

**EVALUATOR**  
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**REPORT HOLDER**  
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## 1. SUBJECT

*Click-in Cladding System with Kebony Board*

## 2. SCOPE

2.1 *Click-in Cladding System with Kebony Board* has been evaluated for wind load resistance in accordance with ASTM E330 as referenced by the Florida Building Codes Eighth Edition (2023), *Building and Residential*.

## 3. USES

*Click-in Cladding System with Kebony Board* was evaluated as a Panel Wall – Siding system.

## 4. DESCRIPTION

4.1 **General.** *Click-in Cladding System with Kebony Board* is comprised of wood cladding boards affixed to aluminum rails using polymer clips that fit into a routed slot on the boards. Refer to the Installation Instructions for additional details on materials, parts, and assemblies.

### 4.2 Materials

- 4.2.1 1x6 and 1x8 wood cladding boards are sawn lumber modified for decay resistance by a proprietary process.
- 4.2.2 GRAD™ MINI RAILS for narrow or wide gap are EN AW-6060 aluminum.
- 4.2.3 Polymer clips are molded polyoxymethylene (POM).

## 5. DESIGN

5.1 **Overall Structural System.** The scope of this report is limited to the evaluation of the *Click-in Cladding System with Kebony Board* and its attachment to the structural wall. The overall structural system of the building including the design and support of the structural wall are beyond the scope of this evaluation report.

5.2 **Design Wind Loads.** Design wind loads to be resisted by the product shall be determined using Chapter 16 of the Florida Building Code. These wind loads are compared to the allowable design pressures listed herein.

5.3 **Design Pressures.** Design Pressures for various installations are presented in Tables 1 and 2 below. The Design Pressures based on the lesser of a 1.5 factor of safety

applied to ASTM E330 test results and analysis of anchor capacity.

## 6. INSTALLATION

6.1 **General.** *Click-in Cladding System with Kebony Board* shall be identified and erected in accordance with this report, the approved construction documents and the Florida Building Code.

6.2 **Anchorage.** The aluminum rails shall be installed in parallel at the spacings indicated. Rails shall be anchored to 2000 min. psi concrete or normal weight or better concrete masonry unit structure (with or without a 5/8"-thick layer of ASTM C926 stucco) using 1/4" x 2-1/4" ITW Tapcons with Hex Washer Heads (or approved alternate). Rails shall be anchored to 0.42 min. SG wood framing using #8 x 1-5/8-in. wood screws or 8d ring shank siding nails. Shim up to 1/4" as necessary.

## 7. CONDITIONS OF USE

*Click-in Cladding System with Kebony Board* as described in this report comply with the Florida Building Code, subject to the following conditions:

7.1 Installation complies with this report and the installation instructions.

7.2 Conditions not specifically addressed by this report shall be designed by a registered Florida design professional.

7.3 Weatherproofing and fire classification are beyond the scope of this report.

7.4 For above-ground use.

## 8. EVIDENCE SUBMITTED

The Evaluator has examined the following evidence to evaluate this product:

### 8.1 Test reports:

- 8.1.1 ICC NTA LLC, Report No. EWTI021423-54
  - 8.1.1.1 Signed/Sealed by Douglas Berger, P.E. on August 3<sup>rd</sup>, 2023
  - 8.1.1.2 ICC NTA LLC is accredited to perform the test methods below and is approved by the Florida Building Commission (TST3478).
  - 8.1.1.3 ASTM E330-14(21) (-161 psf)
  - 8.1.1.4 ASTM E8-22, F<sub>y</sub> 25.1 ksi

### 8.2 Other References:

- 8.2.1 ICC-ES ESR-1671 *Tapcon® Anchors with Advanced Threadform Technology*, 2023
- 8.2.2 ICC-ES ESR-3756, *Kebony Deck Boards*, 20230
- 8.2.3 ICC NTA LLC, Calculation Report 082724-100 082724-100
  - 8.2.3.1 Signed/Sealed by Gary Hartman, P.E. on August 28<sup>th</sup>, 2024

## QUALITY ASSURANCE

*Click-in Cladding System with Kebony Board* is manufactured under a quality assurance program audited by an approved quality assurance entity in accordance with the Florida Building Code and Rule 61G20-3.

## 9. CERTIFICATION OF INDEPENDENCE

**9.1** Neither Gary T. Hartman nor ICC NTA, LLC has, nor will they acquire, a financial interest in any company manufacturing or distributing products for which evaluations or testing are performed.

**9.2** Neither Gary T. Hartman nor ICC NTA, LLC are controlled by any company manufacturing or distributing products they evaluate or test.

**TABLE 1 - Design Pressures (psf), 6-in. Cladding Boards<sup>1,2</sup>**

| Fastener                                                   |                 | Boards Installed Horizontally |        |        | Boards Installed Vertically/Diagonally |        |        |
|------------------------------------------------------------|-----------------|-------------------------------|--------|--------|----------------------------------------|--------|--------|
|                                                            |                 | Rail Spacing                  |        |        | Rail Spacing                           |        |        |
| Type                                                       | Maximum Spacing | 24 in.                        | 16 in. | 12 in. | 24 in.                                 | 16 in. | 12 in. |
| <b>1/4 x 2-1/4-in. Tapcons in Normal Wt. CMU or better</b> | 17 in.          | -36                           | -54    | -72    | -36                                    | -54    | -72    |
|                                                            | 10 in.          | -62                           | -94    | -125   | -62                                    | -94    | -105   |
| <b>#8 x 1-5/8-in. Wood Screw<sup>3</sup></b>               | 17 in.          | -60                           | -90    | -123   | -60                                    | -90    | -105   |
|                                                            | 10 in.          | -104                          | -145   | -145   | -104                                   | -105   | -105   |
| <b>8d Ring Shank Siding Nail<sup>3</sup></b>               | 17 in.          | -35                           | -50    | -72    | -35                                    | -50    | -72    |
|                                                            | 10 in.          | -60                           | -92    | -120   | -60                                    | -92    | -105   |

**TABLE 2 - Design Pressures (psf), 8-in. Cladding Boards<sup>1,2</sup>**

| Fastener                                                   |                 | Boards Installed Horizontally |        |        | Boards Installed Vertically/Diagonally |        |        |
|------------------------------------------------------------|-----------------|-------------------------------|--------|--------|----------------------------------------|--------|--------|
|                                                            |                 | Rail Spacing                  |        |        | Rail Spacing                           |        |        |
| Type                                                       | Maximum Spacing | 24 in.                        | 16 in. | 12 in. | 24 in.                                 | 16 in. | 12 in. |
| <b>1/4 x 2-1/4-in. Tapcons in Normal Wt. CMU or better</b> | 17 in.          | -27                           | -40    | -54    | -27                                    | -40    | -54    |
|                                                            | 10 in.          | -46                           | -70    | -93    | -46                                    | -70    | -78    |
| <b>#8 x 1-5/8-in. Wood Screw<sup>3</sup></b>               | 17 in.          | -45                           | -67    | -92    | -45                                    | -67    | -78    |
|                                                            | 10 in.          | -78                           | -108   | -108   | -78                                    | -78    | -78    |
| <b>8d Ring Shank Siding Nail<sup>3</sup></b>               | 17 in.          | -26                           | -37    | -54    | -26                                    | -37    | -54    |
|                                                            | 10 in.          | -45                           | -69    | -89    | -45                                    | -69    | -78    |

1 - Linear interpolation between tabulated fastener spacings is permitted.

2 - The design pressures above are based on allowable stress design (ASD). See FBC §1609.3.1 for correlation to Load & Resistance Factor Design (LRFD) wind speeds.

3 - Full penetration into 0.42 min. SG 2x wood framing

## COMMENTARY

A design professional can compare the design pressures to the wind loads for a specific structure and site using the procedures in ASCE 7, Chapter 30, *Wind Loads: Components and Cladding*. The following tables present examples of specific designs compared to the design wind speeds shown in Chapter 16 of the 2023 FBC and Chapter 3 of the 2023 FRC.

**Example Table 1 – 6-in. Vertical Cladding Boards, 16 in. Rail Spacing, 17 in. Tapcon Spacing**

| Design Pressure (psf) | Mean Roof Height (ft) | Maximum Allowable Wind Speed, $V_{ASD}$ (mph) |     |     | Maximum Ultimate Wind Speed, $V_{ULT}$ (mph) |     |     |
|-----------------------|-----------------------|-----------------------------------------------|-----|-----|----------------------------------------------|-----|-----|
|                       |                       | Wind Exposure Category                        |     |     | Wind Exposure Category                       |     |     |
|                       |                       | B                                             | C   | D   | B                                            | C   | D   |
| -54                   | 15                    | 145                                           | 135 | 120 | 190                                          | 175 | 155 |
|                       | 20                    | 145                                           | 130 | 120 | 190                                          | 170 | 155 |
|                       | 25                    | 145                                           | 125 | 115 | 190                                          | 165 | 150 |
|                       | 30                    | 145                                           | 125 | 115 | 190                                          | 160 | 150 |

**Example Table 2 – 6-in. Horizontal Cladding Boards, 12 in. Rail spacing, 17 in. Ring Shank Siding Nail Spacing**

| Design Pressure (psf) | Mean Roof Height (ft) | Maximum Allowable Wind Speed, $V_{ASD}$ (mph) |     |     | Maximum Ultimate Wind Speed, $V_{ULT}$ (mph) |     |     |
|-----------------------|-----------------------|-----------------------------------------------|-----|-----|----------------------------------------------|-----|-----|
|                       |                       | Wind Exposure Category                        |     |     | Wind Exposure Category                       |     |     |
|                       |                       | B                                             | C   | D   | B                                            | C   | D   |
| -72                   | 15                    | 170                                           | 155 | 140 | 220                                          | 200 | 180 |
|                       | 20                    | 170                                           | 150 | 135 | 220                                          | 195 | 175 |
|                       | 25                    | 170                                           | 145 | 135 | 220                                          | 190 | 175 |
|                       | 30                    | 170                                           | 145 | 130 | 220                                          | 185 | 170 |

Note that the -72 psf design pressure can also be met using a 16 in. rail spacing by interpolating in the Allowable Design Pressures table above between 17 in. nail spacing (-50 psf) and 10 in. spacing (-92 psf) for a -72 psf design pressure. Doing so results in a required nail spacing of 13.3 in.

**Example Table 3 – 8 in. Horizontal Cladding Boards, 12 in. Rail Spacing, 17 in. #8 Wood Screw Spacing**

| Design Pressure (psf) | Mean Roof Height (ft) | Maximum Allowable Wind Speed, $V_{ASD}$ (mph) |     |     | Maximum Ultimate Wind Speed, $V_{ULT}$ (mph) |     |     |
|-----------------------|-----------------------|-----------------------------------------------|-----|-----|----------------------------------------------|-----|-----|
|                       |                       | Wind Exposure Category                        |     |     | Wind Exposure Category                       |     |     |
|                       |                       | B                                             | C   | D   | B                                            | C   | D   |
| -92                   | 15                    | 190                                           | 175 | 155 | 245                                          | 225 | 205 |
|                       | 20                    | 190                                           | 170 | 155 | 245                                          | 215 | 200 |
|                       | 25                    | 190                                           | 165 | 150 | 245                                          | 210 | 195 |
|                       | 30                    | 190                                           | 160 | 150 | 245                                          | 210 | 190 |

This item has been electronically signed and sealed by Gary Hartman using an SHA authentication code.

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