



Optima® Dekk Deck Boards DuxxBak Composite Decking

Initial Acceptance: January 1, 2019

Expiration: December 31, 2022

Revision: June 8, 2021

TYPE OF ACCEPTANCE

Product Material – Wood and Plastics

CSI Specification Division: 06 50 00 (Structural Plastic) and 06 53 00 (Plastic Decking)

MANUFACTURER IDENTIFICATION:

DuxxBak Composite Decking a Division of Green Bay Decking

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EVALUATION REPORT SUBJECT:

Optima® Dekk Deck Boards and Stair Treads for Exterior Applications.

Installation on construction complying with the International Residential Code® (IRC®) or with the International Building Code® (IBC®).

DESCRIPTION OF BUILDING COMPONENTS:

A. Deck Boards

Optima Dekk deck boards are thermoplastic composite lumber products consisting of plastic (HDPE), filler (minerals and rice hulls) plus additives and color. The product specifications are listed in the approved quality control manual. The Optima Dekk deck boards are manufactured in several colors by the co-extrusion process and have capping covering three (3) sides of the deck boards.

1. Deck Boards: Solid

- (a) The **Optima Dekk Square Edge** deck board is rectangular in shape, has rounded edges, is completely solid, and has an (HDPE) "Film" material cap stock on three (3) sides of the deck board. See attached drawing in Table 1.

2. Deck Boards: Solid with Side Grooves

- (a) The **Optima Dekk Grooved** deck board is rectangular in shape, has rounded edges, is completely solid, has a groove on each side of the board and has (HDPE) "Film" material cap stock on three (3) sides of the deck board. See attached drawing in Table 1.

3. **Optima Dekk** deck boards must be installed as indicated in the manufacturer's published installation instructions dated April 15th, 2021: V1,6.



APPLICABLE CODES:

- 2012, 2015, and 2018 International Building Code (IBC)
- 2012, 2015, and 2018 International Residential Code (IRC)

APPLICABLE CHARACTERISTICS REVIEWED:

B. Deck Board(s) See Section A – 1(a) thru 2(a) above for the identification and description of the deck boards reviewed.

1. Deck Board: Structural Performance

- (a) The deck boards have been reviewed for uniform load, maximum span and deck board direction when installed on support framing members. See attached Table 1.
- (b) The deck boards have been reviewed for wind uplift resistance and have an uplift load rating when installed as indicated in Table 1 in this Report.
- (c) The deck boards used as stair treads meet the code prescribed load requirements including the concentrated load of 300 lbf when installed in accordance with the manufacturers' installation instructions and Table 1 in this Report.

2. Deck Board: Fastening

- (a) Deck Boards, solid and with side grooves, must be fastened to the structural supporting members in accordance with the manufacturer's installation instructions and Table 1 in this Report. When the manufacturer's installation instructions differ from this Report, this Report governs.
- (b) When deck boards are used as stair treads, they must be installed in accordance with the manufacturer's installation instructions and Table 1 in this Report. When the manufacturer's installation instructions differ from this Report, this Report governs.

3. Deck Board Durability: Temperature

- (a) The deck boards have been reviewed for the temperature range of -20 degrees F (-29 degrees C) to +125 degrees F (52 degrees C).

4. Deck Board Flame Spread Index:

- (a) The flame spread rating for the deck boards described in this Report was less than 200 when tested in accordance with ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*.

5. Deck Board Decay Resistance:

- (a) The deck boards reviewed for this Report have been deemed comparable to naturally durable wood for resistance to fungal decay.

6. Deck Board Termite Resistance:

- (a) The deck boards reviewed for this Report have been deemed comparable to preservative-treated wood for resistance to termite attack.

7. UV Testing:

- (a) The UV testing was conducted, and an appropriate adjustment factor was applied in accordance with ASTM D7032, *Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails)*.

APPLICABLE USES:

The **Optima Dekk** deck boards evaluated in this Report are limited to exterior applications for balconies, porches, stair treads, walking surfaces, and decks.



LIMITATIONS OF ACCEPTANCE:

The **Optima Dekk** deck boards described in this Report comply with those codes listed in Applicable Codes section above and are subject to the following conditions:

1. The deck board products must be limited to Type V-B (IBC) and residential construction in accordance with the IRC for exterior use as a deck board for balconies, porches, decks, walking surfaces and stair treads.
2. Installation of the deck boards must comply with this Report, the manufacturer's published installation instructions (see Section A-3 in this Report), and the applicable code. When the deck board manufacturer's installation instructions differ from this Report, this Report governs.
3. The fasteners described in this Report must be used for the installation of the **Optima Dekk** deck boards. The compatibility of the fasteners to treated supporting construction has not been evaluated.
4. The **Optima Dekk** deck boards indicated in this Report must be fastened to the supporting construction with the manufacturer's provided fasteners as indicated in the manufacturer's installation manual and outlined in this Report. When the deck board manufacturer's fastening instructions differ from this Report, this Report governs.
5. When required, the structural deck board layout must be designed by a design professional and submitted to the authority having jurisdiction for final acceptance.
6. The **Optima Dekk** deck boards have not been evaluated as a member of a fire-resistance-rated assembly.
7. The structural design for code compliance of supporting members for the deck boards has not been evaluated and is not part of this Report.
8. DuxxBak Composite Decking has a Third-Party inspection program provided by PFS Corporation.

DOCUMENTATION SUBMITTED:

Submitted data was provided in accordance with PFS TECO 1601 (Quality control manual, Specifications, Manufacturer's installation instructions, Test data and Descriptive information) and the products have been evaluated in accordance with ICC-ES AC174, *Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails)*.

This Report was formerly published as PFS TECO Research Report 0118 (RR 0118).

PRODUCT IDENTIFICATION:

DuxxBak Composite Decking deck boards evaluated in this Report must be identified with a label, stamp, or laser imprint on every deck board. The required information is as follows: DuxxBak Composite Decking, product identification, compliance to ASTM D7032 including the maximum deck board span (inches on center spacing of supports) and loading (psf), the PFS TECO Building Product Evaluation Report number (BPER 0118), and PFS Certification Mark (see image below). Deck boards without this information are not covered under this Report.



Table 1: Span Table and Fastening Schedule for Deck Boards

Product Trade Name	Deck Board Profile	Shape	Maximum Span Rating (in/psf) with Deck Board Orientation to Support Joists		Fastening Schedule ¹ and Uplift Values	Maximum Stair Tread Span (in)
			90°	45°		
Optima Dekk Square Edge		Solid Edge	16 / 100	12 / 100	100 psf with two 2-3/4" Composite Deck Screws at each joist	12
Optima Dekk Grooved		Grooved Edge	16 / 100	12 / 100	89 psf with Optima-Clip hidden fastening system at each joist	- n/a -

for SI conversion: 1 in = 25.4 mm, 1 psf = 47.9 Pa, 1 lbf = 0.0044 kN

¹ Deck boards must be installed according to the manufacturer's Installation Instructions. Deck boards installed as stair tread must be fastened with 2 #10 2-3/4" composite deck screws on each stringer.

The joist to which the deck boards are attached must have a minimum specific gravity of 0.50 or higher, or the fastening must be designed. Deck boards and stair treads must be installed over at least two (2) spans. Stair treads must be installed perpendicular to supporting members.

No duration of load increase is allowed for the uplift values noted in Table 1 in this Report.



Optima Clip with 1-3/4" Screw



#10 2-3/4" Composite Deck Screw