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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:

Eastern Metal Supply of North Carolina, Inc.
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REPORT SUBJECT:

Endeck® Deck Boards
Endeck® Air Deck Boards

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2018 and 2015 *International Building Code*® (IBC)
- 2018 and 2015 *International Residential Code*® (IRC)

NOTE: This report references 2018 Code sections with [2015] Code sections shown in brackets where they differ.

1.2 *Endeck*® and *Endeck*® Air have been evaluated for the following properties:

- Durability
- Surface Burning
- Decay Resistance
- Termite Resistance

1.3 *Endeck*® and *Endeck*® Air have been evaluated for use as:

- Surfaces on exterior decks, balconies, porches, and walkways and stairs.
- The deck boards identified in this report may be used in One- and Two-Family Dwellings regulated by the IRC and other construction types regulated by the IBC in accordance with IBC Section 705.2.3.1 [1406.3] as follows:

Construction Type IIB, IIIB & VB per IBC §705.2.3.1 [1406.3] and Table 601 (No fire resistance rating required for floors)

Construction Type IIIA, IV & VA per IBC §705.2.3.1 [1406.3], Exception 3 (Sprinkler protection required)

2.0 STATEMENT OF COMPLIANCE

Endeck® and *Endeck*® Air deck 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.

3.0 DESCRIPTION

3.1 *Endeck*® deck boards are a solid rectangular cross-section with nominal dimensions of 1.0 inch thick by 5.5 inches wide and are produced with either a straight edge or grooved edge profile. See Figures 1 and 2.

3.2 *Endeck*® Air deck boards have a solid cross section with nominal rectangular dimensions of 7/8 inch thick by 5-3/8 inches wide and have a recessed-ribbed bottom surface. The *Endeck*® Air Deck boards are semi-capped (three sides). See Figure 3.

3.3 Walking Surface - *EnDeck*® and *Endeck*® Air deck boards have an embossed simulated wood-grain pattern surface.

3.4 *EnDeck*® and *Endeck*® Air deck boards are extrusions of cellular Polyvinyl Chloride (PVC).

3.5 *Endeck*® and *Endeck*® Air deck boards are available with either a (PVC) cap in the following colors: Ashwood, Beechwood, Olivewood and or Acrylic-Styrene-acrylonitrile (ASA) cap colors Dusk, Dawn, Slate, Chestnut, Sequoia, and Cedar.



4.0 PERFORMANCE CHARACTERISTICS

4.1 *EnDeck*® deck boards are rated for a uniform live load of 100 lb/ft² when installed on support framing spaced at 16 inches. This live load rating also applies to deck boards installed diagonal to the support framing (45° max) with 12" on center maximum joist spacing.

4.2 Deck boards used as stair treads are rated for the code-prescribed concentrated load equal to 300 lb when installed with a maximum span of 10 inches. Deck boards used as stair treads shall be installed in a minimum two-span condition. Grooved deck boards may not be used as stair treads.

4.3 *EnDeck*® and *Endeck*® Air deck boards wind uplift resistance ratings are detailed in Table 1. Uplift ratings are determined by fasteners installed on support framing spaced at 16 inches on center.

4.4 Materials used in the deck board have a flame spread index less than 200 when tested in accordance with ASTM E 84.

4.5 Materials used in the deck board are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites, and fungus decay.

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

5.0 INSTALLATION

5.1 General:

Endeck® and *Endeck*® Air deck 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 Solid deck boards may be face-fastened and require two 2.5 inch long FastenMaster Trim Top™ Stainless Steel Coated Trim screws or two 2-3/8 Camo stainless steel edge deck screws at each support. Minimum edge- and end-distance for fasteners is 1 inch from both the edge and the end of each board.

5.3 Solid deck boards may be fastened using two #10 x 2-1/2" Starborn® Pro-Plug® concealed fasteners (Starborn HEADCOTE Cap-Tor® Stainless Steel Deck Screws) at each support.

5.4 Solid deck boards may be fastened using TigerClaw TC-3S hidden fasteners. Two fasteners are required at each support. The outer edge of the first and last deck boards shall be fastened to each joist with one 2.5 inch long FastenMaster Trim Top™ Stainless Steel Coated Trim Screw. See Figure 4.

5.5 Grooved deck boards may be fastened using TigerClaw TC-G hidden fasteners. Two fasteners are required at each support. The outer edge of the first and last deck boards shall be fastened to each joist with one 2.5 inch long FastenMaster Trim Top™ Stainless Steel Coated Trim Screw. See Figure 5.

5.6 Solid deck boards may be fastened using HIDfast HF3 hidden fasteners. One fastener is required at each support. See Figure 6. The outer edge of the first and last deck boards shall be fastened to each joist with one #8-9 TPI, 0.12 inch dia., and 2.5 inch long stainless steel trim screw.

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 16 inches.

6.3 The wind uplift resistance rating recognized in this report is based on attachment to treated Southern Pine framing (specific gravity, G=0.55). Installation on wood framing with a lesser specific gravity may result in a lower wind uplift rating.

6.4 Where required by the building official, engineering calculations and details shall be provided. The calculations shall verify that the anchorage complies with the building code for the type of framing and condition of the supporting construction.





6.5 The Endeck® and Endeck® Air deck boards are manufactured under a quality control program with inspections by Intertek Testing Services.

“See CCRR-0144 at <https://bpdirectory.intertek.com> for uses and performance levels.”, and the statement “Meets Requirements of ASTM D7032,”.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM D7032-14 [-10a] Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails).

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

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

8.0 IDENTIFICATION

The EnDeck® and Endeck® Air deck boards are labeled with the product name (ENDECK or ENDECK Air), the Intertek Mark as shown below, the Code Compliance Research Report number (CCRR-0144), date code, time, and production line number. The packaging is identified with the manufacturer’s name, the statement:



9.0 OTHER CODES

This section is not applicable.

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

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TABLE -1 UPLIFT RESISTANCE RATINGS

Decking Plank	Wind Resistance	Fastener	Stair Tread Span ¹	Span and Load Rating
Endeck Straight Edge	150 lbs./ft. ²	Fasten Master Trim Top Stainless Steel Coated Trim Screw	10 inches	Maximum Allowable Span = 16 inches Live Load = 100 lbs./ft ²
		Starborn® Pro-Plug® concealed fasteners (#10 x 2-1/2") Starborn HEADCOTE Cap-Tor® Stainless Steel Deck Screws)		
		HidFast HF3 Hidden Fastening System		
		Tiger Claw TC-3S Fastener		
		CAMO Fastening System		
Endeck Grooved Edge	135 lbs./ft. ²	Tiger Claw TCG Fastener	Not Permitted	
Endeck Air Straight Edge	116 lbs./ft. ²	HidFast HF3 Hidden Fastening System	10 inches	
	150 lbs./ft. ²	CAMO Fastening System		

1) Stair tread option is based on a two span application

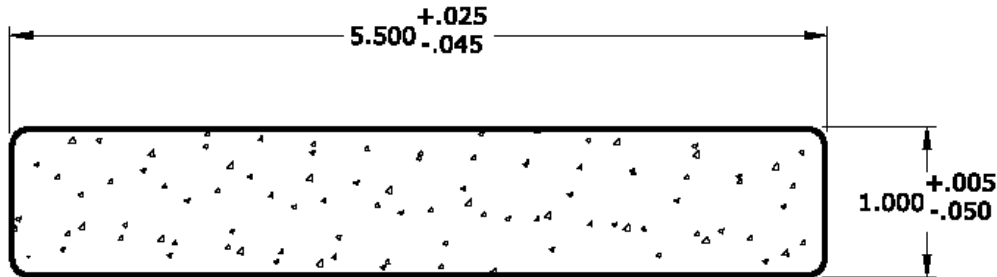


FIGURE 1 – ENDECK® STRAIGHT EDGE DECK BOARD



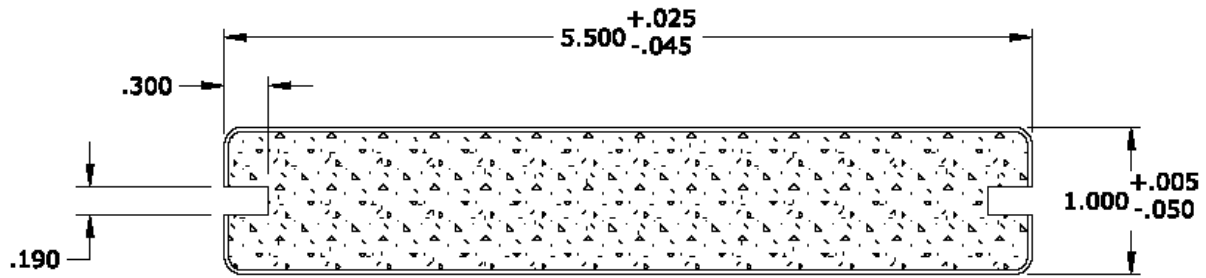


FIGURE 2 – ENDECK® GROOVED EDGE DECK BOARD

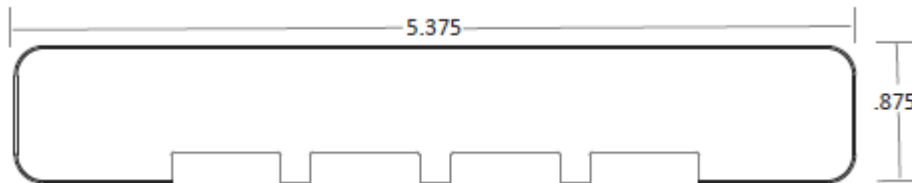


FIGURE 3 – ENDECK® AIR STRAIGHT EDGE DECK BOARD

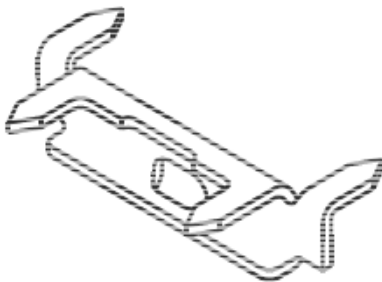


FIGURE 4 – TIGERCLAW TC-3S FASTENER

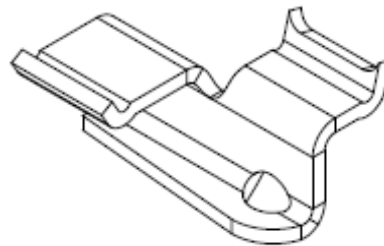


FIGURE 5 – TIGERCLAW TC-G FASTENER

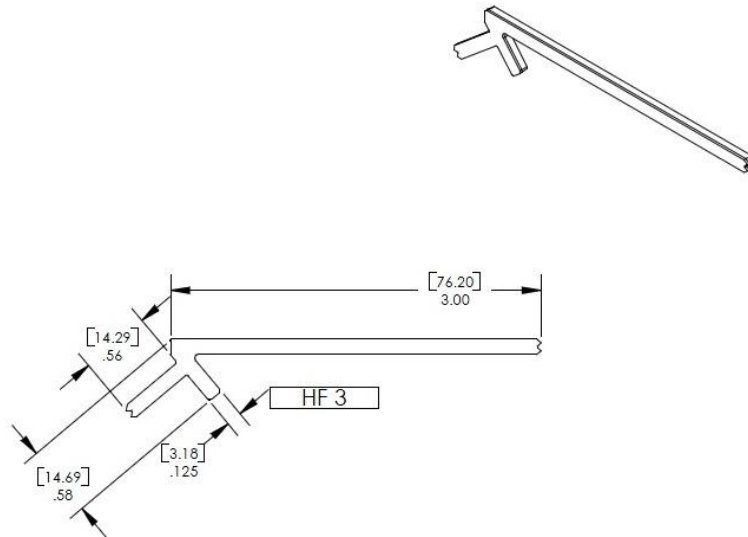


FIGURE 6 – HIDFAST FASTENER