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DIVISION: 06 00 00 – WOOD, PLASTICS AND COMPOSITES
Section: 06 50 00 – Structural Plastics
Section: 06 53 00 – Plastic Decking

REPORT HOLDER:
Modern Mill, Inc.
1140 Frank Oakes Road
McComb, Mississippi 39635
601-869-5050
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REPORT SUBJECT:
ACRE Deck Boards
ACRE Porch Boards

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021, 2018 *International Building Code*® (IBC)
- 2024, 2021, 2018 *International Residential Code*® (IRC)
- 2023 and 2020 *Florida Building Code* (see Section 9), excluding HVHZ
- 2022 *California Building Code* (see Section 9)
- 2022 *California Green Building Standards Code* (CALGreen), Title 24, Part 11 (see Section 9)
- 2020 ICC 700 *National Green Building Standard* (see Section 9)
- 2013 *Abu Dhabi International Building Code* (ADIBC) (see Section 9)

NOTE: This report references the most recent Code edition cited. Section numbers in earlier versions of the Codes may differ.

1.2 The ACRE Deck and ACRE Porch Boards have been evaluated for the following properties:

- Structural Performance
- Durability
- Surface Burning
- Decay Resistance
- Termite Resistance

1.3 ACRE Deck Boards and ACRE Porch Boards may be used as a walking surface on exterior decks, balconies, porches, and walkways in buildings of IBC Type V-B construction and in dwellings constructed in accordance with the IRC. The boards may be used in buildings of Types III, IV, or V construction as described in Section 6.4 of this Report. The square edged ACRE Deck Boards may additionally be used as stair treads

2.0 STATEMENT OF COMPLIANCE

The ACRE Deck Boards and ACRE Porch Boards comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

2.1 2024 IBC and IRC Evaluation Reports: The Intertek CCRR is an *Evaluation Report* for approval of an alternate material, design, or method of construction in accordance with Section 104.2.3.6.1 of the 2024 IBC and Section R104.2.2.6.1 of the 2024 IRC.

3.0 DESCRIPTION

3.1 The ACRE Deck Boards have profiles with square edges or grooved edges and are supplied in a thickness of 1 inch and width of 5.5 inches. The boards have an embossed simulated wood-grain pattern on one side and a sanded, brushed texture on the other, or a sanded, brushed texture on both sides. Either face may be exposed. The boards are provided in a Tan color. See Figure 1 for illustrations.

3.2 The ACRE Porch Boards have tongue-and-groove edges and are supplied in a thickness of 1 inch and width of 3.3 inches. The boards have a sanded, brushed texture on both faces and either face may be exposed. The boards are provided in a Tan color. See Figure 2 for illustrations.



4.0 PERFORMANCE CHARACTERISTICS

4.1 The deck boards are rated for a uniform live load as shown in Table 2 when fastened as indicated in Table 3.

4.2 The ACRE Deck Boards (square edge) may be used as stair treads and are rated for the Code-prescribed concentrated load equal to 300 lb., when installed with a maximum span indicated in

4.3

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	APPLICABLE CODE SECTIONS ¹		
	IBC; CBC; FBC-BUILDING	IRC; CRC	FBC – RESIDENTIAL
Physical properties	2612	R507.2.2	R507.2
Surface burning characteristics	2612.3	R507.2.2.2	R507.2.2
Combustible projections	705.2	R302.1	R302.1
Live loads	1607	R301.5	R301.5
Wind loads	1609	R301.2.1	R301.2.1
Anchorage	1604.8.3	R507.8 R507.9	R507.8

¹Section numbers pertain to the most recent edition cited in Section 1.1 of this report.

4.4 TABLE 22 and supported as indicated in Section 5.5. Deck boards used as stair treads shall be installed in a minimum two-span condition.

4.5 The deck boards are rated for wind uplift resistance with fastening systems as identified in

4.6

4.7 Table 1 – PROPERTIES EVALUATED

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¹Section numbers pertain to the most recent edition cited in Section 1.1 of this report.

4.8 TABLE 2 and 4.

4.9 The deck boards have a flame spread index not greater than 200 when tested in accordance with ASTM E84.

4.10 The materials used in production of the deck boards are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites and fungus decay.

4.11 Structural performance has been demonstrated for a temperature range from -20°F to 125°F for live loads.

5.0 INSTALLATION

5.1 **General:** The ACRE Deck Boards and ACRE Porch Boards must be installed in accordance with the manufacturer’s published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer’s instructions must be available on the jobsite during installation.

5.2 **ACRE Deck Boards with Square Edges:** The deck boards are fastened to the supporting construction with two screws, as described in Table 3, per joist. Fasteners must be a minimum of 3/4 in. from edges and 1/2 in. from the end. A minimum 1/8 in. gap is required between the edges of adjacent boards.





5.3 ACRE Deck Boards with Grooved Edges: The deck boards are fastened to the supporting construction with one of the clip systems described in Table 3; one clip per joist. Starter and end boards are face fastened on the outboard edge with one #10 x 2-1/2 in. Cortex coated steel trim-head screw per joist. Fasteners must be a minimum of 3/4 in. from edges and 1/2 in. from the end. A minimum 1/8 in. gap is required between the edges of adjacent boards.

5.4 ACRE Porch Boards: The porch boards are fastened to the supporting construction with one screw, as described in Table 3, per joist placed on the groove side. The porch boards must be secured together at the tongue-and-groove edges per the manufacturer's published installation instructions. Starter boards are face fastened on the groove side with one screw per joist. Surface fasteners must be a minimum of 3/4 in. from edges and 1/2 in. from the end. A minimum 1/8 in. gap is required between the edges of adjacent boards.

5.5 Stair Treads: ACRE Deck Boards with solid edge may be used as stair treads when installed perpendicular to the supporting construction in a minimum two-span condition. Each deck board is supported along its centerline by a nominal 2x4 oriented edgewise, see Figure 7. Connection of the 2x4 to supporting structure is outside the scope of this report and shall be designed by a licensed design professional acceptable to the building official. Maximum span is described in Table 2.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 Deck boards placed at an angle other than 90 degrees to the supporting joist will require support framing at a reduced spacing such that the span of the deck board does not exceed that noted in Tables 2 and 3.

6.3 Compatibility of the supporting construction materials with all metal fasteners are subject to approval by the building official.

6.4 The boards may be used in buildings of Type III, IV, or V construction in accordance with Section 705.2.2. Where installation extends to within 5 feet of the line used to determine the fire separation distance, sprinkler protection shall be provided in accordance with IBC Section 705.2.3.1, Exception 3.

6.5 The ACRE Deck and ACRE Porch Boards are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Manufacturer's drawings and installation instructions.

7.2 Reports of testing in accordance with ICC-ES AC174, Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails), revised December 2014.

7.3 Reports of testing and engineering evaluation demonstrating compliance with the performance requirements of ASTM D7032-21.

7.4 Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

The ACRE Deck Boards and ACRE Porch Boards are identified with the manufacturer's name (Modern Mill, Inc.), the product name, the statement: "See Intertek CCRR-0545 at <https://bpdirectory.intertek.com> for uses and performance levels," the Intertek Mark as shown below, the Intertek Control number, and the Code Compliance Research Report number (CCRR-0545).



9.0 OTHER CODES

9.1 Florida Building Code: The ACRE Deck Boards and ACRE Porch Boards, as described in Sections 2.0 through 7.0 of this Research Report, comply with Section 2612 of





the Florida Building Code – Building and Section R507.2 of the Florida Building Code – Residential, for the editions indicated in Section 1.1 of this Report, subject to the following condition:

- The deck boards have not been evaluated for use in High-velocity Hurricane Zones.

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – Product Evaluation and Approval.

9.2 California Building Code: The ACRE Deck Boards and ACRE Porch Boards, as described in Sections 2.0 through 7.0 of this Research Report, comply with the California Building Code and California Residential Code, for the editions indicated in Section 1.1 of this Report, subject to the following condition:

- The deck boards have not been evaluated for use in areas regulated under CBC Chapter 7A or CRC Section R337.

9.3 California Green Building Standards Code and ICC 700 National Green Building Standard: The ACRE Deck Boards and ACRE Porch Boards conform to 2022 CALGreen Section A5.406.1.2 for reduced maintenance.

The ACRE Deck Boards and ACRE Porch Boards conform to the 2020 ICC 700, Sections 602.1.6 and 11.602.1.6 for

termite-resistant materials, and Sections 601.7 and 11.601.7 for site-applied finishing materials.

9.4 Abu Dhabi International Building Code (ADIBC): The ACRE Deck Boards and ACRE Porch Boards, as described in Sections 2.0 through 7.0 of this report, comply with the 2013 ADIBC, with the following modification: Revise Section 6.4 as follows: The boards may be used in buildings of Type III, IV, or V construction and shall not be required to have a fire-resistance rating where sprinkler protection is extended to these areas, in accordance with Section 1406.3, Exception 3. The ADIBC is based on the 2009 IBC.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

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Wind loads	1609	R301.2.1	R301.2.1
Anchorage	1604.8.3	R507.8 R507.9	R507.8

¹Section numbers pertain to the most recent edition cited in Section 1.1 of this report.

TABLE 2 – DECK BOARD SPAN RATINGS³



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DECK BOARD	SPAN / LOAD RATINGS (Live Load) ¹ (in. / psf)	MAXIMUM STAIR TREAD SPAN ² (in.)
ACRE Deck Board (square edge)	16 / 91	8
ACRE Deck Board (square edge)	16 / 91	24 ⁴
ACRE Deck Board (grooved edge)	16 / 91	NA
ACRE Porch Board	16 / 87	NA

¹Span/Load rating is the maximum span in inches and the maximum allowable live load. The maximum allowable loads indicated include applicable end use factors. No additional adjustments should be taken.

²Stair tread span is based on a continuous deck board over two or more equal spans (3 supports).

³See Table 3 for fastening requirements.

⁴Stair tread must be continuously supported by an edgewise 2x4 under each stair tread. See Figure 7.





TABLE 3 – ALLOWABLE WIND UPLIFT CAPACITY

DECK BOARD	FASTENERS ⁴	MAXIMUM SPAN ¹ (in.)	ALLOWABLE WIND UPLIFT CAPACITY (psf) ^{2,3}
ACRE Deck Board (square edge)	Two #10 x 2-1/2-in. Cortex coated steel trim head screws per support	16	212
ACRE Porch Board	One #7 x 2-14-in. Deckfast stainless steel trim head screws per support	16	146
ACRE Deck Board (grooved edge)	SureDrive Mantis Deck Clip system fastened with one #8 x 1-1/2-in. coated steel screw ^{5,6}	16	74
	FastenMaster Tiger Claw TC-G Hidden Fastener fastened with one #8 x 1-5/8-in. stainless-steel screw ^{5,6}	16	52
	DeckWise Ipe Clip ExtremeS Hidden Fastener fastened with one #8 x 2-in. stainless-steel screw ^{5,6}	16	88
	National Nail CAMO EdgeX Clip fastened with one #8 x 2-1/4-in. coated steel screw ^{5,6}	16	55
	National Nail CAMO Edge Clip fastened with one #8 x 2-1/4-in. coated steel screw ^{5,6}	16	58

¹Maximum span is measured center-to-center of the supporting construction.

²Wind uplift resistance is based on installation as described in Section 5.0. Values have been adjusted for wind load duration and end use. No further adjustments shall be made.

³Allowable wind uplift capacity has been determined based on attachment to Southern Yellow Pine lumber supports. Fastener withdrawal from alternative lumber species must be approved by the building official.

⁴Fasteners must be installed in accordance with the applicable requirements in Section 5.0 of this report.

⁵See Table 4 for fastener descriptions.

⁶See Figures 3 through 6 for hidden fasteners.





TABLE 4 – FASTENER DESCRIPTIONS

FASTENER	DESCRIPTION
#8 x 1-1/2-in. coated steel screw	9 TPI, 1.48 in. overall length, 0.171 in. major diameter, 0.111 in. minor diameter, 0.268 in. head diameter, square drive trim head, type 17 point
#8 x 1-5/8-in. stainless-steel screw	10 TPI, 1.64 in. overall length, 0.167 in. major diameter, 0.110 in. minor diameter, 0.228 in. head diameter, square drive trim head, type 17 point
#8 x 2-in. stainless-steel screw	8 TPI, 1.97 in. overall length, 0.174 in. major diameter, 0.119 in. minor diameter, 0.235 in. head diameter, star drive trim head, type 17 point
#8 x 2-1/4-in. coated steel screw (for use with CAMO Edge X Clip)	8 TPI, 2.23 in. overall length, 0.164 in. major diameter, 0.108 in. minor diameter, 0.202 in. head diameter, star drive trim head, type A point
#8 x 2-1/4-in. coated steel screw (for use with CAMO Edge Clip)	8 TPI, 2.25 in. overall length, 0.164 in. major diameter, 0.106 in. minor diameter, 0.199 in. head diameter, star drive trim head, type A point

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Figure 1 - ACRE Deck Boards

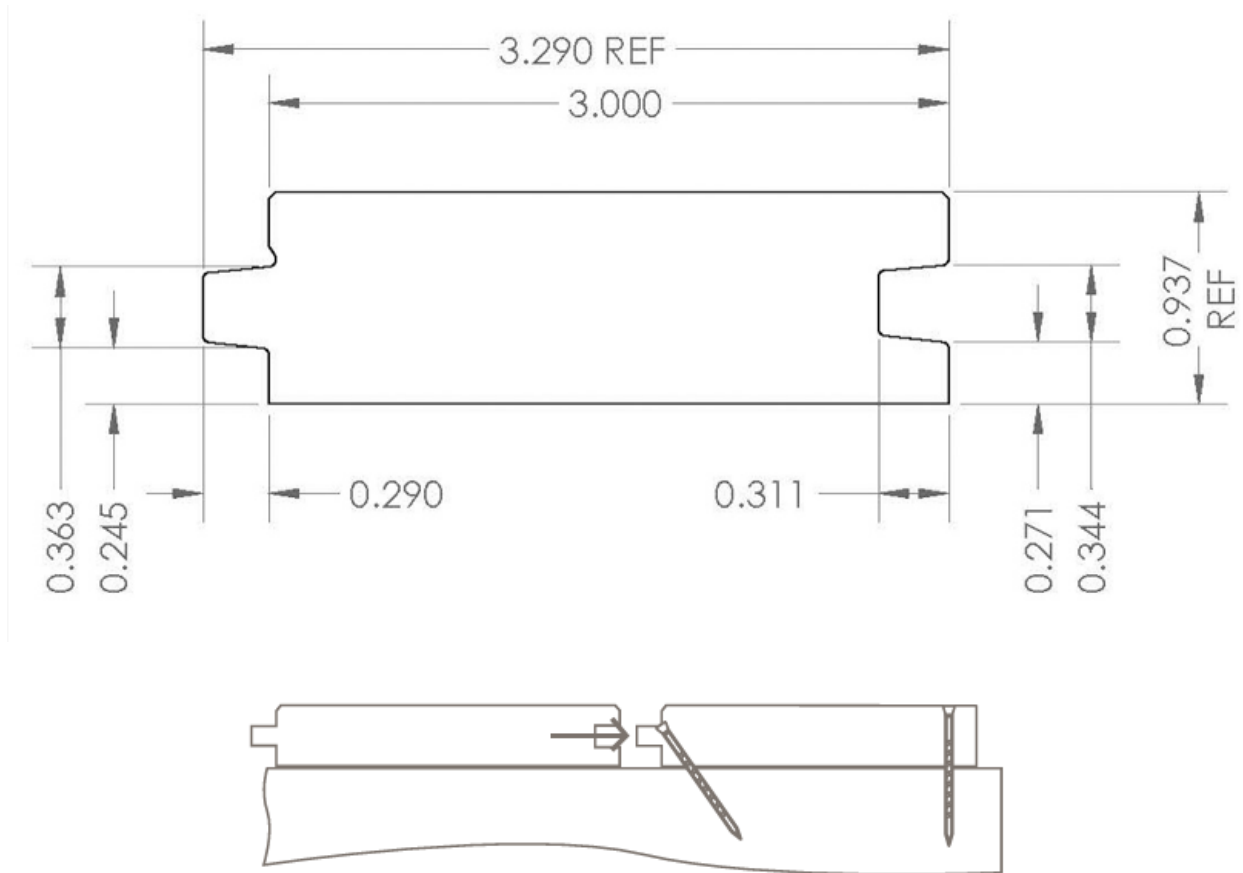


Figure 2 - ACRE Porch Boards

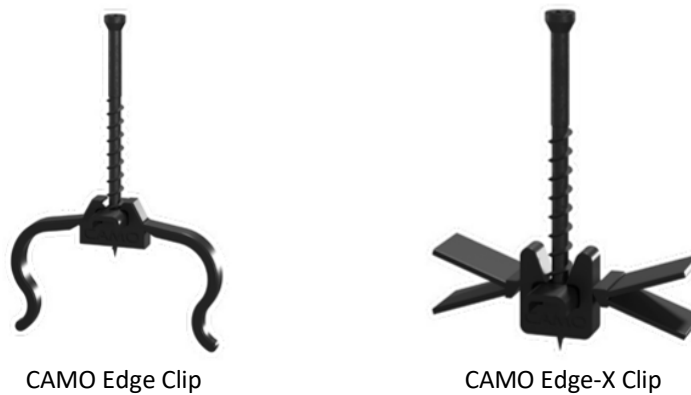


Figure 3 – CAMO Hidden Fasteners

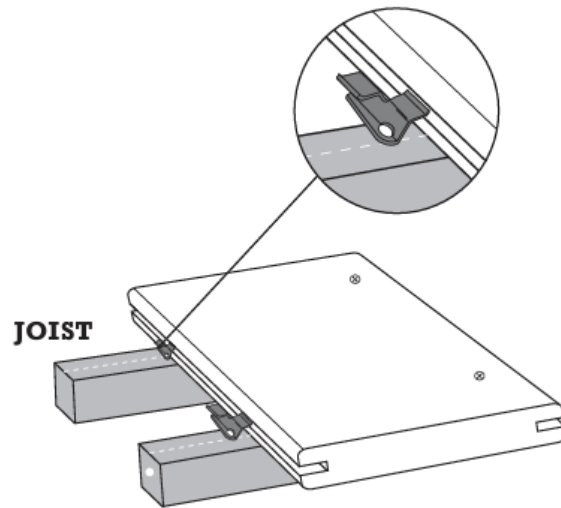


Figure 4 - Tiger Claw TC-G Clip

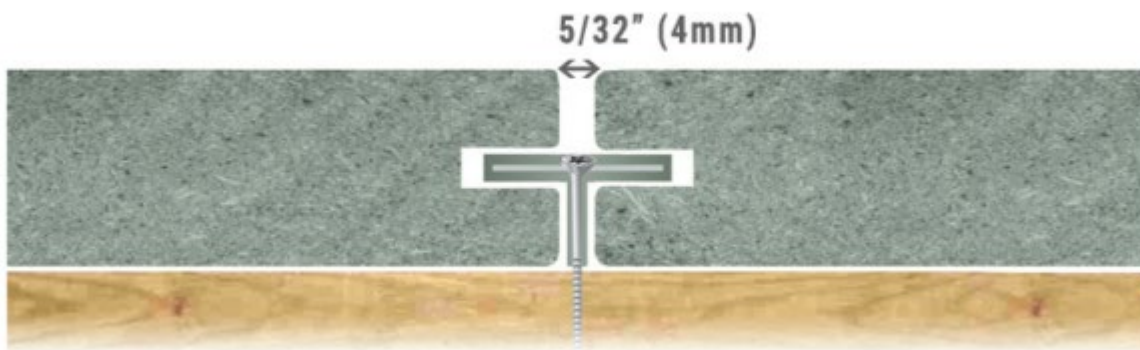


Figure 5 - DeckWise Ipe Clip ExtremeS Hidden Fastener



Figure 6 - SureDrive Mantis Deck Clip

Optional 24" Stair Span

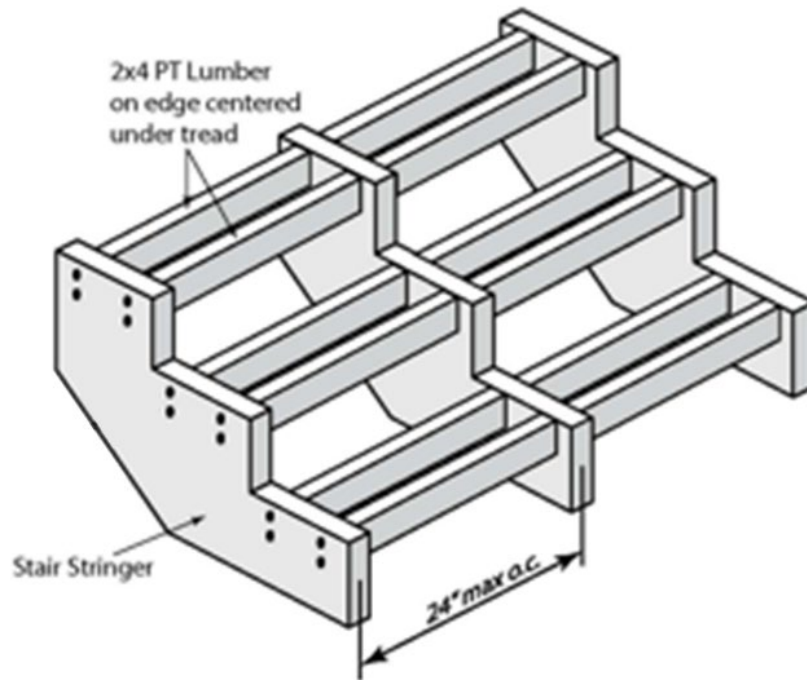


Figure 7 - Stair Tread Assembly