



Code Compliance Research Report

CCRR-0119

Subject to Renewal: 07/06/2012
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TAMKO Building Product, Inc.
220 West 4th St.
Joplin , MO 64801
(800)-641-4691
www.tamko.com

1.0 Subject

TAMKO Building Products, Inc.

Elements[®] DockBoard

2.0 Research Scope

2.1. Building Codes:

2009 International Building Code (IBC)
2009 International Residential Code (IRC)
2006 International Building Code (IBC)
2006 International Residential Code (IRC)

2.2. Properties:

Structural Performance
Durability
Surface Burning
Decay Resistance
Termite Resistance

3.0 Description

3.1. General – *Elements[®] DockBoard* decking is intended for use as a walking surface on exterior decks, docks, balconies, porches, and walkways, including stairs.

3.2. Materials and Processes - *Elements[®] DockBoard* decking is an extruded composite material composed of part plastic and part wood fiber produced in a “Pier Grey” color.

3.3. *The Elements[®] DockBoard decking* measures 1.40" thick and 5.25" wide with 3/8" radius edges. Three scallops of material are removed along the length of the bottom of the deck board. The top surface has an embossed simulated wood-grain pattern. See Figure 1.

4.0 Performance Characteristics

4.1. *Elements[®] DockBoard* decking is rated for uniform live loads as indicated in Table 1.

4.2. *Elements[®] DockBoard* decking used as stair treads are rated for the code-prescribed concentrated load equal to 300 lb when a continuous DockBoard is installed over a two span support measuring a maximum 16" on center. Overhang must not exceed 2".

4.3. *Elements[®] DockBoard* decking has wind uplift resistance ratings as indicated in Table 2. Also see Section 7.2.

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

4.5. *Elements[®] DockBoard* decking has a flame spread index of 95 when tested according to ASTM E 84. The referenced criteria of AC174 require a flame spread index not greater than 200 when tested to ASTM E 84.

4.6. *Elements[®] DockBoard* decking is deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites and fungus decay.

5.0 Installation

Installation shall be in accordance with the manufacturer's installation instructions and this report. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

5.1. *Elements[®] DockBoard* decking shall be installed with two fasteners at every joist. Fasteners must be spaced at a minimum of 3/4" from the end of the board and at least 1" from the edge of the board.

5.2. Wood fasteners, and their associated wind uplift ratings, utilized to fasten *Elements[®] DockBoard* on framing built from Southern Pine (SG= 0.55), are noted in Table 2.

5.2.1. Sheet metal screws may be utilized for fastening *Elements[®] DockBoard* to metal framing members. An associated pull through value for #12 x 2 1/2" Hillman Zinc Plated Steel Self Drilling Sheet Metal Screws was determined to be 467 lbs. This is the average ultimate load divided by a factor of 3. Refer to Section 7.3.



5.3. When installing *Elements*[®] *DockBoard* decking, each board must be spaced at least 1/8" from the adjacent board measured in the board width direction. Spacing in the length direction must be at least 1/16" for every 20 degrees F difference between installation temperature and maximum summer temperature.

6.0 Supporting Evidence

6.1. Manufacturer's drawings and installation instructions.

6.2. Reports of testing in accordance with ICC-ES Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails), AC174 effective June 1, 2009.

6.3. Reports of testing and engineering analysis demonstrating compliance with the performance requirements of ASTM D 7032-07.

6.4. Quality control manual in accordance with ICC-ES Acceptance Criteria for Quality Control Manuals, AC10, Effective March 1, 2009.

7.0 Conditions of Use

The *Elements*[®] *DockBoard* decking applications identified in this report are deemed to comply with the intent of the provisions of the referenced building codes subject to the following conditions.

7.1. *Elements*[®] *DockBoard* decking is limited to exterior use in Type V-B (5B) construction.

7.2. The wind uplift resistance rating recognized in this report for installation into wood framing is based on attachment to Southern Pine framing (specific gravity, SG=0.55). Installation on wood framing with a lesser specific gravity may result in a lower wind uplift rating. Refer to Table 2.

7.3. Wind uplift resistance rating for the sheet metal fastener noted in Section 5.2.1 is dependent on the materials and configuration of the metal framing members and is not within the scope of this report. The pull through value indicated in Section 5.2.1 is strictly the load required to pull the head of the fastener through the *Elements*[®] *DockBoard*. Engineering calculations for the specific metal framing members will be necessary to determine wind uplift load values.

7.4. The compatibility of all fasteners with the supporting structure, including chemically treated wood, and their use in salt water environments is not within the scope of this report.

7.5. *Elements*[®] *DockBoard* decking shall be fastened directly to supporting construction. Conventional wood supporting structure is not within the scope of this report and is subject to the evaluation and approval by the building official. Design and construction of supporting structure must satisfy the design load requirements specified in Chapter 16 of the IBC.

7.6. 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.

7.7. All products are manufactured in Chilhowie, Virginia or Lamar, Missouri by TAMKO Building Products, Inc., in accordance with the manufacturer's approved quality control system with inspections by PFS Corporation, Inc. (IAS AA-652).

8.0 Identification

Elements[®] *DockBoard* decking produced in accordance with this report shall be identified with labeling on the individual deck boards that includes the following information:

8.1. The mark of the independent inspection agency, PFS Corporation, Inc. (AA-652)

8.2. The ATI Code Compliance Research Report Number (CCRR-0119)

9.0 Code Compliance Research Report Use

9.1. 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.

9.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product or manufacturer by ATI.

9.3. Reference to the Architectural Testing internet web site address at www.archtest.com is recommended to ascertain the current version and status of this report.



Table 1
Load and Span Ratings for TAMKO Elements® DockBoard

Deck Board	Maximum Span (in) ¹	Allowable Uniform Live Load (lbf/ft ²) ²
<i>TAMKO Elements® DockBoard</i>	20	250
	22	200
	24	100

¹ Maximum Span is the maximum center to center support spacing.

² End-use adjustments for the most restrictive durability effect have been applied to the indicated values. No further adjustments are permitted.

Table 2
Wind Uplift Resistance Ratings for TAMKO Elements® DockBoard

Fastener Type	Description	Wind Uplift Resistance Rating ¹	
		Span (in)	Rating (lbf/ft ²) ^{2,3}
Wood/Composite Screw	#8 X 3" Fasten Master™ Trapese™ Composite Deck Screws with #2 square drive	20	389
		22	321
		24	270
Wood Deck Screw	#8 x 3" Self Sinking Flat Head Deck Screws with corrosion resistant coating	20	389
		22	321
		24	270
Pneumatic Nailer Nail	#10 x 3" long ring shank nail	20	189
		22	172
		24	157

¹ Values indicate maximum Uplift Resistance Load with two of the indicated fasteners at each joint

² Values indicated are based on attachment to southern pine framing (specific gravity, G=0.55).

³ Values indicated are based on average ultimate loads divided by a factor of safety of 3.

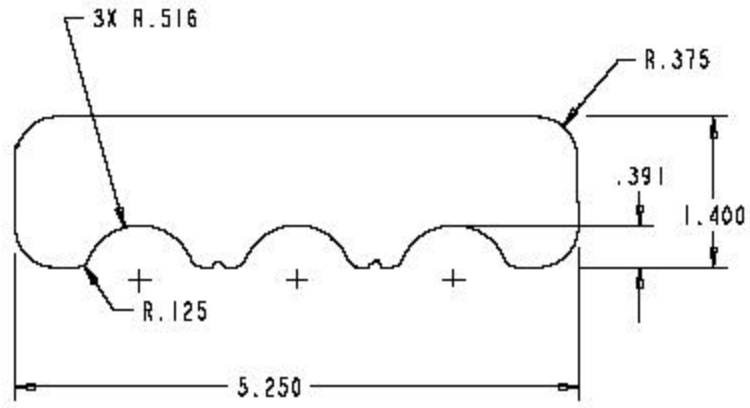


Figure 1 - Elements[®] DockBoard Profile