



Architectural Specifications

Nichiha Fiber Cement Products

NichiShake™

I General

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1.1 SCOPE

- A. Furnish and install NichiShake™ fiber cement individual shakes where shown on drawings or specified herein.

1.2 RELATED SECTIONS

- A. Division 06 - Wood and plastics.
- B. Section 13112 - Steel framing and bracing.
- C. Section 07210 - Insulation.
- D. Section 07915 - Sealants, caulking and seals.

1.3 REFERENCES

- A. ASTM C1185, Standard Test Methods for Sampling and Testing Non-Asbestos Fiber Cement Flat Sheet, Roofing and Siding, Shingles and Clapboards.
- B. ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

- A. Drawings: Submit detailed drawings showing installation details.
- B. Product Data: Submit manufacturer's product description, indicating material types and thicknesses, and installation details.
- C. Samples: Submit samples of each product type proposed for use.
- D. Certificates: Submit documents certifying that products meet or exceed requirements herein.

1.5 QUALITY ASSURANCE

- A. Performance requirements: NichiShake is a fiber cement board product with the following typical properties:
 1. Flexural Strength: Dry: 2,308 psi, Wet: 2,183 psi
 2. Moisture Movement Linear Change: 0.10 %
 3. Water Tightness: No water droplets were observed on any specimen
 4. Freeze-Thaw Flexural Strength (% wet retention): 123 %
 5. Warm Water: No evidence of cracking, delamination, swelling, or other defects were observed
 6. Heat-Rain: No crazing, cracking, or other deleterious effects, surface or joint changes were observed in any specimen
 7. Accelerated Weathering Test: No apparent change was observed
 8. Surface Burning: Flame Spread: 0, Smoke Developed: 0

Products & Execution

I General

1.6 WARRANTY

- A. Provide manufacturer's limited lifetime warranty against manufactured defects.

II Products

2.1 MANUFACTURER

- A. Manufacturer: Nichiha USA, Inc., 3150 Avondale Mill Road, Macon, GA 31216, Tel: 478-238-9070, Fax: 478-238-9160, www.NICHIHA.com
- B. Sales Office: Nichiha USA, Inc., 6659 Peachtree Industrial Boulevard, Suite-AA, Norcross, GA 30092 – Toll free: 1-86 NICHIHA 1[1.866.424.4421] Tel: 770-805-9466; Fax: 770-805-9467; www.NICHIHA.com

2.2 MATERIALS

- A. Nichiha fiber cement boards are based on autoclaved, organic fiber reinforced cement panels. Organic fibers are prepared in accordance with Nichiha specifications and are mixed with Portland cement, additives, and powdered rejects.

2.3 PRODUCT DESCRIPTION

- A. NichiShake™ – Individual Shakes
 1. Widths: 6-1/4", 8-1/4" or 12".
 2. Length: 18".
 3. Thickness: 1/4".
 4. Weight: 1.8 lbs/sq. ft.
 5. Coverage: 0.78 sq. ft./6-1/4" board; 1.03 sq. ft./8-1/4" board or; 1.5 sq. ft. /12" board.
 6. Exposed Coverage: 0.35 sq. ft./6-1/4" board; 0.54 sq. ft./8-1/4" board or; 0.67 sq. ft. /12" board.
 7. Factory sealed on the face.

III Execution

3.1 HANDLING

- A. NichiProducts™ boards MUST be stored flat and off the ground (on pallets) prior to installation. Nichi-Products MUST be kept dry and stored in a covered area or covered with wrap before installation. Moisture saturation before installation can cause shrinkage and board damage. If boards are exposed to water or water vapor prior to installation, allow boards to completely dry before installing. Nichiha is not responsible for damage caused by improper storage.
- B. NichiProducts™ boards MUST be carried on edge. Do not carry or lift boards flat. Improper handling may cause cracking or board damage. Nichiha is not responsible for damage caused by improper handling.

3.2 PREPARATION

- A. Job site conditions:
 1. NichiShake individual shakes must be installed directly on 7/16" APA rated OSB sheathing to ensure nail-holding power and provide an air gap between board and sheathing.
 2. Due to overlapping of shakes, no sealant is required on any shake joint, with the exception of joints that butt to trim, leave a 1/4" gap and fill with appropriate sealant.

III Execution (continued)

3.2 PREPARATION (continued)

- A. Job site conditions: (continued)
 - 3. A weather resistive barrier is required by building code when installing NichiProducts™ (refer to local building codes). Use the approved weather resistive barrier (WRB) as defined by the 2007 IRC. Refer to local building codes. Nichiha is not liable for water infiltration.
 - 4. Please consult with your local dealer or Nichiha directly when using NichiShake on large projects, such as 45' or higher building or four (4) stories or greater buildings. Some special reinforcement may be required.
- B. Surface conditions:
 - 1. Do not begin installation until unacceptable conditions have been corrected.

3.3 FASTENING

- A. Corrosion resistant fasteners, such as hot-dipped galvanized nails and screws that are appropriate to local building codes and practices must be used. Stainless steel fasteners are highly recommended in high-humidity and high-moisture regions.
 - 1. Nichiha is not liable for the corrosion resistance of fasteners.
 - 2. Do not use aluminum fasteners, staples, clipped head nails or fasteners that are not rated or designed for intended use.
 - 3. Fasteners must penetrate studs at least 1" into wood studs and 1/2" into steel studs.
 - 4. Fastener head must be flush to the board surface.
 - 5. NichiShake boards must be fastened through previous shake course.
 - 6. Fasteners should be placed no closer than 3/4" to 1" from top edge and no closer than 3/8" from board edges. If face fastening is required, fasteners should be placed 3/4" from bottom edge.

3.4 CUTTING

- A. Whenever cutting, drilling, sawing, sanding or abrading the product, users must observe the following safety practices:
- B. Use best work practices to reduce airborne dust concentrations.
- C. Use a fiber cement circular saw with dust collector for cutting (e.g., Makita 5057KB—recommended blade: Tenryu Board-Pro Plus PCD Blade #BP-18505). The dust collector must be connected to a HEPA vacuum. A jig saw can be used for complicated cuttings, such as service openings, curves, radii and scrollwork.
- D. **Silica Dust Warning:** NICHHA products contain crystalline silica [a.k.a. sand, silicon dioxide], which is a common Earth's naturally occurring mineral. Inhalation of crystalline silica into the lungs and repeated exposure to silica, can cause health disorders, such as silicosis, lung cancer, or a potentially death depending upon various factors. To be conservative, Nichiha recommends that whenever drilling, cutting, sawing, sanding or abrading the product, users must observe the following safety practices. 1] Use best work practices to reduce airborne dust concentrations. 2] Use a fiber cement circular saw with a dust collector for cutting (e.g., Makita 5057KB). The dust collector must be connected to a HEPA vacuum. 3] Do not use compressed air for cleaning dust. 4] Work outdoors where feasible, otherwise use mechanical ventilation. 5] Everyone handling Nichiha products or in the vicinity of others using Nichiha products must wear safety glasses and properly fitted respirators prior to handling Nichiha products. Nichiha requires that users wear a **NIOSH/OSHA approved respirator with a rating of N100, O100, P100, or R100** in accordance with applicable government regulations and manufacturer instructions. 6] All employers must comply with the OSHA PEL and ACGIH TLV-TWA. 6] Warn others in area. These requirements are designed to help minimize exposure to crystalline silica. We also require that you read all

III Execution (continued)

3.4 CUTTING (continued)

D. Silica Dust Warning: (Continued)

instructions and warnings [including MSDS] prior to using NICHHA's products. For further information or questions, please consult the MSDS or your employer. The MSDS for Nichiha products are available at www.nichiha.com, at your local Nichiha dealer or through Nichiha directly at 1.866.424.4421. FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND OTHER INSTRUCTION MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

3.5 INSTALLATION

A. General: Install product in accordance with the latest installation guidelines of the manufacturer and all applicable building codes and other laws, rules, regulations and ordinances. Review all manufacturer installation, maintenance instructions and other applicable documents before installation.

1. A starter strip is required to set the first course on the proper angle and to create the drip edges and air spaces.
2. Install a 1-1/4" starter strip and a 8-1/4" or wider NichiBoard lap siding starter course and install leaving a minimum of 6" from soil grade or 2" from hard surface (steps, driveways and decking products—roofs 1") to the bottom of the strip. PVC siding starter can also be used, do not use dimensional lumber, plywood, OSB or engineered wood products for starter strip.
3. Ensure that the first course of boards is level as it will be the guide for entire installation.

B. Installing Shake Courses:

1. Shakes must be blind nailed through preceding shake course. Measure 8" from bottom of course (shake boards) to set next course. Fasten shakes 9" from bottom through the bottom course, allowing for 1/4" to 3/8" gap between shakes.
2. When installing, stagger shakes randomly by size, ensuring that the shake seams of the course below are also staggered. Shake edge seams from one course to the next should not line up.
3. Leave a min. 1-1/2" between shake joints and between successive courses for best appearance.

C. Trim Joints (outside and inside corners around windows, doors, and vents, etc.): For vertical joints, leave a 1/4" gap in between and fill with recommended sealant. For top of horizontal joints, i.e. top of window or top of band board, use a metal flashing over the trim. For bottom of horizontal joints, leave a 1/4" gap and fill with recommended sealant.

3.6 FINISHING AND MAINTENANCE

- A. Use exterior grade high-quality sealant that complies with either ASTM C-834 (for primed products) or ASTM C-920 (for prefinished products) for all gaps that require filling with sealant. Follow the manufacturer's written instructions for use.
- B. All field cut edges should be covered with fiber cement sealant or paint.
- C. Dents, chips, scratches, etc. on the products shall be filled with exterior grade cementitious patching or putty. Follow the manufacturer's written instructions for use.
- D. All unfinished [pre-primed] products must be painted within 12 months of installation. Exterior grade 100% acrylic latex paints are recommended. Follow the manufacturer's written instructions for use.
- E. Cleaning: Rub boards with a soft brush using a diluted neutral detergent. Do not use hard tools such as a wire brush or other abrasive materials.

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