

## Product Evaluation

EC58 | 1218

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** EC-58

**Effective Date:** December 1, 2018

**Re-evaluation Date:** December 2022

**Product Name:** Nichiha EX Series Architectural Wall Panels (AWP), Sierra Premium Series Cedar Shakes, and Savannah Smooth Boards, Fiber-Reinforced Cement Exterior Siding

**Manufacturer:** Nichiha Corporation  
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### General Description:

**Nichiha EX Series Panels** are nominal 5/8", 3/4", or 7/8" thick. The panels are 17-7/8" wide.

**Sierra Premium Boards** are a nominal 1/2" thick. The product comes in 9" wide x 9'-4" long (Shakes), or 6-1/4", 7-1/4", or 8-1/4" wide by 9'-4" long (Savannah Smooth).

### Installation:

#### General Installation Requirements:

Nichiha EX Series panels must be secured to walls framed with wood or steel studs. Nichiha cedar shakes and smooth boards must be secured to walls framed with wood studs and wood sheathing. Refer to each assembly for the maximum allowable spacing for the wall studs.

A weather resistive barrier is required in accordance with local building codes when installing Nichiha panels and boards. The weather resistive barrier must meet the requirements of the IRC and IBC.

Fasteners must be corrosion resistant fasteners, such as hot-dipped galvanized nails and screws that meet the requirements of the IRC and IBC along with applicable Texas Revisions. Stainless steel fasteners are highly recommended in high-humidity and high-moisture regions. The manufacturer states that aluminum fasteners, staples, clipped head or T-head nails, or fasteners that are not rated or designed for intended use must not be used for the installation of the assemblies specified in this evaluation report. Refer to Nichiha's AWP and Sierra/Savannah installation instructions for more detailed information.

### **Wind Resistant Assemblies:**

#### **STEEL FRAMING APPLICATIONS**

##### **Assembly No. 1**

##### **EX Series Panel Siding – Horizontal Panel Applications**

**The following products are applicable:** 5/8", 3/4", and 7/8" thick panel siding; 17-7/8" width; the panels have shiplap edges and ends

**Panel Clips:** Nichiha Part No.'s JEL778/788, 2'-2" long

**Fastener:** No. 10-16 x 1-1/4" long pan head screw

**Starter Track:** Nichiha Part No. FA700; 1-3/16" high press formed steel

**Wall Framing:** 6" CSJ steel studs, 16-gauge, 1-5/8" legs, spaced a maximum of 16" o.c.

**Design pressure:** -60.5 psf

**Installation:** A starter track, Nichiha Part No. FA700, provided by Nichiha, is fastened to the bottom of the steel framing members with one No. 10-16 x 1-1/4" long screw per wall stud. The starter track must be continuous. The bottom most course must be inserted into the starter track. The steel panel clips, Nichiha Part No.'s JEL778/788, are secured to the steel wall studs with one No. 10-16 x 1-1/4" long screw at each steel framing member. The steel panel clips are applied to the wall studs horizontally along the top and bottom of each panel. The clips must be fastened over each stud. The panel top and bottom are inserted into the steel panel clips. Joint Tab Attachments are included with the panel clips and are installed at the bottom, right corner of each panel. The top edge of the highest course is face fastened with one No. 10-16 x 2" long, self-drilling metal screw at each framing member with a 3/8" green spacer, provided by Nichiha, between the back of the panel and stud. Face screws are placed at least 1" down from the top edge of the final course. All fasteners must penetrate through the framing members a minimum of three threads.

## Assembly No. 2

### EX Series Panel Siding – Horizontal Panel Applications

**The following products are applicable:** 5/8", 7/8", and 7/8" thick panel siding; 17-7/8" width; the panels have shiplap edges and ends

**Panel Clips:** Nichiha Part No.'s JEL778/788, 2'-2" long

**Fastener:** No. 10-16 x 1-1/4" long pan head screw

**Starter Track:** Nichiha Part No. FA700; 1-3/16" high press formed steel

**Wall Framing:** 6" CSJ steel studs, 18-gauge, 1-5/8" legs, spaced a maximum of 16" o.c.

**Design pressure:** -48.4 psf

**Installation:** A starter track, Nichiha Part No. FA700, provided by Nichiha, is fastened to the bottom of the steel framing members with one No. 10-16 x 1-1/4" long screw per wall stud. The starter track must be continuous. The bottom most course must be inserted into the starter track. The steel panel clips, Nichiha Part No.'s JEL778/788, are secured to the steel wall studs with one No. 10-16 x 1-1/4" long screw at each steel framing member. The steel panel clips are applied to the wall studs horizontally along the top and bottom of each panel. The clips must be fastened over each stud. The panel top and bottom are inserted into the steel panel clips. Joint Tab Attachments are included with the panel clips and are installed at the bottom, right corner of each panel. The top edge of the highest course is face fastened with one No. 10-16 x 2" long, self-drilling metal screw at each framing member with a 3/8" green spacer, provided by Nichiha, between the back of the panel and stud. Face screws are placed at least 1" down from the top edge of the final course. All fasteners must penetrate through the framing members a minimum of three threads.

## Assembly No. 3 – Vertical Panel Applications

### EX Series Panel Siding

**The following products are applicable:** 5/8" thick panel siding; 17-7/8" width; 119-5/16" long; the panels have shiplap edges and square cut ends

**Vertical Starter Track:** Nichiha Part No. F710T

**Panel Clip:** Nichiha Part No. JEL778, 2'-2" long

**Fastener:** No. 12 x 1-1/2" long pan head screw

**Wall Framing:** 6" CSJ steel studs, 16-gauge, 1-5/8" legs, spaced a maximum of 17-7/8" o.c.

**Wall sheathing:** Minimum 5/8" glass-mat gypsum sheathing

**Design pressure:** -77.4 psf

**Installation:** The panels are applied vertically. The wall sheathing (minimum 5/8" gypsum) is secured to the steel wall framing with No. 6 x 1-1/4" long flat head self-drilling screws. The fasteners are applied at 8" on center along the panel edges and 12" on center along intermediate framing members. A vertical starter track, Nichiha Part No. FA710T, is fastened to the bottom of the frame with one No. 12 x 1-1/2" long screw into each steel stud and halfway between into the framing or sill plate (overall vertical starter track fastener spacing is 9" on center). The steel panel clips, Nichiha Part No. JEL778, are secured to the steel wall studs with No. 12 x 1-1/2" long pan head self-drilling screws. Two fasteners are required for each clip. The clips are applied vertically over the sheathing aligned with the wall studs. Four clips per full-length panel are required. Ripped/cut vertical edges are secured with face fasteners, No. 10 x 2-1/2" long bugle head self-drilling screws every 12" on center with a 3/8" green spacer, provided by Nichiha, between the

back of the panel and the sheathing. All fasteners must penetrate through the framing members a minimum of three threads.

## **Assembly No. 4 – Vertical Panel Applications**

### **EX Series Panel Siding**

**The following products are applicable:** 5/8" thick panel siding; 17-7/8" width; 119-5/16" long; the panels have shiplap edges and square cut ends

**Vertical Starter Track:** Nichiha Part No. F710T

**Panel Clip:** Nichiha Part No. JEL778, 2'-2" long

**Fastener:** No. 10 x 1" long pan head screw

**Wall Framing:** 6" CSJ steel studs, 18-gauge, 1-5/8" legs, spaced a maximum of 16" o.c.

**Wall sheathing:** Minimum 7/16" OSB sheathing

**Design pressure:** -57.6 psf

**Installation:** The panels are applied vertically. The wall sheathing (minimum 7/16" OSB) is secured to the steel wall framing with No. 8 x 1" long flat head self-drilling screws. The fasteners are applied at 8" on center along the panel edges and 12" on center along intermediate framing members. A vertical starter track, Nichiha Part No. FA710T, is fastened to the bottom of the frame with one No. 10 x 1-1/4" long screw into each steel stud and halfway between into the framing or sheathing (overall vertical starter track fastener spacing is 9" on center). The steel panel clips, Nichiha Part No. JEL778, are secured to the OSB with No. 10 x 1" long pan head self-drilling screws. Four fasteners evenly spaced across the width of the clip, are required for each clip. The clips are applied vertically over the sheathing. Four clips per full-length panel are required. Ripped/cut vertical edges are secured with face fasteners, No. 10 x 2-1/2" long bugle head self-drilling screws every 12" on center with a 3/8" green spacer, provided by Nichiha, between the back of the panel and the sheathing. All Starter Track and face fasteners must penetrate through the framing members a minimum of three threads. Clip fasteners only penetrate the OSB.

## **WOOD FRAMING APPLICATIONS**

### **Assembly No. 1 – Horizontal Panel Application**

#### **EX Series Panel Siding**

**The following products are applicable:** 5/8", 3/4", and 7/8" thick panel siding; 17-7/8" width; the panels have shiplap edges and ends

**Panel Clips:** Nichiha Part No.'s JEL778/788, 2'-2" long

**Fastener:** No. 10 x 1-1/2" long pan head screw

**Starter Track:** Nichiha Part No. FA700; 1-3/16" high press formed steel

**Wall Framing:** 2x6 Douglas Fir Lumber, spaced a maximum of 16" o.c.

**Design pressure:** -63.6 psf

**Installation:** A starter track, Nichiha Part No. FA700, provided by Nichiha, is fastened to the bottom of the wood framing members with one No. 10 x 1-1/2" long pan head screw per wall stud. The starter track must be continuous. The bottom most course must be inserted into the starter track. The steel panel clips, Nichiha Part No.'s JEL778/788, are secured to the wood wall studs with one No. 10 x 1-1/2" long pan head screw at each framing member. The steel panel clips are applied to the wall studs horizontally along the top and bottom of each panel. The clips must be fastened

over each stud. The panel top and bottom are inserted into the steel panel clips. Joint Tab Attachments are included with the panel clips and are installed at the bottom, right corner of each panel. The top edge of the highest course is face fastened with one No. 8 x 2-1/4" long, bugle head screw at each framing member with a 3/8" green spacer, provided by Nichiha, between the back of the panel and stud. Face screws are placed at least 1" down from the top edge of the final course. All fasteners must penetrate through the wood framing members a minimum of one inch.

## **Assembly No. 2 – Vertical Panel Application**

### **EX Series Panel Siding**

**The following products are applicable:** 5/8" thick panel siding; 17-7/8" width; 119-5/16" long; the panels have shiplap edges and square cut ends

**Vertical Starter Track:** Nichiha Part No. F710T

**Panel Clip:** Nichiha Part No. JEL778, 2'-2" long

**Fastener:** No. 10 x 1" long pan head screw

**Wall Framing:** 2x6 Douglas Fir Lumber, spaced at 16" o.c.

**Wall sheathing:** Minimum 3/4" plywood sheathing

**Design pressure:** -89.5 psf

**Installation:** The panels are applied vertically. The wall sheathing (minimum 3/4" plywood) is secured to the wood wall framing with minimum 10D x 3" long common wire nails. The fasteners are applied at 6" on center along the panel edges and 6" on center along intermediate framing members. A vertical starter track, Nichiha Part No. FA710T, is fastened to the bottom of the frame with one No. 10 x 1" long pan head screw into each stud and halfway between into the framing or sheathing (overall vertical starter track fastener spacing is 8" on center). The steel panel clips, Nichiha Part No. JEL778, are secured to the 3/4" plywood with No. 10 x 1" long pan head screws. Four fasteners, evenly spaced across the width of the clip, are required for each clip. The clips are applied vertically over the sheathing. Four clips per full-length panel are required. Ripped/cut vertical edges are secured with face fasteners, No. 8 x 2-1/4" long bugle head screws every 12" on center with a 3/8" green spacer, provided by Nichiha, between the back of the panel and the sheathing. All Starter Track and face fasteners must penetrate through the framing wood members a minimum of one inch. Clip fasteners only penetrate the plywood.

## **Assembly No. 3**

### **Nichiha Sierra Premium Cedar Shakes and Savannah Smooth Series**

**The following products are applicable:** Panels 9" in width or less.

**Fastener:** No. 8-18 x 1-5/8" wafer head screws, 16" o.c., Blind Fastener Application

**Wall Framing:** 2x6 Douglas Fir Lumber, spaced at 16" o.c.

**Wall sheathing:** Minimum 7/16" OSB sheathing

**Design pressure:** -32.9 psf

**Installation:** The wood frame walls, with studs at 16" o.c., must be sheathed with minimum 7/16" thick OSB. A 1-1/4" wide starter strip needs to be cut horizontally from the panels and fastened to the wall studs at the wall base using the siding screws. The first course of the panels must be installed horizontally with the bottom edge overlapping the starter strip by a minimum 1/4". The horizontal joints are installed overlapping 1-1/4". The vertical joints of the panels are to be

fastened at each edge, with screws inset 1" at the butt joints and terminal vertical edges. One No. 8 x 1-5/8" screw must be used to fasten the panels to each stud, 1" down from the top edge of the board.

#### **Assembly No. 4**

##### **Nichiha Sierra Premium Cedar Shakes and Savannah Smooth Series**

**The following products are applicable:** Panels 9" in width or less.

**Fasteners:** No. 8-18 x 1-5/8" wafer head screws, 8" o.c., Blind Fastener Application

**Wall Framing:** 2x6 Douglas Fir Lumber, spaced at 16" o.c.

**Wall sheathing:** Minimum 7/16" OSB sheathing

**Design pressure:** -55 psf

**Installation:** The wood frame walls, with studs at 16" o.c., must be sheathed with minimum 7/16" thick OSB. A 1-1/4" wide starter strip needs to be cut horizontally from the panels and fastened to the wall studs at the wall base using the siding screws. The first course of the panels must be installed horizontally with the bottom edge overlapping the starter strip by a minimum 1/4". The horizontal joints are installed overlapping 1-1/4". The vertical joints of the panels are to be fastened at each edge, with screws inset 1" at the butt joints and terminal vertical edges. One No. 8 x 1-5/8" screw must be used to fasten the panels at 8" o.c to each wall stud and OSB Sheathing. Position screws 1" down from the top edge of the board.

#### **Assembly No. 5**

##### **Nichiha Sierra Premium Cedar Shakes and Savannah Smooth Series**

**The following products are applicable:** Panels 9" in width or less

**Fasteners:** No. 7 x 2-1/4" trim head screws (minimum head diameter 0.233"), 16" o.c., Face Fastener Application

**Wall Framing:** 2x6 Douglas Fir Lumber, spaced at 16" o.c.

**Wall sheathing:** Minimum 7/16" OSB sheathing

**Design pressure:** -119.4 psf

**Installation:** The wood frame walls, with studs at 16" o.c., must be sheathed with minimum 7/16" thick OSB. A 1-1/4" wide starter strip needs to be cut horizontally from the panels and fastened to the wall studs at the wall base using the siding screws. The first course of the panels must be installed horizontally with the bottom edge overlapping the starter strip by a minimum 1/4". The horizontal joints are installed overlapping 1-1/4". The vertical joints of the panels are to be fastened at each edge, with screws inset 1" at the butt joints and terminal vertical edges. One No. 7 x 2-1/4" trim head screw (minimum head diameter 0.233") must be used to fasten to each wall stud through the panel overlaps (face fastening) at 16" o.c. Position screws 1" up from the bottom edge of the board.

**Note:** Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.