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**DIVISION: 06—WOOD AND PLASTIC**  
**Section: 06500—Structural Plastic**

**REPORT HOLDER:**

**CARNEY TIMBER COMPANY**  
**200 BROCK STREET**  
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**EVALUATION SUBJECT:**

**CARNEY TIMBER COMPANY COMPOSITE DECKING**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

**Properties evaluated:**

- Structural
- Durability
- Surface-burning characteristics

**2.0 USES**

The Carney Timber Company deck boards described in this report are limited to exterior use as deck boards for balconies, porches, stair treads and decks. The boards described in this report are used in exterior applications in Group R Occupancy (residential) buildings of Type V-B (IBC) or Type V-N (UBC) construction or buildings constructed in accordance with the IRC.

**3.0 DESCRIPTION**

**3.1 General:**

The Carney Timber Company material composition for the deck boards is approximately 40 percent HDPE (high-density polyethylene) and 60 percent natural cellulose-based fiber (rice husks). Additional additives such as coupling agents, colorings and UV stabilizers are added. The boards are manufactured in three colors: cedar, grey and redwood. The Carney Timber Company boards are manufactured by a continuous extrusion process in accordance with the manufacturer's quality control manual, producing engineered hollow and solid profiles.

Carney Timber Company deck boards included in this report are solid under the brand names Xtendex®, E-Deck®

and Terratec®. The Veranda 1 by 6 solid deck board is sold under the Veranda™ label. See Table 2 for the board types sold under each brand name.

**3.2 Deck Board:**

The Classic 5/4 by 6 deck board is a board with four hollow cavities and grooved beveled edges. The groove allows for the use of hold-down clips and provides for hidden fasteners.

The Traditional 1 by 6 deck board is a solid core deck board fastened with standard wood screws.

The Architectural 1 by 6 and 1 by 4 deck boards are solid core deck boards with grooved beveled edges. The groove allows for the use of hold-down clips and provides for hidden fasteners.

The Veranda 1 by 6 deck board is a solid core deck board fastened with standard wood screws.

**3.3 Durability:**

When subjected to weathering, insect attack, and other decaying elements, the Carney Timber Company deck boards described in this report are equivalent in durability to code-complying preservative-treated or naturally durable lumber when used in locations described in Section 2.0. The Carney Timber Company deck boards have been evaluated for structural performance when exposed to temperatures ranging from -20°F (-29°C) to 125°F (52°C).

**3.4 Surface-burning Characteristics:**

When tested in accordance with ASTM E 84, the Carney Timber Company deck boards described in this report have a flame-spread index of no greater than 200.

**4.0 DESIGN AND INSTALLATION**

**4.1 General:**

Installation of the Carney Timber Company deck boards described in this report must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite at all times during installation. When the manufacturer's published installation instructions differ from this report, this report governs.

**4.2 Deck Boards:**

Carney Timber Company deck boards, when used as decking, have an allowable capacity when installed at a maximum center-to-center spacing of the supporting construction as prescribed in Table 1.

**4.3 Stair Treads:**

Carney Timber Company's Traditional deck board, when used as stair treads, is satisfactory to resist the code-prescribed concentrated load of 300 lbf (1.33 kN) when installed at a maximum center-to-center spacing of the supporting construction as shown in Table 3.

#### 4.4 Fasteners:

The Classic 5/4 by 6 and Architectural 1 by 6 and 1 by 4 deck boards are attached to the framing using hold-down clips and No. 6 by 1½-inch-long wood screws. The Traditional 1 by 6 and Veranda 1 by 6 deck boards are attached to the framing using two No. 8 by 2½-inch-long wood screws at each support. The screw material and protective coating type must be selected based on the type of wood and the pressure treatment used for the framing.

The Carney Timber Company deck boards must be installed with a minimum board edge spacing (gap between the sides of the boards) of  $\frac{3}{16}$  inch (4.8 mm), and a minimum deck board end spacing of  $\frac{1}{16}$  inch (1.6 mm) for every 16 feet (4.88 m) of board for every 20°F (6.7°C) temperature difference between the temperature at time of installation and the maximum temperature that can be expected.

Carney Timber Company deck boards have been tested for wind uplift and have the following uplift ratings when installed using fasteners as indicated in this report:

- Classic 5/4 and Architectural 1 by 6 and 1 by 4 deck boards have an uplift capacity of 80 psf.
- Traditional 1 by 6 and Veranda deck boards have an uplift capacity of 100 psf.

#### 5.0 CONDITIONS OF USE

The Carney Timber Company deck boards described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** The Carney Timber Company deck boards described in this report are limited to exterior use as deck boards for balconies, porches, and decks and similar appendages of Group R Occupancy (residential) buildings of Type V-N (UBC) or Type V-B (IBC) construction or buildings constructed in accordance with the IRC.
- 5.2** Design and installation of Carney Timber Company deck boards are in accordance with this report and the manufacturer's published installation instructions. When the manufacturer's published installation instructions differ from this report, this report governs. Drawings and

design details verifying compliance with this report must be submitted to the code official for approval, except for cases where structural members can be and are designed based on the design aids (e.g., span tables) supplied in this report. The drawings and calculations must be prepared by a registered design professional when required by the statutes of the jurisdiction in which the project is to be constructed.

- 5.3** The allowable uplift ratings of the Carney Timber Company deck boards are as stated in Section 4.4.
- 5.4** Carney Timber Company deck boards must be gapped to permit adequate drainage in accordance with Section 4.4 and the manufacturer's instructions.
- 5.5** Carney Timber Company deck boards must not be attached to any solid surface or watertight flooring system, such as sheathing, waterproof membranes, concrete, roof decks, or patios.
- 5.6** Carney Timber Company deck boards must be fastened directly to floor joists having adequate strength and stiffness in accordance with the applicable code.
- 5.7** Carney Timber Company's Traditional 1 by 6 board is the only deck board that has been evaluated in this report for stair tread use.
- 5.8** The products are produced by Carney Timber Company at their facility located in Barrie, Ontario, Canada, under a quality control program with inspections by Intertek Testing Services (AA-691).

#### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails) (AC174), dated June 2006.

#### 7.0 IDENTIFICATION

Each piece of Carney Timber Company Decking is identified by a stamp or nonremovable label noting the name of the product (board type and commercial name) and the manufacturer (Carney Timber Company); the name of the inspection agency (Intertek Testing Services); and the evaluation report number (ESR-2051).

**TABLE 1—CARNEY TIMBER COMPANY DECKING SPAN RATING**

MEMBER SIZE	MAXIMUM SPAN <sup>1</sup>	ALLOWABLE CAPACITY <sup>2</sup> (lbf/ft <sup>2</sup> )
Classic 5/4 by 6 decking board	16 inches	100
Traditional 1 by 6 decking board	16 inches	100
Architectural 1 by 6 decking board	16 inches	100
Architectural 1 by 4 decking board	16 inches	100
Veranda 1 by 6 decking board	16 inches	100

For **SI**: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>.

<sup>1</sup>Maximum span is measured center-to-center of the supporting construction.

<sup>2</sup>Maximum allowable capacity is adjusted for durability. No further increases are permitted.

**TABLE 2—CORRELATION BETWEEN BRAND NAMES AND BOARD TYPES**

	CLASSIC 5/4 by 6	ARCHITECTURAL 1 by 4	ARCHITECTURAL 1 by 6	TRADITIONAL 1 by 6	VERANDA 1 by 6
Xtendex	X	X	X	X	
E-Deck	X				
Terratec	X		X		
Veranda					X

TABLE 3—MAXIMUM STAIR TREAD SPANS<sup>2</sup>

DECK BOARDS USED AS STAIR TREADS	MAXIMUM SPAN <sup>1</sup>
Traditional 1 by 6 deck board	11 inches

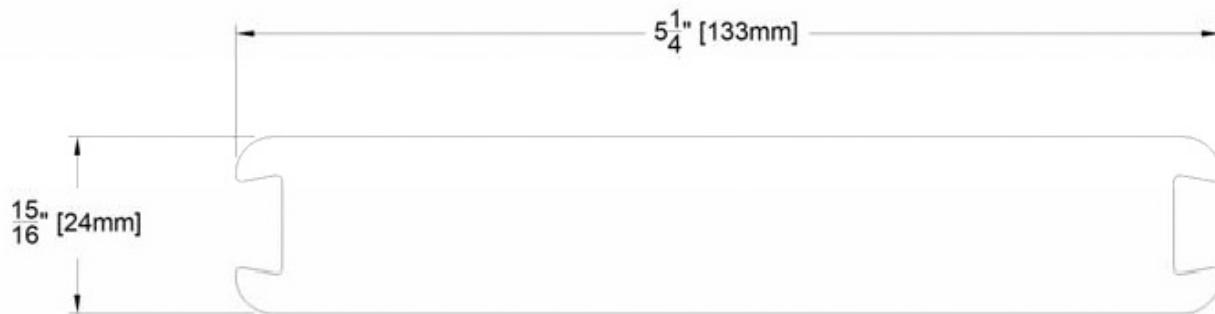
For SI: 1 inch = 25.4 mm.

<sup>1</sup>Maximum span is measured center-to-center of the supporting construction.

<sup>2</sup>Based on a minimum two-span installation.



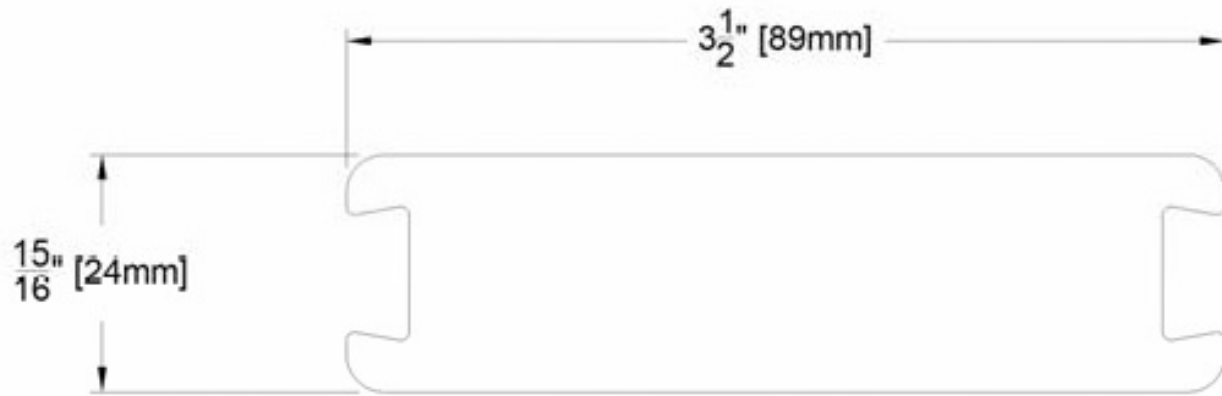
$\frac{5}{4} \times 6$  CLASSIC BOARD



1 x 6 ARCHITECTURAL BOARD

For SI: 1 inch = 25.4 mm; 1 ft = 305 mm.

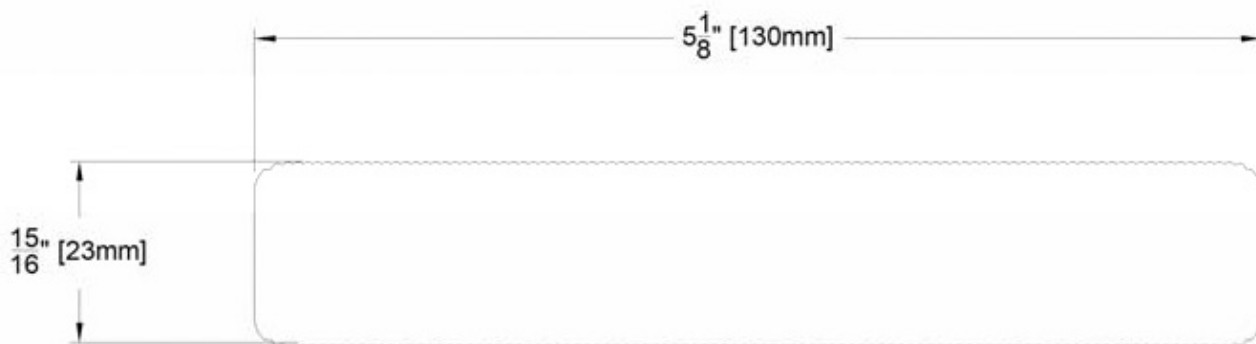
FIGURE 1—"XTENDEX™" DECK BOARD



1 x 4 ARCHITECTURAL BOARD



1 x 6 TRADITIONAL SOLID BOARD



1 x 6 VERANDA BOARD

For SI: 1 inch = 25.4 mm; 1 ft = 305 mm.

FIGURE 1—"XTENDEX™" DECK BOARD (Continued)