135
	(Modified)

2.2 **Properties Evaluated:**

2.2.1 Wind Resistance Propertie	2.2.1	Wind	Resistance	Propertie	es
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- 2.2.1.1 **Uniform Static Air Pressure** (Structural only. This panel system has not been tested for water & air infiltration.)
- 2.2.1.2 Large Missile Impact

2.2.2 **Material Properties**

2.2.2.1 **Tensile strength**

2.3 Limits of Evaluation:

This product is limited to compliance with the criteria in section 2.1 and properties in section 2.2 of this report.

3.0 Evaluated Uses:

"PUNCHLOK II®" Roof Deck Panels are evaluated for use as roof deck panels.

4.0 Product Description:

4.1 General:

> "PUNCHLOK II®" panels are 22-gauge (min.) structural steel roof deck panels with side laps attached using the "PUNCHLOK II®" sidelap crimping tool, a hand-held pneumatically operated tool to join the deck side laps together creating the VSC2 crimp.

4.2 **Product Dimensions:**

4.2.1 1.5 PLB (Type B -Wide Rib, Single-fluted with PUNCHLOK II®)

- 4.2.1.1 Thickness: 4.2.1.2 Coverage Width: 4.2.1.3 Rib height: 4.2.1.4 Length:
- 22 gauge 36 in.
- 1-1/2 in.

Roll formed, continuous, 6 ft. up to 42 ft.

PRODUCT REVISED as complying with the Florida

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Building Code Acceptance |

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4.2.2 **3.0 PLN** (Deep Rib Deck with PUNCHLOK II[®])

4.2.2.1 Thickness:

4.2.2.3 Rib height:

4.2.2.4 Length:

- 22 gauge
- 4.2.2.2 Coverage Width: 32 in.
 - 3 in.

Roll formed, continuous, 6 ft. up to 42 ft.

PRODUCT REVISED as complying with the Florida

Building Code

Acceptance N

5.0 Performance:

5.1 Wind Resistance: Design Pressure:

Refer to Table "Tables 3.0, 3.1, 4.0, 4.1"

5.2 Uniform Static Air Infiltration:

Standard	ASTM E 1592
Results:	Per Section 5.1

6.0 Installation:

"PUNCHLOK II®" Roof Deck:

Attachment to deck: fastener attachment to supports may be designed by a qualified design professional as required by the Florida Building Code for site specific projects.

- This evaluation is based on the following minimum characteristics:
- 6.1 Fasteners attached 6" o.c. at every low cell (1/4-20x1-1/2" Long, Tek 5 Hex Head)
- 6.2 Support Spacing: 6' 0'' o.c. (6 ft.) max.
- 6.3 Side Laps; Panel-To-Panel Stitching: Side laps fastened along the panel laps at support intersections, midspans and supports with Nucor Vulcraft PUNCHLOK II[®] Side Lap Crimping Tool to create the VSC2 crimp.
- 6.4 Side Lap Spacing: Per Tables 3.0, 3.1, 4.0 & 4.1

See Drawings on pages 6 through 9 of this report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

7.0 Limitations of Use:

- 7.1 Performance data is based on minimum characteristics per Section 6.0.
- 7.2 Maximum support spacing shall not be exceeded.
- 7.3 Design of support system is outside the scope of this report. Support shall be structural framing members complying with the Miami-Dade (Florida High velocity zone) code and shall be designed by others.
- 7.4 Panel shall not be used as axial load bearing components and shall not be intended/designed to act as a diaphragm.
- 7.5 The engineer of record or architect shall verify that the supporting structure is capable of resisting the superimposed loads from the roof panel system and that the supporting structure is capable of providing lateral stability to carry the wind loads to the building foundation.
- 7.6 All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC, including but not limited to Sections 1517.5 and 1517.6.
- 7.7 This evaluation is limited to the Roof Deck panel and the PUNCHLOK II Sidelap attachment. The structural properties and design of all other items are outside the scope of this evaluation and should be submitted to the permitting jurisdiction for review, and approval.

MANUFACTURER:	NUCOR -	VULCRAFT "PUNCHL	OK II®" STEEL ROOF DECK PAI	
NUCOR	ENGINEE	RING REPORT		ICENSE LIGENSE
	DATE:	9/14/23	CBUCK Engineering	No.31242
VULCRAFT	PAGE #:	3 OF 9	Speciality Structural Engineering	
Nucor – Vulcraft	REPORT #:	23-575-PL2-SD-ER	CBUCK, Inc. COA #8064	STATE OF
1501 West Darlington Street	REVISES #:	20-270-PL2-SD-ER	1374 Community Drive	I CONDA SIST
Florence, SC 29501	DRAWN BY:	DG	Jupiter, FL 33458	S.C. ALL OG
	REVISIONS:	9/14/23	(561) 491-9927	THILL WAS CHINE

8.0 Code Compliance

8.1 Product meets the High Velocity Hurricane Zone (HVHZ) Requirements of the Florida Building Code (FBC) 8th Edition (2023) for the properties evaluated.

9.0 Identification:

Each Panel shall bear the following permanent labels:

Nucor - Vulcraft South Carolina 1501 West Darlington Street Florence, South Carolina 29501 And the Statement: "Miami-Dade County Product Control Approved".

10.0 Referenced Data:

10.1 Test Report on:

TAS 125-03 Standard Requirements for Metal Roofing Systems, Section 9 – ASTM E 1592 ASTM E8-08, Standard Test Methods for Tensile Testing of Metallic Materials For Model: "1.5 PLB"

By: Farabaugh Engineering & Testing, Inc.

10.1.1 Report T157-21, Dated: 4/30/21, Signed & Sealed 4/30/21 by Daniel G. Farabaugh, P.E. 10.1.2 Report T126-21, Dated: 3/08/21, Signed & Sealed 3/08/21 by Daniel G. Farabaugh, P.E.

11.0 Product Components:

11.2.1

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PRODUCT REVISED as complying with the Florida

Building Code

Acceptance No2

Expiration Data

11.1 "1.5 PLB" 1.5 B Deck with PUNCHLOK II®:

Dimensions: 11.1.1

11.1.1.1	Panel Gauge:	22-gauge, 20-gauge, or 18-gauge
11.1.1.2	Coverage Width:	36 in.
11.1.1.3	Rib height:	1-1/2 in.
11.1.1.4	Length:	Roll formed, continuous up to 42 ft.

11.1.2 **Properties:**

11.1.2.1	Material	Steel
11.1.2.2	Yield Strength:	50 ksi min.
11.1.2.3	Thickness:	Per Table 1.0
11.1.2.4	Corrosion Resistance/Stand	lards: Galvanized G90 per ASTM A653

11.2 "3 PLN" 3 N Deck with PUNCHLOK II[®]:

Dimensions: 11.2.1.1 Panel Gauge: 22-gauge, 20-gauge, or 18-gauge 11.2.1.2 Coverage Width: 32 in. 11.2.1.3 Rib height: 3 in. 11.2.1.4 Length: Roll formed, continuous up to 42 ft.

Properties:

11.2.2.1	Material	Steel	
11.2.2.2	Yield Strength:	50 ksi min.	
11.2.2.3	Thickness:	Per Table 2.0	
44 0 0 4			

Corrosion Resistance/Standards: Galvanized G90 per ASTM A653 11.2.2.4



Engineering Properties Nucor Corp. – Vulcraft Group Nucor-Vulcraft Steel Roof Deck Panels



"1.5 PLB-36" Typical Panel Profile

	VULCRAFT "1.5 B" SECTION PROPERTIES ¹									
DECK THICKNESS	DESIGN THICKNESS t	PANEL WEIGHT Wdd	YIELD STRENGTH Fy	l _d +	l _d -	S _e +	S _e -	M _n +/Ω	Mn-/Ω	V _n /Ω
(GA.)	(IN.) NOMINAL	(PSF)	(KSI) MIN.	(IN ⁴ /FT)	(IN⁴/FT WIDTH)	(IN ³ /FT WIDTH)	(IN⁴/FT WIDTH)	(LB-FT/FT)	(LB-FT/FT)	(IN ³ /FT WIDTH)
22	0.0295	1.6	50	0.155	0.178	0.169	0.179	422	447	2654
20	0.0358	2.0	50	0.197	0.217	0.224	0.229	559	571	3207
18	0.0474	2.6	50	0.277	0.290	0.306	0.318	763	793	4209

Table 1.0





"3 PLN-32" Typical Panel Profile

	VULCRAFT "3 N" SECTION PROPERTIES ¹									
DECK THICKNESS	DESIGN THICKNESS t	PANEL WEIGHT Wdd	YIELD STRENGTH Fy	l _d +	l _d -	S _e +	S _e -	M _n +/Ω	M _n -/Ω	Vn/Ω
(GA.)	(IN.)	(PSF)	(KSI)	(IN ⁴ /FT)	(IN⁴/FT WIDTH)	(IN ³ /FT WIDTH)	(IN⁴/FT WIDTH)	(LB-FT/FT)	(LB-FT/FT)	(IN ³ /FT WIDTH)
22	0.0295	1.8	50	0.643	0.715	0.345	0.372	861	928	2176
20	0.0358	2.2	50	0.806	0.886	0.448	0.476	1118	1187	3761
18	0.0474	2.9	50	1.123	1.200	0.660	0.675	1647	1684	6598
				Table	2.0					

Note for Tables 1.0 & 2.0: ¹Section properties comply with ANSI/SDI RD-2017.



Installation Method Nucor Corp. – Vulcraft Group Nucor-Vulcraft Steel Roof Deck Panels

PRODUCT REVISED as complying with the Florida Building Code Acceptance No 3 - 0 9 2 1 . 0 4 Expiration Date By Helly H. March 2026 Miarre Office Product Control

ALLOWABLE LOAD (PSF) FOR NOMINAL SUPPORT SPACING ²								
VULC	VULCRAFT 1.5PLB-36 (1.5 B ROOF DECK ATTACHED with PUNCHLOK II®)							
FASTENER SPA	CING (IN.)	6" (D.C. PUNCHLOK II SPACING (IN.):			24" 0.0	2.	
GAUGE	SPAN		SU	IPPORT	LO	AD	PSF	
	CONDITI	ON	SPA	CING (IN.)	CONE	DITION		
22	SINGLE		6' –	0" (6 FT.)	NEG	ATIVE	-120	
	DOUBLE		6' – 0" (6 FT.)		NEG	ATIVE	-120	
	3 OR MORE		6' –	0" (6 FT.)	NEG	ATIVE	-120	
20	SINGLE		6' –	0" (6 FT.)	NEG	ATIVE	-175	
	DOUBLE		6' –	0" (6 FT.)	NEG	ATIVE	-175	
	3 OR MORE		6' –	0" (6 FT.)	NEG	ATIVE	-175	
18	SINGLE		6′ –	0" (6 FT.)	NEG	ATIVE	-175	
	DOUBLE		6′ –	0" (6 FT.)	NEG	ATIVE	-175	
	3 OR MORE		6' –	0" (6 FT.)	NEG	ATIVE	-175	

Table 3.0

ALLOWABLE LOAD (PSF) FOR NOMINAL SUPPORT SPACING ²						
VULC	RAFT 1.5PLB-	36 (1.5 B R	DOF DECK AT	TACHED with PUNC	HLOK II®)	
FASTENER SPA	CING (IN.)	6" O.C.	PUNC	.): 12″ O.C.		
GAUGE	SPAN		SUPPORT	LOAD	PSF	
	CONDITIO	ON SI	PACING (IN.)	CONDITION		
22	SINGLE		– 0" (6 FT.)	NEGATIVE	-123	
	DOUBL	E 6'	– 0" (6 FT.)	NEGATIVE	-123	
	3 OR MORE		– 0" (6 FT.)	NEGATIVE	-123	
20	SINGLE	6'	-0" (6 FT.)	NEGATIVE	-180	
	DOUBLI	E 6'	-0" (6 FT.)	NEGATIVE	-180	
3 OR MORE		RE 6'	-0" (6 FT.)	NEGATIVE	-180	
18	SINGLE		-0" (6 FT.)	NEGATIVE	-180	
DOUBLE		Ξ 6΄	-0" (6 FT.)	NEGATIVE	-180	
	3 OR MORE		-0" (6 FT.)	NEGATIVE	-180	

Table 3.1

Note for Tables 3.0, 3.1, 4.0 & 4.1:

²ASD (Allowable Design Pressures are based on a safety factor of 2:1).

111111111111 111111111111111111111 NUCOR - VULCRAFT "PUNCHLOK II®" STEEL ROOF DECK PANEL MANUFACTURER: CENSE ENGINEERING REPORT NUCOR DATE: 9/14/23 No.31242 CBUCK Engineering VULCRAFT PAGE #: 6 OF 9 Speciality Structural Engineering 1 Nucor – Vulcraft REPORT #: 23-575-PL2-SD-ER CBUCK, Inc. COA #8064 STATE OF 1501 West Darlington Street REVISES #: 20-270-PL2-SD-ER 1374 Community Drive Florence, SC 29501 DRAWN BY: Jupiter, FL 33458 DG (561) 491-9927 **REVISIONS:** 9/14/23

Installation Method Nucor Corp. – Vulcraft Group Nucor-Vulcraft Steel Roof Deck Panels

ALLOWABLE LOAD (PSF) FOR NOMINAL SUPPORT SPACING ²					
VU	LCRAFT 3PLN	-32 (3 N ROO	F DECK ATTA	CHED with PUNC	HLOK II®)
FASTENER SPA	CING (IN.)	6" O.C.	PUNC	N.): 24″ O.C.	
GAUGE	SPAN	S	UPPORT	LOAD	PSF
	CONDITIO	ON SP/	ACING (IN.)	CONDITION	
22	SINGLE	6'	– 0" (6 FT.)	NEGATIVE	-120
DOUBLE		E 6'·	– 0" (6 FT.)	NEGATIVE	-120
	3 OR MO	RE 6' ·	– 0" (6 FT.)	NEGATIVE	-120
20	SINGLE	6' -	– 0" (6 FT.)	NEGATIVE	-175
	DOUBL	E 6'·	– 0" (6 FT.)	NEGATIVE	-175
	3 OR MORE		– 0" (6 FT.)	NEGATIVE	-175
18	SINGLE	6' -	– 0" (6 FT.)	NEGATIVE	-175
	DOUBL	E 6' ·	-0" (6 FT.)	NEGATIVE	-175
	3 OR MORE		– 0" (6 FT.)	NEGATIVE	-175

Table 4.0

				AL SUPPORT SPACING	
VU	LCRAFT 3PLN	-32 (3 N ROOI	DECK ATTA	CHED with PUNCHLO	K II®)
FASTENER SPA	CING (IN.)	6" O.C.	PUNC	12″ O.C.	
GAUGE	SPAN	S	UPPORT	LOAD	PSF
CONDITION		ON SPA	CING (IN.)	CONDITION	
22	22 SINGLE		0" (6 FT.)	NEGATIVE	-123
	DOUBL	E 6' –	0" (6 FT.)	NEGATIVE	-123
	3 OR MORE		0" (6 FT.)	NEGATIVE	-123
20	SINGLE		· 0" (6 FT.)	NEGATIVE	-180
	DOUBL	E 6' –	0" (6 FT.)	NEGATIVE	-180
	3 OR MO	RE 6' –	0" (6 FT.)	NEGATIVE	-180
18 SINGLE		6′ –	· 0" (6 FT.)	NEGATIVE	-180
	DOUBL	E 6' –	0" (6 FT.)	NEGATIVE	-180
3 OR MORE		RE 6' –	0" (6 FT.)	NEGATIVE	-180
			Table / 1	PRODUCT REVISEI	

Table 4.1

as complying with the Florida Building Code 23 - 09-0921.04 Acceptance No 2026 Expiration Date

Note for Tables 3.0, 3.1, 4.0 & 4.1:

²ASD (Allowable Design Pressures are based on a safety factor of 2:1). By

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MANUFACTURER:

NUCOR VULCRAFT Nucor – Vulcraft 1501 West Darlington Street Florence, SC 29501

NUCOR – VULCRAFT "PUNCHLOK II®" STEEL ROOF DECK PANEL								
ENGINEERING REPORT								
DATE:								
PAGE #:	7 OF 9	Speciality Structural Engineering						
REPORT #:	23-575-PL2-SD-ER	CBUCK, Inc. COA #8064						
REVISES #:	20-270-PL2-SD-ER	1374 Community Drive						
DRAWN BY:	DG	Jupiter, FL 33458						
REVISIONS:	9/14/23	(561) 491-9927						

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Date: 9/14/23

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