

<p style="text-align: center;"><b>DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT</b> Housing - Federal Housing Commissioner</p> <p><b>TO: DIRECTORS, SINGLE FAMILY HOCs</b> <b>DIRECTORS, MULTIFAMILY HUBs</b></p>	<p><b>Series and Series Number:</b> <b>MATERIALS RELEASE NO: 1335</b></p>
	<p><b>ISSUE DATE</b> February 10, 2009</p>
	<p><b>REVIEW DATE</b> February 10, 2012</p>
<p><b>SUBJECT:</b> 1. <b>Product</b> NichiProducts™ Fiber Cement Products</p> <p>2. <b>Name and address of Manufacturer</b> Nichiha USA, Inc. 6659 Peachtree Industrial Boulevard, Suite AA Norcross, GA 30092 Tel: (770) 805-9466 <a href="http://www.nichiha.com">www.nichiha.com</a></p>	

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

**USE:** NichiProducts™ are intended for use as exterior wall covering.

**DESCRIPTION:**

NichiProducts™ Fiber Cement products consist of the followings:

NichiBoard™ (EcoPlank), a lap siding product with 5/16 inch thickness that is available in both smooth or deep grain cedar texture, and a variety of lap widths.

NichiPanel™, a vertical siding panel with a 5/16 inch thickness that is available in either a smooth, deep grain cedar, deep grain cedar with vertical grooves or stucco texture. The product is available in panels measuring 4 feet wide x 8 feet long, 4 feet wide x 10 feet long and 4 feet wide x 12 feet long.

NichiShake™, an individual shake board product with either a 1/4 inch or 5/16 inch thickness that is produced with a deep wood grain texture. The NichiShake™ product was supplied in samples measuring 6¼ inches wide x 18 inches long, 8¼ inches wide x 18 inches long, and 12 inches wide x 18 inches long.

NichiSoffit™, a soffit panel with a 1/4 inch thickness that is available in either a smooth or deep grain cedar texture, and in vented and non-vented styles. NichiSoffit™ panels are factory primed and sealed. Products are available in a variety of sizes ranging from 12 inches to 48 inches wide and 8 feet to 12 feet long.

Dimensions are noted in Table 1 of this report.

NichiProducts™ have a flame spread index of 0 and a smoke developed index of 0 when tested in accordance with ASTM E 84. NichiProducts™ comply with ASTM C 1186.

Where a specific level of wind resistance or shear resistance is required, NichiProducts™ shall be attached to the framing members in accordance to Tables 2, 3, 4, 5.

#### **LIMITATION:**

When NichiProducts™ are installed per the manufacturer's installation requirements, they meet the design pressure requirements for use in residential structures of height up to 40 feet of exposure category C in areas of basic wind speeds up to 150 mph determined in accordance to the American Society of Civil Engineers E7 2005, and IBC 2006.

Allowable fastener loading is not part of this MR.

#### **REQUIREMENTS:**

NichiProducts™ Fiber Cement Lap Siding shall comply with the following standards:

ASTM C 1185-02

ASTM E 84

#### **INSTALLATION:**

NichiProducts™ shall be installed as specified in the Manufactured Installation requirements and the configurations listed in Table 6.

## **ONE HOUR FIRE RATED ASSEMBLIES**

### **Non Load Bearing Steel Stud Wall Construction:**

The assembly wall construction consisted of 20 gauge steel stud and track 3-5/8 inches depth. The studs are 24 inches on centre. R-13 fiberglass un-faced insulation (4 in. thickness) installed within each stud cavity. Both sides of the wall assembly faced with 5/8 inch Type-X gypsum wallboard oriented horizontally with joints staggered and fastened with #8 1-5/8 inch self tapping screws every 8 inches on centre. Drywall tape applied to all joints. 15 Ib. felt paper installed over the gypsum wallboard on the fire exposed surface of the wall assembly using 1/4 in. staples.

### **Wood Stud Wall Construction:**

The assembly wall construction consisted of 2" by 4" Douglas Fir Select Structural Grade wood studs with a single bottom plate and double top plate. The studs located 24 inches on centre and fastened to the plates using 3¼ in. common nails. R-13 fiberglass un-faced insulation (4 in. thickness) installed within each stud cavity. Both sides of the wall assembly faced with 5/8 in. Type-X gypsum wallboard, oriented horizontally with joints staggered from those on the opposite side of the wall, and fastened with #8 1-5/8 in. drywall screws placed 8 in. on center. Paper-type drywall tape applied to all joints. 15 Ib. felt paper installed horizontally, with 6 in. overlap, over the gypsum wallboard on the fire side of the wall assembly using 1/4 in. staples.

## **PRODUCT CERTIFICATION:**

Intertek shall certify that NichiProducts™ described above conform to the requirements of this MR and the following requirements:

- 1) Intertek shall issue to the manufacturer:
  - a) A label/seal/logo that identifies and certifies this product in compliance with the requirements of this MR.
  - b) A certification statement of conformance to this MR. A copy of this certification should be forwarded to HUD.
- 2) Intertek every six (6) months shall visit each of the production facilities listed below. Intertek shall, as a minimum, review each of the production facility's Quality Control Manual (QCM), Quality Assurance procedures, in line testing, record keeping, and corrective actions. Records of such visits shall be submitted to HUD, and shall be made available in each production facility.

- 3) If changes are made to the products covered by this MR, Intertek shall notify HUD, within 30 days, of these changes with suggestions to keep/maintain, revise, or suspend this MR.

**PRODUCTION FACILITIES LOCATIONS:**

The product covered under this MR will be produced at the following plant(s):

Nichiha USA, Inc., Macon Plant  
3150 Avondale Mill Road  
Macon, GA 31216  
Bryon Arnold, Plant Manager  
478-238-9070

**MANUFACTURER'S RESPONSIBILITIES:**

Issuance of this Materials Release (MR) commits the manufacturer to fulfill, as a minimum, the following:

1. Produce the products in strict accordance with the terms of this MR.
2. Label the product in accordance to this MR. Labels shall include as a minimum:
  - a. The manufacturer's name and location
  - b. Intertek logo/seal/certification label
  - c. This MR number
3. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
4. When requested, provide the FHA Standards, Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
5. Inform HUD, in advance, of changes in production facilities, methods, design of the product, company name, ownership or mailing address.
6. If, in the interval between Intertek's quality assurance audits, changes are made to the product, HUD shall be informed within 30 days of formal implementations of these changes.
7. Records of Intertek's audit visits report shall be made available in each production facility

**WARRANTY:**

Limited Warranty Coverage

Nichiha USA, Inc. ("Nichiha") warrants that Nichiha NichiBoard/EcoPlank, NichiPanel, NichiShake, (the "Product") will (a) comply with ASTM C-1186, as Type-A, Grade-1, when manufactured, and (b) maintain its functions as interior or exterior wall panels. This Limited Warranty is extended to the purchaser and all transferees of the Product prior to and including (1) the original owner of the structure to which the Product is first applied and (2) the first transferee of such structure after the Product is applied (each, a "Covered Person"), from the date of purchase of the Product throughout the lifetime of the Covered Person. Notwithstanding the foregoing, for Product(s) installed on structures other than single family dwellings, Warranty coverage shall extend for only a 50-year period from the date of purchase and may not be transferred beyond the original owner of the structure to which the Product is first applied.

**EVALUATION:**

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing and Urban Development  
FHA Standards, Office of Manufactured Housing Programs  
451 7<sup>th</sup> Street, SW, Room 9168  
Washington, DC 20410-8000

Appropriate User Fee shall be sent to:

U. S. Department of Housing and Urban Development  
Miscellaneous Income – Technical Suitability of Products Fees  
Bank of America  
P. O. Box 198762  
Atlanta, GA 30384-8762

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to this MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with the Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

**CANCELLATION:**

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. Conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system;
2. The manufacturer has changed its organizational form, ownership, name, address, or production facilities, without notifying HUD; or,
3. The manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

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This Materials Release is issued solely for the captioned firm and is not transferable to any person or successor entity.  
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**Table 2 - NichiProducts Allowable Transverse Load Based on ASTM E72-05 Testing (Main Wind Force Resistance Systems)**

Product	Product		Sheathing Details	Panel Fasteners	Fastener Spacing	Frame Type	Framing Spacing	Ultimate Load (psf)	Design Pressure (psf)
	Thick	Width							
NichiBoard (EcoPlank) LapSiding Face Nail	5/16 inch	12 inches	No Sheathing	2-inch 6d Nails Corrosion resistant common nails	16 inches O.C. over stud, 1 at each panel edge, minimum 1 inch from edge	2x4 wood stud	16 inches O.C.	43.3	14.4
NichiBoard (EcoPlank) Lap Siding Face Nail	5/16 inch	12 inches	No Sheathing	#8 1-5/8 inch long flat head corrosion resistant self tapping screws	1-5/8 inch long self-tapping screws; face screwed along stud.	18 ga 3 1/2"x5/8" C Channel	24 inches O.C.	111	37.0
NichiBoard Face Nail	5/16 inch	4 feet	No Sheathing	2-inch 6d Nails Corrosion resistant common nails	2" 6d common nail 6 inches around perimeter, 12 inches in the field over studs	2x4 wood stud	16 inches O.C.	41.6	13.9
NichiBoard Face Nail	5/16 inch	4 feet	No Sheathing	#8 1-5/8 inch long flat head corrosion resistant self tapping screws	1-5/8 inch long self-tapping screws; 6 inches around perimeter, 12 inches in the field over studs	18 ga 3 1/2"x5/8" C Channel	24 inches O.C.	88.4	29.5



**Table 3 - NichiProducts Allowable Transverse Load Based on ASTM E72-05 Testing (Cladding Systems)**

Product	Product		Sheathing Details	Panel Fasteners	Fastener Spacing	Frame Type	Framing Spacing	Ultimate Load (psf)	Design Pressure (psf)
	Thick	Width							
NichiPanel Face Nail - High Wind Speed System	5/16"	4'	7/16" OSB attached with 2" 6d common nails	2" 6d common nails	4" O.C. around Paneld	2x4 wood stud	16" O.C.	258,5	86.2
NichiShake Blaind Nail	5/16"	12"	7/16" OSB attached with 2" 6d common nails	2" 6d common nails	2 nails per shake along centerline blind nailed	2x4 wood stud	24" O.C.	111	37.0
NichiBoard (EcoPlank) Face Nail	5/16"	8-1/4"	7/16" OSB attached with 2" long 6d common nails at 3" o.c.	2" long 6d common nails	3-2" long 6d common nails every 16" o.c. over the stud locations a minimum of 1" from board edges	2"x4" wood stud	16" o.c.	243	81
NichiBoard (EcoPlank) Blind Nail	5/16"	8-1/4"	7/16" OSB attached with 2" long 6d common nails at 3" o.c.	2" long 6d common nails	1-2" long 6d common nails every 16" o.c. over the stud locations, and every 3" between studs. Blind nail was located at 1" from board edges	2"x4" wood stud	16" o.c.	243	81
NichiBoard (EcoPlank) Blind Nail	5/16"	8-1/4"	7/16" OSB attached with 2" long 6d common nails at 3" o.c.	2" long #6 self tapping screws	1-2" long #6 self tapping screws at each stud locations 1" from board edges	2"x4" wood stud	16" o.c.	243	81

**Table 4 - Maximum Allowable Wind Speeds From ASCE E7-05 for NichiProducts as Main Wind Force Resisting Systems**

Product	Product		Sheathing Details	Panel Fasteners	Fastener Spacing	Frame Type	Framing O.C.	Bldg Ht	Maximum Wind Speed (mph) for Exposure Category		
	Thick	Width							B	C	D
NichiBoard (EcoPlank) Lap Siding Face Nail	5/16"	12"	No Sheathing	2" 6d Nails Corrosion Resistant common nails	16" O.C. over stud, 1 at each panel edge, minimum 1" from edge	2x4 wood stud	16" O.C.	15	-	-	-
								20	-	-	-
								30	-	-	-
								40	-	-	-
								50	-	-	-
								60	-	-	-
NichiBard (EcoPlank) Lap Siding Face Nail	5/16"	12"	No Sheathing	#8 1-5/8" long flat head corrosion resistant self tapping screws	1-5/8" long self tapping screws; face screwed along stud.	18ga 3 1/2" x 1 5/8" C Channel	24" O.C.	15	120	110	100
								20	120	110	100
								30	120	100	100
								40	120	100	90
								50	120	100	90
								60	110	100	90
NichiPanel Face Nail	5/16"	4'	No Sheathing	2" 6d Nails Corrosion resistant common nails	2" 6d common nails 6" around perimeter, 12" in the filed over studs	2x4 wood stud	16" O.C.	15	-	-	-
								20	-	-	-
								30	-	-	-
								40	-	-	-
								50	-	-	-
								60	-	-	-
NichiPanel Face Nail	5/16"	4'	No Sheathing	#8 1-5/8" long flat head corrosion resistant self tapping screws	1-5/8" long self tapping screws; face screwed along stud.	18ga 3 1/2" x 1 5/8" C Channel	24" O.C.	15	110	100	90
								20	110	100	90
								30	110	90	85
								40	110	90	85
								50	100	90	-
								60	100	90	-

**Table 5 - Maximum Allowable Wind Speeds From ASCE E7-05 for NichiProducts as Cladding Systems**

Product	Product		Sheathing Details	Panel Fasteners	Fastener Spacing	Frame Type	Framing O.C.	Bldg Ht	Maximum Wind Speed (mph) for Exposure Category		
	Thick	Width							B	C	D
	NichiPanel Face Nail High Wind Speed System	5/16"							4'	7/16" OSB attached with 2" 6d common nails	2" 6d common nails
20			150	150	150						
30			150	150	140						
40			150	150	140						
50			150	150	140						
60			150	140	130						
NichiShake Blind Nail	5/16"	12"	7/16" OSB attached with 2" 6d common nails	2" 6d common nails	2 nails per shake along centerline blind nailed	2x4 wood	24" O.C.	15	120	110	100
								20	120	100	100
								30	120	100	90
								40	110	100	90
								50	110	90	90
								60	110	90	90
NichiBoard (EcoPlank) Face Nail	5/16"	8-1/4"	7/16" OSB attached with 2" long 6d common nails at 3" o.c.	2" long 6d common nails	3-2" long 6d common nails every 16" o.c. over the stud locations a minimum of 1" from board edges	2"x4" wood stud	16" o.c.	15	150	150	150
								20	150	150	140
								30	150	150	140
								40	150	150	130
								50	150	140	130
								60	150	140	130
NichiBoard (EcoPlank) Blind Nail	5/16"	8-1/4"	7/16" OSB attached with 2" long 6d common nails at 3" o.c.	2" long 6d common nails	1-2" long 6d common nails every 16" o.c. over the stud locations, and every 3" between studs. Blind nail was located at 1" from board edges	2"x4" wood stud	16" o.c.	15	150	150	150
								20	150	150	140
								30	150	150	140
								40	150	150	130
								50	150	140	130
								60	150	140	130
NichiBoard (EcoPlank) Blind Nail	5/16"	8-1/4"	7/16" OSB attached with 2" long 6d common nails at 3" o.c.	2" long #6 self tapping screws	1-2" long #6 self tapping screws at each stud locations 1" from board edges	2"x4" wood stud	16" o.c.	15	150	150	150
								20	150	150	140
								30	150	150	140
								40	150	150	130
								50	150	140	130
								60	150	140	130

**Table 6, NichiProducts Assembly Configuration and Fastner Details**

Product	Frame Material	Stud (D x W)	Stud Gauge	Stud Spacing	Sheathing	Fastener Type	Fastening Method	Fastener Spacing
NichiBoard (EcoPlank)	Wood	2" x 4"	N/A	24"	None	2" long common nail	Face Nail	1 per stud
	Steel	1-1/2" x 3-5/8"	18GA	24"	None	1-5/8" long self-tapping screw	Face Screw	1 per stud
	Wood	2" x 4"	N/A	16"	7/16" OSB	2" long common nail	Face Nail	1 per stud
	Wood	2" x 4"	N/A	16"	7/16" OSB	2" long common nail	Blind Nail	1 per stud + 1 every 3" between studs
	Wood	2" x 4"	N/A	16"	7/16" OSB	#6, 2" long self-tapping screw	Blind Screw	1 per stud
NichiPanel	Wood	2" x 4"	N/A	16"	7/16" OSB	2" long common nail	Face Nail	4" o.c. all direction
	Wood	2" x 4"	N/A	24"	None	2" long common nail	Face Nail	4" o.c. edges, 12" o.c. in field
	Steel	1-1/2" x 3-5/8"	18GA	24"	None	1-5/8" long self-tapping screw	Face Screw	4" o.c. edges, 12" o.c. in field
NichiShake	Wood	2" x 4"	N/A	24"	7/16" OSB	2" long common nail	Blind Nail	2 per shingle with 8" overlap