

Issue Date: 07-08-2016
Revision Date: 07-26-2018
Renewal Date: 07-08-2019

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

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

REPORT HOLDER:

Midwest Manufacturing Extrusion
5240 Kane Rd
Eau Claire, WI 54703
www.midwestmanufacturing.com

REPORT SUBJECT:

UltraDeck® Rustic™ Deck Boards
UltraDeck® Fusion® Deck Boards

2.0 STATEMENT OF COMPLIANCE

UltraDeck® Rustic™ and *Fusion®* deck and stair 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.

3.0 DESCRIPTION

3.1 *UltraDeck® Rustic™* deck boards are mono-extruded material composed of a wood-plastic composite. The *UltraDeck® Rustic™* grooved deck boards are available in two profiles, see Figure 3 and 4. The Rustic deck board is produced in the following colors: Grey, Cedar, and Redwood, for profile one and Grey, Cedar, Redwood and Hickory for Profile 2.

3.2 The *Fusion®* deck boards are co-extruded wood-plastic composite core with a cap-stock on the top and side surfaces (semi-capped), produced in the following colors: Driftwood Grey, Coastal Cedar, and Rosewood.

3.3 *UltraDeck® Rustic™* and *Fusion®* deck boards are available with solid and grooved cross sections. Stair board applications use the solid cross sections only. Rustic™ and Fusion® solid deck boards have a rectangular cross-section with nominal dimensions of 5-3/16" wide by 15/16" thick. See Figure 1 and 2. The *UltraDeck® Rustic™* and *Fusion®* grooved deck boards incorporate a 1/4" deep by 5/16" high grooves to accept hidden fasteners. See Figure 3, 4 and 5. Rustic grooved deck boards are available in two profiles. Rustic deck boards have a plowed and embossed finish. Fusion deck boards have an embossed finish.

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 *UltraDeck® Rustic™* and *Fusion®* deck and stair boards have been evaluated for the following properties:

- Structural Performance
- Durability
- Surface burning
- Decay resistance
- Termite Resistance

1.3 *UltraDeck® Rustic™* and *Fusion®* deck and stair boards have been evaluated for the following uses:

- 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 and VB per IBC §705.2.3.1 [1406.3] and Table 601 (No fire resistance rating required for floors).



3.4 Walking Surface – *UltraDeck*® solid and grooved deck boards have a plowed and embossed simulated wood-grain pattern.

4.0 PERFORMANCE CHARACTERISTICS

4.1 *UltraDeck*® *Rustic*™ and *Fusion*® solid and grooved deck boards are rated for a uniform live load of 100 lb/ft² when installed on support framing spaced at 16" on-center.

4.2 *UltraDeck*® *Rustic*™ and *Fusion*® solid deck boards used as stair treads are rated for the code-prescribed concentrated load equal to 300 lb when installed with a maximum 10" and 8" support span, respectively. Deck boards used as stair treads shall be installed in a minimum two-span condition. Grooved deck boards shall not be used as stair treads. All stair tread deck boards are installed with the DekMount Hidden Fasteners only. See Figure 6.

4.3 *UltraDeck*® *Rustic*™ and *Fusion*® solid and grooved deck boards are rated for wind uplift resistance with the fastening systems as described in Table 1.

4.4 Materials used in the *Ultra Deck*® *Rustic*™ and *Fusion*® deck and stair boards have a flame spread index of less than 200 when tested in accordance with ASTM E 84.

4.5 Materials are deemed equivalent to preservative treated or naturally durable wood for resistance to weather 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:

UltraDeck® *Rustic*™ and *Fusion*® deck and stair 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 Application:

5.2.1 Face-fastening of the *Rustic*™ Solid Deck Boards shall be fastened with #10 x 2 3/2" Grip Fast screws. Two fasteners are required at every joist 3/4" from each side and at least 3/4" from the end of the board. See Figure 3. *Rustic*™ grooved and all *Fusion*® deck boards and stair boards shall not be face fastened.

5.2.2 *UltraDeck*® *Rustic*™ and *Fusion*® solid and grooved deck boards are fastened with the fastening systems as described in Table 1.

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 *UltraDeck*® *Rustic*™ and *Fusion*® deck boards are intended for use as a walkway surface on exterior decks, balconies, porches and walkways, including stairs as further defined herein.

6.3 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".

6.4 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.

6.5 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.

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





6.7 All products are manufactured by Midwest Manufacturing in accordance with the manufacturer's approved quality control system with inspections by Intertek.



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 The reports of testing and engineering analysis demonstrating compliance with the performance requirements of ASTM D 7032-14 [10a], Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails).

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

8.0 IDENTIFICATION

The *UltraDeck® Rustic™* and *Fusion®* deck and stair boards are identified with the manufacturer's name (Midwest Manufacturing Extrusion), address and telephone number, the product name (*UltraDeck® Rustic™ Deck Boards* *UltraDeck® Fusion® Deck Boards*), the Intertek Mark as shown in the example below, and the Code Compliance Research Report number (CCRR-0250).

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.

This Code Compliance Research Report ("Report") is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Report. Only the Client is authorized to permit copying or distribution of this Report and then only in its entirety, and the Client shall not use the Report in a misleading manner. Client further agrees and understands that reliance upon the Report is limited to the representations made therein. The Report is not an endorsement or recommendation for use of the subject and/or product described herein. This Report is not the Intertek Listing Report covering the subject product and utilized for Intertek Certification and this Report does not represent authorization for the use of any Intertek certification marks. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.





TABLE 1 – MINIMUM WIND UPLIFT RESISTANCE AND FASTENING SCHEDULE

Board Type	Span / Load (psf) Ratings ⁽¹⁾	Fastening	Wind Uplift Resistance ⁽²⁾
<i>Rustic™ Solid Deck Board</i>	16" / 100	Face fastened with two #10 x 2-3/4" Grip Fast Coated Steel Composite Deck Screws per joist.	134 psf
<i>Rustic™ Solid Deck Board</i>	16" / 100	<u>DekMount Hidden Fastener System:</u> An 8' long, metal piece, fastened along the length of the joist at every 5" on center with #8 x 3/4" Grip Fast DekMount Coated screws. Two #8 x 3/4" Grip Fast DekMount coated screws fasten the DekMount Hidden Fastener System to each deck board	134 psf
<i>Rustic™ Grooved Deck Board (Profile 1)</i>	16" / 100	<u>UltraDeck® T-Clip™ Hidden Fastener System:</u> Plastic clip fastened with one #8 x 2-1/16" coated carbon steel screw at every joist. Edge of deck fastening: Along the length of the deck board at 8" on center, one #8 x 1-5/8" Grip Fast Triple coated carbon steel deck screw is fastened at a 45° through the groove of the deck board.	84 psf
<i>Rustic™ Grooved Deck Board (Profile 2)</i>	16" / 100	<u>UltraDeck® T-Clip™ Hidden Fastener System:</u> Plastic clip fastened with one #8 x 2-1/16" coated carbon steel screw at every joist. Edge of deck fastening: Along the length of the deck board at 8" on center, one #8 x 1-5/8" Grip Fast Triple coated carbon steel deck screw is fastened at a 45° through the groove of the deck board.	94 psf
<i>Fusion® Solid Deck Board</i>	16" / 100	<u>DekMount Hidden Fastener System:</u> An 8' long, metal piece, fastened along the length of the joist at every 5" on center with #8 x 3/4" Grip Fast DekMount Coated screws. Two #8 x 3/4" Grip Fast DekMount coated screws fasten the DekMount Hidden Fastener System to each deck board	123 psf
<i>Fusion® Grooved Deck Board</i>	16" / 100	<u>UltraDeck® T-Clip™ Hidden Fastener System:</u> Plastic clip fastened with one #8 x 2-1/16" coated carbon steel screw at every joist. Edge of deck fastening: Along the length of the deck board at 8" on center, one #8 x 1-5/8" Grip Fast Triple coated carbon steel deck screw is fastened at a 45° through the groove of the deck board.	103 psf

⁽¹⁾ Span/Load rating is the maximum span in inches and the maximum allowable load in pounds per square feet (psf). The maximum allowable loads indicated include applicable end use factors. No additional adjustments should be taken.

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



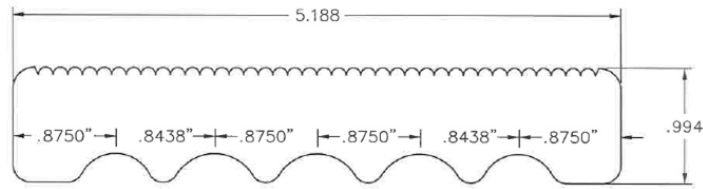


FIGURE 1 – RUSTIC™ DECK AND STAIR BOARD - SOLID CROSS SECTION

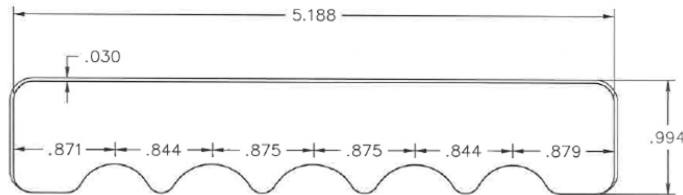


FIGURE 2 – FUSION® DECK AND STAIR BOARD - SOLID CROSS SECTION

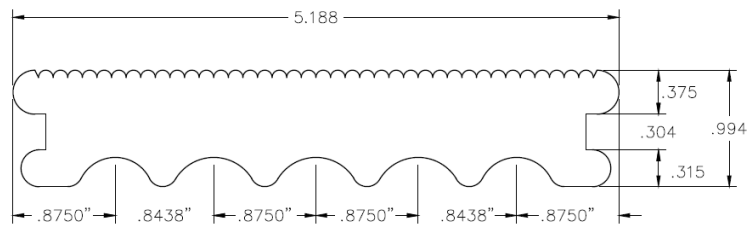


FIGURE 3 – RUSTIC™ DECK BOARD - GROOVED CROSS SECTION PROFILE 1

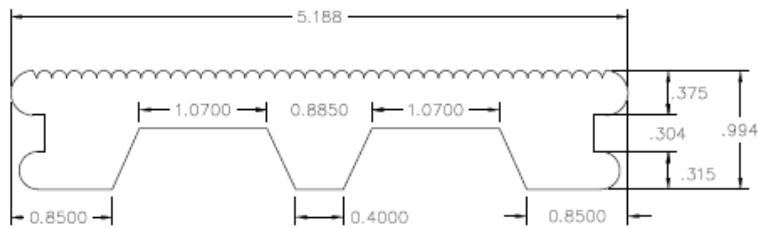


FIGURE 4 – RUSTIC™ DECK BOARD - GROOVED CROSS SECTION PROFILE 2

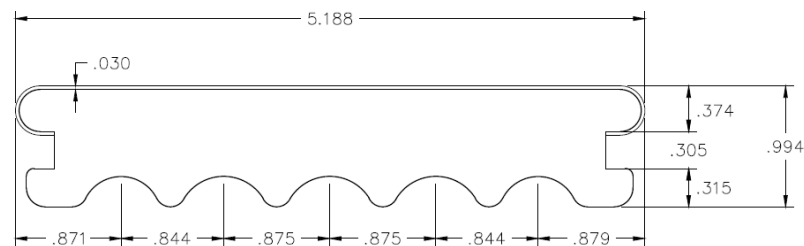


FIGURE 5 – FUSION® DECK BOARD GROOVED - CROSS SECTION



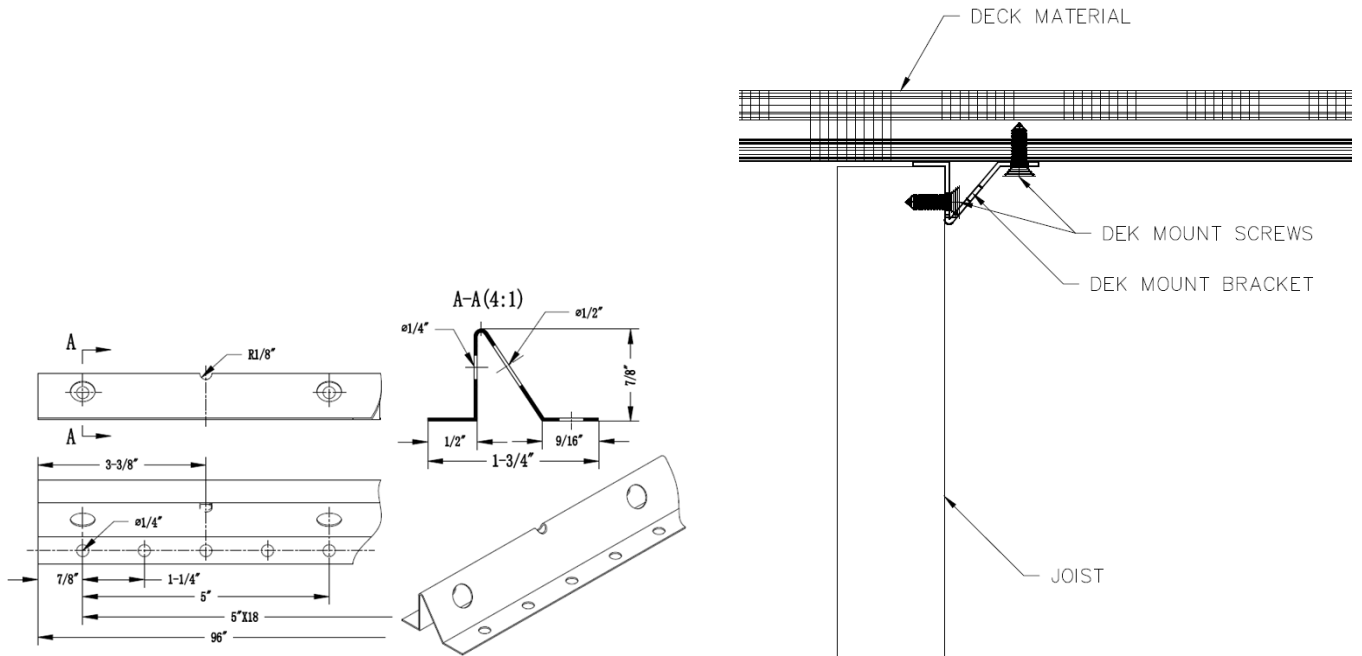


FIGURE 6 – DEKMOUNT HIDDEN FASTENER

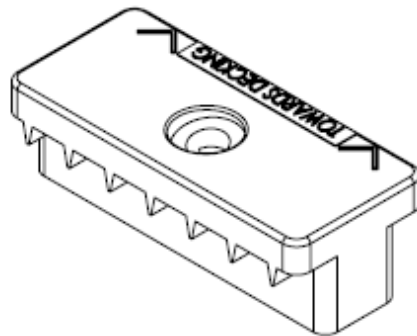


FIGURE 7 – ULTRADECK® T-CLIP™