



ENGINEERING EVALUATION REPORT

Issue Date	2025-05-13
Expiry Date	2025-12-31
Report Number	0098-22-2-6019
Client Name	Nichiha USA, Inc.
Address	6465 E. Johns Crossing, Suite 250, Johns Creek, GA 30097

Subject

Nichiha AWP Rain Screen Systems. Air Leakage and Water Penetration Testing in accordance with AAMA 509-22, *Voluntary Test and Classification Method for Drained and Back Ventilated Rain Screen Wall Cladding Systems*.

Product Description

Nichiha exterior wall claddings are Fiber-cement panels manufactured from a pressed, stamped, and autoclaved mix of cement, fly ash, silica, recycled rejects, and wood fiber bundles. The surface is pre-finished with a variety of colors and textures. Cladding panels and planks are installed on the exterior of buildings.

AWP PANEL SIDING

The AWP series panels are installed using corrosion-resistant metal clips supplied as part of the system, fastened to framing providing a 10 mm air-space rainscreen between the cladding and wall sheathing.

AWP 3030 is $\frac{5}{8}$ " thick, and $17 \frac{7}{8}$ " H x $119 \frac{5}{16}$ " L, with horizontal or vertical applications.

AWP 1818 is $\frac{5}{8}$ ", $\frac{3}{4}$ ", or $\frac{7}{8}$ " thick, is $17 \frac{7}{8}$ " H x $71 \frac{9}{16}$ " L and is for horizontal applications only.

TEST ASSEMBLIES

Test assemblies were constructed according to the AAMA 509 standard, 8' x 8' with 2x6 18 ga steel framing @ 16" o/c, with a $\frac{1}{2}$ " clear polycarbonate sheathing substituted for typical sheathing and WRB. Nichiha exterior cladding systems were installed over the sheathing with representative horizontal and vertical joints in the field and typical top, bottom and end of wall terminations. The cladding system design has a $\frac{1}{8}$ " airspace at the top and perforated bottom track to allow for air flow and water drainage in the 10 mm airspace cavity between the cladding and sheathing layers.

Evaluation

Testing of the siding has been conducted in accordance with the referenced test standards at Intertek - Coquitlam, BC location. Intertek is an independent testing laboratory accredited by the International Accreditation Service (IAS).

Description	Joints	Ventilation Rate Thru Cladding ASTM E283	Standard	Wind Speed / Pressure ¹	Water Penetration
AWP 3030 Vertical Panels	Vertical: Panel shiplap	0.60 cfm/ft ² (3.06 L/s/m ²)	ASTM E331	6.24 psf (300 Pa)	0 oz (0 ml)
				12.00 psf (577 Pa)	3.2 oz (94 ml)
	Horizontal: Metal Z-Flashing		AAMA 501.1	49.4 mph - 6.24 psf (22.1m/s – 300 Pa)	0 oz (0 ml)
				68.5 mph - 12.00 psf (30.7m/s – 577 Pa)	2.4 oz (70 ml)
AWP 3030 Horizontal Panels	Vertical: Metal H-Mold	0.37 cfm/ft ² (1.90 L/s/m ²)	ASTM E331	6.24 psf (300 Pa)	5.0 oz (147 ml)
				12.00 psf (577 Pa)	32.9 oz (973 ml)
	Horizontal: Panel shiplap		AAMA 501.1	49.4 mph - 6.24 psf (22.1m/s – 300 Pa)	5.2 oz (153 ml)
				68.5 mph - 12.00 psf (30.7m/s – 577 Pa)	14.7 oz (434 ml)
AWP 1818 Horizontal Panels	Vertical: Double Flange w/ Sealant	0.40 cfm/ft ² (2.02 L/s/m ²)	ASTM E331	6.24 psf (300 Pa)	13.2 oz (390 ml)
				12.00 psf (577 Pa)	25.6 oz (758 ml)
	Horizontal: Panel shiplap		AAMA 501.1	49.4 mph - 6.24 psf (22.1m/s – 300 Pa)	19.4 oz (574 ml)
				68.5 mph - 12.00 psf (30.7m/s – 577 Pa)	10.3 oz (305 ml)

1. The test was performed with a water spray rate of at least 5.0 U.S. gal/ft² per hour (204 L/m² per hour).



CLASSIFICATION²

System 1 – Nichiha AWP1818 Horizontal	V1/W1
System 2 – Nichiha AWP3030 Horizontal	V1/W1
System 3 – Nichiha AWP3030 Vertical	V1/W1

2. Using charting methods from the AAMA 509-22 standard all 3 performed at the lowest amount of water penetration and ventilation.

ASTM E283/283M-19 is cited in the 2024 International Building Code (IBC) Ch. 35 *Reference standards* and was conducted following the procedure of AAMA 509-22, Air Leakage. ASTM E331-00(2023) is cited in the 2024 IBC section 1402.2 *Weather Protection* and Ch. 35 *Reference standards* and evaluated to Section 6.8.3 of AAMA 509-22. AAMA 501.1-17 was conducted and evaluated to Section 6.8.4 of AAMA 509-22, Dynamic Water Penetration Resistance.

The observed test results have shown that the exterior wall assembly has “a means for draining water that enters the assembly to the exterior” in accordance with IBC Section 1402.2.

Manufacturing Plants, Labeling and Quality Assurance

The products evaluated in this report are produced at the approved manufacturing locations: Iwaki, Fukushima, JPN; Handa-shi, Aichiken, JPN; Nagoya, Aichi, JPN; Narashino, Chiba, JPN; Shimonoseki, Yamaguchi, JPN. Macon, GA, USA with third-party quality assurance inspections and product certification labeling by Intertek. Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency.

Source Documents

The published versions of the following sources, current on the date of this evaluation, were used as reference material to support the conclusions made:

1. AAMA 509-22 results: Intertek report 105863939COQ-003, dated 2024-12-02.
2. System Shop drawings: Located in BOCA Engineering report 0098-4-3.

Signed

This report has been prepared and reviewed on behalf of BOCA by:

Chris Bowness, P.Eng., P.E.

2025-05-26

Issue Date



EVALUATION REPORT TERMS:

1. This report is a general evaluation of the building code sections and/or standards requirements as identified and applies only to the samples that were evaluated. It does not imply any endorsement or warranty, nor that the signatory Engineer is the Designer of Record of any construction project for which the information is used.
2. This Evaluation Report expires 2025-12-31, open to renewal. Up to the renewal date, the report is valid until such time as the named product(s) changes, the Quality Assurance Agency changes, or provisions of the Code that relate to the product change.

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