# Code Compliance Research Report <br> CCRR-0128 

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DIVISION: 060000 - WOOD, PLASTICS AND COMPOSITES
Section: 065000 - Structural Plastics
Section: 065300 - Plastic Decking

REPORT HOLDER:
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## REPORT SUBJECT

TimberTech ${ }^{\circ}$ Decking Planks
(Wood-Plastic Composite Deck Boards)
DockSider ${ }^{\text {TM }}$ Plank
Edge Premier Solid Plank
Edge Premier Grooved Plank
Edge Prime Solid Plank
Edge Prime Grooved Plank
Legacy Solid Plank
Legacy Grooved Plank
ReliaBoard Plank
Terrain Solid Plank
Terrain Grooved Plank
Reserve/Tropical Solid Plank
Reserve/Tropical Grooved Plank
TwinFinish ${ }^{\circ}$ Solid Plank
TwinFinish ${ }^{\text {® }}$ Grooved Plank

### 1.0 SCOPE OF EVALUATION

1.1. This Research Report addresses compliance with the following Codes:

- 2021, 2018 and 2015 International Building Code ${ }^{\circledR}$ (IBC)
- 2021, 2018 and 2015 International Residential Code® (IRC)
- 2020 Florida Building Code excluding high velocity hurricane zone (HVHZ). See Section 9.0.

NOTE: This report references the most recent Code editions cited. Section numbers in earlier editions may differ.
1.2. TimberTech ${ }^{\circledR}$ Decking Planks have been evaluated for the following properties:

- Structural Performance
- Durability
- Surface Burning
- Decay Resistance
- Termite Resistance
1.3. TimberTech ${ }^{\circledR}$ Decking Planks have been evaluated for the following uses: as a walking surface on exterior decks, balconies, porches, and walkways, including stairs in Oneand Two-Family Dwellings regulated by the IRC and other construction types regulated by the IBC in accordance with IBC Section 705.2.3 Combustible projections, where fire-resistance rated floor construction is not required for the deck or balcony.


### 2.0 STATEMENT OF COMPLIANCE

TimberTech ${ }^{\circledR}$ Decking Planks 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. Materials and Processes - DockSider ${ }^{T M}$, ReliaBoard, and TwinFinish Planks are composed of a solid, coextruded, fully capped, wood-plastic composite (WPC) core with a WPC cap. Legacy, Terrain, Tropical and Reserve are composed of a solid, co-extruded, fully-capped, woodplastic composite (WPC) core with a polymer cap. Edge Premier and Edge Prime deck boards are composed of a solid, co-extruded, semi-capped, wood-plastic composite (WPC) core with a polymer cap.
3.2. Profiles - TimberTech ${ }^{\circledR}$ Decking Planks have a solid cross-section, solid cross-section with grooves, and contoured cross-section profiles. See Table 2 for product descriptions and Figures 1 through 8.
3.3. Walking Surface - The TimberTech ${ }^{\circledR}$ Decking Planks are finished with a textured, embossed wood pattern.

### 4.0 PERFORMANCE CHARACTERISTICS

4.1. Uniform Live Load ratings are given in Table 1 for the corresponding deck boards and fasteners indicated.
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 indicated in Table 1. Deck boards used as stair treads shall be installed in a minimum two-span condition.
4.3. Wind Uplift Resistance ratings are given in Table 1 for the corresponding deck boards and fasteners indicated.
4.4. Materials used in the TimberTech ${ }^{\circledR}$ Decking Planks have a flame spread index not greater than 200, when tested in accordance with ASTM E84, as required by ICC-ES AC174.
4.5. Materials used are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from Formosan termites and fungus decay.
4.6. Structural performance has been demonstrated for a temperature range from $-20^{\circ} \mathrm{F}\left(-29^{\circ} \mathrm{C}\right)$ to $125^{\circ} \mathrm{F}\left(52^{\circ} \mathrm{C}\right)$.

### 5.0 INSTALLATION

TimberTech ${ }^{*}$ Decking Planks 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.
5.1. TimberTech ${ }^{*}$ Decking Planks shall be installed with fastening as indicated in Table 1 and Figure 9.

### 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 the span identified in Table 1.
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. Compatibility of the supporting construction materials with all fasteners, metal post mount components and other hardware components is subject to approval by the code official.
6.6. Only those types of fasteners and fastening methods described in this report have been evaluated for the installation of the TimberTech ${ }^{*}$ Decking Planks (See Table 1 and Figure 9); other methods of attachment are outside the scope of this report.
6.7. Deck boards recognized in this report have been evaluated for use in areas subject to Formosan termite attack.
6.8. All products recognized by this report are manufactured by The AZEK ${ }^{\circledR}$ Company LLC in accordance with the manufacturer's approved quality control system 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 demonstrating compliance 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 analysis demonstrating compliance with the performance requirements of ASTM D 7032-17, 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.
7.5. Intertek Listing Report, "TimberTech ${ }^{\circledR}$ Decking Planks" on the Intertek Directory of Building Products.

### 8.0 IDENTIFICATION

TimberTech ${ }^{\star}$ Decking Planks are produced in accordance with this report shall be identified with labeling on the individual deck boards that includes the following information:
8.1. Name, address, phone number, and/or trademark of the manufacturer.
8.2. The following statement: "ASTM D 7032. See Intertek CCRR-0128 at https://bpdirectory.intertek.com."
8.3. The Intertek Code Compliance Research Report mark and number (CCRR-0128).


### 9.0 FLORIDA BUILDING CODE

### 9.1. Scope of Evaluation:

The TimberTech ${ }^{\circledR}$ Decking Planks were evaluated for compliance with the 2020 Florida Building Code Building and Florida Building Code - Residential.

### 9.2. Conclusion:

The TimberTech ${ }^{\circledR}$ Decking Planks, described in Sections 2.0 through 7.0 of this Research Report, comply with the 2020 Florida Building Code - Building and Florida Building Code - Residential, subject to the following conditions:

- Use of the Timbertech ${ }^{\circledR}$ Decking Planks] for compliance with the High-Velocity Hurricane Zone provisions of the 2020 Florida Building Code - Building and the Florida Building Code - Residential has not been evaluated and is outside the scope of this Research Report.
- Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 Product Evaluation and Approval.


### 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.

TABLE 1 - SPAN AND UPLIFT RESISTANCE RATINGS

| Decking Plank | Span/Load Rating ${ }^{1}$ | Stair Tread Span ${ }^{2}$ | Fastener | Wind Uplift Resistance ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: |
| DockSider ${ }^{\text {™ }}$ | 24/200 | 21" | \#8 x 3" Deck Screw | $220 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Edge Premier Solid | 16/100 | 12" | \#10 x 2-1/2" ${ }^{\text {T }}$ OPLoc ${ }^{\text {TM }}$ Steel Deck Screw | $464 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Edge Premier Grooved | 16/100 | Not Permitted ${ }^{4}$ | FUSIONLoc ${ }^{\text {TM }}$ Hidden Deck Fastener, installed using 2 in long trim head stainless steel screw (11 TPI, 0.164 in major dia., 0.110 in minor dia., 0.119 in shank dia., 0.232 in head dia., square drive trim head, type 17 point) | $248 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | CONCEALoc ${ }^{\circledR}$ Hidden Fastener System ${ }^{6}$, installed using 1.6 in long trim head stainless steel screw ( $10 \mathrm{TPI}, 0.160$ in major dia., 0.105 in minor dia., 0.116 in shank dia., 0.225 in head dia., square drive trim head, type 17 point) | $181 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Edge Prime Solid | 16/100 | $16^{\prime \prime}(7)$ | \#10 x 2-1/2" TOPLoc ${ }^{\text {TM }}$ Steel Deck Screw | $464 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | \#10 x 2-3/4" FastenMaster ${ }^{\circ}$ Cortex | $338 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Edge Prime Grooved | 16/100 | Not Permitted ${ }^{4}$ | FUSIONLoc ${ }^{\text {TM }}$ Hidden Deck Fastener, installed using 2 in long trim head stainless steel screw (11 TPI, 0.164 in major dia., 0.110 in minor dia., 0.119 in shank dia., 0.232 in head dia., square drive trim head, type 17 point) | $231 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | CONCEALoc ${ }^{\circledR}$ Hidden Fastener System ${ }^{6}$, installed using 1.6 in long trim head stainless steel screw ( 10 TPI, 0.160 in major dia., 0.105 in minor dia., 0.116 in shank dia., 0.225 in head dia., square drive trim head, type 17 point) | $181 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Legacy Solid | 18/100 | $10^{\prime \prime}$ | \#10 x 2-1/2" TOPLoc Steel Deck Screw | $393 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | 2-1/2" GripRite PrimeGuard ${ }^{\text {² }}$ Plus Screw | $393 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Legacy Grooved | 18/100 | Not Permitted ${ }^{4}$ | CONCEALoc ${ }^{\circledR}$ Hidden Fastener System ${ }^{6}$, installed using 1.6 in long trim head stainless steel screw (10 TPI, 0.160 in major dia., 0.105 in minor dia., 0.116 in shank dia., 0.225 in head dia., square drive trim head, type 17 point) | $184 \mathrm{lb} / \mathrm{ft}^{2}$ |
| ReliaBoard | 16/100 | 9" | \#8 x 2-1/2" Deck Screw | $340 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Terrain Solid | 18/100 | $16^{\prime \prime}(7)$ | \#10 x 2-1/2" TOPLoc $^{\text {TM }}$ Steel Deck Screw | $464 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | 2-1/2" GripRite PrimeGuard ${ }^{\circ}$ Plus Screw | $575 \mathrm{lb} / \mathrm{ft}^{2}$ |


| Decking Plank | Span/Load Rating ${ }^{1}$ | Stair Tread Span ${ }^{2}$ | Fastener | Wind Uplift Resistance ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: |
| Terrain Grooved | 18/100 | Not Permitted ${ }^{4}$ | CONCEALoc ${ }^{\circledR}$ Hidden Fastener System ${ }^{6}$, installed using 1.6 in long trim head stainless steel screw (10 TPI, 0.160 in major dia., 0.105 in minor dia., 0.116 in shank dia., 0.225 in head dia., square drive trim head, type 17 point) | $170 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Reserve/Tropical Solid | 16/100 | $10^{\prime \prime}$ | \#8 x 2-1/2" Headcote ${ }^{\text {TM }}$ | $436 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | \#10 x 2-3/4" FastenMaster ${ }^{\circ}$ Cortex | $436 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | \#10 x 2-1/2" TOPLoc ${ }^{\text {™ }}$ | $436 \mathrm{lb} / \mathrm{ft}^{2}$ |
| Reserve/Tropical Grooved | 16/100 | Not Permitted ${ }^{4}$ | CONCEALoc ${ }^{\circledR}$ Hidden Fastener System ${ }^{6}$, installed using 1.6 in long trim head stainless steel screw (10 TPI, 0.160 in major dia., 0.105 in minor dia., 0.116 in shank dia., 0.225 in head dia., square drive trim head, type 17 point) | $147 \mathrm{lb} / \mathrm{ft}^{2}$ |
|  |  |  | FUSIONLoc ${ }^{\text {TM }}$ Hidden Deck fastener with 2" pneumatic scrails ( 16 TPI, $0.113^{\prime \prime}$ shank dia., $0.258^{\prime \prime}$ head dia.). Starter board (edge) face-fastened with one \#8 x 2-1/2" stainless steel trim-head Headcote ${ }^{\text {TM }}$ screw | $170 \mathrm{lb} / \mathrm{ft}^{2}$ |
| TwinFinish ${ }^{\text {® }}$ Solid | 24/100 | 12" | \#8 x 3" Deck Screw | $220 \mathrm{lb} / \mathrm{ft}^{2}$ |
| TwinFinish ${ }^{*}$ Grooved ${ }^{5}$ | 24/100 | Not Permitted ${ }^{4}$ | CONCEALoc ${ }^{\circledR}$ Hidden Fastener System ${ }^{6}$, installed using 1.6 in long trim head stainless steel screw (10 TPI, 0.160 in major dia., 0.105 in minor dia., 0.116 in shank dia., 0.225 in head dia., square drive trim head, type 17 point) | $104 \mathrm{lb} / \mathrm{ft}^{2}$ |

[^0]TABLE 2 - DECK BOARD DESCRIPTIONS AND COLORS

| Decking Plank | Description | Color(s) |
| :---: | :---: | :---: |
| DockSider ${ }^{\text {TM }}$ | 1.25 " $\times 5.5$ " Solid cross-section with beveled corners. | Grey and Cedar |
| Edge Prime Solid | $0.937^{\prime \prime} \times 5.360^{\prime \prime}$ cross section with two bottom longitudinal grooves $0.437^{\prime \prime}$ deep and separated by $0.980^{\prime \prime}$ rib. Top corners have radiuses. Bottom surface corners have beveled corners. | Beachwood Brown, Dark Teak, Fieldstone Grey, Maritime Gray, |
| Edge Prime Grooved | $0.937^{\prime \prime} \times 5.360^{\prime \prime}$ cross section with two bottom longitudinal grooves 0.437 " deep and separated by $1.010^{\prime \prime}$ rib, longitudinal side grooves are $0.212 \times 0.400^{\prime \prime}$ deep for hidden fasteners. Top corners have radiuses. Bottom corners are beveled. |  |
| Edge Premier <br> Solid | $0.890^{\prime \prime} \times 5.360^{\prime \prime}$ solid cross section with beveled bottom edges | Beachwood Brown, <br> Beachwood Gray, <br> Dark Teak, <br> Fieldstone Grey, Maritime Gray, Tidal Sand |
| Edge Premier Grooved | $0.890^{\prime \prime} \times 5.360^{\prime \prime}$ solid cross section with beveled bottom corners. Longitudinal side grooves are $0.212^{\prime \prime} \times 0.400$ deep for hidden fasteners |  |
| Legacy Solid | $0.938^{\prime \prime} \times 5.360^{\prime \prime}$ solid cross section with beveled edges | Ashwood, Espresso, Mocha, Pecan, Sapele, Tigerwood, Whitewash Cedar |
| Legacy Grooved | $0.938^{\prime \prime} \times 5.360^{\prime \prime}$ solid cross section with beveled corners. Longitudinal side grooves are $0.212^{\prime \prime} \times 0.400$ deep for CONCEALoc ${ }^{\circ}$ hidden fasteners |  |
| ReliaBoard | $0.938^{\prime \prime} \times 5.4^{\prime \prime}$ Solid cross-section with beveled corners and 3-0.20" deep longitudinal grooves on the underside. | Grey and Cedar |
| Terrain Solid | $0.937^{\prime \prime} \times 5.360^{\prime \prime}$ cross section with two bottom longitudinal grooves 0.437 " deep and separated by $0.980^{\prime \prime}$ rib. Top corners have radiuses. Bottom surface corners have beveled corners. | Brown Oak, Rustic Elm, Sandy Birch, Silver Maple, Stone Ash |
| Terrain Grooved | $0.937^{\prime \prime} \times 5.360^{\prime \prime}$ cross section with two bottom longitudinal grooves $0.437^{\prime \prime}$ deep and separated by $1.010^{\prime \prime}$ rib. longitudinal side grooves are $0.212 \times 0.400^{\prime \prime}$ deep for CONCEALoc ${ }^{\circ}$ hidden fasteners. Top corners have radiuses. Bottom corners are beveled. |  |
| Reserve/Tropical <br> Solid | $0.938^{\prime \prime} \times 5.360$ " Solid cross-section with beveled corners | Tropical: <br> Amazon Mist, Antigua Gold, Antique Palm, Caribbean Redwood <br> Reserve: <br> Antique Leather, Dark Roast, Driftwood, Storm Gray |
| Reserve/Tropical Grooved | $0.938^{\prime \prime} \times 536^{\prime \prime}$ Solid cross-section with beveled corners and the bottom surface corners having $0.165^{\prime \prime} \times 450$ beveled corners. Longitudinal side grooves are $0.212^{\prime \prime} \times 0.400^{\prime \prime}$ deep for CONCEALoc ${ }^{\circ}$ hidden fasteners. |  |
| TwinFinish ${ }^{*}$ Grooved | 1.0 " $\times 5.4$ " Solid cross-section with 0.09 " with beveled corners. | Cedar, Grey, Redwood |
| TwinFinish ${ }^{\circ}$ Grooved | 1.0 " $\times 5.4$ " Solid cross-section with 0.09 " with beveled corners and 0.212 " $\times 0.400$ " deep longitudinal side grooves for CONCEALoc ${ }^{*}$ hidden fasteners. |  |



## Co-Extruded

FIGURE 1 - DOCKSIDER ${ }^{\text {TM }}$ PLANK


FIGURE 3 - RELIABOARD DECK BOARD PROFILE


FIGURE 4 - RESERVE/TROPICAL SOLID \& GROOVED DECK BOARD PROFILES
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FIGURE 5 - TERRAIN SOLID \& GROOVED DECK BOARD PROFILES


FIGURE 6 - LEGACY DECKING


FIGURE 7 - EDGE PREMIER SOLID \& GROOVED DECK BOARD PROFILES


FIGURE 8 - EDGE PRIME SOLID \& GROOVED DECK BOARD PROFILES


CONCEALoc ${ }^{*}$ Hidden Fastener Clip

## [Ty H11 Hn 11111111114

FastenMaster ${ }^{\circledR}$ Cortex


FusionLoc ${ }^{\text {TM }}$ Hidden Fastener


TOPLoc ${ }^{\text {TM }}$ Face Fastener

FIGURE 9 - FASTENERS


FIGURE 10 - STAIR TREAD INSTALLATION DETAIL (REQUIRED FOR TERRAIN AND EDGE PRIME SOLID STAIR TREAD SPANS)


[^0]:    ${ }^{1}$ Span/Load rating is the maximum span in inches and the maximum allowable live load in pounds per square feet (psf).
    ${ }^{2}$ Stair tread span is based on a continuous deck board over two or more equal spans (3 supports).
    ${ }^{3}$ Wind uplift resistance is based on two fasteners at each support (wood joist) except Grooved Planks which use one hidden fastener located at each joist. Values have been adjusted for wind load duration and end use. No further adjustments shall be made.
    ${ }^{4}$ Grooved Deck Planks are not used as stair treads.
    ${ }^{5}$ Mono-Extruded and Co-Extruded values are the same.
    6 Alternatively, grooved deck boards may be face fastened with the fasteners recognized for the relevant solid deck board.
    7 Terrain Solid and Edge Prime Solid deck boards stair tread spans require supplemental 2x6 blocking as detailed in Figure 10.

