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RESEARCH REPORT: RR 24862  
(CSI # 09250)

BASED UPON ICC EVALUATION SERVICE  
LEGACY REPORT NO. NER-405

Attn: John L. Mulder  
(909) 356-6366

REEVALUATION DUE DATE:  
October 1, 2008

**GENERAL APPROVAL** - Reevaluation - Exterior and Interior Wall and Soffit Panels, Siding, Baseboards, Backerboards, Subfloor Panels, and Fire-Resistive Wall Assemblies.

## DETAILS

The above assemblies and/or products are approved when in compliance with the description, use, identification and findings of Legacy Report No. NER-405, dated April 1, 2004, of the ICC Evaluation Service, Incorporated. The report, in its entirety, is attached and made part of this general approval.

The parts of Legacy Report No. NER-405 marked with the asterisks are deleted by the Los Angeles Building Department from this approval.

### Conditions of Approval:

1. HardiBacker Backerboard product is approved as backing for ceramic tile only. Additional testing will be required to obtain approval for use with adhered veneer.
2. No product in this report is approved for use as shear wall or horizontal diaphragms.

## DISCUSSION

The report is based on tests.

RR 24862  
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James Hardie Building Products, Incorporated

RE: Exterior and Interior Wall and Soffit Panels, siding, Baseboards,  
Backerboards, Subfloor Panels, and Fire-Resistive Wall Assemblies

This general approval will remain effective provided the Evaluation Report is maintained valid and unrevised with the issuing organization. Any revisions to the report must be submitted to this Department for approval review with appropriate fee to continue the approval of the revised report.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.

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RB:elcm  
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Attachment: ICC ES Legacy Report No. NER-405 (35 Pages).



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Legacy report on the 2000 International Building Code®, the BOCA® National Building Code/1999, the 1999 Standard Building Code®, the 1997 Uniform Building Code™, the 2000 International Residential Code®, the 2002 Accumulative Supplement to the International Codes™ and the 1998 International One and Two Family Dwelling Code®

DIVISION 06 — WOOD AND PLASTICS
Section 06160 — Sheathing

DIVISION 07 — THERMAL AND MOISTURE PROTECTION
Section 07450 — Fiber-Reinforced Cementitious Panels
Section 07460 — Siding

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1.0 SUBJECT

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1.2 LINING BOARD AND UNDERLAYMENT

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1.2.2 Hardibacker® backerboard
1.2.3 Hardibacker® underlayment
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- 2.1 Exterior Wall Covering
2.2 Structural Performance
2.3 Noncombustible Construction
2.4 Fire-resistive Construction
2.5 Thermal Resistance

3.0 DESCRIPTION

3.1 GENERAL

The exterior siding and soffit boards, interior lining and underlayment, and subfloor panels are single-faced, cellulose fiber-reinforced cement (fiber-cement) building boards. The Titan®-FR panel is a composite panel composed of a 1/8-inch (3.2 mm) thick fiber-cement skin laminated to 1/2-inch (12.7 mm) thick proprietary Type X gypsum board.

All fiber-cement planks and panels are produced from the same components and differ in surface treatments and board configurations. Exterior siding and soffit boards are identified as Hardiplank® (Hardihome™, Sentry™, Colonial Smooth®, Colonial Roughsawn®, Cemplank® and Hardishingle™), Hardiflex™, Hardipanel®, Cempanel®, Harditex® baseboard, Hardisoffit®, Cemsoffit® boards, Hardishingle™ panel and Hardishingle™ cladding shingles. Interior backerboards and underlayments are identified as Titan®, Hardibacker® (backerboard), Hardibacker® (underlayment), Ultraboard® and Titan®-FR panel. Subfloor panels are identified as Compressed Sheet. The planks, panels, and shingles are manufactured by the Hatschek process and cured by high-pressure steam autoclaving. All products are cut to shape on-site by the score-and-snap method using a tool available from the manufacturer, a hand guillotine or a handsaw utilizing a carbide blade.

The fiber-cement products have a flame-spread index of 0 and a smoke developed index of 5 when tested in accordance with ASTM E 84. The products are classified as noncombustible when tested in accordance with ASTM E 136. The siding and soffit products comply with ASTM C 1186, Standard Specification for Grade II, Type A, Non-Asbestos Fiber-Cement Flat Sheets. The subfloor panels comply with ASTM C 1186, Standard Specification for Grade IV, Type A, Non-Asbestos Fiber-Cement Flat Sheets. The interior lining products, Hardibacker® and Titan®, comply with ASTM C 1288, Standard Specification for Grade II Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets. The interior lining product Hardibacker 500® complies with ASTM C 1288, Standard Specification for Grade I Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets. All interior lining boards comply with ANSI A118.9 as cementitious backer units. When tested in accordance with ASTM C 177, "K" and "R" values for the products are as shown in Table 4 of this report. When tested in accordance with ASTM E 96, products with a thickness of 1/4-inch (6.4 mm) or greater have demonstrated the permeance values given in Table 5 of this report.

ICC-ES legacy reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



### 3.1.1 James Hardie Trade Names

|                     |                  |
|---------------------|------------------|
| Hardiplank®         | Hardihome™       |
| Cemplank®           | Hardipanel®      |
| Sentry™             | Cempanel®        |
| Colonial Smooth®    | Hardiflex™       |
| Colonial Woodgrain® | Harditex®        |
| Hardisoffit®        | Hardie®          |
| Cemsoffit®          | James Hardie®    |
| Hardibacker®        | Titan®-FR        |
| Ultraboard®         | Max "C"™         |
| Titan®              | Hardibacker 500® |
| Hardirock®          |                  |

### 3.2 SIDING AND SOFFIT BOARDS

Hardiplank®, Hardiflex™, Hardipanel®, Harditex® baseboard, Hardishingle™ planks and panels, Hardisingle™ cladding shingles, and Hardisoffit® boards are used as siding on exterior walls and soffits. The exterior siding and soffit products may be supplied unprimed or primed for subsequent application of a compatible primer and/or exterior-grade topcoat(s).

Nominal dimensions are noted in [Table 1](#) of this report, maximum basic wind speeds in [Tables 2a, 2b, 6, 7, 8, and 9](#) of this report, and maximum shear values in [Table 3](#) of this report.

#### 3.2.1 Hardiplank® (Hardihome™, Sentry™, Colonial Smooth®, Colonial Roughsawn®, Hardishingle™ and Cemplank®) Lap Siding

**3.2.1.1 General:** Lap siding is available in various finish textures. The siding is applied horizontally commencing from the bottom course of a wall with minimum 1<sup>1</sup>/<sub>4</sub>-inch (32 mm) wide laps at the top edge. Vertical joints butt over studs except where the "off-stud splice device" is utilized as described in Section 3.2.1.2 of this report, or where the planks are installed over solid panel sheathing.

When installed on wood-framing members, the siding shall be fastened either through the overlapping planks (face nailed) or through the top edge of single planks (blind nailed) with corrosion-resistant nails into each wood-framing member. The lap conceals the fasteners in the previous course when blind nailed. When attached to metal framing members, the siding is fastened either through the overlapping planks with 1<sup>5</sup>/<sub>8</sub>-inch (41 mm) long No. 8 by 0.323-inch (8.2 mm) HD, self-drilling, corrosion-resistant, ribbed buglehead screws or with 0.100 in. (2.54 mm) shank by 0.25 in. (6.4 mm) HD by 1<sup>1</sup>/<sub>2</sub>-in. (38 mm) long ET & F brand pin fasteners at each metal framing member, or through the top edge of single planks with minimum 1<sup>1</sup>/<sub>4</sub>-inch (32 mm) long No. 8 by 0.375-inch (9.5 mm) HD, self-drilling, corrosion-resistant, ribbed waferhead screws or with 0.100 in. (2.54 mm) shank by 0.313 in. (7.5 mm) HD by 1 ½ in. (38 mm) long ET & F Panelfast® brand fasteners at each metal framing member. Planks may also be fastened to a wall constructed of concrete masonry units complying with ASTM C 90 with 0.14 in. (3.5 mm) shank by 0.300 in. (7.6 mm) HD by 1 ¼ in. (32 mm) long ET & F brand Stud Nails. The lap conceals the fasteners in the previous course.

**3.2.1.2 Off-Stud Splice Device:** Vertical joints of the planks shall butt over framing members or between the framing members when an "off-stud splice device" is placed on each plank end. The splice device's bottom lip is placed over the adjacent solid course of planks. The plank is then fastened to the framing. The abutting plank is positioned and fastened into place ensuring that the lower edges of the two planks align. The metal device is located centrally over the joint. Restrictions on the "off-stud splice device" locations are as follows:

- Splices shall be located a minimum of two stud cavities from wall corners.
- Successive splices within the same plank course shall be located no closer than 48 inches (1219 mm) from one another.
- Splices shall be staggered at minimum 24-inch (610 mm) intervals when located in the same wall cavity.
- Splices shall be at least one stud cavity away from door or window openings.

Where a specified level of wind resistance is required, plank lap siding shall be attached to solid panel sheathing or framing members, appropriately spaced, with fastener types, lengths, and spacing described in [Tables 2b and 9](#) of this report.

#### 3.2.2 Hardiflex™ Siding (Hardipanel® Smooth)

Hardiflex™ siding is used as an exterior wall cladding. The siding has a smooth unsanded surface. Dimensions are as noted in [Table 1](#) of this report. Fasteners are installed with a minimum <sup>3</sup>/<sub>8</sub>-inch (9.5 mm) edge distance and a minimum 2-inch (51 mm) clearance from corners. Joints are fastened at abutting sheet edges and optionally protected by polyvinyl chloride (PVC) joint treatment, lumber battens or sealant.

Where a specified level of wind resistance or shear resistance is required, the Hardiflex™ panel is attached to framing members, appropriately spaced, with fastener types, lengths, and spacing described in [Table 2a](#) and [Table 3](#) of this report.

#### 3.2.3 Hardipanel® Siding (Cemplank® Siding)

Hardipanel® siding is available in various surface textures including smooth. Dimensions are noted in [Table 1](#) of this report. Fasteners are installed with a minimum <sup>3</sup>/<sub>8</sub>-inch (9.5 mm) edge distance and a minimum 2-inch (51 mm) clearance from corners. Joints are fastened at abutting sheet edges and optionally covered by polyvinyl chloride (PVC) joint treatment, lumber battens or sealant.

Where a specified level of wind resistance or shear resistance is required, the Hardipanel® siding is attached to framing members, appropriately spaced, with fastener types, lengths, and spacing described in [Tables 2a and 3](#) of this report.

#### 3.2.4 Harditex® Baseboard

Harditex® baseboard is for exterior applications to walls and soffits. Dimensions are noted in [Table 1](#) of this report. Harditex® baseboard has a smooth finish and is available with either tapered or trough edges on the two long sides for joint treatment or all square edges. Harditex® baseboard is supplied either sealed or unsealed for the subsequent application of a primer or sealer by the end user as a component in a direct-applied exterior coating or finish system. Joints shall be sealed with a sealant or bedding compound, including any required joint reinforcing mesh or tape, specified by the coating manufacturer. Other installation details are in accordance with Section 3.2.2 of this report. Harditex® baseboard has been evaluated for water-resistant qualities but its use as an alternative to a weather-resistant barrier is outside the scope of this report, see Section 7.4 of this report.

Where a specified level of wind resistance or shear resistance is required, the Harditex® baseboard is attached to framing members, appropriately spaced, with fastener types, lengths, and spacing described in [Table 2a](#) or [3](#) of this report.

### 3.2.5 Hardisoffit® Board (Cemsoffit® Board)

Hardisoffit® board is for use as exterior vented or unvented soffits. Hardisoffit® board is available with either a woodgrain texture or a smooth unsanded surface. Vented Hardisoffit® provides 5 square inches of net free ventilation per lineal foot of soffit. Dimensions are noted in [Table 1](#) of this report. All Hardisoffit® board edges are supported by framing with fasteners installed with a minimum  $\frac{3}{8}$ -inch (9.5 mm) edge distance and minimum 2-inch (51 mm) clearance from corners. Hardisoffit® boards are attached to framing members with fastener types, lengths, and spacings described in [Tables 2a and 3](#) of this report.

### 3.2.6 Hardishingle™ Cladding (individual shingles)

Hardishingle™ cladding shall be installed over solid wall sheathing which complies with the applicable code. Dimensions are as noted in [Table 1](#) of this report. The wall sheathing shall be protected by a weather-resistive barrier which complies with the applicable code.

When Hardishingle™ cladding is installed over minimum  $\frac{15}{32}$ -inch (11.9 mm) thick plywood complying with the applicable code, with two corrosion resistant roofing nails [0.121-inch (3.1 mm) shank diameter by 0.371-inch (9.4 mm) head diameter by  $1\frac{1}{4}$ -inch (32 mm) long] spaced a maximum of 1 inch (25.4 mm) from each edge and the nails positioned to be covered 1 inch (25.4 mm) nominally by the succeeding course, the maximum allowable wind loads, building heights, and exposure categories for the systems installed with 8-, 7-, and 6-inch (203, 178, and 152 mm) weather exposures, shall be as indicated in [Tables 6A, 6B, and 6C](#) of this report. Nails shall secure siding but shall not be overdriven.

When Hardishingle™ cladding is installed over minimum  $\frac{7}{16}$ -inch (11.1 mm) thick Oriented Strand Board (OSB), complying with the applicable code, with two corrosion resistant siding nails [0.091-inch (2.3 mm) shank diameter x 0.221-inch (5.5 mm) head diameter by  $1\frac{1}{2}$ -inch (38 mm) long] spaced a maximum of 1 inch (25.4 mm) from each edge and the nails positioned to be covered 1 inch (25.4 mm) nominally by the succeeding course, the maximum allowable wind loads, building heights, and exposure categories for the systems installed with 8-, 7-, and 6-inch (203, 178, and 152 mm) weather exposures, shall be as indicated in [Tables 7A, 7B, and 7C](#) of this report. Nails shall secure siding but shall not be overdriven.

When Hardishingle™ cladding is installed over minimum  $\frac{7}{16}$ -inch (11.1 mm) thick Oriented Strand Board (OSB), complying with the applicable code, with three corrosion resistant siding nails [0.091-inch (2.3 mm) shank diameter x 0.221-inch (5.5 mm) head diameter by  $1\frac{1}{2}$ -inch (38 mm) long] for 12-inch (305 mm) wide shingles and two corrosion resistant siding nails for 6- and 8-inch (152 mm and 203 mm) wide shingles, the maximum allowable wind loads, building heights, and exposure categories for the systems installed with 8-, 7-, and 6-inch (203, 178, and 152 mm) weather exposures, shall be as indicated in [Tables 8A, 8B, and 8C](#) of this report. One siding nail shall be spaced a maximum of 1 inch (25.4 mm) from each edge on the panel, with the third siding nail installed midspan of the 12-inch (305 mm) wide shingles. All nails shall be covered 1 inch (25.4 mm) nominally by the succeeding course. Nails shall secure siding but shall not be overdriven.

### 3.2.7 Hardishingle™ Panels

Hardishingle™ panels have a woodgrain texture and are available in three configurations: half-round®, staggered-edge®, and square-edge®. Dimensions are as noted in [Table 1](#) of this report. The siding is applied horizontally to braced

wall framing complying with the applicable code commencing from the bottom course of a wall. Install Hardishingle™ panels with joints in moderate contact. Due to the overlapping of the panels, joint sealant is not required. Fasteners are a minimum 0.083-inch (2.1 mm) shank x 0.187-inch (4.7 mm) HD by  $1\frac{1}{2}$ -inch (33 mm) long corrosion-resistant siding nail. For application to open braced framing, vertical joints butt over studs.

Where a specified level of wind resistance is required, Hardishingle™ panel sidings are attached to framing members appropriately spaced or to solid wall sheathing, with fastener types, lengths, and spacing described in [Table 2](#) of this report.

Secure a  $\frac{1}{4}$ -inch (6.4 mm) thick lath strip and a minimum  $9\frac{1}{4}$ -inch (235 mm) wide Hardiplank® lap siding starter course. Trim the first panel so the end aligns with the furthest stud. Allow trimmed panel  $\frac{1}{8}$  inch (3.2 mm) from the trim board for caulk and secure above keyways [approximately 8 inches (203 mm) clearance from butt edge of panel] on 16-inch (406 mm) or 24-inch (310 mm) centers [ $13\frac{3}{4}$ -inch (349 mm) centers maximum for application only to minimum  $\frac{7}{16}$ -inch (11.1 mm) thick APA rated Oriented Strand Board sheathing]. Work across the wall allowing  $\frac{1}{8}$ -inch (3.2 mm) gap from trim.

Start the second course, and every following even number course (i.e. fourth, sixth) by moving the equivalent of one full stud cavity from the straight edge end (the left side). Save this piece for the other end of the wall. Secure the beginning panel leaving  $\frac{1}{8}$ -inch (3.2 mm) clearance from the trim board for caulking. Position nails to penetrate through the previous course and into the framing members or Oriented Strand Board.

When a course is broken by a window or doorway, continue the application as if the wall was complete. Trimming for the opening and using the resulting piece may throw off the spacing above the break.

### 3.2.8 Hardipanel® Shiplap Panel Siding

Hardipanel® Shiplap panel siding is used as an exterior wall cladding. The siding is available in various surface textures including smooth. Dimensions are noted in [Table 1](#) of this report. Fasteners are installed with a minimum  $\frac{3}{8}$ -inch (9.5 mm) edge distance and a minimum 2-inch (51 mm) clearance from corners.

Where a specified level of wind resistance ~~of shear resistance~~ is required, the Shiplap panel siding is attached to framing members, appropriately spaced, with fastener types, lengths, and spacing described in [Tables 2a and 3](#) of this report. \*

## 3.3 LINING BOARD AND UNDERLAYMENT

Titan® panel, Hardibacker® and Hardibacker 500® (ceramic tile backerboards), and Hardibacker® underlayment are used as wet or dry area lining/underlayment substrates applied to the interior of buildings. Titan®-FR (tapered-edge) panel is only intended for dry interior wall and ceiling applications.

### 3.3.1 Titan® Panel

Titan® panel is only intended for interior walls and ceilings including shower and bath areas. Subsequent finishing using paint, wallpaper or tile is required as indicated in Sections 3.3.1.1 and 3.3.1.2 of this report. The panel has a smooth finish with tapered edges on the two long dimensions for joint treatment. Dimensions are noted in [Table 1](#) of this report. ~~Maximum shear values are noted in [Table 3](#) of this report.~~ \*

**3.3.1.1 Paint or Wallpaper Finish:** Titan® panel is installed with the long dimension either vertical or horizontal to nominal 2 x 4 wood framing members or minimum No. 20 gage (0.0329-inch) steel framing members, spaced a maximum of 24 inches (610 mm) on center with end joints staggered from adjacent courses in both vertical and horizontal applications. To fasten to wood framing members, minimum  $1\frac{3}{8}$ -inch (35 mm) long gypsum board nails or minimum 1-inch (25.4 mm) long No. 8 x 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed buglehead screws are used and spaced a maximum of 8 inches (203 mm) on center at all supports. To fasten to metal framing members, minimum 1-inch (25.4 mm) long No. 8 x 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed buglehead screws are used and spaced a maximum of 6 inches (152 mm) on center at all supports. Fasteners shall be located at least  $\frac{3}{8}$ -inch (9.5 mm) from board edges, and 2 inches (51 mm), minimum, from lining board corners. Panels are placed with a minimum  $\frac{1}{4}$ -inch (6.4 mm) clearance from the floor surface. Metal or PVC corner angles are attached with the above described nails or screws placed approximately 12 inches (305 mm) on center.

A flush-joint procedure is permitted on Titan® panels. Gypsum board joint compounds, complying with ASTM C 474 and C475, shall be troweled into the joints. Paper joint tape is embedded into the wet joint compound and allowed to dry thoroughly. A second coat of joint compound, approximately 8-inches (203 mm) wide, is then applied across the joint and allowed to dry. A third coat of topping compound, 10-inches (254 mm) wide, is applied across the joint. Topping compound shall also be applied over all fastener heads in intermediate locations.

Internal corners are finished by filling with joint compound, working the joint tape into the joint, and applying a second coat of joint compound. A third coat of topping compound is applied over the area.

External corners are treated by filling the joint with joint compound and allowing it to thoroughly dry. Corrosion-resistant metal or PVC corner angles are then fastened to the corner, followed by a second coat of joint compound. When the second coat is completely dry, a third coat of topping compound is applied over the area. Topping compound is also applied over all fastener heads in intermediate locations.

**3.3.1.2 Tile Finish:** Titan® panel is installed with the long dimension either vertical or horizontal to nominal 2 x 4 wood-framing members or minimum No. 20 gage (0.0329-inch, 0.84 mm) metal framing members spaced 24 inches (610 mm) on center, maximum, with end joints staggered from adjacent courses in both vertical and horizontal applications. To comply with ANSI A108.11, framing members are spaced 16 inches (406 mm) on center, maximum. To fasten to wood framing members, minimum  $1\frac{1}{4}$ -inch (32 mm) long, corrosion-resistant (galvanized or stainless steel) roofing nails, or  $1\frac{1}{4}$ -inch (32 mm) long No. 8 x 0.375-inch (9.5 mm) HD self-drilling, corrosion-resistant, ribbed waferhead screws are used and spaced a maximum of 6 inches (152 mm) on center at all supports. To fasten to metal framing members, minimum  $1\frac{1}{4}$ -inch (32 mm) long No. 8 x 0.375-inch (9.5 mm) HD self-drilling, corrosion-resistant, ribbed waferhead screws are used and spaced a maximum of 6 inches (152 mm) on center at all supports. Fasteners are located at least  $\frac{3}{8}$  inch (9.5 mm) from board edges, and 2 inches (51 mm), minimum, from board corners. Corner gaps are filled with a flexible, silicone sealant compatible with fiber-cement. Panels are placed with a minimum  $\frac{1}{4}$ -inch (6.4 mm) clearance from the floor surface. This gap shall be free of adhesive and grout and filled with a flexible sealant. On large tiled areas, movement joints are provided in the walls in accordance with ANSI A108, Section AN-3.7.

A flush-joint procedure is permitted on Titan® panel. The same type of tile adhesive or mortar used to set the tiles shall be troweled into joints as a joint compound. Joints shall be reinforced with 2-inch (51 mm) wide, high-strength, coated, alkali-resistant, glass fiber reinforcing joint tape embedded into the wet tile adhesive and allowed to dry thoroughly.

Internal corners are finished by filling with tile adhesive, working the reinforcing joint tape into the joint, and applying a second coat of tile adhesive and allowing it to dry thoroughly.

External corners are treated by filling the joint with tile adhesive and allowing it to dry thoroughly. Corrosion-resistant metal or PVC corner angles are then fastened in place, followed by a second coat of tile adhesive. Tile adhesive is also applied over all fastener heads in intermediate locations.

Wall tiles complying with ANSI A137.1 are attached to the board with flexible Type I, mastic adhesives complying with ANSI A136.1, or acrylic or latex-modified thinset mortars complying with ANSI A118.4, in accordance with ANSI A108. The same adhesives are permitted to fill and level the sheet joints.

### 3.3.2 Hardibacker® and Hardibacker 500® (Ceramic Tile Backerboard)

Hardibacker® and Hardibacker 500® ceramic tile backerboards are only intended for interior walls and floors, including shower and bath areas (excluding the shower floor). Subsequent finishing with tile is required. The square-edge backerboards have a smooth-finished surface and square edges for closely butted joints. Dimensions are noted in [Table 1](#) of this report. ~~Maximum shear values are noted in [Table 3](#) of this report.~~ \*

**3.3.2.1 Floors:** When Hardibacker® or Hardibacker 500® backerboards are used on floors, the subfloor assembly shall consist of a minimum  $\frac{5}{8}$ -inch (15.9 mm) thick, Exterior Grade, Group 2 or 3 species plywood or equivalent thickness of subfloor and shall be designed such that the maximum deflection in a plane, including live and dead loads, is  $L/360$  of the span, in accordance with the applicable code. Movement joints shall be provided where existing structural joints (building control joints) occur and where changes in direction occur such as in "L"-shaped rooms. For large tiled areas, movement joints are provided in accordance with ANSI A108, Section AN-3.7.

The subfloor is then covered with a minimum  $\frac{3}{32}$ -inch (2.4 mm) thick latex, or acrylic-modified thinset setting material. The backerboard is then installed in a staggered brick pattern at right angles to the subfloor and fastened before the setting material films over.

The backerboards are fastened with  $1\frac{1}{4}$ -inch (32 mm) long, corrosion-resistant (galvanized or stainless steel) roofing nails or minimum 1-inch (25.4 mm) long No. 8 by 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed buglehead screws. To meet the requirements of ANSI A108.11, minimum  $1\frac{1}{4}$ -inch (32 mm) long No. 8 x 0.375-inch (9.5 mm) HD self-drilling, corrosion-resistant ribbed waferhead screws are used. Fasteners shall be located a maximum of 8 inches (203 mm) on center around the perimeter and in the field. Fasteners shall be located a minimum of  $\frac{3}{8}$ -inch (9.5 mm) and a maximum of  $\frac{3}{4}$  inch (19.1 mm) from the backerboard edges, and 2 inches (51 mm) minimum, from underlayment corners. For latex or acrylic modified thinset mortars, the joints shall be reinforced with 2-inch (51 mm) wide, high-strength, coated, alkali-resistant, glass fiber reinforcing tape embedded into the wet mortar and allowed to dry thoroughly.

Floor tiles complying with ANSI A137.1 are attached to the board with flexible Type I mastic adhesives complying with ANSI A136.1, or acrylic or latex-modified thinset mortars complying with ANSI A118.4, in accordance with ANSI A108. The same adhesives are also used to fill and level the sheet joints.

**3.3.2.2 Walls:** Hardibacker® and Hardibacker 500® backerboards are installed with the long dimension either vertical or horizontal to nominal 2 x 4 wood framing members or minimum No. 20 gage (0.0329-inch, 0.84 mm) metal framing members spaced a maximum of 24 inches (610 mm) on center with end joints staggered from adjacent courses in both vertical and horizontal applications. To comply with ANSI A108.11, framing members shall be spaced a maximum of 16 inches (406 mm) on center. To fasten to wood framing members, minimum 1<sup>1</sup>/<sub>4</sub>-inch (32 mm) long, corrosion-resistant (galvanized or stainless steel) roofing nails or 1<sup>1</sup>/<sub>4</sub>-inch (32 mm) long No. 8 by 0.375-inch (9.5 mm) HD self-drilling, corrosion-resistant, ribbed waferhead screws are used and spaced a maximum of 8 inches (152 mm) on center at all supports. To fasten to metal framing members, minimum 1<sup>1</sup>/<sub>4</sub>-inch (32 mm) long No. 8 by 0.375-inch (9.5 mm) HD self-drilling, corrosion-resistant ribbed waferhead screws are used and spaced a maximum of 8 inches (152 mm) on center at all supports. Fasteners are located at least <sup>3</sup>/<sub>8</sub> inch (9.5 mm) from board edges and 2 inches (51 mm), minimum, from board corners. Corner gaps are filled with a silicone sealant compatible with fiber-cement underlayments. Underlayments are placed with a minimum <sup>1</sup>/<sub>4</sub>-inch (6.4 mm) clearance from the floor surfaces and other horizontal tile termination locations, such as above tub edges. This gap shall be free of adhesive and grout and filled with a flexible sealant. For large tiled areas, movement joints are provided in accordance with ANSI A108, Section AN-3.7.

Wall tiles complying with ANSI A137.1 are attached to the underlayment with flexible Type I mastic adhesives complying with ANSI A136.1, or acrylic or latex-modified thinset mortars complying with ANSI A118.4, in accordance with ANSI A108. The same adhesives are used to fill and level the sheet joints. Joints shall be reinforced with 2-inch (51 mm) wide, high-strength, coated, alkali-resistant, glass fiber reinforcing tape embedded into the wet mastic or modified thinset mortar and allowed to dry thoroughly.

### 3.3.3 Hardibacker® Underlayment (Ultraboard®)

Hardibacker® underlayment is only intended for interior floors including showers and bath areas (excluding the shower floor). Subsequent finishing with resilient floor covering or tile is required. The underlayment face has a smooth surface, an acrylic based seal coat and square edges for close-butted joints. The reverse side of the underlayment has lightly textured surface, is unsealed and has square edges. Dimensions are noted in [Table 1](#) of this report.

The underlayment shall be installed over a structurally sound subfloor assembly designed to limit the maximum deflection in a plane, including live and dead loads, to  $L/360$  of the span, in accordance with the applicable code.

When the underlayment is installed on existing floor construction, floor finishes and subflooring shall be repaired, removed and/or replaced as necessary to create a smooth and level surface. The ability of the existing floor structure and subfloor to support the additional loads of the underlayment and new floor finish shall be substantiated. Alterations shall comply with applicable codes.

The underlayment boards are laid in a staggered end joint pattern at right angles to the subflooring. Joints are offset <sup>1</sup>/<sub>8</sub> inch (3.2 mm) from walls and cabinet bases and cut edges turned to the outside, wherever possible.

**3.3.3.1 Resilient Flooring:** With the smooth face up, the underlayment is placed over the prepared subflooring and fastened to support framing with either 3d, corrosion-resistant, ring shank nails or No. 18 gage (0.0475-inch) corrosion-resistant staples with a <sup>1</sup>/<sub>4</sub>-inch (6.4 mm) crown located a maximum of 3 inches (76 mm) on center around the perimeter and 6 inches (152 mm) on center in a random/staggered pattern in the field. Fasteners shall be located at least <sup>3</sup>/<sub>8</sub> inch (9.5 mm) from underlayment edges and 2 inches (51 mm) minimum, from the underlayment corners. Fastener heads shall be flush with the surface. Fasteners shall be of sufficient length to penetrate at least 1-inch (25.4 mm) sound subflooring or framing.

To minimize the possibility of surface irregularities in the underlayment and fastener heads penetrating through the resilient flooring, the boards shall be installed flush and level. Height variations are treated by filling joints, gouges and low spots with a water-resistant, cementitious leveling compound recommended by the floor-covering manufacturer. After the leveling compound has dried, filled areas are sanded level to the surrounding subfloor.

Prior to the application of the resilient flooring, the prepared surfaces shall be free of dust, grease and other foreign material.

Finish floor coverings are installed in accordance with the flooring material manufacturer's published instructions, which shall include application procedures, compatible adhesives and recommended accessories.

**3.3.3.2 Tile:** With the smooth face up, follow the additional instructions described in Section 3.3.2.1 of this report.

**3.3.4 Titan®-FR Panel** Titan®-FR (tapered-edge) panel is only intended for dry interior wall and ceiling applications. The panel has a smooth finish with tapered edges on the two long dimensions for joint treatment. Dimensions are as noted in [Table 1](#) of this report.

**3.3.4.1 Paint or Wallpaper Finish:** Titan®-FR tapered-edge panel is installed with the long dimension either vertical or horizontal to nominal 2 x 4 wood framing members or minimum No. 20 gage (0.0329-inch, 0.84 mm) steel framing members, spaced a maximum of 24 inches (610 mm) on center with end joints staggered from adjacent courses in both vertical and horizontal applications. To fasten to wood framing members, minimum 1<sup>7</sup>/<sub>8</sub>-inch (47.6 mm) long gypsum board nails or minimum 1<sup>1</sup>/<sub>2</sub> inch (38 mm) long, Type W, gypsum board screws are used and spaced a maximum of 8 inches (203 mm) on center at all supports. To fasten to metal framing members, minimum 1 inch (25.4 mm) long, Type S or S-12, self-drilling gypsum board screws are used and spaced a maximum of 12 inches (305 mm) on center at all supports. Fasteners shall be located at least <sup>3</sup>/<sub>8</sub> inch (9.5 mm) from board edges, and 2 inches (51 mm), minimum, from board corners. wall panels are placed with a minimum <sup>1</sup>/<sub>4</sub>-inch (6.4 mm) clearance from the floor surface. Metal or PVC corner angles are attached with the above described nails or screws placed approximately 12 inches (305 mm) on center.

A flush-joint procedure is permitted on Titan®-FR (tapered-edge) panels. Gypsum board joint compounds, complying with ASTM C 474 and C 475, shall be troweled into the joints. Paper joint tape or equivalent is embedded into the wet joint compound and allowed to dry thoroughly. A second coat of joint compound, approximately 8 inches (203 mm) wide, is then applied across the joint and allowed to dry. A third coat of topping compound, 10 inches (254 mm) wide, is applied across the joint. Topping compound shall also be applied over all fastener heads in intermediate locations.

Internal corners are finished by filling with joint compound, working the joint tape into the joint, and applying a second coat of joint compound. A third coat of topping compound is applied over the area.

External corners are treated by filling the joint with joint compound and allowing it to dry thoroughly. Corrosion-resistant metal or PVC corner angles are then fastened to the corner, followed by a second coat of joint compound. When the second coat is completely dry, a third coat of topping compound is applied over the area. Joint compound is also applied over all fastener heads in intermediate locations.

### 3.4 SUBFLOOR PANELS

Compressed sheet is used as subflooring over complying wood or metal floor joists spaced a maximum of 24 inches (610 mm) on center. The panels have a smooth unsanded surface. Cutouts for plumbing and electrical shall be oversized. Floor opening penetrations shall be protected in accordance with the applicable code. Dimensions are noted in [Table 1](#) of this report.

Panels are installed over two or more spans, with the long dimension perpendicular to supports. The sheets are fastened to wood framing members by counterstriking minimum No. 10 x 0.350-inch (8.9 mm) HD wood screws spaced a maximum of 12 inches (305 mm) on center at all supports. The sheets are fastened to metal framing members by counterstriking minimum No. 9 by 0.350-inch (8.9 mm) HD self-drilling, corrosion-resistant ribbed buglehead screws spaced a maximum of 6 inches (152 mm) on center around the sheet perimeter and 12 inches (305 mm) on center at immediate joist locations. Fasteners shall be of sufficient length to penetrate at least 1 inch (25.4 mm) into wood framing members or  $\frac{1}{4}$  inch (6.4 mm) into metal framing members. Holes are drilled in compressed sheet with a masonry bit, allowing a 0.04-inch (1.02 mm) clearance over diameter of screw to be used. Fasteners are located a minimum of  $\frac{3}{8}$  inch (9.5 mm) and a maximum of  $\frac{3}{4}$  inch (19.1 mm) from sheet edges, and 2 inches (51 mm) minimum from sheet corners. Fastener heads are flush with the surface. Edges shall be blocked or the panels shall be covered with minimum  $\frac{1}{4}$ -inch (6.4 mm) thick underlayment or  $\frac{3}{4}$ -inch (19.1 mm) thick wood strip finish flooring.

As an alternative, sheets are field glued in conjunction with mechanical fastening with a structural adhesive (APA/HUD AFG-01) applied to joints. Framing members shall be free of surface moisture, dirt, cement and other foreign materials prior to application of the adhesive. Adhesives shall be applied in accordance with the adhesive manufacturer's instructions. The application rate shall be a  $\frac{1}{4}$ -inch (6.4 mm) diameter bead applied to each joist or blocking member, except two  $\frac{1}{4}$ -inch (6.4 mm) diameter beads are applied where sheets abut on a joist. Installation of the sheets shall be within the time limit designated by the adhesive manufacturer.

Where more than one sheet is used, an effective seal shall be provided between sheets. The bonded surfaces shall be clean and an approved structural adhesive (APA/HUD AGF-01) shall be used. Edges of the sheets to be joined shall be thoroughly cleaned and the dust removed. A layer of adhesive is "battered" to the leading edge of the first installed sheet and the next sheet laid against it ensuring that an adequate film of adhesive is present. Forcing adhesive into the joint after the sheets have been fastened is not permitted. After the joint is filled, any excess adhesive shall be removed from the surface of the sheet.

Use as a diaphragm is outside the scope of this report.

Allowable loads are as follows:

#### ALLOWABLE UNIFORM LOAD AT DEFLECTION LIMIT = $L/360$ <sup>1</sup>

| PRODUCT   | JOIST SPACING  |                |
|---|----------------|----------------|
|   | 16 inches o.c. | 24 inches o.c. |
| Compressed Sheet II<br>( $\frac{1}{2}$ and $\frac{5}{8}$ -inch thick) | 190 psf        | 105 psf        |
| Compressed Sheet II<br>( $\frac{3}{4}$ -inch thick)                   | 300 psf        | 145 psf        |

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa

1.  $L$  = length of span (inches)

### 3.5 FIRE-RESISTANCE RATED ASSEMBLIES

#### 3.5.1 Assembly 1

The nonsymmetrical nonloadbearing, 1 hour, fire-resistance rated wall assembly consists of minimum  $3\frac{5}{8}$ -inch (92 mm) deep, No. 20 gage (0.0359-inch, 0.91 mm), steel "C" studs at 24 inches (610 mm) on center with corresponding top and bottom tracks. One layer of  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board, 48 inches (1219 mm) wide, is applied vertically to the studs and secured with  $1\frac{1}{4}$ -inch (32 mm) long, Type S, gypsum board screws, spaced 8 inches (203 mm) on center at board edges and 12 inches (305 mm) on center at intermediate framing members. The  $\frac{5}{8}$ -inch (15.9 mm) thick gypsum board joints and screw heads require treatment consisting of joint compound followed by joint tape and a second layer of joint compound. The opposite face of the wall is covered with one layer of  $\frac{1}{2}$ -inch (12.7 mm) thick Hardirock<sup>®</sup> Max "C"<sup>™</sup>(Type "X") gypsum board, followed by one layer of either  $\frac{1}{4}$ -inch (6.4 mm) thick Titan<sup>®</sup> (tapered-edge), Hardibacker<sup>®</sup> (square-edge), or Harditex<sup>®</sup> board. Boards are applied vertically to framing members with vertical edges staggered 24 inches (610 mm). The  $\frac{1}{2}$ -inch (12.7 mm) thick Hardirock<sup>®</sup> Max "C"<sup>™</sup> (Type "X") gypsum board is fastened to the framing members with  $1\frac{1}{4}$ -inch (32 mm) long, Type S, gypsum board screws spaced 24 inches (610 mm) on center. Titan<sup>®</sup>, Hardibacker<sup>®</sup> or Harditex<sup>®</sup> boards are fastened through the gypsum board to the framing members with minimum  $1\frac{5}{8}$ -inch (41 mm) long by minimum 0.323-inch (8.2 mm) HD or self-drilling, corrosion-resistant, ribbed buglehead or ribbed waferhead screws located a maximum of 8 inches (203 mm) on center. Board joints and fasteners require treatment similar to that described in Sections 3.3.1.1, 3.3.1.2, 3.3.2.2, and 3.2.4 of this report.

#### 3.5.2 Assembly 2

The nonsymmetrical nonload bearing, 1-hour, fire-resistant rated wall assembly consists of minimum  $3\frac{5}{8}$ -inch (92 mm) deep, No. 25 gage (0.0209-inch, 0.53 mm), steel "C" studs at 16 inches (406 mm) on center with corresponding top and bottom tracks. One layer of  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board, 48 inches (1219 mm) wide, is applied vertically to the studs and secured with minimum 1 inch (25.4 mm) long, Type S, gypsum board screws, spaced 8 inches (203 mm) on center at board edges and 12 inches (305 mm) on center at intermediate framing members. The  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board joints and screw heads require treatment consisting of joint compound followed by joint tape and a second layer of joint compound. The stud cavities are insulated with minimum 3-inch (76 mm) thick, 3 pcf (48 kg/m<sup>3</sup>), unfaced, friction-fit, mineral fiber insulation complying with ASTM C 665, Type I. The opposite face of the wall is covered with one layer of  $\frac{7}{16}$ -inch (11.1 mm) thick Hardibacker<sup>®</sup> (backerboard) or Titan<sup>®</sup> panel or Harditex<sup>®</sup> boards. The boards are applied vertically to framing

members with vertical edges staggered 16 inches (406 mm). Hardibacker®, Titan® or Harditex® boards are fastened through to the framing members with minimum 1-inch (25.4 mm) long No. 8 by 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed buglehead (or equivalent) screws located a maximum of 6 inches (152 mm) on center. Board joints and fasteners require treatment similar to that described in Sections 3.3.1.1, 3.3.1.2 or 3.3.2.2 of this report, and using the glass fiber reinforcing tape.

### 3.5.3 Assembly 3

The nonsymmetrical limited loadbearing, 1 hour fire-resistant rated wall assembly consists of nominal 2 x 4 wood studs at 16 inches (406 mm) on center with two top plates and a single bottom plate. The lesser of 800 pounds per stud or 31 percent of full design load is permitted to be superimposed, provided structural consideration for axial, flexural and bearing perpendicular-to-grain stresses are resolved in accordance with Part III of the *National Design Specification*, 1997 edition, published by the American Forest & Paper Association. One layer of  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board, 48 inches (1219 mm) wide, is applied vertically to the studs and secured with minimum  $1\frac{7}{8}$ -inch (22 mm) long cup-head gypsum board nails, spaced 7 inches (178 mm) on center at board edges and intermediate framing members. The  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board joints and nail heads require treatment consisting of joint compound followed by joint tape and a second layer of joint compound. The stud cavities are insulated with minimum 3-inch (76 mm) thick, 3 pcf, unfaced, friction-fit, mineral fiber insulation complying with ASTM C 665, Type I. The opposite face of the wall is covered with one layer of  $\frac{7}{16}$ -inch (11.1 mm) thick Titan® panel or Hardibacker® backerboard. The fiber cement board is applied vertically to framing members with vertical edges staggered 16 inches (406 mm) from the gypsum board edges. Boards are fastened through to the framing members with minimum  $1\frac{1}{2}$ -inch (38 mm) long, corrosion-resistant roofing nails located a maximum of 6 inches (152 mm) on center. Board joints and fasteners require treatment similar to that described in Section 3.3.2.2 of this report. The side of the wall clad with fiber-cement board is covered with standard grade ceramic tile, nominal  $\frac{1}{4}$ -inch (6.4 mm) thick. Tiles, any expansion or control joints, and grout are installed in accordance with ANSI A108.4 when Type I organic adhesive is used, or ANSI A108.5 if dry set, acrylic-modified or latex-modified portland cement mortar is used.

### 3.5.4 Assembly 4

The nonsymmetrical loadbearing 1 hour fire-resistant rated wall assembly consists of nominal 2 x 4 wood studs at 24 inches (610 mm) on center with two top plates and a single bottom plate. Full design loads are permitted to be superimposed, provided structural consideration for axial flexural and bearing perpendicular-to-grain stresses are resolved in accordance with Part III of the *National Design Specification*, 1997 Edition, published by the American Forest & Paper Association. One layer of  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board, 48 inches (1219 mm) wide, is applied vertically to the studs and secured with minimum  $1\frac{3}{4}$ -inch (44 mm) long cup-head gypsum board nails, spaced 7 inches (178 mm) on center at board edges and intermediate framing members. The  $\frac{5}{8}$ -inch (15.9 mm) thick Type "X" gypsum board joints and nail heads require treatment consisting of joint compound followed by joint tape and a second layer of joint compound. The stud cavities are either insulated or uninsulated. The opposite face of the wall is covered with one layer of  $\frac{1}{2}$ -inch (12.7 mm) thick Type "X" water-resistant core gypsum sheathing and one layer of maximum 12-inch (305 mm) wide Hardiplank® lap siding lapped a minimum of  $1\frac{1}{4}$  inches (32 mm). The  $\frac{1}{2}$ -inch (12.7 mm) thick Type "X" water-

resistant core gypsum sheathing is applied vertically to framing members with vertical edges staggered 24 inches (610 mm) from the joints on the opposite side. The  $\frac{1}{2}$ -inch (12.7 mm) thick Type "X" water-resistant core gypsum sheathing is fastened to the framing members with  $1\frac{3}{4}$ -inch (44 mm) long roofing nails spaced 7 inches (178 mm) on center in the field and 4 inches (102 mm) on center along the perimeter of each board. An outer layer of  $\frac{5}{16}$ -inch (7.5 mm) thick, 12-inch (305 mm) wide Hardiplank® lap siding is applied over the  $\frac{1}{2}$ -inch (12.7 mm) thick Type "X" water-resistant core gypsum sheathing by attaching a  $1\frac{1}{2}$ -inch (38 mm) wide Hardiplank® starter strip attached through the gypsum sheathing into the bottom plate and 12-inch (305 mm) wide Hardiplank® lap siding applied horizontally with a minimum nominal  $1\frac{1}{4}$ -inch (32 mm) headlap and fastened with a single 6d corrosion resistant common nail driven through the lapped planks at each stud.

### 3.5.5 Assembly 5

The symmetrical nonload bearing, 1 hour, fire-resistant rated wall assembly consists of minimum  $3\frac{5}{8}$ -inch (92 mm) deep, No. 20 gage (0.0359 inch, 0.91 mm), steel "C" studs at 24 inches (610 mm) on center with corresponding top and bottom tracks. Both sides of the wall are covered with one layer of  $\frac{1}{2}$ -inch (12.7 mm) thick Hardirock® Max "C"™ (Type "X") gypsum board, followed by one layer of either  $\frac{1}{4}$ -inch (6.4 mm) thick Titan® panel, Hardibacker® backerboard, or Harditex® baseboards. Boards are applied either perpendicular (horizontally) or parallel (vertically) to framing members. Base layer and face layer board joints of both wall sides are offset by 24 inches (610 mm). The  $\frac{1}{2}$ -inch (12.7 mm) thick Hardirock® Max "C"™ (Type "X") gypsum board is fastened to the framing members with minimum 1-inch (25.4 mm) long, Type S, gypsum board screws spaced 24 inches (610 mm) on center. Titan®, Hardibacker® or Harditex® boards are fastened through the gypsum board to the framing members with minimum  $1\frac{5}{8}$ -inch (41 mm) long by minimum 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed buglehead or ribbed waferhead screws located a maximum of 8 inches (203 mm) on center. Board joints and fasteners require finish treatment similar to that described in Sections 3.3.1.1, 3.3.1.2, 3.3.2.2, or 3.2.4 and of this report.

### 3.5.6 Assembly 6

The symmetrical nonload bearing, 1 hour, fire-resistant rated wall assembly consists of minimum  $3\frac{5}{8}$ -inch (92 mm) deep, No. 20 gage (0.0359 inch, 0.91 mm), steel "C" studs at 24 inches (610 mm) on center with corresponding top and bottom tracks. Both sides of the wall are covered with one layer of  $\frac{5}{8}$ -inch (15.9 mm) thick Titan®-FR panel. Boards are applied either perpendicular (horizontally) or parallel (vertically) to framing members. Panel joints are offset by 24 inches (610 mm). The  $\frac{5}{8}$ -inch (15.9 mm) thick Titan®-FR panel is fastened to the framing members with minimum 1 inch (25.4 mm) long, Type S, gypsum board screws spaced 12 inches (305 mm) on center. Board joints and fasteners require finish treatment similar to that described in Sections 3.3.1.1 or 3.3.1.2 of this report.

## 4.0 INSTALLATION

Installation shall comply with this report and a copy of this report shall be available at all times on the job site during installation. Additional details are in the applicable manufacturer's product information sheets issued December 1993. Where non-editorial differences occur between the manufacturer's product information sheets and this report, this report shall be null and void.

## 5.0 IDENTIFICATION

James Hardie Building Products, Inc., Hardiflex®, Hardipanel®, Cempanel®, Hardisoffit® and Cemsoffit® boards; Harditex® baseboards; Titan®, Titan®-FR, Hardibacker®, Ultraboard® and Hardibacker 500® lining boards, backerboard and underlayment; Compressed Sheet subflooring; pallets of Hardiplank® and Cemplank® lap siding; and pallets of Hardishingle™ planks and panels shall bear a label identifying the manufacturer's name and telephone number, the product name, and the name of the quality control agency, Intertek Testing Services, Inc. (NER-QA219), and this ICC-ES Legacy report number (NER-405) for field identification.

## 6.0 EVIDENCE SUBMITTED

6.1 The following test reports issued by the Building Research Association of New Zealand (BRANZ) in accordance with ASTM E 72, Conducting Strength Test of Panels of Building Construction, Section 9, Transverse Load, and Section 14, Racking Load:

| Report No. | Date         | ASTM Standard Section |
|------------|--------------|-----------------------|
| S100       | June, 1984   | 9                     |
| S101       | June, 1984   | 9                     |
| S102       | June, 1984   | 9                     |
| S103       | June, 1984   | 9                     |
| S104       | June, 1984   | 9                     |
| S105       | June, 1984   | 14                    |
| S106       | June, 1984   | 14                    |
| S109       | July, 1984   | 9                     |
| S112       | August, 1984 | 14                    |
| S113       | August, 1984 | 9                     |
| STR122     | April, 1985  | 9                     |
| STR123     | April, 1985  | 14                    |
| STR127     | April, 1985  | 9                     |
| STR128     | May, 1985    | 14                    |
| STR131     | May, 1985    | 9                     |
| STR132     | May, 1985    | 14                    |

6.2 The following test reports issued by the Building Research Association of New Zealand (BRANZ) in accordance with the weatherability test procedures noted:

| Report No. | Date           | Procedure                 |
|------------|----------------|---------------------------|
| MTR658     | November, 1983 | U.B.C. Standard 32-12     |
| MTR662     | November, 1983 | Freeze/Thaw               |
| MTR709     | June, 1984     | Percolation Test          |
| MTR723     | May, 1984      | ASTM G 26, D 2616, FD-714 |
| MTR778     | June, 1985     | NSZ3204; Wet/Dry Cycling  |
| MTR787     | June, 1985     | U.B.C. Standard 47-17     |
| T176       | June, 1984     | ASTM E 96                 |
| T177       | June, 1984     | ASTM E 96                 |

6.3 Quality Assurance Manual for James Hardie Building Products, Inc., signed by Rich Klein, James Hardie Building Products, Inc. 2/18/02 and Kathy Bishop, Intertek Testing Services, Inc. 2/20/02.

6.4 Manufacturer's descriptive literature.

6.5 United States Testing Company, Test Report No. LA 50049-1, dated February 7, 1985, containing testing in accordance with ASTM E 84, *Test of Surface Burning Characteristic of Building Materials*.

6.6 Ramtech Laboratories, Inc., Test Report No. 8047-87, dated April 6, 1987, containing testing in accordance with ASTM E 72, *Conducting Strength Tests of Panels for Building Construction* — Section 9, Transverse Load; and Section 14, Racking Load.

6.7 Structural Calculations for "Determination of Wind Speed" by Ronald I. Ogawa, P.E., in accordance with Section 1205 of the 1988 *Standard Building Code*®.

6.8 The following test reports were issued by Inspection Concepts for "Transverse Load Tests" of panels:

| Report No.  | Date             |
|-------------|------------------|
| IC-1021-88  | May, 1988        |
| IC-1022-88  | May, 1988        |
| IC-1042-88  | February, 1989   |
| IC-1054-89  | September, 1989  |
| IC-1055-89  | September, 1989  |
| IC-1121A-91 | March 20, 1991   |
| IC-1121B-91 | March 20, 1991   |
| IC-1201-92  | January 22, 1993 |
| IC-1203-92  | January 22, 1993 |
| IC-1228-93  | July 2, 1993     |
| IC-1270-94  | April 20, 1994   |
| IC-1271-94  | April 20, 1994   |

6.9 The following test reports were issued by Inspection Concepts for "Racking Tests" of panels:

| Report No.  | Date             |
|-------------|------------------|
| IC-1013-88  | January, 1988    |
| IC-1014-88  | January, 1988    |
| IC-1030-88  | September, 1988  |
| IC-1032-88  | September, 1988  |
| IC-1037-88  | November, 1988   |
| IC-1038-88  | November, 1988   |
| IC-1057-89  | September, 1989  |
| IC-1062-89  | November, 1989   |
| IC-1100-90  | October 30, 1990 |
| IC-1107-91  | January 5, 1991  |
| IC-1108-91  | January 6, 1991  |
| IC-1109-91  | January 8, 1991  |
| IC-1110-91  | January 8, 1991  |
| IC-1120A-91 | March 20, 1991   |
| IC-1120B-91 | March 20, 1991   |
| IC-1120C-91 | March 20, 1991   |
| IC-1120D-91 | March 20, 1991   |
| IC-1202-92  | January 22, 1993 |
| IC-1202-92  | January 22, 1993 |
| IC-1237-93  | August 5, 1993   |
| IC-1273-94  | April 20, 1994   |
| IC-1274-94  | April 29, 1994   |

6.10 The following test reports were issued by Inspection Concepts for "Transverse Load Tests" of planks:

| Report No. | Date          |
|------------|---------------|
| IC-1020-88 | May, 1988     |
| IC-1011-88 | January, 1988 |
| IC-1034-88 | October, 1988 |
| IC-1035-88 | October, 1988 |

- 6.11 The following test reports were issued by Southwest Research Institute for "1 hour Fire-resistant Assemblies":

| Report No.  | Date        |
|-------------|-------------|
| 01-2602-802 | March, 1989 |
| 01-2602-803 | March, 1989 |

- 6.12 Structural calculations verifying design values for Tables 2 and 3 of this report, prepared by Inspection Concepts dated March 7, 1990, signed and sealed by Ronald I. Ogawa, P.E.
- 6.13 Inspection Concepts, Test Report No. IC-1093A-90, dated October 18, 1990, in accordance with ASTM E 136.
- 6.14 Smith-Emery Company, Test Report No. L-87-1732, dated October 8, 1987, in accordance with ANSI A118.9.
- 6.15 United States Testing Company, Inc., Test Report No. 176842, dated September 14, 1990, in accordance with ASTM D 1037.
- 6.16 Truesdail Laboratories, Inc., Test Report No. 30240-1, dated March 1, 1989, revised March 28, 1991, in accordance with ASTM G 21.
- 6.17 Truesdail Laboratories, Inc., Test Report No. 30240-2, dated March 1, 1989, revised March 28, 1991, in accordance with ASTM G 22.
- 6.18 Inspection Concepts, Report No. IC-1131-91, dated May 8, 1991, in accordance with ASTM C 947, C666 Procedure B, and ANSI 136-1.
- 6.19 ETL Testing Laboratories, Report No. 497742, dated March 5, 1990, in accordance with ASTM E 84.
- 6.20 Inspection Concepts, Report No. IC-1039-89, dated January 6, 1989, revised May 11, 1990, containing comparative fastener pullout and pull-through testing results.
- 6.21 James Hardie Building Products, Inc. product information sheets issued October 1991.
- 6.22 Structural calculations verifying design values for Tables 2 and 3 of this report, prepared by Inspection Concepts dated October 20, 1993, signed by Ronald I. Ogawa, P.E.
- 6.23 Letter correcting structural calculations for BRANZ Reports S106 and STR128 prepared by Inspection Concepts dated February 14, 1993, signed and sealed by Ronald I. Ogawa, P.E.
- 6.24 Letter reviewing "Racking Tests" and "Transverse Load Tests" for Group III wood species verification for Tables 2 and 3 of this report, prepared by Inspection Concepts dated October 14, 1993, signed and sealed by Ronald I. Ogawa, P.E.

- 6.25 The following test reports were issued by Omega Point Laboratories for "1 hour Fire-resistant Assemblies":

| Report No.   | Date              |
|--------------|-------------------|
| 11710-92783  | February 13, 1992 |
| 11710-92851  | September 9, 1992 |
| 11710-98414  | May 1, 1995       |
| 11710-105198 | August 2, 1999    |
| 11710-105199 | August 3, 1999    |

- 6.26 Ramtech Laboratories, Inc., Test Report No. 8108A-87, dated May 20, 1987, in accordance with ASTM C 725 for flexural strength tests conducted on  $1/4$ -inch and  $3/4$ -inch thick compressed sheet panels.
- 6.27 Ramtech Laboratories, Inc., Test Report No. 8108B-87, dated May 26, 1987, in accordance with ASTM E 72, Section 18, concentrated load on  $1/4$ -inch and  $3/4$ -inch thick compressed sheet panels.
- 6.28 Ramtech Laboratories, Inc., Test Report No. 8108C-87, dated June 24, 1987, in accordance with ASTM E 72, Section 9, transverse load on  $1/4$ -inch and  $3/4$ -inch thick compressed sheet panels.
- 6.29 Inspection Concepts, Test Report No. IC-1257-94, dated January 13, 1994, in accordance with ASTM E 331 for water penetration of  $1/4$ -inch thick Hardi-panel® vertical siding.
- 6.30 Inspection Concepts, Test Report No. IC-1243-93, dated August 26, 1993, in accordance with ASTM E 228 for linear-thermal expansion of  $1/4$ -inch thick James Hardie fiber cement products.
- 6.31 Ramtech Laboratories, Inc., Laboratory No. 9778-93, IC-1225-93, dated June 4, 1993,. The Hardibacker board was tested in accordance with ASTM C 177 *Test for Steady-State Thermal Transmission Properties by Means of the Guarded Hot Plate*. The results are listed in Table 4 of this report.
- 6.32 Ramtech Laboratories, Inc., Test Report No. IC-1230-93, Laboratory No. 9778-93, dated June 1993. The Hardibacker® board materials were tested in accordance with ASTM E 96-90 to determine the water vapor transmission properties. The average permeance (perms) of the panels are shown in Table 5 of this report.
- 6.33 Ramtech Laboratories, Inc. Laboratory No. 10367A-95/1363, dated September 18, 1995. The  $7 1/4$ -inch and  $9 1/4$ -inch wide Hardiplank® lap sidings were tested in accordance with ASTM E 330 Transverse Load Test. The panels were installed on nominal 2 x 4 wood structural members spaced 16 inches on center (o.c.).
- 6.34 Structural Calculations verifying design values for Table 3 of this report, prepared by Inspection Concepts dated October 6, 1995, signed by Ronald I. Ogawa, P.E.
- 6.35 Wind analysis and calculations for Hardishingle and Hardislate roofing and Hardie® Shingleside® cladding installed with 8-, 7-, and 6-inch weather exposures. Analysis and calculations conducted by Ronald I. Ogawa, P.E. dated March 28, 1997; March 31, 1997; and April 2, 1997.

- 6.36** Structural calculations to determine design wind load on 8.25 Hardiplank®, dated October 24, 1996, signed and sealed by Ronald I. Ogawa, P.E. of Inspection Concepts Inc..
- 6.37** Structural calculations to determine design values for **Tables 2a, 2b, and 3** of this report, prepared by Inspection Concepts dated July 16, 1997, July 19, 1997, and August 19, 1997, signed and sealed by Ronald I. Ogawa, P.E.
- 6.38** Ramtech Laboratories, Inc., Report Lab. No. 10868-97/1475, dated June 26, 1997. The report contains results of testing in accordance with ASTM E 72 and ASTM E 330 on  $5/16$ -inch thick Hardipanel.
- 6.39** Ramtech Laboratories, Inc., Report Lab. No. 10869-97/1482, dated July 14, 1997 containing results of transverse load testing in accordance with ASTM E 72 on  $9 1/4$ -inch wide Hardiplank® lap siding.
- 6.40** Applied Research Laboratories, Lab No. 29278-UD1, dated September 1, 1994, containing reports of tensile pull-out testing of fasteners.
- 6.41** Structural calculations to determine the allowable fastener spacing based on a wind speed of 110 mph, Exposure Category C, prepared by Inspection Concepts, dated November 2, 1994, signed and sealed by Ronald I. Ogawa, P.E.
- 6.42** Ramtech Laboratories, Inc., Laboratory Number 10794-97/1458, dated March 13, 1997, containing results of an Uplift Resistance Test of 18-inch long by 12-inch wide by  $1/4$ -inch thick Hardishingle™ roofing installed on  $15/32$ -inch thick, 4 ply, 3 layer CDX plywood.
- 6.43** Ramtech Laboratories, Inc., Laboratory Number 10794-97/1460, dated March 13, 1997, containing results of an Uplift Resistance Test of 18-inch long by 12-inch wide by  $1/4$ -inch thick Hardie® Shingleside® as siding roofing installed on  $7/16$ -inch thick Oriented Strand Board utilizing 2 siding nails per 12-inch wide panel.
- 6.44** Ramtech Laboratories, Inc., Laboratory Number 10794-97/1464, dated March 13, 1997, containing results of an Uplift Resistance Test of 18-inch long by 12-inch wide by  $1/4$ -inch thick Hardie® Shingleside® as siding roofing installed on  $7/16$ -inch thick Oriented Strand Board utilizing 3 siding nails per 12-inch wide panel.
- 6.45** Ramtech Laboratories, Inc., Laboratory Number 11149-98/1554, dated October 7, 1998, containing results of an ASTM E 330 Transverse Load Test of  $6 1/4$ -inch wide Hardiplank® siding installed on 20-ga. metal framing members spaced at 16-inch and 24-inch centers and fastened with ET & F pin fasteners through the lap to each stud.
- 6.46** Ramtech Laboratories, Inc., Laboratory Number 11149-98/1554A, dated October 7, 1998, containing results of an ASTM E 330 Transverse Load Test of 12-inch wide Hardiplank® siding installed on 20-ga. metal framing members spaced at 16-inch and 24-inch centers and fastened with ET & F pin fasteners through the lap to each stud.
- 6.47** Ramtech Laboratories, Inc., Laboratory Number 11149-98/1554B, dated October 7, 1998, containing results of an ASTM E 330 Transverse Load Test of  $8 1/4$ -inch wide Hardiplank® siding installed on 20-ga. metal framing members spaced at 16-inch and 24-inch centers and fastened with ET & F pin fasteners blind nailed to each stud.
- 6.48** Ramtech Laboratories, Inc., Laboratory Number 11284-99/1580, dated April 15, 1999, containing results of an ASTM E 72 Racking Shear Test of  $5/16$ -inch thick x 48-inch wide x 96-inch long Hardipanel® siding installed on 20-ga. metal framing members spaced at 16-inch and 24-inch centers and fastened with ET & F pin fasteners spaced at 4 inches o.c. perimeter and 8 inches o.c. intermediate framing members.
- 6.49** Ramtech Laboratories, Inc., Laboratory Number 11149-98/1554D, dated September 14, 1998, containing results of an ASTM E 330 Transverse Load Test of  $5/16$ -inch thick x 48-inch wide x 96-inch long Hardipanel® siding installed on 20-ga. metal framing members spaced at 16-inch and 24-inch centers and fastened with ET & F pin fasteners spaced at 4 inches o.c. perimeter and 8 inches o.c. intermediate framing members.
- 6.50** Wind analysis and calculations for Hardipanel® panels for exposure categories B, C, and D. Analysis and calculations signed and sealed by Ronald I. Ogawa, P.E., dated March 26, 2000.
- 6.51** Ramtech Laboratories, Inc., Laboratory Number 11552/1636, dated April 20, 2000, containing results of an ASTM E 330 Uplift Resistance Test of  $1/4$ -inch thick x 24-inch wide vented Hardisoffit® panel installed on nominal 2 x 4 framing members spaced at 24 inch centers and fastened with  $1 1/4$ -inch long x 0.083 inch shank x 0.187 inch HD nails spaced at 8 inches o.c. perimeter and intermediate framing members.
- 6.52** Wind analysis and calculations for 24-inch wide vented Hardisoffit® panel for exposure categories B, C, and D. Analysis and calculations signed and sealed by Ronald I. Ogawa, P.E., dated May 4, 2000.
- 6.53** Ramtech Laboratories, Inc., Laboratory Number 11436-99/1602, dated October 29, 1999, containing results of an ASTM E 330 Transverse Load Test of  $1/4$ -inch thick x 19-inch long x 48-inch wide Heritage™ (half round) panel siding installed on  $7/16$ -inch thick APA rated Oriented Strand Board sheathing only with  $1 1/4$ -inch long x 0.083-inch shank x 0.187-inch HD nails spaced at  $13 3/4$ -inch o.c.
- 6.54** Ramtech Laboratories, Inc., Laboratory Number 11436-99/1603, dated October 27, 1999, containing results of an ASTM E 330 Transverse Load Test of  $1/4$ -inch thick x 19-inch long x 48-inch wide Heritage™ (half round) panel siding installed on nominal 2 x 4 framing members spaced at 16-inch centers and fastened with  $1 1/4$ -inch long x 0.083-inch shank x 0.187-inch HD nails to each framing member.

- 6.55** Ramtech Laboratories, Inc., Laboratory Number 11436-99/1604, dated October 28, 1999, containing results of an ASTM E 330 Transverse Load Test of  $\frac{1}{4}$ -inch thick x 19-inch long x 48-inch wide Heritage™ (half round) panel siding installed on nominal 2 x 4 framing members spaced at 24-inch centers and fastened with  $1\frac{1}{4}$ -inch long x 0.083-inch shank x 0.187-inch HD nails to each framing member.
- 6.56** Letter justifying horizontal application of panels in accordance with [Table 3](#) of this report, based on Table 23-II-I-1 of the 1997 *Uniform Building Code*™ and similar tables in the BOCA® *National Building Code*/1999 and 1999 *Standard Building Code*®, prepared by Inspection Concepts Inc., dated October 20, 1999, and signed and sealed by Ronald I. Ogawa, P.E.
- 6.57** Wind analysis and calculations for Hardiplank® lap siding installed with ET & F pin fasteners for exposure categories B, C, and D. Analysis and calculations signed and sealed by Ronald I. Ogawa, P.E., dated December 14, 1998.
- 6.58** Wind analysis and calculations for Hardiplank® lap siding based on various test reports of installations with nail and screw fasteners. Analysis and calculations signed and sealed by Ronald I. Ogawa, P.E., dated July 7, 1998.
- 6.59** Underwriters Laboratories Inc. letter, dated May 29, 1997, recognizing James Hardie Gypsum's  $\frac{1}{4}$ -inch thick Hardirock® Max "C"™ gypsum board as an alternative to Super Fire X gypsum board.
- 6.60** Underwriters Laboratories Inc. letter, dated February 23, 2000, recognizing James Hardie® Gypsum's  $\frac{1}{4}$ -inch thick Hardirock® Max "C"™ gypsum board as an alternative to Super Fire X gypsum board.
- 6.61** Underwriters Laboratories, Inc., File R8701, Project 96NK16606, dated December 19, 1996, containing results of ANSI/UL 263 (ASTM E 119, NFPA 251), *Fire Tests of Building Construction and Materials*, for  $\frac{1}{4}$ -inch thick x 8 feet long x 4 feet wide gypsum board installed on steel columns of 25 MSG steel studs spaced at 12-inch centers and fastened with 3-inch long Type S self-drilling, self-tapping board screws spaced at 12-inch centers in a UL G512 assembly.
- 6.62** Underwriters Laboratories, Inc., File R8701, Project 96NK35820, dated July 23, 1997, containing results of ANSI/UL 263 (ASTM E 119, NFPA 251), *Fire Tests of Building Construction and Materials*, for  $\frac{5}{8}$ -inch thick x 144-inch long x 48-inch wide gypsum board installed in a UL X515 floor-ceiling assembly.
- 6.63** Wind analysis and calculations for Shingleside® Heritage™ panels for exposure categories B, C, and D. Analysis and calculations signed and sealed by Ronald I. Ogawa, P.E., dated December 3, 1999.
- 6.64** Ramtech Laboratories, Inc., Laboratory Number 11436-99/1612, dated December 20, 1999, containing results of an ASTM E 72 Racking Shear Test of  $\frac{5}{16}$ -inch thick x 48-inch wide x 96-inch long Hardipanel® Shiplap siding installed on nominal 2 x 4 wood framing members spaced at 16-inch centers and fastened with 0.092-inch shank by 0.225-inch HD by 2-inch long nails spaced at 3 inches o.c. perimeter and 8 inches o.c. intermediate framing members.
- 6.65** Ramtech Laboratories, Inc., Laboratory Number 11436-99/1616, dated December 27, 1999, containing results of an ASTM E 72 Racking Shear Test of  $\frac{5}{16}$ -inch thick x 48-inch wide x 96-inch long Hardipanel® Shiplap siding installed on nominal 2 x 4 wood framing members spaced at 16-inch centers and fastened with 0.092-inch shank by 0.225 inch HD by 2-inch long nails spaced at 8 inches o.c. perimeter and 8 inches o.c. intermediate framing members.
- 6.66** Wind analysis and calculations of Ramtech Laboratories, Inc., Test Reports Laboratory Number 11436-99/1612 and 11436/1616, prepared by Inspection Concepts dated January 14, 2000, signed and sealed by Ronald I. Ogawa, P.E.
- 6.67** Wind analysis and calculations for Hardipanel® installed on steel studs spaced 16 and 24 inches o.c. Analysis and calculations signed and sealed by Ronald I. Ogawa, P.E., dated June 15, 1999.
- 6.68** Ramtech Laboratories, Inc., Laboratory Number 11436-99/1619, dated January 19, 2000, containing results of a Uniform Negative Transverse Load Test of  $\frac{5}{16}$ -inch thick x 48-inch wide x 96-inch long Hardipanel® Shiplap Panel installed on nominal 2 x 4 wood framing members spaced at 16-inch centers and fastened with 0.092-inch shank by 0.225-inch HD by 2-inch long ring shank nails spaced at 3 inches and 8 inches o.c. perimeter and 8 inches o.c. field.
- 6.69** Wind analysis and calculations of Ramtech Laboratories, Inc., Test Report Laboratory Number 11436-99/1619, prepared by Inspection Concepts dated February 4, 2000, signed and sealed by Ronald I. Ogawa, P.E.
- 6.70** Ramtech Laboratories, Inc., Laboratory Number 11443/1613, dated February 10, 2000, containing results of testing, in accordance with ASTM C 36, of  $\frac{5}{8}$ -inch thick x 48-inch wide x 120-inch long Titan®-FR panel consisting of  $\frac{1}{4}$ -inch thick Hardirock® Max "C"™ gypsum board and  $\frac{3}{32}$ -inch thick Hardie® fiber-cement board adhered with PVA adhesive.
- 6.71** Ramtech Laboratories, Inc., Laboratory Number 11443/1613, dated March 25, 2000, revision to report to additionally show compliance with ASTM C 1278.
- 6.72** Ramtech Laboratories, Inc., Laboratory Number 11443/1629, dated March 22, 2000, containing testing of Hardibacker 500® in accordance with ASTM C 1288, *Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets*.
- 6.73** Omega Point Laboratories, Report Number 11710-106315, dated March 7, 2000, containing results of surface burning characteristic testing, indicating compliance with ASTM E 84 for the Hardibacker 500® backerboard.
- 6.74** Ramtech Laboratories, Inc., Laboratory Number 11569/1647, dated June 2, 2000, containing results of water tightness testing performed in accordance with ASTM C 1185 on Hardibacker 500®.

- 6.75** Ramtech Laboratories, Inc., Laboratory Number 11569B/1655, dated June 27, 2000, containing results of falling ball impact testing performed in accordance with ASTM D 1037 on Hardibacker 500®.
- 6.76** Ramtech Laboratories, Inc. Laboratory Number 11569A/1654, dated July 10, 2000, containing results of flexural strength testing performed in accordance with ASTM C 947, freeze thaw testing performed in accordance with ASTM C 666, and bacteria resistance testing performed in accordance with ASTM G 22 on the Hardibacker 500®.
- 6.77** Analysis of screw attachment to 20-gage metal studs and calculations by Ronald I. Ogawa, P.E., signed and sealed 10/10/01.
- 6.78** Analysis and wind load and wind speed by analysis of Ramtech Laboratories Report Lab No. IC-1035-88, analysis prepared by Inspection concepts, Inc., 15-Oct-01, signed and sealed by Ronald I. Ogawa, P.E., 10/16/01.
- 6.79** Test report on thermal conductivity under ASTM C 177 for 13/32-inch thick Hardibacker 500, Ramtech Laboratories, Inc., Lab No. 11670/1685, November 29, 2000, signed and sealed by Ronald I. Ogawa, P.E. and signed by David R. Macey.
- 6.80** Test report on moisture vapor transmission under ASTM E 96 for 13/32-inch Hardibacker 500, Ramtech Laboratories, Inc., Lab No. 11639/1674, October 10, 2000, signed and sealed by Ronald I. Ogawa, P.E. and signed by David R. Macey.
- 6.81** Test report equivalency testing for 5/16-inch Hardipanel Cladding with 6-,4-,3- and 2-inch nail spacing on 16- and 24-inch o.c. wood 2x4 studs, Ramtech Laboratories, Inc., Lab No. 11992/1783, January 17, 2002, signed and sealed by Ronald I. Ogawa, P.E. 1/1/02, and David R. Macey, 1/21/02.
- 7.0 CONDITIONS OF USE**
- The ICC-ES Subcommittee for the National Evaluation Service finds that James Hardie Building Products, as described in this report, comply with or are suitable alternates to that specified in the 2000 *International Building Code*®, the BOCA® *National Building Code*/1999, the 1999 *Standard Building Code*®, the 1997 *Uniform Building Code*™, the 2000 *International Residential Code*®, the 2002 *Accumulative Supplement to the International Codes*™, and the 1998 *International One and Two Family Dwelling Code*® subject to the following conditions:
- 7.1** James Hardie Building Products listed in this report shall be installed in accordance with this report. This Evaluation Report and the manufacturer's published installation instructions, when required by the code official, shall be submitted at the time of permit application.
- 7.2** Hardiplank® lap siding and Hardishingle™ cladding shingle and panel sidings shall be installed on exterior walls braced in accordance with the applicable code:
- 7.2.1** Section 2305.7 of the BOCA® *National Building Code*.
- 7.2.2** Section 2308.2 of the *Standard Building Code*®.
- 7.2.3** Section 2320.11.3 and 2320.11.4 of the *Uniform Building Code*™.
- 7.2.4** Section 2308.9.3 of the *International Building Code*®.
- 7.2.5** Section R602.10.3 of the *International Residential Code*®.
- 7.2.6** Section 602.10 of the *International One and Two Family Dwelling Code*®.
- 7.3** Design Wind Loads applied to James Hardie Sidings listed in this report shall be determined in accordance with Chapter 16 of the applicable code and shall be less than those shown in the design tables in this report.
- 7.3.1** Design Tables 2a and 2b as shown in this report provides allowable capacity in MPH for transverse load conditions for James Hardie Sidings attached to studs. When using the *International Building Code*® the wind speeds must be converted to 3 second gust wind speed (mph) using Table 1609.3.1 of the IBC and the allowable wind speeds shown in Tables 2a and 2b for the column titled BOCA® *National Building Code* (See 7.3.5 below).
- 7.3.2** ~~Design Table 3 as shown in this report provides allowable shear capacity in plf for James Hardie Sidings.~~ \*
- 7.3.3** Design Tables 6A, 6B, 6C, 7A, 7B, 7C, 8A, 8B, 8C as shown in this report provides allowable capacity in MPH for transverse load conditions for James Hardie Sidings attached to sheathing. When using the *International Building Code*® the wind speeds must be converted to 3 second gust wind speed (mph) using Table 1609.3.1 of the IBC and the allowable wind speeds shown in Tables 6A, 7A, and 8A for the BOCA® *National Building Code* (See 7.3.5 below).
- 7.3.4** Design Tables 9A, 9B, 9C as shown in this report provides allowable fastener spacing for James Hardiplank Lap Siding attached to CMUs in 110 MPH wind speed. When using the *International Building Code*® fastener spacings shown in Table 9B are applicable for a Wind Speed of 130 MPH.

## 7.3.5

**INTERNATIONAL BUILDING CODE®**  
**TABLE 1609.3.1**  
**EQUIVALENT BASIC WIND SPEEDS<sup>a,b,c</sup>**

|          |    |    |     |     |     |     |     |     |     |     |     |     |     |
|----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| $V_{3s}$ | 85 | 90 | 100 | 105 | 110 | 120 | 125 | 130 | 140 | 145 | 150 | 160 | 170 |
| $V_{fm}$ | 70 | 75 | 80  | 85  | 90  | 100 | 105 | 110 | 120 | 125 | 130 | 140 | 150 |

For **SI**: 1 mile per hour = 0.44 m/s.

- a. Linear interpolation is permitted.
- b.  $V_{3s}$  is the 3 second gust wind speed (mph).
- c.  $V_{fm}$  is the fastest mile wind speed (mph).

**INTERNATIONAL RESIDENTIAL CODE®**  
**TABLE R301.2.1.3**  
**EQUIVALENT BASIC WIND SPEEDS<sup>a</sup>**

|               |    |    |     |     |     |     |     |     |     |     |     |     |     |
|---------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 3-second gust | 85 | 90 | 100 | 105 | 110 | 120 | 125 | 130 | 140 | 145 | 150 | 160 | 170 |
| Fastest mile  | 70 | 75 | 80  | 85  | 90  | 100 | 105 | 110 | 120 | 125 | 130 | 140 | 150 |

For **SI**: 1 mile per hour = 1.609 km/h.

- a. Linear interpolation is permitted.

- |  |   |
|--|---|
| <p><b>7.4</b> The exterior plank and panel products installed on exterior walls shall be installed over a weather-resistive barrier in accordance with applicable codes.</p> <p><b>7.4.1</b> In jurisdictions adopting the <i>Uniform Building Code™</i> and the <i>Standard Building Code®</i>, Harditex® baseboard is acceptable for use as water repellent panel sheathing. The weather-resistance performance of joints and terminations has not been evaluated.</p> <p><b>7.5</b> Compressed sheet of equivalent thickness to Species Group 1 plywood is an acceptable alternative to plywood subflooring specified in:</p> <p><b>7.5.1</b> Section 2307.3.3 of the BOCA® <i>National Building Code</i>, Table 2307.3.3.</p> <p><b>7.5.2</b> Section 2307.6 of the <i>Standard Building Code®</i>, Table 2307.6C.</p> <p><b>7.5.3</b> Section 2320.9.2 and Table 23-II-F-1 of the <i>Uniform Building Code™</i>.</p> <p><b>7.5.4</b> Section 2304.7.2 of the <i>International Building Code®</i>, Table 2304.7(4).</p> <p><b>7.5.5</b> Section R503.2.1.1 of the <i>International Residential Code®</i>, Table R503.2.1(2).</p> <p><b>7.5.6</b> Section 503.2.1.1 of the <i>International One and Two Family Dwelling Code®</i>, Table 503.2.1.1(2).</p> <p><b>7.6</b> Use of compressed sheet subfloor as a component of a floor diaphragm is outside the scope of this report.</p> <p><b>7.7</b> <math>5/8</math>-inch (15.9 mm) thick Titan®-FR panel is recognized as an alternative to <math>5/8</math>-inch (15.9 mm) thick ASTM C 36, Type "X", gypsum board, or <math>5/8</math>-inch thick ASTM C 1278, Type "X" gypsum fiber panel for use in fire-resistive construction recognized in the above referenced codes.</p> | <p><b>7.8</b> <math>5/16</math>-inch (7.5 mm) thick Hardipanel® cladding and Harditex® baseboard are recognized as an alternative to <math>3/8</math>-inch (9.5 mm) thick Structural I panel in:</p> <p><b>7.8.1</b> Table 2306.4.6.2 of the BOCA® <i>National Building Code</i>.</p> <p><b>7.8.2</b> Table 2310.2.B of the <i>Standard Building Code®</i>.</p> <p><b>7.8.3</b> Table 23-II-I-1 of the <i>Uniform Building Code™</i>.</p> <p><b>7.8.4</b> Table 2306.4.1 of the <i>International Building Code®</i>.</p> <p><b>7.8.5</b> Table R703.4 of the <i>International Residential Code®</i>.</p> <p><b>7.8.6</b> Table 703.4 of the <i>International One and Two Family Dwelling Code®</i>.</p> <p><b>7.9</b> Flashing shall be installed at all penetrations and terminations in accordance with the applicable code.</p> <p><b>7.10</b> The products shall be manufactured at the following locations with quality control inspections by Intertek Testing Services, Inc. (NER-QA219):</p> <ul style="list-style-type: none"> <li>● Fontana, California</li> <li>● Cleburne, Texas</li> <li>● Plant City, Florida</li> <li>● Tacoma, Washington</li> <li>● Rose Hill, NSW, Australia</li> <li>● Carole Park, Queensland, Australia</li> <li>● Penrose, Auckland, New Zealand</li> <li>● Waxahachie, Texas</li> <li>● Blandon, Pennsylvania</li> <li>● Summerville, South Carolina</li> <li>● Peru, Illinois</li> <li>● Santiago, Chile</li> </ul> <p><b>7.11</b> This report is subject to periodic re-examination. For information on the current status of this report, consult the ICC-ES website.</p> |
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**Table 1**  
**STANDARD NOMINAL PLANK & PANEL DIMENSIONS**

| <b>Product Type</b>                          | <b>Width</b>  | <b>Length</b>    | <b>Thicknesses (Inches)</b> |
|--|---|------------------|-----------------------------|
| Hardiplank                                   | 4, 5-1/4, 6, 6-1/4, 7-1/4, 7-1/2, 8, 8-1/4, 9-1/4, 9-1/2 11-1/4 & 12 inches | 12, 14 feet      | 5/16                        |
| Hardisoffit (unvented)                       | 4, 6, 12, 16, 24 & 48 inches  | 8 & 12 feet      | 3/16 & 1/4                  |
| Hardisoffit (vented)                         | 4, 6, 12, 16 & 24 inches  | 12 feet          | 1/4                         |
| Hardiflex                                    | 48 inches   | 8, 9 & 10 feet   | 3/16, 1/4, 5/16 & 3/8       |
| Hardipanel                                   | 48 inches   | 8, 9 & 10 feet   | 1/4 & 5/16                  |
| Harditex                                     | 48 inches   | 8, 9 & 10 feet   | 1/4, 5/16, 3/8 & 7/16       |
| Hardipanel Shiplap                           | 48-3/4 inches   | 8, 9 & 10 feet   | 5/16                        |
| Hardibacker (backerboard)                    | 36 & 48 inches  | 4, 5, 8 feet     | 1/4 & 7/16                  |
| Hardibacker 500 (backerboard)                | 36 & 48 inches  | 5, 8, 9, 10 feet | 13/32                       |
| Titan (tapered edge)                         | 48 inches   | 8, 9 & 10 feet   | 1/4 & 7/16                  |
| Hardibacker (underlayment)                   | 36 & 48 inches  | 4, 5 & 8 feet    | 1/4                         |
| Titan-FR                                     | 48 inches   | 8, 9 & 10 feet   | 5/8                         |
| Hardishingle cladding shingles               | 6, 8, & 12 inches   | 18 inches        | 1/4                         |
| Hardishingle panel (square & staggered edge) | 48 inches   | 16 inches        | 1/4                         |
| Hardishingle panel (half round)              | 48 inches   | 19 inches        | 1/4                         |
| Compressed Sheet                             | 48 inches   | 8, 9 ,10 feet    | 1/2, 5/8 & 3/4              |

**Notes to Table 1:**

1. Plank and panel products are also available in other lengths, widths, and thicknesses by special arrangement.
2. 1 inch = 25.4 mm, 1 ft = 304.8 mm

Table 2a — MAXIMUM WIND SPEED

\*

| Product Type   | Product Thick. (in.) | Fastener Type   | Fastener Spacing (in.) | Frame Type <sup>1</sup> | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |    |                             |     |     |
|--|----------------------|---|------------------------|-------------------------|--------------------|---------------------|--|-----|-----|------------------------|-----|----|-----------------------------|-----|-----|
|  |                      |   |                        |                         |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |    | BOCA National Building Code |     |     |
|  |                      |   |                        |                         |                    |                     | B  | C   | D   | < 60 ft                | C   | D  | B                           | C   | D   |
| Hardiflex Hardisoffit (unvented)                     | 3/16                 | 4d common 1-1/2 in. long  | 6                      | 2 x 4 wood              | 16                 | 20                  | 90   | 70  | -   | 90                     | 70  | -  | 90                          | 70  |     |
|  |                      |   |                        |                         |                    | 40                  | 80   |     | 80  |                        |     | 80 |                             |     |     |
|  |                      |   |                        |                         |                    | 60                  | 70   |     | 70  |                        |     | 70 |                             |     |     |
|  |                      |   |                        |                         |                    | 100                 | 70   |     |     |                        |     | 70 |                             |     |     |
| Hardipanel Hardiflex Harditex Hardisoffit (unvented) | 1/4                  | 4d common 1-1/2 in. long  | 8                      | 2 x 4 wood              | 16                 | 20                  | 90   |     | -   | 90                     |     | -  | 90                          |     | -   |
|  |                      |   |                        |                         | 24                 | 40                  | 80   |     | 80  |                        |     | 80 |                             |     |     |
|  |                      |   |                        |                         |                    | 60                  | 70   |     | 70  |                        |     | 70 |                             |     |     |
|  |                      |   |                        |                         |                    | 20                  | 70   |     |     |                        |     | 70 |                             |     |     |
|  |                      |   |                        |                         | 40                 |                     |  |     |     |                        |     |    |                             |     |     |
| Hardisoffit (vented)                                 | 1/4                  | 0.083" shank x 0.187" HD ringshank nail at 8" o.c. at all bearing | -                      | 2 x 4 SG = 0.40         | 22.5 max           | 0-15                | 150  | 140 | 120 | 150                    |     |    | 150                         | 140 | 110 |
|  |                      |   |                        |                         |                    | 20                  | 150  | 130 | 120 | 140                    |     |    | 150                         | 130 | 110 |
|  |                      |   |                        |                         |                    | 40                  | 150  | 130 | 110 | 130                    |     |    | 150                         | 120 | 100 |
|  |                      |   |                        |                         |                    | 60                  | 150  | 120 | 110 | 120                    |     |    | 150                         | 110 | 100 |
|  |                      |   |                        |                         |                    | 100                 | 140  | 105 | 100 |                        | 105 | 90 | 130                         | 105 | 90  |
| Hardipanel Hardiflex Harditex                        | 1/4                  | 6d common 2 in. long  | 6                      | 2 x 4 wood              | 16                 | 20                  | 120  | 100 | -   | 120                    | 120 | -  | 120                         | 100 | -   |
|  |                      |   |                        |                         |                    | 40                  | 120  | 95  |     | 120                    | 110 |    | 120                         | 90  |     |
|  |                      |   |                        |                         |                    | 60                  | 110  | 90  |     | 120                    | 110 |    | 120                         | 90  |     |
|  |                      |   |                        |                         |                    | 100                 | 100  | 85  |     | 70                     | 70  |    | 95                          | 70  |     |
|  |                      |   |                        |                         |                    | 200                 | 90   | 80  |     | 70                     | 70  |    | 80                          | 70  |     |
| Hardipanel Hardiflex Harditex                        | 1/4                  | No. 11 ga. 1-1/4 in. long galvanized roofing nail                 | 6                      | 2 x 4 wood              | 16                 | 20                  | 110  | 80  | -   | 110                    | 80  | -  | 110                         | 80  | -   |
|  |                      |   |                        |                         |                    | 40                  | 105  | 80  |     | 105                    | 80  |    | 105                         | 80  |     |
|  |                      |   |                        |                         |                    | 100                 | 90   | 70  |     | 70                     | 70  |    | 90                          | 70  |     |
|  |                      |   |                        |                         |                    | 150                 | 80   | 70  |     | 70                     | 70  |    | 80                          | 70  |     |
|  |                      |   |                        |                         |                    | 200                 | 80   |     |     |                        |     |    | 80                          |     |     |
|  | 20                   | 80  |                        |                         | 40                 | 80                  |  |     | 80  |                        |     |    |                             |     |     |
| Hardipanel Hardiflex Harditex                        | 1/4                  | No. 11 ga. 1-1/4 in. long galvanized roofing nail                 | 4 edge 12 field        | 2 x 4 wood              | 16                 | 20                  | 120  | 90  | -   | 120                    | 90  | -  | 120                         | 90  | -   |
|  |                      |   |                        |                         |                    | 40                  | 120  | 90  |     | 120                    | 90  |    | 120                         | 90  |     |
|  |                      |   |                        |                         |                    | 60                  |  |     |     |                        |     |    |                             |     |     |
|  |                      |   |                        |                         |                    | 100                 | 100  | 80  |     | 80                     | 100 |    | 100                         | 80  |     |
|  |                      |   |                        |                         |                    | 200                 | 90   | 70  |     | 70                     | 90  |    | 70                          | 70  |     |
| Hardipanel Hardiflex Harditex                        | 5/16                 | 0.091 in. shank, 0.225 in. HD, 1.5 in. long ring shank nail       | 4 edge 8 field         | 2 x 4 wood <sup>2</sup> | 16                 | 0-15                | 110  | 100 | -   | 100                    | 80  | -  | 115                         | 85  | -   |
|  |                      |   |                        |                         |                    | 20                  | 110  | 95  |     | 95                     | 75  |    | 110                         | 80  |     |
|  |                      |   |                        |                         |                    | 40                  | 95   | 85  |     | 85                     | 70  |    | 95                          | 75  |     |
|  |                      |   |                        |                         |                    | 60                  | 90   | 80  |     | 80                     |     |    | 85                          | 70  |     |
|  |                      |   |                        |                         |                    | 100                 | 80   |     |     |                        |     |    | 70                          | 70  |     |
| Hardipanel Hardiflex Harditex                        | 5/16                 | 4d common 1-1/2 in. long  | 8                      | 2 x 4 wood              | 16                 | 40                  | 110  | 80  | -   | 110                    | 80  | -  | 110                         | 80  | -   |
|  |                      |   |                        |                         | 24                 | 100                 | 90   |     | 70  | 70                     |     | 90 | 70                          |     |     |
|  |                      |   |                        |                         |                    | 150                 | 80   |     |     |                        |     | 80 |                             |     |     |
|  |                      |   |                        |                         |                    | 200                 | 70   |     |     |                        |     | 70 |                             |     |     |
|  |                      |   |                        |                         |                    | 20                  | 90   |     |     | 40                     | 80  |    |                             | 80  |     |
|  | 60                   | 70  |                        |                         |                    |                     |  |     | 70  |                        |     |    |                             |     |     |
| Hardipanel Hardiflex Harditex                        | 5/16                 | 6d common 2 in. long  | 6                      | 2 x 4 wood              | 16                 | 20                  | 120  | 110 | -   | 120                    | 120 | -  | 120                         | 100 | -   |
|  |                      |   |                        |                         |                    | 40                  | 120  | 100 |     | 120                    | 120 |    | 120                         | 90  |     |
|  |                      |   |                        |                         |                    | 60                  | 110  | 95  |     | 120                    | 100 |    | 120                         | 80  |     |
|  |                      |   |                        |                         |                    | 100                 | 100  | 90  |     | 90                     | 95  |    | 95                          | 70  |     |
|  |                      |   |                        |                         |                    | 200                 | 90   | 80  |     |                        |     |    | 80                          |     |     |
| Hardipanel Hardiflex Harditex                        | 5/16                 | 6d common 2 in. long  | 6                      | 2 x 4 wood              | 24                 | 20                  | 110  | 80  | -   | 120                    | 110 | -  | 120                         | 80  | -   |
|  |                      |   |                        |                         |                    | 40                  | 100  | 80  |     | 105                    | 90  |    | 105                         | 80  |     |
|  |                      |   |                        |                         |                    | 60                  | 90   | 70  |     | 95                     | 90  |    | 95                          | 70  |     |
|  |                      |   |                        |                         |                    | 100                 | 80   | 70  |     |                        |     |    | 80                          |     |     |
|  |                      |   |                        |                         |                    | 200                 | 70   |     |     |                        |     |    | 70                          |     |     |
| Hardipanel Hardiflex Harditex                        | 5/16                 | 6d common 2 in. long  | 4                      | 2 x 4 wood              | 16                 | 20                  | 120  | 120 | -   | 120                    | 120 | -  | 120                         | 100 | -   |
|  |                      |   |                        |                         |                    | 40                  | 120  | 120 |     | 120                    | 120 |    | 120                         | 100 |     |
|  |                      |   |                        |                         |                    | 60                  | 120  | 120 |     | 120                    | 110 |    | 120                         | 90  |     |
|  |                      |   |                        |                         |                    | 100                 | 120  | 110 |     | 80                     | 80  |    | 120                         | 80  |     |
|  |                      |   |                        |                         |                    | 200                 | 120  | 100 |     | 70                     | 70  |    | 105                         | 70  |     |
| Hardipanel Hardiflex Harditex                        | 5/16                 | 6d common 2 in. long  | 4                      | 2 x 4 wood              | 24                 | 20                  | 120  | 105 | -   | 120                    | 120 | -  | 120                         | 105 | -   |
|  |                      |   |                        |                         |                    | 40                  | 120  | 100 |     | 120                    | 110 |    | 120                         | 95  |     |
|  |                      |   |                        |                         |                    | 60                  | 110  | 90  |     | 120                    | 110 |    | 120                         | 90  |     |
|  |                      |   |                        |                         |                    | 100                 | 100  | 85  |     | 80                     | 80  |    | 100                         | 80  |     |
|  |                      |   |                        |                         |                    | 200                 | 90   | 80  |     | 70                     | 70  |    | 80                          | 70  |     |

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Table 2a — MAXIMUM WIND SPEED

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| Product Type                              | Product Thick. (in.) | Fastener Type   | Fastener Spacing (in.) | Frame Type <sup>1</sup> | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|---|----------------------|---|------------------------|-------------------------|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|   |                      |   |                        |                         |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|   |                      |   |                        |                         |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardipanel Hardiflex Harditex             | 5/16                 | 6d common 2 in. long                                  | 6 edge 12 field        | 2 x 4 wood              | 16                 | 40                  | 120  | 90  | -   | 120                    | 90  | -   | 120                         | 90  | -   |
|   |                      |   |                        |                         |                    | 60                  | 100  | 80  | 110 | 80                     | -   | 100 | 80                          | -   |     |
|   |                      |   |                        |                         |                    | 100                 | 90   | 70  | 70  | 70                     | -   | 90  | 70                          | -   |     |
| Hardipanel Shiplap Panel                  | 5/16                 | 0.092" shank x 2" x 0.225" HD ringshank nail          | 3 edge 8 field         | 2 x 4 SG = 0.40         | 16                 | 0-15                | 140  | 110 | 95  | 125                    | -   | -   | 150                         | 110 | 90  |
|   |                      |   |                        |                         |                    | 20                  | 130  | 105 | 120 | -                      | -   | 150 | 105                         | 85  |     |
|   |                      |   |                        |                         |                    | 40                  | 120  | 95  | 110 | -                      | -   | 130 | 95                          | 80  |     |
|   |                      |   |                        |                         |                    | 60                  | 115  | 90  | 100 | 80                     | -   | 120 | 90                          | 75  |     |
|   |                      |   |                        |                         |                    | 100                 | 105  | 85  | 80  | 80                     | 80  | 95  | 80                          | -   |     |
| Hardipanel Shiplap Panel                  | 5/16                 | 0.092" shank x 2" x 0.225" HD ringshank nail          | 4 edge 8 field         | 2 x 4 SG = 0.40         | 16                 | 0-15                | 130  | 100 | 90  | 120                    | -   | -   | 150                         | 105 | 85  |
|   |                      |   |                        |                         |                    | 20                  | 130  | 100 | 90  | 115                    | -   | -   | 140                         | 100 | 80  |
|   |                      |   |                        |                         |                    | 40                  | 115  | 95  | 85  | 100                    | -   | -   | 125                         | 90  | 75  |
|   |                      |   |                        |                         |                    | 60                  | 110  | 90  | 80  | 95                     | 75  | -   | 115                         | 85  | 75  |
|   |                      |   |                        |                         |                    | 100                 | 100  | 80  | 75  | 75                     | -   | 90  | 75                          | -   |     |
| Hardipanel Shiplap Panel                  | 5/16                 | 0.092" shank x 2" x 0.225" HD ringshank nail          | 5 edge 8 field         | 2 x 4 SG = 0.40         | 16                 | 0-15                | 130  | 95  | 85  | 115                    | -   | -   | 140                         | 90  | 80  |
|   |                      |   |                        |                         |                    | 20                  | 120  | 95  | 80  | 110                    | -   | -   | 140                         | 90  | 80  |
|   |                      |   |                        |                         |                    | 40                  | 110  | 85  | 80  | 95                     | -   | -   | 120                         | 85  | 75  |
|   |                      |   |                        |                         |                    | 60                  | 100  | 80  | 75  | 90                     | -   | -   | 110                         | 80  | -   |
|   |                      |   |                        |                         |                    | 100                 | 90   | 80  | 70  | 70                     | -   | 90  | 75                          | -   |     |
| Hardipanel Shiplap Panel                  | 5/16                 | 0.092" shank x 2" x 0.225" HD ringshank nail          | 6 edge 8 field         | 2 x 4 SG = 0.40         | 16                 | 0-15                | 120  | 90  | 80  | 105                    | -   | -   | 140                         | 95  | 75  |
|   |                      |   |                        |                         |                    | 20                  | 115  | 90  | 80  | 100                    | -   | -   | 130                         | 90  | 70  |
|   |                      |   |                        |                         |                    | 40                  | 110  | 85  | 75  | 90                     | -   | -   | 110                         | 80  | 70  |
|   |                      |   |                        |                         |                    | 60                  | 100  | 80  | 75  | 85                     | -   | -   | 100                         | 75  | -   |
|   |                      |   |                        |                         |                    | 100                 | 95   | 75  | -   | -                      | -   | 80  | -                           | -   |     |
| Hardipanel Shiplap Panel                  | 5/16                 | 0.092" shank x 2" x 0.225" HD ringshank nail          | 7 edge 8 field         | 2 x 4 SG = 0.40         | 16                 | 0-15                | 110  | 85  | 75  | 100                    | -   | -   | 130                         | 90  | 70  |
|   |                      |   |                        |                         |                    | 20                  | 110  | 80  | 70  | 95                     | -   | -   | 120                         | 85  | 70  |
|   |                      |   |                        |                         |                    | 40                  | 100  | 80  | 70  | 85                     | -   | -   | 100                         | 80  | -   |
|   |                      |   |                        |                         |                    | 60                  | 90   | 75  | -   | 80                     | -   | -   | 90                          | 70  | -   |
|   |                      |   |                        |                         |                    | 100                 | 85   | 70  | -   | 70                     | -   | -   | 75                          | -   | -   |
| Hardipanel Shiplap Panel                  | 5/16                 | 0.092" shank x 2" x 0.225" HD ringshank nail          | 8 edge 8 field         | 2 x 4 SG = 0.40         | 16                 | 0-15                | 105  | 80  | 70  | 90                     | -   | -   | 120                         | 80  | 70  |
|   |                      |   |                        |                         |                    | 20                  | 100  | 80  | 70  | 90                     | -   | -   | 110                         | 80  | -   |
|   |                      |   |                        |                         |                    | 40                  | 90   | 70  | -   | 80                     | -   | -   | 95                          | 70  | -   |
|   |                      |   |                        |                         |                    | 60                  | 85   | 70  | -   | 75                     | -   | -   | 90                          | -   | -   |
|   |                      |   |                        |                         |                    | 100                 | 80   | -   | -   | 75                     | -   | -   | 75                          | -   | -   |
| Hardiflex Harditex                        | 7/16                 | No. 11 ga 1-3/4 in. long galvanized roofing nail      | 6                      | 2 x 4 wood              | 16                 | 20                  | 120  | 120 | -   | 120                    | 120 | -   | 120                         | 120 | -   |
|   |                      |   |                        |                         |                    | 40                  | 120  | 110 | -   | 120                    | 110 | -   | 120                         | 110 | -   |
|   |                      |   |                        |                         |                    | 60                  | 120  | 110 | -   | 120                    | 100 | -   | 120                         | 100 | -   |
|   |                      |   |                        |                         |                    | 100                 | 110  | 110 | -   | 100                    | 90  | -   | 110                         | 90  | -   |
|   |                      |   |                        |                         |                    | 200                 | 110  | 100 | -   | 80                     | 80  | -   | 100                         | 80  | -   |
| Hardishingle Panel Straight Installation  | 1/4                  | 0.083" shank x 0.187" HD ringshank nail into OSB only | 13.75                  |                         | -                  | 0-15                | 100  | 70  | -   | 80                     | -   | -   | 110                         | 70  | -   |
|   |                      |   |                        |                         |                    | 20                  | 90   | 70  | -   | 80                     | -   | -   | 105                         | 70  | -   |
|   |                      |   |                        |                         |                    | 40                  | 85   | 70  | -   | 70                     | -   | -   | 90                          | 70  | -   |
|   |                      |   |                        |                         |                    | 60                  | 80   | -   | -   | 70                     | -   | -   | 80                          | -   | -   |
|   |                      |   |                        |                         |                    | 100                 | 70   | -   | -   | 70                     | -   | -   | 70                          | -   | -   |
| Hardishingle Panel Staggered Installation | 1/4                  | 0.083" shank x 0.187" HD ringshank nail into OSB only | 13.75                  |                         | -                  | 0-15                | 90   | 70  | -   | 80                     | -   | -   | 90                          | 70  | -   |
|   |                      |   |                        |                         |                    | 20                  | 90   | 70  | -   | 80                     | -   | -   | 90                          | -   | -   |
|   |                      |   |                        |                         |                    | 40                  | 80   | -   | -   | 70                     | -   | -   | 80                          | -   | -   |
|   |                      |   |                        |                         |                    | 60                  | 70   | -   | -   | -                      | -   | -   | 70                          | -   | -   |
|   |                      |   |                        |                         |                    | 100                 | -  | -   | -   | -                      | -   | -   | -                           | -   | -   |
| Hardishingle Panel                        | 1/4                  | 0.083" shank x 0.187" HD ringshank nail at each stud  | -                      | 2 x 4 SG = 0.40         | 16                 | 0-15                | 150  | 120 | 110 | 150                    | -   | -   | 150                         | 120 | 100 |
|   |                      |   |                        |                         |                    | 20                  | 150  | 120 | 100 | 150                    | -   | -   | 150                         | 120 | 100 |
|   |                      |   |                        |                         |                    | 40                  | 140  | 110 | 100 | 130                    | -   | -   | 150                         | 110 | 90  |
|   |                      |   |                        |                         |                    | 60                  | 130  | 105 | 95  | 120                    | 90  | 80  | 140                         | 100 | 90  |
|   |                      |   |                        |                         |                    | 100                 | 120  | 100 | 90  | 90                     | -   | -   | 110                         | 90  | 80  |
| Hardishingle Panel                        | 1/4                  | 0.083" shank x 0.187" HD ringshank nail at each stud  | -                      | 2 x 4 SG = 0.40         | 24                 | 0-15                | 115  | 90  | 80  | 100                    | -   | -   | 130                         | 90  | 70  |
|   |                      |   |                        |                         |                    | 20                  | 110  | 85  | 70  | 100                    | -   | -   | 120                         | 85  | 70  |
|   |                      |   |                        |                         |                    | 40                  | 105  | 80  | 70  | 90                     | -   | -   | 110                         | 80  | -   |
|   |                      |   |                        |                         |                    | 60                  | 90   | 75  | -   | 85                     | -   | -   | 100                         | 75  | -   |
|   |                      |   |                        |                         |                    | 100                 | 85   | 70  | -   | 70                     | -   | -   | 80                          | -   | -   |

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Table 2a — MAXIMUM WIND SPEED

\*

| Product Type                     | Product Thick. (in.) | Fastener Type  | Fastener Spacing (in.) | Frame Type <sup>1</sup>                              | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|----------------------------------|----------------------|--|------------------------|--|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|                                  |                      |  |                        |  |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|                                  |                      |  |                        |  |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardiflex Hardisoffit (unvented) | 3/16                 | Min. No. 8 x 1 in. long x 0.323 in. HD ribbed buglehead screws | 6                      | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                 | 20                  | 80   | 70  | -   | 80                     | 70  | -   | 80                          | 70  | -   |
|                                  |                      |  |                        |  |                    | 40                  | 80   |     | 80  |                        |     | 80  |                             |     |     |
|                                  |                      |  |                        |  |                    | 60                  | 70   |     | 70  |                        |     | 70  |                             |     |     |
|                                  |                      |  |                        |  |                    | 100                 | 70   |     |     |                        |     | 70  |                             |     |     |
| Hardipanel Hardiflex Harditex    | 1/4                  | Min. No. 8 x 1 in. long x 0.323 in. HD ribbed buglehead screws | 6                      | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                 | 20                  | 120  | 90  | N/A | 120                    | 90  | N/A | 120                         | 90  | N/A |
|                                  |                      |  |                        |  |                    | 40                  | 110  | 90  |     | 110                    | 90  |     | 110                         | 90  |     |
|                                  |                      |  |                        |  |                    | 60                  | 100  | 80  |     | 100                    | 80  |     | 100                         | 80  |     |
|                                  |                      |  |                        |  |                    | 100                 | 90   | 80  |     | 80                     | 90  |     | 90                          | 80  |     |
|                                  |                      |  |                        |  |                    | 150                 | 90   | 70  |     | 70                     | 90  |     | 90                          | 70  |     |
|                                  |                      |  |                        |  | 24                 | 200                 | 80   | 70  |     | 90                     | 70  |     | 80                          | 70  |     |
|                                  |                      |  |                        |  |                    | 20                  | 90   | 70  |     | 80                     | 70  |     | 90                          | 70  |     |
|                                  |                      |  |                        |  |                    | 40                  | 80   |     |     |                        |     |     | 80                          |     |     |
|                                  |                      |  |                        |  |                    | 80                  |  |     |     |                        |     |     |                             |     |     |
|                                  |                      |  |                        |  |                    | 100                 | 70   |     |     |                        |     |     | 70                          |     |     |
| Hardipanel                       | 5/16                 | ET & F 0.100 x 1.5" x 25" HD ES 4144                           | 4 edge 8 field         | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud        | 16                 | 0-15                | 150  | 115 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|                                  |                      |  |                        |  |                    | 20                  | 140  | 110 | 100 | 130                    |     |     | 150                         | 110 | 90  |
|                                  |                      |  |                        |  |                    | 40                  | 130  | 105 | 90  | 120                    |     |     | 140                         | 100 | 90  |
|                                  |                      |  |                        |  |                    | 60                  | 120  | 100 | 90  | 110                    |     |     | 130                         | 100 | 80  |
|                                  |                      |  |                        |  |                    | 100                 | 110  | 95  | 85  |                        | 75  | -   | 105                         | 85  | 70  |
|                                  |                      |  |                        |  |                    |                     |  |     |     |                        |     |     |                             |     |     |
| Hardipanel                       | 5/16                 | ET & F 0.100 x 1.5" x 25" HD ES 4144                           | 4 edge 8 field         | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud        | 24                 | 0-15                | 120  | 90  | 80  | 105                    |     |     | 135                         | 90  | 75  |
|                                  |                      |  |                        |  |                    | 20                  | 110  | 85  | 75  | 100                    |     |     | 130                         | 90  | 70  |
|                                  |                      |  |                        |  |                    | 40                  | 100  | 80  | 70  | 90                     |     |     | 110                         | 80  | 70  |
|                                  |                      |  |                        |  |                    | 60                  | 95   | 75  | 70  | 85                     |     |     | 100                         | 75  | 70  |
|                                  |                      |  |                        |  |                    | 100                 | 85   | 70  | -   |                        |     |     | 80                          | -   | -   |
|                                  |                      |  |                        |  |                    |                     |  |     |     |                        |     |     |                             |     |     |
| Hardiflex Harditex               | 7/16                 | Min. No. 8 x 1 in. long x 0.311 in. HD ribbed buglehead screws | 6                      | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                 | 20                  | 120  | 120 | -   | 120                    | 120 | -   | 120                         | 120 | -   |
|                                  |                      |  |                        |  |                    | 40                  | 120  | 120 |     | 120                    | 120 |     | 120                         | 120 |     |
|                                  |                      |  |                        |  |                    | 60                  | 120  | 110 |     | 120                    | 120 |     | 120                         | 110 |     |
|                                  |                      |  |                        |  |                    | 100                 | 120  | 110 |     | 90                     | 120 |     | 120                         | 90  |     |
|                                  |                      |  |                        |  |                    | 200                 | 110  | 110 |     | 80                     | 120 |     | 100                         | 80  |     |

Notes to Table 2a:

1. Values are for species of wood having a specific gravity of 0.42 or greater, unless otherwise noted.
2. Values are for species of wood having a specific gravity of 0.36 or greater.

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Table 2b — MAXIMUM WIND SPEED

\*

| Product Type | Product (in.) |       | Fastener Type                            | Fastener Spacing (in.) | Frame Type <sup>1</sup>                             | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|--------------|---------------|-------|--|------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|              | Thick.        | Width |  |                        |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|              |               |       |  |                        |   |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardiplank   | 5/16          | 4.00  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                        |   |                    | 40                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                        |   |                    | 60                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 140 |
|              |               |       |  |                        |   |                    | 100                 | 150  | 150 | 150 | 150                    | 140 | 120 | 150                         | 140 | 120 |
| Hardiplank   | 5/16          | 6.00  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |  |                        |   |                    | 40                  | 150  | 140 | 130 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |  |                        |   |                    | 60                  | 150  | 130 | 120 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |  |                        |   |                    | 100                 | 150  | 130 | 120 | 150                    | 110 | 100 | 140                         | 110 | 100 |
| Hardiplank   | 5/16          | 6.25  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 150 | 130 | 150                    |     |     | 150                         | 150 | 120 |
|              |               |       |  |                        |   |                    | 40                  | 150  | 140 | 130 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |  |                        |   |                    | 60                  | 140  | 130 | 120 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |  |                        |   |                    | 100                 | 130  | 130 | 120 | 150                    | 110 | 100 | 130                         | 110 | 100 |
| Hardiplank   | 5/16          | 7.50  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 140 | 120 | 150                    |     |     | 150                         | 140 | 110 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 130 | 120 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |  |                        |   |                    | 40                  | 150  | 120 | 110 | 130                    |     |     | 150                         | 120 | 105 |
|              |               |       |  |                        |   |                    | 60                  | 140  | 120 | 110 | 130                    |     |     | 150                         | 110 | 110 |
|              |               |       |  |                        |   |                    | 100                 | 130  | 110 | 100 | 130                    | 100 | 80  | 120                         | 100 | 80  |
| Hardiplank   | 5/16          | 8.00  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 130 | 110 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 130 | 110 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |  |                        |   |                    | 40                  | 150  | 120 | 110 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |  |                        |   |                    | 60                  | 130  | 110 | 105 | 12                     |     |     | 150                         | 110 | 90  |
|              |               |       |  |                        |   |                    | 100                 | 130  | 110 | 100 | 12                     | 95  | 90  | 120                         | 95  | 85  |
| Hardiplank   | 5/16          | 8.25  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 130 | 110 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 130 | 110 | 140                    |     |     | 150                         | 130 | 100 |
|              |               |       |  |                        |   |                    | 40                  | 140  | 110 | 100 | 130                    |     |     | 150                         | 115 | 100 |
|              |               |       |  |                        |   |                    | 60                  | 130  | 110 | 100 | 120                    |     |     | 140                         | 110 | 90  |
|              |               |       |  |                        |   |                    | 100                 | 120  | 105 | 100 | 120                    | 90  | 80  | 120                         | 90  | 80  |
| Hardiplank   | 5/16          | 9.50  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 120 | 105 | 140                    |     |     | 150                         | 120 | 100 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 120 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |  |                        |   |                    | 40                  | 140  | 110 | 100 | 120                    |     |     | 140                         | 110 | 90  |
|              |               |       |  |                        |   |                    | 60                  | 120  | 105 | 90  | 110                    |     |     | 130                         | 100 | 90  |
|              |               |       |  |                        |   |                    | 100                 | 120  | 100 | 90  | 110                    | 80  | 75  | 110                         | 80  | 75  |
| Hardiplank   | 5/16          | 12.00 | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 140  | 110 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |  |                        |   |                    | 20                  | 140  | 105 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |  |                        |   |                    | 40                  | 120  | 100 | 90  | 110                    |     |     | 130                         | 100 | 80  |
|              |               |       |  |                        |   |                    | 60                  | 110  | 95  | 85  | 100                    |     |     | 120                         | 90  | 80  |
|              |               |       |  |                        |   |                    | 100                 | 105  | 90  | 80  | 100                    | 75  | 70  | 100                         | 75  | 70  |
| Hardiplank   | 5/16          | 4.00  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 150  | 140 | 130 | 150                    |     |     | 150                         | 150 | 120 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 140 | 125 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |  |                        |   |                    | 40                  | 150  | 130 | 120 | 150                    |     |     | 150                         | 135 | 110 |
|              |               |       |  |                        |   |                    | 60                  | 150  | 125 | 115 | 140                    |     |     | 150                         | 125 | 105 |
|              |               |       |  |                        |   |                    | 100                 | 140  | 120 | 100 | 140                    | 100 | 90  | 130                         | 100 | 90  |
| Hardiplank   | 5/16          | 6.00  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 150  | 120 | 100 | 140                    |     |     | 150                         | 120 | 100 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 115 | 100 | 135                    |     |     | 150                         | 120 | 100 |
|              |               |       |  |                        |   |                    | 40                  | 130  | 110 | 95  | 120                    |     |     | 140                         | 105 | 90  |
|              |               |       |  |                        |   |                    | 60                  | 125  | 100 | 90  | 110                    |     |     | 130                         | 100 | 85  |
|              |               |       |  |                        |   |                    | 100                 | 115  | 100 | 90  | 110                    | 80  | 70  | 110                         | 80  | 75  |
| Hardiplank   | 5/16          | 6.25  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 150  | 120 | 100 | 135                    |     |     | 150                         | 120 | 100 |
|              |               |       |  |                        |   |                    | 20                  | 150  | 110 | 100 | 130                    |     |     | 150                         | 110 | 95  |
|              |               |       |  |                        |   |                    | 40                  | 130  | 105 | 95  | 120                    |     |     | 130                         | 105 | 90  |
|              |               |       |  |                        |   |                    | 60                  | 120  | 100 | 90  | 110                    |     |     | 120                         | 100 | 80  |
|              |               |       |  |                        |   |                    | 100                 | 110  | 95  | 90  | 110                    | 80  | 70  | 90                          | 90  | 70  |
| Hardiplank   | 5/16          | 7.50  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD | Through<br>Overlap     | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 130  | 100 | 90  | 120                    |     |     | 150                         | 100 | 85  |
|              |               |       |  |                        |   |                    | 20                  | 125  | 100 | 85  | 110                    |     |     | 140                         | 100 | 80  |
|              |               |       |  |                        |   |                    | 40                  | 115  | 90  | 80  | 100                    |     |     | 120                         | 90  | 75  |
|              |               |       |  |                        |   |                    | 60                  | 110  | 85  | 80  | 95                     |     |     | 110                         | 80  | 75  |
|              |               |       |  |                        |   |                    | 100                 | 100  | 80  | 75  | 100                    | 75  | -   | 90                          | 70  | -   |

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Table 2b — MAXIMUM WIND SPEED

\*

| Product Type | Product (in.) |       | Fastener Type                                      | Fastener Spacing (in.)          | Frame Type <sup>1</sup>                             | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|--------------|---------------|-------|--|---------------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|              | Thick.        | Width |  |                                 |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|              |               |       |  |                                 |   |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardiplank   | 5/16          | 8.00  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD           | Through<br>Overlap              | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 130  | 100 | 85  | 115                    |     |     | 150                         | 100 | 80  |
|              |               |       |  |                                 |   |                    | 20                  | 120  | 95  | 80  | 110                    |     |     | 140                         | 100 | 80  |
|              |               |       |  |                                 |   |                    | 40                  | 110  | 90  | 80  | 100                    |     |     | 120                         | 90  | 75  |
|              |               |       |  |                                 |   |                    | 60                  | 105  | 85  | 75  | 95                     |     |     | 110                         | 80  | 70  |
|              |               |       |  |                                 |   |                    | 100                 | 95   | 80  | 70  |                        | 70  | -   | 90                          | 70  | -   |
| Hardiplank   | 5/16          | 8.25  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD           | Through<br>Overlap              | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 125  | 95  | 85  | 110                    |     |     | 140                         | 100 | 80  |
|              |               |       |  |                                 |   |                    | 20                  | 120  | 90  | 80  | 105                    |     |     | 140                         | 90  | 80  |
|              |               |       |  |                                 |   |                    | 40                  | 110  | 85  | 80  | 95                     |     |     | 120                         | 85  | 70  |
|              |               |       |  |                                 |   |                    | 60                  | 100  | 80  | 75  | 90                     |     |     | 110                         | 80  | 70  |
|              |               |       |  |                                 |   |                    | 100                 | 90   | 80  | 70  |                        | 70  | -   | 90                          | 70  | -   |
| Hardiplank   | 5/16          | 9.50  | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD           | Through<br>Overlap              | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 120  | 90  | 80  | 100                    |     |     | 130                         | 90  | 70  |
|              |               |       |  |                                 |   |                    | 20                  | 110  | 90  | 75  | 100                    |     |     | 130                         | 90  | 70  |
|              |               |       |  |                                 |   |                    | 40                  | 100  | 80  | 70  | 90                     |     |     | 110                         | 80  | 70  |
|              |               |       |  |                                 |   |                    | 60                  | 90   | 80  | 70  | 85                     |     |     | 110                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 100                 | 85   | 70  | -   |                        | -   | -   | 80                          | -   | -   |
| Hardiplank   | 5/16          | 12.00 | ET & F pin<br>0.100 x 1.5"<br>x 0.25" HD           | Through<br>Overlap              | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 100  | 80  | -   | 90                     |     |     | 120                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 20                  | 100  | 80  | -   | 90                     |     |     | 110                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 40                  | 90   | 70  | -   | 80                     |     |     | 90                          | 70  | -   |
|              |               |       |  |                                 |   |                    | 60                  | 85   | 70  | -   | 75                     |     |     | 90                          | -   | -   |
|              |               |       |  |                                 |   |                    | 100                 | 80   | -   | -   |                        | -   | -   | 70                          | -   | -   |
| Hardiplank   | 5/16          | 4.00  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                                 |   |                    | 20                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                                 |   |                    | 40                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                                 |   |                    | 60                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                                 |   |                    | 100                 | 150  | 150 | 150 |                        | 150 | 150 | 150                         | 150 | 140 |
| Hardiplank   | 5/16          | 6.00  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 150  | 110 | 100 | 130                    |     |     | 140                         | 110 | 90  |
|              |               |       |  |                                 |   |                    | 20                  | 150  | 110 | 100 | 140                    |     |     | 140                         | 105 | 85  |
|              |               |       |  |                                 |   |                    | 40                  | 130  | 100 | 90  | 120                    |     |     | 130                         | 95  | 80  |
|              |               |       |  |                                 |   |                    | 60                  | 120  | 100 | 90  | 110                    |     |     | 120                         | 90  | 80  |
|              |               |       |  |                                 |   |                    | 100                 | 110  | 90  | 80  |                        | 75  | -   | 95                          | 75  | -   |
| Hardiplank   | 5/16          | 6.25  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 140  | 110 | 100 | 130                    |     |     | 150                         | 100 | 85  |
|              |               |       |  |                                 |   |                    | 20                  | 140  | 110 | 90  | 120                    |     |     | 140                         | 100 | 80  |
|              |               |       |  |                                 |   |                    | 40                  | 120  | 100 | 90  | 115                    |     |     | 120                         | 90  | 75  |
|              |               |       |  |                                 |   |                    | 60                  | 120  | 95  | 85  | 105                    |     |     | 110                         | 85  | 70  |
|              |               |       |  |                                 |   |                    | 100                 | 110  | 90  | 80  |                        | 70  | -   | 90                          | 70  | -   |
| Hardiplank   | 5/16          | 7.50  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 120  | 90  | 80  | 110                    |     |     | 130                         | 90  | 70  |
|              |               |       |  |                                 |   |                    | 20                  | 120  | 90  | 80  | 100                    |     |     | 120                         | 85  | 70  |
|              |               |       |  |                                 |   |                    | 40                  | 110  | 80  | 75  | 95                     |     |     | 105                         | 75  | -   |
|              |               |       |  |                                 |   |                    | 60                  | 100  | 80  | 70  | 90                     |     |     | 95                          | 70  | -   |
|              |               |       |  |                                 |   |                    | 100                 | 90   | 75  | 70  |                        | -   | -   | 75                          | -   | -   |
| Hardiplank   | 5/16          | 8.00  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 110  | 90  | 80  | 100                    |     |     | 120                         | 80  | 70  |
|              |               |       |  |                                 |   |                    | 20                  | 110  | 85  | 70  | 100                    |     |     | 110                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 40                  | 100  | 80  | 70  | 90                     |     |     | 100                         | 70  | -   |
|              |               |       |  |                                 |   |                    | 60                  | 90   | 70  | 70  | 80                     |     |     | 90                          | 70  | -   |
|              |               |       |  |                                 |   |                    | 100                 | 80   | 70  | -   |                        | -   | -   | 70                          | -   | -   |
| Hardiplank   | 5/16          | 8.25  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 16                 | 0-15                | 110  | 90  | 70  | 100                    |     |     | 120                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 20                  | 110  | 80  | 70  | 95                     |     |     | 110                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 40                  | 100  | 80  | 70  | 85                     |     |     | 100                         | 70  | -   |
|              |               |       |  |                                 |   |                    | 60                  | 90   | 70  | -   | 70                     |     |     | 90                          | -   | -   |
|              |               |       |  |                                 |   |                    | 100                 | 80   | 70  | -   |                        | -   | -   | 70                          | -   | -   |
| Hardiplank   | 5/16          | 4.00  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                                 |   |                    | 20                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |  |                                 |   |                    | 40                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 140 |
|              |               |       |  |                                 |   |                    | 60                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |  |                                 |   |                    | 100                 | 150  | 50  | 150 |                        | 130 | 110 | 150                         | 150 | 110 |
| Hardiplank   | 5/16          | 6.00  | ET & F<br>Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through<br>top edge<br>of plank | Min. No. 20 ga.<br>x 3.62" x 1.375"<br>Metal C-stud | 24                 | 0-15                | 130  | 100 | 90  | 110                    |     |     | 140                         | 95  | 80  |
|              |               |       |  |                                 |   |                    | 20                  | 120  | 100 | 85  | 110                    |     |     | 130                         | 90  | 70  |
|              |               |       |  |                                 |   |                    | 40                  | 110  | 90  | 85  | 100                    |     |     | 110                         | 80  | 70  |
|              |               |       |  |                                 |   |                    | 60                  | 110  | 85  | 80  | 90                     |     |     | 105                         | 80  | -   |
|              |               |       |  |                                 |   |                    | 100                 | 100  | 80  | 70  |                        | -   | -   | 80                          | -   | -   |

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Table 2b — MAXIMUM WIND SPEED

\*

| Product Type | Product (in.) |       | Fastener Type                                   | Fastener Spacing (in.)    | Frame Type <sup>1</sup>                       | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |   |     |                             |     |     |
|--------------|---------------|-------|---|---------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|---|-----|-----------------------------|-----|-----|
|              | Thick.        | Width |   |                           |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |   |     | BOCA National Building Code |     |     |
|              |               |       |   |                           |   |                    |                     | B  | C   | D   | < 60 ft                | C | D   | B                           | C   | D   |
| Hardiplank   | 5/16          | 6.25  | ET & F Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through top edge of plank | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 120  | 95  | 80  | 110                    |   |     | 130                         | 90  | 70  |
|              |               |       |   |                           |   |                    | 20                  | 120  | 90  | 80  | 100                    |   |     | 120                         | 85  | 70  |
|              |               |       |   |                           |   |                    | 40                  | 110  | 85  | 70  | 90                     |   |     | 110                         | 80  | -   |
|              |               |       |   |                           |   |                    | 60                  | 100  | 80  | 70  | 80                     |   |     | 90                          | 75  | -   |
|              |               |       |   |                           |   |                    | 100                 | 90   | 70  | 70  |                        |   | -   | -                           | 70  | -   |
| Hardiplank   | 5/16          | 7.50  | ET & F Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through top edge of plank | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 110  | 90  | 70  | 100                    |   |     | 120                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 20                  | 110  | 85  | 70  | 100                    |   |     | 110                         | 80  | -   |
|              |               |       |   |                           |   |                    | 40                  | 100  | 80  | 70  | 90                     |   |     | 100                         | 70  | -   |
|              |               |       |   |                           |   |                    | 60                  | 90   | 75  | 70  | 80                     |   |     | 90                          | 70  | -   |
|              |               |       |   |                           |   |                    | 100                 | 85   | 70  | -   |                        |   | -   | -                           | 70  | -   |
| Hardiplank   | 5/16          | 8.00  | ET & F Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through top edge of plank | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 100  | 80  | 70  | 90                     |   |     | 110                         | 70  | -   |
|              |               |       |   |                           |   |                    | 20                  | 100  | 75  | 70  | 90                     |   |     | 100                         | 70  | -   |
|              |               |       |   |                           |   |                    | 40                  | 90   | 70  | -   | 80                     |   |     | 85                          | -   | -   |
|              |               |       |   |                           |   |                    | 60                  | 80   | -   | -   | 75                     |   |     | 80                          | -   | -   |
|              |               |       |   |                           |   |                    | 100                 | 75   | -   | -   |                        |   | -   | -                           | -   | -   |
| Hardiplank   | 5/16          | 8.25  | ET & F Panelfast<br>0.100 x 1.5"<br>x 0.313" HD | Through top edge of plank | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 90   | 70  | -   | 80                     |   |     | 100                         | -   | -   |
|              |               |       |   |                           |   |                    | 20                  | 90   | 70  | -   | 80                     |   |     | 90                          | -   | -   |
|              |               |       |   |                           |   |                    | 40                  | 80   | -   | -   | 70                     |   |     | 80                          | -   | -   |
|              |               |       |   |                           |   |                    | 60                  | 75   | -   | -   | 70                     |   |     | 70                          | -   | -   |
|              |               |       |   |                           |   |                    | 100                 | 70   | -   | -   |                        |   | -   | -                           | -   | -   |
| Hardiplank   | 5/16          | 4.00  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 150 | 150 | 150                    |   |     | 150                         | 150 | 150 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 150 | 150 | 150                    |   |     | 150                         | 150 | 150 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 150 | 150 | 150                    |   |     | 150                         | 150 | 150 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 150 | 150 | 150                    |   |     | 150                         | 150 | 130 |
|              |               |       |   |                           |   |                    | 100                 | 150  | 150 | 140 |                        |   | 130 | 120                         | 150 | 130 |
| Hardiplank   | 5/16          | 6.00  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 150 | 135 | 150                    |   |     | 150                         | 150 | 130 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 150 | 130 | 150                    |   |     | 150                         | 150 | 130 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 150 | 120 | 150                    |   |     | 150                         | 140 | 120 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 150 | 120 | 150                    |   |     | 150                         | 130 | 115 |
|              |               |       |   |                           |   |                    | 100                 | 150  | 150 | 120 |                        |   | 110 | 100                         | 140 | 110 |
| Hardiplank   | 5/16          | 6.25  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 150 | 120 | 150                    |   |     | 150                         | 150 | 130 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 150 | 120 | 150                    |   |     | 150                         | 150 | 120 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 150 | 120 | 150                    |   |     | 150                         | 40  | 120 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 130 | 120 | 150                    |   |     | 150                         | 130 | 115 |
|              |               |       |   |                           |   |                    | 100                 | 150  | 130 | 110 |                        |   | 110 | 100                         | 150 | 110 |
| Hardiplank   | 5/16          | 7.50  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 150 | 120 | 150                    |   |     | 150                         | 140 | 120 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 150 | 120 | 150                    |   |     | 150                         | 140 | 120 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 130 | 110 | 140                    |   |     | 150                         | 120 | 120 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 120 | 110 | 130                    |   |     | 150                         | 120 | 115 |
|              |               |       |   |                           |   |                    | 100                 | 130  | 110 | 110 |                        |   | 110 | 90                          | 140 | 100 |
| Hardiplank   | 5/16          | 8.00  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 130 | 120 | 150                    |   |     | 150                         | 140 | 110 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 130 | 115 | 150                    |   |     | 150                         | 140 | 110 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 120 | 110 | 130                    |   |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 60                  | 140  | 120 | 105 | 130                    |   |     | 150                         | 115 | 100 |
|              |               |       |   |                           |   |                    | 100                 | 130  | 110 | 100 |                        |   | 95  | 85                          | 120 | 95  |
| Hardiplank   | 5/16          | 8.25  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 130 | 115 | 150                    |   |     | 150                         | 140 | 110 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 130 | 110 | 150                    |   |     | 150                         | 130 | 100 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 120 | 110 | 130                    |   |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 60                  | 140  | 115 | 105 | 120                    |   |     | 150                         | 110 | 100 |
|              |               |       |   |                           |   |                    | 100                 | 130  | 110 | 100 |                        |   | 95  | 80                          | 130 | 95  |
| Hardiplank   | 5/16          | 9.50  | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 150  | 120 | 110 | 140                    |   |     | 150                         | 130 | 105 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 120 | 110 | 140                    |   |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 40                  | 140  | 110 | 100 | 120                    |   |     | 140                         | 120 | 95  |
|              |               |       |   |                           |   |                    | 60                  | 130  | 105 | 100 | 120                    |   |     | 120                         | 120 | 90  |
|              |               |       |   |                           |   |                    | 100                 | 120  | 100 | 95  |                        |   | 90  | 80                          | 115 | 90  |
| Hardiplank   | 5/16          | 12.00 | 6d common 2" long                               | Through Overlap           | 2 x 4   | 16                 | 0-15                | 140  | 110 | 95  | 130                    |   |     | 150                         | 110 | 95  |
|              |               |       |   |                           |   |                    | 20                  | 140  | 105 | 95  | 120                    |   |     | 150                         | 110 | 90  |
|              |               |       |   |                           |   |                    | 40                  | 120  | 100 | 90  | 110                    |   |     | 140                         | 100 | 85  |
|              |               |       |   |                           |   |                    | 60                  | 115  | 95  | 85  | 105                    |   |     | 120                         | 95  | 80  |
|              |               |       |   |                           |   |                    | 100                 | 110  | 90  | 80  |                        |   | 80  | 70                          | 100 | 80  |

\* deleted by City of Los Angeles

Table 2b — MAXIMUM WIND SPEED

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| Product Type | Product (in.) |       | Fastener Type  | Fastener Spacing (in.) | Frame Type <sup>1</sup>                       | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |     |
|--------------|---------------|-------|--|------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|-----|
|              | Thick.        | Width |  |                        |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |     |
|              |               |       |  |                        |   |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |     |
| Hardiplank   | 5/16          | 4.00  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 150  | 130 | 115 | 150                    |     |     | 150                         | 130 | 110 |     |
|              |               |       |  |                        |   |                    | 20                  | 150  | 130 | 110 | 140                    |     |     | 150                         | 130 | 110 |     |
|              |               |       |  |                        |   |                    | 40                  | 150  | 120 | 110 | 130                    |     |     | 150                         | 120 | 100 |     |
|              |               |       |  |                        |   |                    | 60                  | 140  | 120 | 100 | 120                    |     | 95  | 80                          | 150 | 115 | 95  |
|              |               |       |  |                        |   |                    | 100                 | 130  | 110 | 100 |                        |     |     | 120                         | 95  | 80  |     |
| Hardiplank   | 5/16          | 6.00  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 140  | 110 | 95  | 130                    |     |     | 120                         | 110 | 90  |     |
|              |               |       |  |                        |   |                    | 20                  | 140  | 100 | 95  | 120                    |     |     | 120                         | 110 | 90  |     |
|              |               |       |  |                        |   |                    | 40                  | 130  | 100 | 95  | 110                    |     |     | 120                         | 100 | 80  |     |
|              |               |       |  |                        |   |                    | 60                  | 115  | 95  | 85  | 105                    |     | 80  | 70                          | 120 | 90  | 80  |
|              |               |       |  |                        |   |                    | 100                 | 105  | 90  | 80  |                        |     |     | 100                         | 80  | 70  |     |
| Hardiplank   | 5/16          | 6.25  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 120  | 105 | 95  | 120                    |     |     | 120                         | 110 | 90  |     |
|              |               |       |  |                        |   |                    | 20                  | 120  | 100 | 90  | 120                    |     |     | 120                         | 100 | 85  |     |
|              |               |       |  |                        |   |                    | 40                  | 120  | 95  | 85  | 110                    |     |     | 120                         | 95  | 80  |     |
|              |               |       |  |                        |   |                    | 60                  | 110  | 90  | 80  | 100                    |     | 80  | 70                          | 120 | 90  | 80  |
|              |               |       |  |                        |   |                    | 100                 | 105  | 85  | 80  |                        |     |     | 100                         | 80  | 70  |     |
| Hardiplank   | 5/16          | 7.50  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 120  | 95  | 85  | 110                    |     |     | 120                         | 100 | 80  |     |
|              |               |       |  |                        |   |                    | 20                  | 120  | 95  | 85  | 110                    |     |     | 120                         | 95  | 80  |     |
|              |               |       |  |                        |   |                    | 40                  | 110  | 85  | 80  | 100                    |     |     | 120                         | 90  | 75  |     |
|              |               |       |  |                        |   |                    | 60                  | 100  | 85  | 75  | 95                     |     | 70  | 70                          | 120 | 85  | 70  |
|              |               |       |  |                        |   |                    | 100                 | 95   | 80  | 70  |                        |     |     | 90                          | 70  | -   |     |
| Hardiplank   | 5/16          | 8.00  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 120  | 95  | 80  | 110                    |     |     | 120                         | 100 | 80  |     |
|              |               |       |  |                        |   |                    | 20                  | 120  | 95  | 80  | 105                    |     |     | 120                         | 90  | 70  |     |
|              |               |       |  |                        |   |                    | 40                  | 105  | 85  | 70  | 100                    |     |     | 110                         | 80  | 70  |     |
|              |               |       |  |                        |   |                    | 60                  | 100  | 85  | 70  | 90                     |     | 70  | -                           | 105 | 80  | 70  |
|              |               |       |  |                        |   |                    | 100                 | 90   | 75  | 70  |                        |     |     | 85                          | 70  | -   |     |
| Hardiplank   | 5/16          | 8.25  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 115  | 95  | 80  | 110                    |     |     | 120                         | 95  | 80  |     |
|              |               |       |  |                        |   |                    | 20                  | 115  | 95  | 80  | 100                    |     |     | 120                         | 90  | 75  |     |
|              |               |       |  |                        |   |                    | 40                  | 105  | 85  | 70  | 95                     |     |     | 110                         | 80  | 70  |     |
|              |               |       |  |                        |   |                    | 60                  | 100  | 85  | 70  | 90                     |     |     | 105                         | 75  | 70  |     |
|              |               |       |  |                        |   |                    | 100                 | 90   | 75  | 70  |                        |     |     | 85                          | -   | -   |     |
| Hardiplank   | 5/16          | 9.50  | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 110  | 85  | 75  | 100                    |     |     | 120                         | 90  | 70  |     |
|              |               |       |  |                        |   |                    | 20                  | 110  | 85  | 70  | 95                     |     |     | 120                         | 85  | 70  |     |
|              |               |       |  |                        |   |                    | 40                  | 95   | 75  | 70  | 85                     |     |     | 100                         | 80  | -   |     |
|              |               |       |  |                        |   |                    | 60                  | 90   | 75  | -   | 85                     |     | -   | -                           | 100 | 70  | -   |
|              |               |       |  |                        |   |                    | 100                 | 85   | 70  | -   |                        |     |     | 80                          | -   | -   |     |
| Hardiplank   | 5/16          | 12.00 | 6d common 2" long  | Through Overlap        | 2 x 4   | 24                 | 0-15                | 70   | 75  | -   | 90                     |     |     | 110                         | 80  | -   |     |
|              |               |       |  |                        |   |                    | 20                  | 95   | 70  | -   | 85                     |     |     | 110                         | 75  | -   |     |
|              |               |       |  |                        |   |                    | 40                  | 90   | 70  | -   | 80                     |     |     | 95                          | 70  | -   |     |
|              |               |       |  |                        |   |                    | 60                  | 80   | -   | -   | 75                     |     | -   | -                           | 85  | -   | -   |
|              |               |       |  |                        |   |                    | 100                 | 70   | -   | -   |                        |     |     | 70                          | -   | -   |     |
| Hardiplank   | 5/16          | 4.00  | No. 8-18 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |     |
|              |               |       |  |                        |   |                    | 20                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 140 |     |
|              |               |       |  |                        |   |                    | 40                  | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 140 |     |
|              |               |       |  |                        |   |                    | 60                  | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 130 |     |
|              |               |       |  |                        |   |                    | 100                 | 150  | 150 | 130 |                        | 130 | 115 | 150                         | 130 | 115 |     |
| Hardiplank   | 5/16          | 6.00  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw    | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 120 |     |
|              |               |       |  |                        |   |                    | 20                  | 150  | 140 | 140 | 150                    |     |     | 150                         | 140 | 120 |     |
|              |               |       |  |                        |   |                    | 40                  | 150  | 130 | 130 | 150                    |     |     | 150                         | 130 | 115 |     |
|              |               |       |  |                        |   |                    | 60                  | 150  | 130 | 130 | 140                    |     | 105 | 95                          | 150 | 120 | 110 |
|              |               |       |  |                        |   |                    | 100                 | 140  | 120 | 120 |                        |     |     | 135                         | 105 | 95  |     |
| Hardiplank   | 5/16          | 6.25  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw    | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 140 | 120 | 150                    |     |     | 150                         | 150 | 120 |     |
|              |               |       |  |                        |   |                    | 20                  | 150  | 140 | 120 | 150                    |     |     | 150                         | 140 | 120 |     |
|              |               |       |  |                        |   |                    | 40                  | 150  | 130 | 110 | 140                    |     |     | 150                         | 130 | 110 |     |
|              |               |       |  |                        |   |                    | 60                  | 150  | 120 | 110 | 140                    |     | 105 | 90                          | 150 | 120 | 105 |
|              |               |       |  |                        |   |                    | 100                 | 140  | 120 | 110 |                        |     |     | 130                         | 105 | 90  |     |
| Hardiplank   | 5/16          | 7.50  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw    | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 130 | 110 | 150                    |     |     | 150                         | 130 | 110 |     |
|              |               |       |  |                        |   |                    | 20                  | 150  | 120 | 110 | 140                    |     |     | 150                         | 130 | 105 |     |
|              |               |       |  |                        |   |                    | 40                  | 140  | 110 | 105 | 130                    |     |     | 150                         | 115 | 100 |     |
|              |               |       |  |                        |   |                    | 60                  | 130  | 110 | 100 | 120                    |     | 90  | 80                          | 150 | 110 | 90  |
|              |               |       |  |                        |   |                    | 100                 | 120  | 100 | 95  |                        |     |     | 115                         | 90  | 80  |     |

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Table 2b — MAXIMUM WIND SPEED

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| Product Type | Product (in.) |       | Fastener Type   | Fastener Spacing (in.) | Frame Type <sup>1</sup>                       | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|--------------|---------------|-------|---|------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|              | Thick.        | Width |   |                        |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|              |               |       |   |                        |   |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardiplank   | 5/16          | 8.00  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 130 | 110 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                        |   |                    | 20                  | 150  | 120 | 110 | 140                    |     |     | 150                         | 130 | 105 |
|              |               |       |   |                        |   |                    | 40                  | 150  | 110 | 105 | 130                    |     |     | 150                         | 115 | 100 |
|              |               |       |   |                        |   |                    | 60                  | 150  | 110 | 100 | 120                    | 90  | 80  | 140                         | 110 | 90  |
|              |               |       |   |                        |   |                    | 100                 | 130  | 100 | 95  |                        |     | 115 | 90                          | 80  |     |
| Hardiplank   | 5/16          | 8.25  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 120 | 110 | 140                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                        |   |                    | 20                  | 150  | 120 | 110 | 140                    |     |     | 150                         | 120 | 105 |
|              |               |       |   |                        |   |                    | 40                  | 140  | 110 | 105 | 120                    |     |     | 150                         | 115 | 100 |
|              |               |       |   |                        |   |                    | 60                  | 120  | 110 | 100 | 120                    | 90  | 80  | 140                         | 105 | 90  |
|              |               |       |   |                        |   |                    | 100                 | 120  | 100 | 95  |                        |     | 115 | 90                          | 80  |     |
| Hardiplank   | 5/16          | 9.50  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 115 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                        |   |                    | 20                  | 150  | 110 | 100 | 130                    |     |     | 150                         | 115 | 95  |
|              |               |       |   |                        |   |                    | 40                  | 130  | 110 | 95  | 120                    |     |     | 140                         | 105 | 90  |
|              |               |       |   |                        |   |                    | 60                  | 120  | 110 | 90  | 110                    | 85  | 75  | 130                         | 100 | 85  |
|              |               |       |   |                        |   |                    | 100                 | 115  | 95  | 85  |                        |     | 110 | 85                          | 75  |     |
| Hardiplank   | 5/16          | 12.00 | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 130  | 100 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |   |                        |   |                    | 20                  | 130  | 100 | 90  | 120                    |     |     | 150                         | 105 | 80  |
|              |               |       |   |                        |   |                    | 40                  | 120  | 90  | 80  | 100                    |     |     | 120                         | 95  | 80  |
|              |               |       |   |                        |   |                    | 60                  | 110  | 90  | 80  | 100                    | 75  | -   | 120                         | 90  | 75  |
|              |               |       |   |                        |   |                    | 100                 | 100  | 85  | 80  |                        |     | 95  | 75                          | -   |     |
| Hardiplank   | 5/16          | 4.00  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 150  | 150 | 130 | 150                    |     |     | 150                         | 150 | 120 |
|              |               |       |   |                        |   |                    | 20                  | 150  | 140 | 130 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |   |                        |   |                    | 40                  | 150  | 130 | 120 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                        |   |                    | 60                  | 150  | 130 | 110 | 140                    | 105 | 90  | 150                         | 120 | 110 |
|              |               |       |   |                        |   |                    | 100                 | 140  | 110 | 110 |                        |     | 135 | 105                         | 90  |     |
| Hardiplank   | 5/16          | 6.00  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 150  | 130 | 105 | 140                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                        |   |                    | 20                  | 150  | 130 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                        |   |                    | 40                  | 150  | 110 | 100 | 120                    |     |     | 140                         | 110 | 95  |
|              |               |       |   |                        |   |                    | 60                  | 140  | 105 | 90  | 115                    | 85  | 75  | 130                         | 100 | 90  |
|              |               |       |   |                        |   |                    | 100                 | 130  | 100 | 90  |                        |     | 110 | 85                          | 75  |     |
| Hardiplank   | 5/16          | 6.25  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 150  | 120 | 100 | 135                    |     |     | 150                         | 150 | 100 |
|              |               |       |   |                        |   |                    | 20                  | 150  | 110 | 100 | 130                    |     |     | 150                         | 140 | 95  |
|              |               |       |   |                        |   |                    | 40                  | 130  | 105 | 90  | 120                    |     |     | 140                         | 130 | 90  |
|              |               |       |   |                        |   |                    | 60                  | 120  | 100 | 90  | 110                    | 85  | 70  | 130                         | 120 | 85  |
|              |               |       |   |                        |   |                    | 100                 | 110  | 95  | 90  |                        |     | 110 | 85                          | 75  |     |
| Hardiplank   | 5/16          | 7.50  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 140  | 110 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |   |                        |   |                    | 20                  | 130  | 100 | 90  | 120                    |     |     | 150                         | 105 | 90  |
|              |               |       |   |                        |   |                    | 40                  | 120  | 95  | 85  | 110                    |     |     | 130                         | 95  | 80  |
|              |               |       |   |                        |   |                    | 60                  | 110  | 90  | 80  | 100                    | 80  | 70  | 120                         | 90  | 80  |
|              |               |       |   |                        |   |                    | 100                 | 100  | 90  | 80  |                        |     | 115 | 80                          | 70  |     |
| Hardiplank   | 5/16          | 8.00  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 130  | 105 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |   |                        |   |                    | 20                  | 130  | 100 | 90  | 115                    |     |     | 150                         | 105 | 85  |
|              |               |       |   |                        |   |                    | 40                  | 120  | 95  | 80  | 105                    |     |     | 130                         | 95  | 80  |
|              |               |       |   |                        |   |                    | 60                  | 110  | 90  | 80  | 100                    | 75  | -   | 120                         | 90  | 75  |
|              |               |       |   |                        |   |                    | 100                 | 100  | 85  | 80  |                        |     | 95  | 75                          | -   |     |
| Hardiplank   | 5/16          | 8.25  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 130  | 100 | 90  | 120                    |     |     | 150                         | 105 | 90  |
|              |               |       |   |                        |   |                    | 20                  | 130  | 100 | 90  | 115                    |     |     | 150                         | 105 | 85  |
|              |               |       |   |                        |   |                    | 40                  | 120  | 90  | 80  | 105                    |     |     | 120                         | 90  | 80  |
|              |               |       |   |                        |   |                    | 60                  | 110  | 90  | 80  | 100                    | 75  | -   | 115                         | 85  | 75  |
|              |               |       |   |                        |   |                    | 100                 | 100  | 85  | 75  |                        |     | 95  | 75                          | -   |     |
| Hardiplank   | 5/16          | 9.50  | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 120  | 95  | 80  | 110                    |     |     | 140                         | 100 | 80  |
|              |               |       |   |                        |   |                    | 20                  | 120  | 90  | 80  | 105                    |     |     | 140                         | 95  | 80  |
|              |               |       |   |                        |   |                    | 40                  | 110  | 85  | 75  | 95                     |     |     | 120                         | 85  | 75  |
|              |               |       |   |                        |   |                    | 60                  | 100  | 80  | 70  | 90                     | 70  | -   | 110                         | 80  | 70  |
|              |               |       |   |                        |   |                    | 100                 | 90   | 80  | 70  |                        |     | 90  | 70                          | -   |     |
| Hardiplank   | 5/16          | 12.00 | No. 8 x 1-5/8" long x 0.323" HD ribbed bugle head screw | Through Overlap        | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 115  | 80  | 70  | 100                    |     |     | 130                         | 90  | 70  |
|              |               |       |   |                        |   |                    | 20                  | 110  | 80  | 70  | 95                     |     |     | 120                         | 85  | 70  |
|              |               |       |   |                        |   |                    | 40                  | 95   | 75  | 70  | 85                     |     |     | 100                         | 75  | -   |
|              |               |       |   |                        |   |                    | 60                  | 90   | 70  | -   | 80                     |     |     | 95                          | 70  | -   |
|              |               |       |   |                        |   |                    | 100                 | 80   | 70  | -   |                        |     | 80  | 70                          | -   |     |

\* deleted by City of Los Angeles

Table 2b — MAXIMUM WIND SPEED

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| Product Type | Product (in.) |       | Fastener Type                             | Fastener Spacing (in.)    | Frame Type <sup>1</sup> | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|--------------|---------------|-------|---|---------------------------|-------------------------|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|              | Thick.        | Width |   |                           |                         |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|              |               |       |   |                           |                         |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardiplank   | 5/16          | 4.00  | No. 11 ga. 1-1/4" long Galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 150 | 150 |                        |     | 150 | 150                         | 150 |     |
|              |               |       |   |                           |                         |                    | 40                  | 150  | 150 | 150 |                        |     | 150 | 150                         | 150 |     |
|              |               |       |   |                           |                         |                    | 60                  | 150  | 150 | 150 |                        |     | 150 | 150                         | 150 |     |
|              |               |       |   |                           |                         |                    | 100                 | 150  | 150 | 150 | 140                    | 120 | 150 | 140                         | 120 |     |
| Hardiplank   | 5/16          | 6.00  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 150 | 130 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 150 | 130 | 150                    |     |     | 150                         | 150 | 120 |
|              |               |       |   |                           |                         |                    | 40                  | 150  | 140 | 120 | 150                    |     |     | 150                         | 130 | 115 |
|              |               |       |   |                           |                         |                    | 60                  | 150  | 130 | 120 | 140                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                           |                         |                    | 100                 | 150  | 120 | 110 |                        | 10  | 95  | 140                         | 110 | 95  |
| Hardiplank   | 5/16          | 6.25  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 150 | 130 | 150                    |     |     | 150                         | 150 | 120 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 140 | 120 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |   |                           |                         |                    | 40                  | 150  | 130 | 120 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                           |                         |                    | 60                  | 150  | 130 | 110 | 140                    |     |     | 150                         | 120 | 110 |
|              |               |       |   |                           |                         |                    | 100                 | 140  | 120 | 110 |                        | 100 | 95  | 135                         | 100 | 95  |
| Hardiplank   | 5/16          | 7.50  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 130 | 115 | 150                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 130 | 110 | 140                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                           |                         |                    | 40                  | 150  | 120 | 110 | 135                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |                         |                    | 60                  | 140  | 115 | 105 | 125                    |     |     | 150                         | 110 | 95  |
|              |               |       |   |                           |                         |                    | 100                 | 130  | 110 | 100 |                        | 95  | 85  | 120                         | 95  | 85  |
| Hardiplank   | 5/16          | 8.00  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 130 | 110 | 150                    |     |     | 150                         | 130 | 105 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 120 | 110 | 140                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |                         |                    | 40                  | 140  | 115 | 100 | 130                    |     |     | 150                         | 115 | 95  |
|              |               |       |   |                           |                         |                    | 60                  | 130  | 110 | 100 | 120                    |     |     | 140                         | 110 | 95  |
|              |               |       |   |                           |                         |                    | 100                 | 120  | 110 | 95  |                        | 90  | 80  | 115                         | 90  | 80  |
| Hardiplank   | 5/16          | 8.25  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 120 | 110 | 140                    |     |     | 150                         | 130 | 105 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 120 | 105 | 140                    |     |     | 150                         | 120 | 105 |
|              |               |       |   |                           |                         |                    | 40                  | 140  | 110 | 100 | 125                    |     |     | 150                         | 110 | 95  |
|              |               |       |   |                           |                         |                    | 60                  | 130  | 110 | 100 | 120                    |     |     | 140                         | 105 | 90  |
|              |               |       |   |                           |                         |                    | 100                 | 120  | 100 | 95  |                        | 90  | 80  | 115                         | 90  | 80  |
| Hardiplank   | 5/16          | 9.50  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 150  | 110 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |                         |                    | 20                  | 140  | 110 | 100 | 130                    |     |     | 150                         | 115 | 95  |
|              |               |       |   |                           |                         |                    | 40                  | 130  | 100 | 90  | 115                    |     |     | 140                         | 100 | 90  |
|              |               |       |   |                           |                         |                    | 60                  | 120  | 100 | 90  | 110                    |     |     | 130                         | 100 | 85  |
|              |               |       |   |                           |                         |                    | 100                 | 110  | 95  | 80  |                        | 80  | 70  | 105                         | 80  | 70  |
| Hardiplank   | 5/16          | 12.00 | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 16                 | 0-15                | 130  | 100 | 90  | 115                    |     |     | 150                         | 105 | 85  |
|              |               |       |   |                           |                         |                    | 20                  | 120  | 100 | 80  | 110                    |     |     | 140                         | 100 | 80  |
|              |               |       |   |                           |                         |                    | 40                  | 110  | 90  | 80  | 100                    |     |     | 120                         | 95  | 75  |
|              |               |       |   |                           |                         |                    | 60                  | 110  | 80  | 80  | 95                     |     |     | 110                         | 85  | 75  |
|              |               |       |   |                           |                         |                    | 100                 | 100  | 80  | 75  |                        | 75  | -   | 90                          | 75  | -   |
| Hardiplank   | 5/16          | 4.00  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 24                 | 0-15                | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 150 | 140 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |   |                           |                         |                    | 40                  | 150  | 150 | 130 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |   |                           |                         |                    | 60                  | 150  | 140 | 130 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |   |                           |                         |                    | 100                 | 150  | 130 | 120 |                        | 115 | 105 | 150                         | 115 | 105 |
| Hardiplank   | 5/16          | 6.00  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 24                 | 0-15                | 150  | 120 | 110 | 140                    |     |     | 150                         | 130 | 105 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 120 | 105 | 140                    |     |     | 150                         | 120 | 105 |
|              |               |       |   |                           |                         |                    | 40                  | 140  | 110 | 100 | 125                    |     |     | 150                         | 110 | 95  |
|              |               |       |   |                           |                         |                    | 60                  | 130  | 110 | 100 | 115                    |     |     | 140                         | 105 | 90  |
|              |               |       |   |                           |                         |                    | 100                 | 120  | 100 | 100 |                        | 90  | 80  | 110                         | 90  | 80  |
| Hardiplank   | 5/16          | 6.25  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 24                 | 0-15                | 150  | 120 | 110 | 140                    |     |     | 150                         | 125 | 100 |
|              |               |       |   |                           |                         |                    | 20                  | 150  | 120 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |                         |                    | 40                  | 130  | 110 | 100 | 120                    |     |     | 150                         | 110 | 95  |
|              |               |       |   |                           |                         |                    | 60                  | 120  | 110 | 95  | 110                    |     |     | 130                         | 105 | 90  |
|              |               |       |   |                           |                         |                    | 100                 | 120  | 100 | 90  |                        | 85  | 80  | 110                         | 85  | 80  |
| Hardiplank   | 5/16          | 7.50  | No. 11 ga. 1-1/4" long galv. roofing nail | Through top edge of plank | 2 x 4 wood              | 24                 | 0-15                | 140  | 110 | 95  | 120                    |     |     | 150                         | 115 | 90  |
|              |               |       |   |                           |                         |                    | 20                  | 140  | 105 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |   |                           |                         |                    | 40                  | 120  | 100 | 90  | 110                    |     |     | 130                         | 100 | 80  |
|              |               |       |   |                           |                         |                    | 60                  | 120  | 95  | 85  | 100                    |     |     | 120                         | 95  | 80  |
|              |               |       |   |                           |                         |                    | 100                 | 110  | 90  | 70  |                        | 80  | 70  | 100                         | 80  | 70  |

\* deleted by City of Los Angeles

Table 2b — MAXIMUM WIND SPEED

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| Product Type | Product (in.) |       | Fastener Type   | Fastener Spacing (in.)    | Frame Type <sup>1</sup>                       | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |     |                             |     |     |
|--------------|---------------|-------|---|---------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|-----|-----|-----------------------------|-----|-----|
|              | Thick.        | Width |   |                           |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |     | BOCA National Building Code |     |     |
|              |               |       |   |                           |   |                    |                     | B  | C   | D   | < 60 ft                | C   | D   | B                           | C   | D   |
| Hardiplank   | 5/16          | 8.00  | No. 11 ga. 1-1/4" long galv. roofing nail                     | Through top edge of plank | 2 x 4 wood                                    | 24                 | 0-15                | 130  | 100 | 90  | 120                    |     |     | 150                         | 110 | 90  |
|              |               |       |   |                           |   |                    | 20                  | 130  | 100 | 90  | 115                    |     |     | 150                         | 105 | 80  |
|              |               |       |   |                           |   |                    | 40                  | 120  | 95  | 80  | 105                    |     |     | 120                         | 95  | 80  |
|              |               |       |   |                           |   |                    | 60                  | 120  | 95  | 80  | 100                    | 90  | -   | 110                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 100                 | 110  | 90  | 70  |                        |     |     | 95                          | 90  | -   |
| Hardiplank   | 5/16          | 8.25  | No. 11 ga. 1-1/4" long galv. roofing nail                     | Through top edge of plank | 2 x 4 wood                                    | 24                 | 0-15                | 130  | 100 | 90  | 120                    |     |     | 150                         | 110 | 85  |
|              |               |       |   |                           |   |                    | 20                  | 130  | 100 | 90  | 110                    |     |     | 140                         | 105 | 85  |
|              |               |       |   |                           |   |                    | 40                  | 120  | 95  | 80  | 100                    |     |     | 120                         | 90  | 80  |
|              |               |       |   |                           |   |                    | 60                  | 110  | 95  | 80  | 95                     | 75  | -   | 110                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 100                 | 100  | 90  | 75  |                        |     |     | 90                          | 70  | -   |
| Hardiplank   | 5/16          | 9.50  | No. 11 ga. 1-1/4" long galv. roofing nail                     | Through top edge of plank | 2 x 4 wood                                    | 24                 | 0-15                | 120  | 95  | 80  | 110                    |     |     | 140                         | 100 | 80  |
|              |               |       |   |                           |   |                    | 20                  | 120  | 90  | 80  | 105                    |     |     | 130                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 40                  | 110  | 90  | 70  | 95                     |     |     | 115                         | 85  | 70  |
|              |               |       |   |                           |   |                    | 60                  | 100  | 85  | 70  | 90                     | 70  | -   | 105                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 100                 | 95   | 75  | 70  |                        |     |     | 85                          | 70  | -   |
| Hardiplank   | 5/16          | 12.00 | No. 11 ga. 1-1/4" long galv. roofing nail                     | Through top edge of plank | 2 x 4 wood                                    | 24                 | 0-15                | 110  | 80  | 70  | 90                     |     |     | 120                         | 85  | 70  |
|              |               |       |   |                           |   |                    | 20                  | 110  | 80  | 70  | 90                     |     |     | 120                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 40                  | 100  | 80  | 70  | 80                     |     |     | 105                         | 75  | -   |
|              |               |       |   |                           |   |                    | 60                  | 80   | 80  | -   | 80                     |     |     | 90                          | 70  | -   |
|              |               |       |   |                           |   |                    | 100                 | 80   | 80  | -   |                        | -   | -   | 80                          | -   | -   |
| Hardiplank   | 5/16          | 4.00  | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 150 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 140 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 150 | 150 | 150                    |     |     | 150                         | 150 | 130 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 150 | 150 | 160                    |     |     | 150                         | 150 | 130 |
|              |               |       |   |                           |   |                    | 100                 | 150  | 140 | 140 | -                      | 120 | 110 | 150                         | 120 | 110 |
| Hardiplank   | 5/16          | 6     | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 140 | 125 | 150                    |     |     | 150                         | 150 | 120 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 140 | 120 | 150                    |     |     | 150                         | 140 | 120 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 130 | 115 | 140                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 120 | 110 | 140                    |     |     | 150                         | 120 | 105 |
|              |               |       |   |                           |   |                    | 100                 | 140  | 120 | 110 | -                      | 100 | 90  | 130                         | 100 | 90  |
| Hardiplank   | 5/16          | 6-1/4 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 140 | 120 | 150                    |     |     | 150                         | 140 | 125 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 140 | 120 | 150                    |     |     | 150                         | 140 | 115 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 130 | 110 | 140                    |     |     | 150                         | 130 | 110 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 120 | 110 | 130                    |     |     | 150                         | 120 | 105 |
|              |               |       |   |                           |   |                    | 100                 | 135  | 110 | 100 | -                      | 100 | 90  | 130                         | 100 | 90  |
| Hardiplank   | 5/16          | 7-1/2 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 130 | 110 | 150                    |     |     | 150                         | 135 | 110 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 120 | 105 | 140                    |     |     | 150                         | 130 | 100 |
|              |               |       |   |                           |   |                    | 40                  | 140  | 115 | 105 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 60                  | 140  | 100 | 105 | 130                    |     |     | 140                         | 110 | 95  |
|              |               |       |   |                           |   |                    | 100                 | 125  | 95  | 95  | -                      | 90  | 80  | 115                         | 90  | 80  |
| Hardiplank   | 5/16          | 8     | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 125 | 110 | 140                    |     |     | 150                         | 130 | 100 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 120 | 105 | 140                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 40                  | 140  | 110 | 100 | 125                    |     |     | 140                         | 110 | 90  |
|              |               |       |   |                           |   |                    | 60                  | 130  | 110 | 100 | 120                    |     |     | 130                         | 105 | 90  |
|              |               |       |   |                           |   |                    | 100                 | 120  | 100 | 95  | -                      | 90  | 85  | 115                         | 90  | 80  |
| Hardiplank   | 5/16          | 8-1/4 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 120 | 110 | 140                    |     |     | 150                         | 125 | 105 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 120 | 105 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 40                  | 140  | 110 | 100 | 125                    |     |     | 140                         | 110 | 95  |
|              |               |       |   |                           |   |                    | 60                  | 130  | 105 | 95  | 115                    |     |     | 130                         | 100 | 90  |
|              |               |       |   |                           |   |                    | 100                 | 120  | 100 | 90  | -                      | 85  | 75  | 110                         | 85  | 75  |
| Hardiplank   | 5/16          | 9-1/2 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 16                 | 0-15                | 150  | 115 | 100 | 130                    |     |     | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 20                  | 140  | 110 | 100 | 130                    |     |     | 150                         | 110 | 90  |
|              |               |       |   |                           |   |                    | 40                  | 130  | 105 | 90  | 120                    |     |     | 140                         | 100 | 90  |
|              |               |       |   |                           |   |                    | 60                  | 120  | 100 | 90  | 110                    |     |     | 120                         | 95  | 85  |
|              |               |       |   |                           |   |                    | 100                 | 110  | 90  | 85  | -                      | 85  | 80  | 100                         | 85  | 80  |

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Table 2b — MAXIMUM WIND SPEED

\*

| Product Type | Product (in.) |       | Fastener Type   | Fastener Spacing (in.)    | Frame Type <sup>1</sup>                       | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |     |    |                             |     |     |
|--------------|---------------|-------|---|---------------------------|---|--------------------|---------------------|--|-----|-----|------------------------|-----|----|-----------------------------|-----|-----|
|              | Thick.        | Width |   |                           |   |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |     |    | BOCA National Building Code |     |     |
|              |               |       |   |                           |   |                    |                     | B  | C   | D   | < 60 ft                | C   | D  | B                           | C   | D   |
| Hardiplank   | 5/16          | 4     | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 150  | 140 | 125 | 150                    |     |    | 150                         | 150 | 120 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 140 | 120 | 150                    |     |    | 150                         | 140 | 120 |
|              |               |       |   |                           |   |                    | 40                  | 150  | 130 | 115 | 140                    |     |    | 150                         | 130 | 110 |
|              |               |       |   |                           |   |                    | 60                  | 150  | 120 | 110 | 140                    |     |    | 150                         | 120 | 105 |
|              |               |       |   |                           |   |                    | 100                 | 140  | 120 | 110 | -                      | 100 | 90 | 130                         | 100 | 90  |
| Hardiplank   | 5/16          | 6     | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 150  | 120 | 100 | 130                    |     |    | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 20                  | 150  | 110 | 100 | 130                    |     |    | 150                         | 115 | 95  |
|              |               |       |   |                           |   |                    | 40                  | 130  | 105 | 90  | 120                    |     |    | 135                         | 105 | 90  |
|              |               |       |   |                           |   |                    | 60                  | 120  | 100 | 90  | 110                    |     |    | 130                         | 100 | 85  |
|              |               |       |   |                           |   |                    | 100                 | 110  | 95  | 90  | -                      | 85  | 75 | 105                         | 85  | 75  |
| Hardiplank   | 5/16          | 6-1/4 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 150  | 115 | 100 | 130                    |     |    | 150                         | 120 | 100 |
|              |               |       |   |                           |   |                    | 20                  | 140  | 110 | 100 | 130                    |     |    | 150                         | 115 | 90  |
|              |               |       |   |                           |   |                    | 40                  | 130  | 105 | 95  | 115                    |     |    | 140                         | 105 | 90  |
|              |               |       |   |                           |   |                    | 60                  | 120  | 100 | 90  | 110                    |     |    | 130                         | 100 | 85  |
|              |               |       |   |                           |   |                    | 100                 | 110  | 95  | 85  | -                      | 85  | 70 | 105                         | 85  | 70  |
| Hardiplank   | 5/16          | 7-1/2 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 140  | 105 | 90  | 120                    |     |    | 150                         | 110 | 90  |
|              |               |       |   |                           |   |                    | 20                  | 130  | 100 | 90  | 115                    |     |    | 150                         | 100 | 85  |
|              |               |       |   |                           |   |                    | 40                  | 120  | 95  | 85  | 105                    |     |    | 130                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 60                  | 110  | 90  | 80  | 100                    |     |    | 120                         | 75  | 75  |
|              |               |       |   |                           |   |                    | 100                 | 100  | 85  | 70  | -                      | NA  | NA | 90                          | NA  | NA  |
| Hardiplank   | 5/16          | 8     | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 130  | 100 | 90  | 120                    |     |    | 150                         | 105 | 85  |
|              |               |       |   |                           |   |                    | 20                  | 130  | 100 | 85  | 115                    |     |    | 140                         | 100 | 85  |
|              |               |       |   |                           |   |                    | 40                  | 120  | 90  | 80  | 100                    |     |    | 125                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 60                  | 100  | 85  | 80  | 95                     |     |    | 115                         | 85  | 75  |
|              |               |       |   |                           |   |                    | 100                 | 100  | 80  | 75  | -                      | 75  | NA | 90                          | 75  | NA  |
| Hardiplank   | 5/16          | 8-1/4 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 130  | 100 | 90  | 110                    |     |    | 150                         | 105 | 85  |
|              |               |       |   |                           |   |                    | 20                  | 125  | 100 | 85  | 110                    |     |    | 140                         | 100 | 85  |
|              |               |       |   |                           |   |                    | 40                  | 115  | 90  | 80  | 100                    |     |    | 125                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 60                  | 105  | 85  | 80  | 95                     |     |    | 110                         | 85  | 75  |
|              |               |       |   |                           |   |                    | 100                 | 100  | 80  | 75  | -                      | 75  | NA | 90                          | 75  | NA  |
| Hardiplank   | 5/16          | 9-1/2 | No. 8 x 1-1/4 in. long x 0.375 in. HD ribbed waferhead screws | Through top edge of plank | Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud | 24                 | 0-15                | 120  | 90  | 80  | 110                    |     |    | 140                         | 100 | 80  |
|              |               |       |   |                           |   |                    | 20                  | 120  | 90  | 80  | 105                    |     |    | 130                         | 90  | 75  |
|              |               |       |   |                           |   |                    | 40                  | 105  | 85  | 75  | 95                     |     |    | 115                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 60                  | 100  | 80  | 75  | 90                     |     |    | 105                         | 75  | 70  |
|              |               |       |   |                           |   |                    | 100                 | 90   | 75  | NA  | -                      | NA  | NA | 85                          | NA  | NA  |
| Hardiplank   | 5/16          | 4.00  | 0.089" shank x 0.221" HD x 2" long galv. siding nail          | Through overlap           | 2 x 4   | 16                 | 0-15                | 150  | 115 | 100 | 130                    |     |    | 150                         | 120 | 95  |
|              |               |       |   |                           |   |                    | 20                  | 140  | 110 | 95  | 125                    |     |    | 150                         | 110 | 95  |
|              |               |       |   |                           |   |                    | 40                  | 130  | 105 | 90  | 115                    |     |    | 140                         | 100 | 90  |
|              |               |       |   |                           |   |                    | 60                  | 120  | 100 | 90  | 110                    |     |    | 130                         | 95  | 85  |
|              |               |       |   |                           |   |                    | 100                 | 110  | 90  | 85  | -                      | 80  | 70 | 105                         | 80  | 70  |
| Hardiplank   | 5/16          | 6.00  | 0.089" shank x 0.221" HD x 2" long galv. siding nail          | Through overlap           | 2 x 4   | 16                 | 0-15                | 120  | 90  | 85  | 110                    |     |    | 140                         | 95  | 80  |
|              |               |       |   |                           |   |                    | 20                  | 120  | 90  | 80  | 100                    |     |    | 130                         | 90  | 70  |
|              |               |       |   |                           |   |                    | 40                  | 105  | 80  | 75  | 90                     |     |    | 110                         | 85  | 70  |
|              |               |       |   |                           |   |                    | 60                  | 100  | 80  | 70  | 90                     |     |    | 105                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 100                 | 90   | 75  | 70  | -                      | -   | -  | 90                          | -   | -   |
| Hardiplank   | 5/16          | 6.25  | 0.089" shank x 0.221" HD x 2" long galv. siding nail          | Through overlap           | 2 x 4   | 16                 | 0-15                | 120  | 90  | 80  | 100                    |     |    | 140                         | 95  | 70  |
|              |               |       |   |                           |   |                    | 20                  | 105  | 90  | 80  | 100                    |     |    | 130                         | 90  | 70  |
|              |               |       |   |                           |   |                    | 40                  | 105  | 85  | 70  | 90                     |     |    | 110                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 60                  | 95   | 80  | 70  | 85                     |     |    | 105                         | 75  | -   |
|              |               |       |   |                           |   |                    | 100                 | 90   | 75  | -   | -                      | -   | -  | 90                          | -   | -   |
| Hardiplank   | 5/16          | 7.50  | 0.089" shank x 0.221" HD x 2" long galv. siding nail          | Through overlap           | 2 x 4   | 16                 | 0-15                | 110  | 80  | 70  | 90                     |     |    | 120                         | 85  | 70  |
|              |               |       |   |                           |   |                    | 20                  | 100  | 80  | 70  | 90                     |     |    | 120                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 40                  | 90   | 75  | -   | 80                     |     |    | 100                         | 75  | -   |
|              |               |       |   |                           |   |                    | 60                  | 85   | 70  | -   | 80                     |     |    | 95                          | 70  | -   |
|              |               |       |   |                           |   |                    | 100                 | 80   | 70  | -   | -                      | -   | -  | 75                          | -   | -   |
| Hardiplank   | 5/16          | 8.00  | 0.089" shank x 0.221" HD x 2" long galv. siding nail          | Through overlap           | 2 x 4   | 16                 | 0-15                | 100  | 80  | 70  | 90                     |     |    | 120                         | 80  | 70  |
|              |               |       |   |                           |   |                    | 20                  | 100  | 80  | 70  | 90                     |     |    | 115                         | 80  | -   |
|              |               |       |   |                           |   |                    | 40                  | 90   | 70  | -   | 80                     |     |    | 100                         | 70  | -   |
|              |               |       |   |                           |   |                    | 60                  | 80   | 70  | -   | 75                     |     |    | 90                          | 70  | -   |
|              |               |       |   |                           |   |                    | 100                 | 75   | -   | -   | -                      | -   | -  | 70                          | -   | -   |

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Table 2b — MAXIMUM WIND SPEED

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| Product Type | Product (in.) |       | Fastener Type  | Fastener Spacing (in.)    | Frame Type <sup>1</sup> | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |     |                        |    |    |                             |     |     |
|--------------|---------------|-------|--|---------------------------|-------------------------|--------------------|---------------------|--|-----|-----|------------------------|----|----|-----------------------------|-----|-----|
|              | Thick.        | Width |  |                           |                         |                    |                     | Uniform Building Code                                |     |     | Standard Building Code |    |    | BOCA National Building Code |     |     |
|              |               |       |  |                           |                         |                    |                     | B  | C   | D   | < 60 ft                | C  | D  | B                           | C   | D   |
| Hardiplank   | 5/16          | 8.25  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 16                 | 0-15                | 100  | 80  | 70  | 90                     |    |    | 120                         | 80  | -   |
|              |               |       |  |                           |                         |                    | 20                  | 100  | 80  | 70  | 90                     |    |    | 110                         | 80  | -   |
|              |               |       |  |                           |                         |                    | 40                  | 90   | 70  | -   | 80                     |    |    | 100                         | 70  | -   |
|              |               |       |  |                           |                         |                    | 60                  | 80   | 70  | -   | 75                     |    |    | 90                          | 70  | -   |
|              |               |       |  |                           |                         |                    | 100                 | 75   | -   | -   | -                      |    |    | 70                          | -   | -   |
| Hardiplank   | 5/16          | 9.50  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 16                 | 0-15                | 100  | 70  | -   | 80                     |    |    | 110                         | 75  | -   |
|              |               |       |  |                           |                         |                    | 20                  | 90   | 70  | -   | 80                     |    |    | 105                         | 70  | -   |
|              |               |       |  |                           |                         |                    | 40                  | 80   | -   | -   | 75                     |    |    | 90                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | 80   | -   | -   | 70                     |    |    | 85                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | 70   | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 12.00 | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 16                 | 0-15                | 90   | -   | -   | 70                     |    |    | 100                         | 70  | -   |
|              |               |       |  |                           |                         |                    | 20                  | 80   | -   | -   | 70                     |    |    | 90                          | -   | -   |
|              |               |       |  |                           |                         |                    | 40                  | 70   | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -   | -                      |    |    | 70                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 4.00  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 120  | 90  | 80  | 110                    |    |    | 140                         | 95  | 80  |
|              |               |       |  |                           |                         |                    | 20                  | 120  | 90  | 80  | 105                    |    |    | 130                         | 90  | 75  |
|              |               |       |  |                           |                         |                    | 40                  | 105  | 85  | 75  | 90                     |    |    | 110                         | 85  | 70  |
|              |               |       |  |                           |                         |                    | 60                  | 100  | 80  | 70  | 90                     |    |    | 105                         | 80  | 70  |
|              |               |       |  |                           |                         |                    | 100                 | 90   | 75  | -   | -                      |    |    | 90                          | -   | -   |
| Hardiplank   | 5/16          | 6.00  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 100  | 70  | -   | 90                     |    |    | 115                         | 80  | -   |
|              |               |       |  |                           |                         |                    | 20                  | 90   | 70  | -   | 85                     |    |    | 115                         | 75  | -   |
|              |               |       |  |                           |                         |                    | 40                  | 85   | 70  | -   | 75                     |    |    | 90                          | 70  | -   |
|              |               |       |  |                           |                         |                    | 60                  | 80   | -   | -   | 70                     |    |    | 85                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | 70   | -   | -   | -                      |    |    | 70                          | -   | -   |
| Hardiplank   | 5/16          | 6.25  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 100  | 70  | -   | 85                     |    |    | 110                         | 75  | -   |
|              |               |       |  |                           |                         |                    | 20                  | 90   | 70  | -   | 80                     |    |    | 105                         | 70  | -   |
|              |               |       |  |                           |                         |                    | 40                  | 85   | -   | -   | 75                     |    |    | 90                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | 80   | -   | -   | 70                     |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | 70   | -   | -   | -                      |    |    | 70                          | -   | -   |
| Hardiplank   | 5/16          | 7.50  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 90   | 70  | -   | 80                     |    |    | 105                         | 70  | -   |
|              |               |       |  |                           |                         |                    | 20                  | 85   | 70  | -   | 75                     |    |    | 100                         | 70  | -   |
|              |               |       |  |                           |                         |                    | 40                  | 80   | -   | -   | 70                     |    |    | 85                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | 70   | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 8.00  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 80   | -   | -   | 70                     |    |    | 100                         | -   | -   |
|              |               |       |  |                           |                         |                    | 20                  | 80   | -   | -   | 70                     |    |    | 90                          | -   | -   |
|              |               |       |  |                           |                         |                    | 40                  | 75   | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -   | -                      |    |    | 70                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 8.25  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 80   | -   | -   | 70                     |    |    | 100                         | -   | -   |
|              |               |       |  |                           |                         |                    | 20                  | 80   | -   | -   | 70                     |    |    | 90                          | -   | -   |
|              |               |       |  |                           |                         |                    | 40                  | 75   | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -   | -                      |    |    | 70                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 9.50  | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 80   | -   | -   | 70                     |    |    | 90                          | -   | -   |
|              |               |       |  |                           |                         |                    | 20                  | 70   | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 40                  | -  | -   | -   | -                      |    |    | 70                          | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | -  | -   | -   | -                      |    |    | 70                          | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 12.00 | 0.089" shank x 0.221" HD x 2" long galv. siding nail | Through overlap           | 2 x 4                   | 24                 | 0-15                | 70   | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 20                  | -  | -   | -   | -                      |    |    | 80                          | -   | -   |
|              |               |       |  |                           |                         |                    | 40                  | -  | -   | -   | -                      |    |    | -                           | -   | -   |
|              |               |       |  |                           |                         |                    | 60                  | -  | -   | -   | -                      |    |    | -                           | -   | -   |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -   | -                      |    |    | -                           | -   | -   |
| Hardiplank   | 5/16          | 4.00  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 150  | 130 | 110 | 150                    |    |    | 150                         | 130 | 110 |
|              |               |       |  |                           |                         |                    | 20                  | 150  | 120 | 110 | 140                    |    |    | 150                         | 130 | 105 |
|              |               |       |  |                           |                         |                    | 40                  | 140  | 115 | 100 | 130                    |    |    | 150                         | 115 | 100 |
|              |               |       |  |                           |                         |                    | 60                  | 140  | 110 | 100 | 120                    |    |    | 140                         | 110 | 95  |
|              |               |       |  |                           |                         |                    | 100                 | 125  | 100 | 95  | -                      | 90 | 80 | 110                         | 90  | 80  |

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Table 2b — MAXIMUM WIND SPEED

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| Product Type | Product (in.) |       | Fastener Type  | Fastener Spacing (in.)    | Frame Type <sup>1</sup> | Stud Spacing (in.) | Height of Bldg (ft) | Maximum Basic Wind Speed (Mph) for Exposure Category |     |    |                        |   |    |                             |     |    |
|--------------|---------------|-------|--|---------------------------|-------------------------|--------------------|---------------------|--|-----|----|------------------------|---|----|-----------------------------|-----|----|
|              | Thick.        | Width |  |                           |                         |                    |                     | Uniform Building Code                                |     |    | Standard Building Code |   |    | BOCA National Building Code |     |    |
|              |               |       |  |                           |                         |                    |                     | B  | C   | D  | < 60 ft                | C | D  | B                           | C   | D  |
| Hardiplank   | 5/16          | 6.00  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 130  | 100 | 80 | 110                    |   |    | 150                         | 100 | 80 |
|              |               |       |  |                           |                         |                    | 20                  | 120  | 95  | 80 | 110                    |   |    | 140                         | 95  | 80 |
|              |               |       |  |                           |                         |                    | 40                  | 110  | 90  | 80 | 100                    |   |    | 120                         | 90  | 75 |
|              |               |       |  |                           |                         |                    | 60                  | 100  | 85  | 75 | 90                     |   | 75 | 110                         | 85  | 70 |
|              |               |       |  |                           |                         |                    | 100                 | 95   | 80  | 70 |                        |   | 90 | 75                          | -   |    |
| Hardiplank   | 5/16          | 6.25  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 120  | 90  | 80 | 110                    |   |    | 140                         | 100 | 80 |
|              |               |       |  |                           |                         |                    | 20                  | 120  | 90  | 80 | 100                    |   |    | 130                         | 95  | 75 |
|              |               |       |  |                           |                         |                    | 40                  | 105  | 80  | 75 | 95                     |   |    | 115                         | 85  | 70 |
|              |               |       |  |                           |                         |                    | 60                  | 100  | 80  | 70 | 90                     |   | 70 | 110                         | 70  | 70 |
|              |               |       |  |                           |                         |                    | 100                 | 90   | 75  | 70 |                        |   | 95 | 70                          | -   |    |
| Hardiplank   | 5/16          | 7.50  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 110  | 85  | 75 | 100                    |   |    | 130                         | 90  | 70 |
|              |               |       |  |                           |                         |                    | 20                  | 110  | 80  | 70 | 95                     |   |    | 120                         | 85  | 70 |
|              |               |       |  |                           |                         |                    | 40                  | 95   | 80  | 70 | 85                     |   |    | 105                         | 80  | -  |
|              |               |       |  |                           |                         |                    | 60                  | 90   | 75  | -  | 80                     |   |    | 95                          | 70  | -  |
|              |               |       |  |                           |                         |                    | 100                 | 80   | 70  | -  |                        |   | -  | 85                          | -   | -  |
| Hardiplank   | 5/16          | 8.00  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 100  | 80  | 70 | 90                     |   |    | 120                         | 85  | 70 |
|              |               |       |  |                           |                         |                    | 20                  | 100  | 80  | 70 | 90                     |   |    | 115                         | 80  | 70 |
|              |               |       |  |                           |                         |                    | 40                  | 90   | 75  | -  | 80                     |   |    | 100                         | 75  | -  |
|              |               |       |  |                           |                         |                    | 60                  | 80   | 70  | -  | 80                     |   |    | 90                          | 70  | -  |
|              |               |       |  |                           |                         |                    | 100                 | 80   | -   | -  |                        |   | -  | 80                          | -   | -  |
| Hardiplank   | 5/16          | 8.25  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 100  | 80  | 70 | 90                     |   |    | 120                         | 80  | 70 |
|              |               |       |  |                           |                         |                    | 20                  | 100  | 80  | -  | 90                     |   |    | 115                         | 80  | -  |
|              |               |       |  |                           |                         |                    | 40                  | 90   | 75  | -  | 80                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 60                  | 80   | 75  | -  | 75                     |   |    | 90                          | 70  | -  |
|              |               |       |  |                           |                         |                    | 100                 | 75   | -   | -  |                        |   | -  | 80                          | -   | -  |
| Hardiplank   | 5/16          | 9.50  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 100  | 75  | -  | 80                     |   |    | 110                         | 80  | -  |
|              |               |       |  |                           |                         |                    | 20                  | 90   | 70  | -  | 80                     |   |    | 110                         | 75  | -  |
|              |               |       |  |                           |                         |                    | 40                  | 80   | -   | -  | 70                     |   |    | 90                          | 70  | -  |
|              |               |       |  |                           |                         |                    | 60                  | 80   | -   | -  | 70                     |   |    | 80                          | -   | -  |
|              |               |       |  |                           |                         |                    | 100                 | 70   | -   | -  |                        |   | -  | -                           | -   | -  |
| Hardiplank   | 5/16          | 12.00 | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 16                 | 0-15                | 90   | -   | -  | 70                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 20                  | 80   | -   | -  | 70                     |   |    | 90                          | -   | -  |
|              |               |       |  |                           |                         |                    | 40                  | 75   | -   | -  | -                      |   |    | 80                          | -   | -  |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -  | -                      |   |    | 70                          | -   | -  |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -  |                        |   | -  | -                           | -   | -  |
| Hardiplank   | 5/16          | 4.00  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 24                 | 0-15                | 140  | 105 | 95 | 120                    |   |    | 150                         | 110 | 90 |
|              |               |       |  |                           |                         |                    | 20                  | 130  | 100 | 90 | 115                    |   |    | 150                         | 105 | 85 |
|              |               |       |  |                           |                         |                    | 40                  | 120  | 95  | 85 | 105                    |   |    | 130                         | 95  | 80 |
|              |               |       |  |                           |                         |                    | 60                  | 115  | 90  | 80 | 100                    |   | 75 | 120                         | 90  | 75 |
|              |               |       |  |                           |                         |                    | 100                 | 105  | 85  | 80 |                        |   | 95 | 75                          | -   |    |
| Hardiplank   | 5/16          | 6.00  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 24                 | 0-15                | 100  | 80  | 70 | 90                     |   |    | 120                         | 80  | -  |
|              |               |       |  |                           |                         |                    | 20                  | 100  | 80  | -  | 90                     |   |    | 110                         | 80  | -  |
|              |               |       |  |                           |                         |                    | 40                  | 90   | 70  | -  | 80                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 60                  | 85   | 70  | -  | 75                     |   |    | 90                          | 70  | -  |
|              |               |       |  |                           |                         |                    | 100                 | 75   | -   | -  |                        |   | -  | 75                          | -   | -  |
| Hardiplank   | 5/16          | 6.25  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 24                 | 0-15                | 100  | 80  | 70 | 90                     |   |    | 120                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 20                  | 100  | 75  | -  | 85                     |   |    | 110                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 40                  | 90   | 70  | -  | 80                     |   |    | 95                          | -   | -  |
|              |               |       |  |                           |                         |                    | 60                  | 85   | -   | -  | 75                     |   |    | 85                          | -   | -  |
|              |               |       |  |                           |                         |                    | 100                 | 75   | -   | -  |                        |   | 70 | -                           | -   |    |
| Hardiplank   | 5/16          | 7.50  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 24                 | 0-15                | 90   | 70  | -  | 80                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 20                  | 90   | -   | -  | 75                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 40                  | 80   | -   | -  | 70                     |   |    | 85                          | -   | -  |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -  | -                      |   |    | 75                          | -   | -  |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -  |                        |   | -  | -                           | -   |    |
| Hardiplank   | 5/16          | 8.00  | 0.093" shank x 0.222" HD x 2" long galv. siding nail | Through top edge of plank | 2 x 4                   | 24                 | 0-15                | 90   | -   | -  | 80                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 20                  | 85   | -   | -  | 75                     |   |    | 100                         | 70  | -  |
|              |               |       |  |                           |                         |                    | 40                  | 75   | -   | -  | 70                     |   |    | 80                          | -   | -  |
|              |               |       |  |                           |                         |                    | 60                  | 70   | -   | -  | -                      |   |    | 75                          | -   | -  |
|              |               |       |  |                           |                         |                    | 100                 | -  | -   | -  |                        |   | -  | -                           | -   |    |

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Table 2b — MAXIMUM WIND SPEED

\*

| Product Type | Product (in.) |       | Fastener Type   | Fastener Spacing (in.)                     | Frame Type <sup>1</sup>   | Stud Spacing (in.) | Height of Bldg (ft)           | Maximum Basic Wind Speed (Mph) for Exposure Category |    |   |                        |   |   |                             |    |   |
|--------------|---------------|-------|---|--|---|--------------------|-------------------------------|--|----|---|------------------------|---|---|-----------------------------|----|---|
|              | Thick.        | Width |   |  |   |                    |                               | Uniform Building Code                                |    |   | Standard Building Code |   |   | BOCA National Building Code |    |   |
|              |               |       |   |  |   |                    |                               | B  | C  | D | < 60 ft                | C | D | B                           | C  | D |
| Hardiplank   | 5/16          | 8.25  | 0.093" shank x 0.222" HD x 2" long galv. siding nail        | Through top edge of plank                  | 2 x 4   | 24                 | 0-15<br>20<br>40<br>60<br>100 | 85   | -  | - | 70                     | - | - | 100                         | 70 | - |
|              |               |       |   |  |   |                    |                               | 85   | -  | - | 70                     | - | - | 95                          | -  | - |
|              |               |       |   |  |   |                    |                               | 70   | -  | - | -                      | - | - | 85                          | -  | - |
|              |               |       |   |  |   |                    |                               | 70   | -  | - | -                      | - | - | 75                          | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | -                           | -  | - |
| Hardiplank   | 5/16          | 9.50  | 0.093" shank x 0.222" HD x 2" long galv. siding nail        | Through top edge of plank                  | 2 x 4   | 24                 | 0-15<br>20<br>40<br>60<br>100 | 80   | -  | - | 70                     | - | - | 90                          | -  | - |
|              |               |       |   |  |   |                    |                               | 80   | -  | - | 70                     | - | - | 90                          | -  | - |
|              |               |       |   |  |   |                    |                               | 70   | -  | - | -                      | - | - | 75                          | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | 70                          | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | -                           | -  | - |
| Hardiplank   | 5/16          | 12.00 | 0.093" shank x 0.222" HD x 2" long galv. siding nail        | Through top edge of plank                  | 2 x 4   | 24                 | 0-15<br>20<br>40<br>60<br>100 | 70   | -  | - | -                      | - | - | 70                          | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | 80                          | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | -                           | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | -                           | -  | - |
|              |               |       |   |  |   |                    |                               | -  | -  | - | -                      | - | - | -                           | -  | - |
| Hardiplank   | 5/16          | 9.50  | 0.091" shank, 0.221" HD, 1.5" long corrosion resistant nail | Face nailed through the overlap @ 12" o.c. | 7/16" thick APA rated OSB sheathing or equivalent solid sheathing | -                  | 0-15<br>20<br>40<br>60<br>100 | 100  | 80 | - | 90                     | - | - | 115                         | 80 | - |
|              |               |       |   |  |   |                    |                               | 95   | 75 | - | 85                     | - | - | 110                         | 75 | - |
|              |               |       |   |  |   |                    |                               | 85   | 70 | - | 80                     | - | - | 90                          | 70 | - |
|              |               |       |   |  |   |                    |                               | 80   | -  | - | 75                     | - | - | 85                          | -  | - |
|              |               |       |   |  |   |                    |                               | 70   | -  | - | -                      | - | - | 70                          | -  | - |

Notes to Table 2b:

1. Values are for species of wood having a specific gravity of 0.42 or greater, unless otherwise noted.

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Table 3 — SHEAR VALUES ALLOWABLE LOADS IN POUNDS PER LINEAL FOOT FOR PANEL SHEAR WALLS<sup>1,2</sup> \*

| Product Type  | Product Thickness (inch) | Fastener Type  | Fastener Spacing (inch) | Frame Types  | Stud Spacing (inch) | Shear Value (plf) |
|---|--------------------------|--|-------------------------|--|---------------------|-------------------|
| Hardiflex<br>Hardisoffit                                    | 3/16                     | 4d common 1-1/2 in. long                                       | 6                       | 2 x 4 wood <sup>5</sup>                                    | 16                  | 145               |
| Hardipanel<br>Hardiflex<br>Hardisoffit                      | 1/4                      | 4d common 1-1/2 in. long                                       | 8                       | 2 x 4 wood <sup>5</sup>                                    | 16 & 24             | 120               |
| Hardibacker<br>Titan  | 1/4                      | 0.086 in. x 1-3/8 in.<br>long gypsum wall board nail           | 6                       | 2 x 4 wood <sup>5</sup>                                    | 16 & 24             | 140               |
| Hardipanel<br>Hardiflex                                     | 1/4                      | 6d common 2 in. long   | 6                       | 2 x 4 wood <sup>5</sup>                                    | 16                  | 190               |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker<br>Titan | 1/4                      | No. 11 ga. 1-1/4 in. long<br>galvanized roofing nail           | 6                       | 2 x 4 wood <sup>5</sup>                                    | 16 & 24             | 180               |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker<br>Titan | 1/4                      | No. 11 ga. 1-1/4 in. long<br>galvanized roofing nail           | 4 edge<br>12 field      | 2 x 4 wood <sup>5</sup>                                    | 16 & 24             | 265               |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker<br>Titan | 1/4                      | No. 11 ga. 1-1/4 in. long<br>galvanized roofing nail           | 3 edge<br>6 field       | 2 x 4 wood <sup>5</sup><br>w/48 in.<br>mid-height<br>block | 16 & 24             | 295               |
| Shiplap   | 5/16                     | 0.092 in. shank, 0.225 in. HD, 2 in. long<br>ring shank nail   | 3 edge<br>8 field       | 2 x 4 wood <sup>4</sup>                                    | 16                  | 268               |
| Shiplap   | 5/16                     | 0.092 in. shank, 0.225 in. HD, 2 in. long<br>ring shank nail   | 4 edge<br>8 field       | 2 x 4 wood <sup>4</sup>                                    | 16                  | 238               |
| Shiplap   | 5/16                     | 0.092 in. shank, 0.225 in. HD, 2 in. long<br>ring shank nail   | 5 edge<br>8 field       | 2 x 4 wood <sup>4</sup>                                    | 16                  | 208               |
| Shiplap   | 5/16                     | 0.092 in. shank, 0.225 in. HD, 2 in. long<br>ring shank nail   | 6 edge<br>8 field       | 2 x 4 wood <sup>4</sup>                                    | 16                  | 179               |
| Shiplap   | 5/16                     | 0.092 in. shank, 0.225 in. HD, 2 in. long<br>ring shank nail   | 7 edge<br>8 field       | 2 x 4 wood <sup>4</sup>                                    | 16                  | 149               |
| Shiplap   | 5/16                     | 0.092 in. shank, 0.225 in. HD, 2 in. long<br>ring shank nail   | 8 edge<br>8 field       | 2 x 4 wood <sup>4</sup>                                    | 16                  | 119               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 0.091 in. shank, 0.225 in. HD, 1.5 in.<br>long ring shank nail | 4 edge<br>8 field       | 2 x 4 wood <sup>3</sup>                                    | 16                  | 198               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 4d common 1-1/2 in. long                                       | 8                       | 2 x 4 wood <sup>5</sup>                                    | 16 & 24             | 120               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 6d common 2 in. long   | 6                       | 2 x 4 wood <sup>5</sup>                                    | 16                  | 200               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 6d common 2 in. long   | 6                       | 2 x 4 wood <sup>5</sup>                                    | 24                  | 153               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 6d common 2 in. long   | 4                       | 2 x 4 wood <sup>5</sup>                                    | 16                  | 233               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 6d common 2 in. long   | 4                       | 2 x 4 wood <sup>5</sup>                                    | 24                  | 212               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 6d common 2 in. long   | 6 edge<br>12 field      | 2 x 4 wood <sup>5</sup>                                    | 16                  | 157               |
| Hardipanel<br>Hardiflex                                     | 5/16                     | 6d common 2 in. long   | 6 edge<br>12 field      | 2 x 4 wood <sup>5</sup>                                    | 24                  | 145               |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker          | 5/16                     | No. 11 ga. 1-1/2 in. long<br>galvanized roofing nail           | 6                       | 2 x 4 wood <sup>5</sup>                                    | 16                  | 200               |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker          | 5/16                     | No. 11 ga. 1-1/2 in. long<br>galvanized roofing nail           | 4 edge<br>12 field      | 2 x 4 wood <sup>5</sup>                                    | 16                  | 280               |

\* deleted by City of Los Angeles

Table 3 — SHEAR VALUES ALLOWABLE LOADS IN POUNDS PER LINEAL FOOT FOR PANEL SHEAR WALLS<sup>1,2</sup> \*

| Product Type  | Product Thickness (inch) | Fastener Type   | Fastener Spacing (inch) | Frame Types  | Stud Spacing (inch) | Shear Value (plf) |
|---|--------------------------|---|-------------------------|--|---------------------|-------------------|
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker          | 5/16                     | No. 11 ga. 1-1/2 in. long galvanized roofing nail                                   | 3 edge<br>6 field       | 2 x 4 wood <sup>5</sup><br>w/48 in. mid-height block | 16                  | 340               |
| Hardiflex<br>Hardipanel<br>Harditex<br>Hardibacker<br>Titan | 7/16                     | No. 11 ga. 1-3/4 in. long galvanized roofing nail                                   | 6                       | 2 x 4 wood <sup>5</sup>                              | 16                  | 280               |
| Hardiflex<br>Hardisoffit                                    | 3/16                     | Min. No. 8 x 1 in. long x 0.323 in. HD ribbed buglehead screws                      | 6                       | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                  | 140 <sup>6</sup>  |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker<br>Titan | 1/4                      | Min. No. 8 x 1 in. long x 0.323 in. HD ribbed buglehead screws                      | 6                       | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16 & 24             | 125 <sup>6</sup>  |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker          | 5/16                     | Min. No. 8 x 1 in. long x 0.323 in. HD ribbed buglehead screws                      | 6                       | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                  | 160 <sup>6</sup>  |
| Hardipanel<br>Hardiflex<br>Harditex<br>Hardibacker<br>Titan | 7/16                     | Min. No. 8 x 1 in. long x 0.311 in. HD ribbed buglehead screws                      | 6                       | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                  | 162 <sup>6</sup>  |
| Hardipanel<br>Hardiflex<br>Harditex                         | 5/16                     | ET & F 1-1/2 in. long x 0.10" knurled shank x 0.25" HD pin fastener (AKN100-0150NA) | 4 edge<br>8 field       | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 16                  | 154               |
| Hardipanel<br>Hardiflex<br>Harditex                         | 5/16                     | ET & F 1-1/2 in. long x 0.10" knurled shank x 0.25" HD pin fastener (AKN100-0150NA) | 4 edge<br>8 field       | Min. No. 20 ga. x 3-5/8 in. x 1-3/8 in. metal C-stud | 24                  | 133               |

1. All board edges shall be supported by framing. Panels shall be applied with the long dimension either parallel or perpendicular to studs.
2. The maximum height-to-length ratio for construction in this Table is 2:1.
3. Values are for species of wood having a specific gravity of 0.36 or greater.
4. Values are for species of wood having a specific gravity of 0.40 or greater.
5. Values are for species of wood having a specific gravity of 0.42 or greater, unless otherwise noted.
6. Under the *Uniform Building Code*<sup>TM</sup>, these steel-framed assemblies are limited to wind load resistance only.
7. 1 inch = 25.4 mm, 1plf = 14.59 N/m

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Table 4 — “K” and “R” VALUES FOR FIBER-CEMENT PRODUCTS

| Product Thickness <sup>3</sup><br>(inch) | Thermal Conductivity <sup>1</sup><br>$K_{\text{eff}} = \text{Btu/hr-ft}^2\text{-}^\circ\text{F}$ | Thermal Resistance <sup>1</sup><br>$R = 1/K_{\text{eff}}$ | Actual Thermal Conductivity <sup>2</sup><br>( $K_{\text{eff}}$ ) | Actual Thermal Resistance <sup>2</sup><br>( $R$ ) |
|--|--|---|--|---|
| 1/4                                      | 1.95   | 0.51  | 7.80   | 0.13  |
| 5/16                                     | 2.07   | 0.48  | 6.62   | 0.15  |
| 3/8                                      | 2.18   | 0.46  | 5.81   | 0.17  |
| 13/32                                    | 8.39   | 0.12  | 20.07  | 0.05  |
| 7/16                                     | 2.30   | 0.44  | 5.26   | 0.19  |

**Notes to Table 4:**

1. Based on 1 inch of panel thickness.
2. Actual value for panel thickness shown.
3. SI units conversion: 1 inch = 25.4 mm, 1 Btu/h-ft<sup>2</sup>-°F = 5.678 W/m<sup>2</sup>-K

Table 5 — PERMEANCE VALUES FOR FIBER-CEMENT PRODUCTS

| Product Thickness <sup>1</sup><br>(inch) | Permeance<br>(perms) |
|--|----------------------|
| 1/4                                      | 1.75                 |
| 5/16                                     | 1.54                 |
| 3/8                                      | 1.32                 |
| 13/32                                    | 2.84                 |
| 7/16                                     | 1.10                 |

**Note to Table 5:**

1. SI units conversion: 1 inch = 25.4 mm, 1 perm = 57 mg/(s•m<sup>2</sup>•Pa)

**Table 6A**  
**BOCA® National Building Code/1999** \*  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type  | Fastener Type   | Weather Exposure and Fastener Location                        | Height of Building (feet) | Exposure Category |     |
|---|---|---|---------------------------|-------------------|-----|
|   |   |   |                           | B                 | C   |
| Minimum 15/32 inch thick plywood complying with DOC PS 1-95 | Min. 0.121 in. shank x 0.371 in. HD x 1-1/4 in. long corrosion resistant roofing nail | 8 inch exposure<br>2 roofing nails<br>9 inches from butt edge | 0-15                      | 110               | 95  |
|   |   |   | 20                        | 110               | 90  |
|   |   |   | 40                        | 110               | 80  |
|   |   |   | 60                        | 110               | 75  |
|   |   |   | 100                       | 80                |     |
|   |   | 200   | 70                        |                   |     |
|   |   | 7 inch exposure<br>2 roofing nails<br>8 inches from butt edge | 0-15                      | 110               | 110 |
|   |   |   | 20                        | 110               | 105 |
|   |   |   | 40                        | 110               | 95  |
|   |   |   | 60                        | 110               | 90  |
|   |   |   | 100                       | 95                | 75  |
|   |   | 200   | 80                        | 70                |     |
|   |   | 6 inch exposure<br>2 roofing nails<br>7 inches from butt edge | 0-15                      | 110               | 110 |
|   |   |   | 20                        | 110               | 110 |
|   |   |   | 40                        | 110               | 105 |
| 60  | 110   |   | 100                       |                   |     |
| 100   | 105   |   | 85                        |                   |     |
| 200   | 90  | 75  |                           |                   |     |

**Table 6B**  
**SBCCI - 1999 Standard Building Code®** \*  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type  | Fastener Type   | Weather Exposure and Fastener Location                        | Height of Building (feet) | Exposure Category |         |
|---|---|---|---------------------------|-------------------|---------|
|   |   |   |                           | Standard          | Coastal |
| Minimum 15/32 inch thick plywood complying with DOC PS 1-95 | Min. 0.121 in. shank x 0.371 in. HD x 1-1/4 in. long corrosion resistant roofing nail | 8 inch exposure<br>2 roofing nails<br>9 inches from butt edge | 0-15                      | 105               | 105     |
|   |   |   | 20                        | 100               | 100     |
|   |   |   | 40                        | 90                | 90      |
|   |   |   | 60                        | 85                | 85      |
|   |   |   | 0-20                      | 110               | 110     |
|   |   | 7 inch exposure<br>2 roofing nails<br>8 inches from butt edge | 40                        | 100               | 100     |
|   |   |   | 60                        | 95                | 95      |
|   |   |   | 0-60                      | 110               | 110     |
|   |   |   | 100                       | 75                | 75      |
|   |   |   | 200                       | 70                | 70      |

**Table 6C**  
**ICBO - 1997 Uniform Building Code™**  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type  | Fastener Type   | Weather Exposure and Fastener Location                        | Height of Building (feet) | Exposure Category |     |
|---|---|---|---------------------------|-------------------|-----|
|   |   |   |                           | B                 | C   |
| Minimum 15/32 inch thick plywood complying with DOC PS 1-95 | Min. 0.121 in. shank x 0.371 in. HD x 1-1/4 in. long corrosion resistant roofing nail | 8 inch exposure<br>2 roofing nails<br>9 inches from butt edge | 0-20                      | 110               | 90  |
|   |   |   | 40                        | 100               | 80  |
|   |   |   | 60                        | 95                | 75  |
|   |   |   | 100                       | 90                | 70  |
|   |   |   | 200                       | 80                | 70  |
|   |   | 7 inch exposure<br>2 roofing nails<br>8 inches from butt edge | 0-20                      | 110               | 105 |
|   |   |   | 40                        | 110               | 95  |
|   |   |   | 60                        | 110               | 90  |
|   |   |   | 100                       | 105               | 85  |
|   |   |   | 200                       | 95                | 80  |
|   |   | 6 inch exposure<br>2 roofing nails<br>7 inches from butt edge | 0-20                      | 110               | 110 |
|   |   |   | 40                        | 110               | 105 |
|   |   |   | 60                        | 110               | 100 |
|   |   |   | 100                       | 110               | 95  |
|   |   |   | 200                       | 100               | 90  |

**Notes to Tables 6A, 6B and 6C:**

1. Table values are based on an importance factor of 1.0
2. 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 1.6 km/h

\* deleted by City of Los Angeles

**Table 7A**  
**BOCA® National Building Code/1999** \*  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type   | Fastener Type  | Weather Exposure and Fastener Location                       | Height of Building (feet)                                    | Exposure Category |     |     |
|--|--|--|--|-------------------|-----|-----|
|  |  |  |  | B                 | C   |     |
| Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95 | Min. 0.091 in. shank x 0.221 in. HD x 1-1/2 in. long corrosion resistant siding nail | 8 inch exposure<br>2 siding nails<br>9 inches from butt edge | 0-15   | 110               | 75  |     |
|  |  |  | 20   | 110               | 75  |     |
|  |  |  | 40   | 90                | 70  |     |
|  |  |  | 60   | 85                |     |     |
|  |  |  | 0-15   | 110               | 90  |     |
|  |  |  | 20   | 110               | 85  |     |
|  |  | 7 inch exposure<br>2 siding nails<br>8 inches from butt edge | 40   | 105               | 80  |     |
|  |  |  | 60   | 100               | 75  |     |
|  |  |  | 6 inch exposure<br>2 siding nails<br>7 inches from butt edge | 0-15              | 110 | 100 |
|  |  |  |  | 20                | 110 | 95  |
|  |  |  |  | 40                | 110 | 90  |
|  |  |  |  | 60                | 110 | 80  |
| 100  | 85   | 70   |  |                   |     |     |
| 200  | 75   |  |  |                   |     |     |

**Table 7B**  
**SBCCI - 1999 Standard Building Code®** \*  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type   | Fastener Type  | Weather Exposure and Fastener Location                       | Height of Building (feet)                                    | Exposure Category |         |     |
|--|--|--|--|-------------------|---------|-----|
|  |  |  |  | Standard          | Coastal |     |
| Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95 | Min. 0.091 in. shank x 0.221 in. HD x 1-1/2 in. long corrosion resistant siding nail | 8 inch exposure<br>2 siding nails<br>9 inches from butt edge | 0-20   | 85                | 85      |     |
|  |  |  | 40   | 75                | 75      |     |
|  |  |  | 60   | 70                | 70      |     |
|  |  |  | 0-15   | 100               | 100     |     |
|  |  |  | 20   | 95                | 95      |     |
|  |  |  | 40   | 85                | 85      |     |
|  |  | 7 inch exposure<br>2 siding nails<br>8 inches from butt edge | 60   | 80                | 80      |     |
|  |  |  | 6 inch exposure<br>2 siding nails<br>7 inches from butt edge | 0-20              | 110     | 110 |
|  |  |  |  | 40                | 105     | 105 |
|  |  |  |  | 60                | 100     | 100 |
|  |  |  |  | 100               | 70      | 70  |

**Table 7C**  
**ICBO - 1997 Uniform Building Code™**  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type   | Fastener Type  | Weather Exposure and Fastener Location                       | Height of Building (feet)                                    | Exposure Category |     |
|--|--|--|--|-------------------|-----|
|  |  |  |  | B                 | C   |
| Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95 | Min. 0.091 in. shank x 0.221 in. HD x 1-1/2 in. long corrosion resistant siding nail | 8 inch exposure<br>2 siding nails<br>9 inches from butt edge | 0-15   | 100               | 75  |
|  |  |  | 20   | 90                | 70  |
|  |  |  | 40   | 85                |     |
|  |  |  | 60   | 80                |     |
|  |  |  | 100  | 70                |     |
|  |  |  | 0-15   | 110               | 90  |
|  |  | 7 inch exposure<br>2 siding nails<br>8 inches from butt edge | 20   | 110               | 85  |
|  |  |  | 40   | 100               | 80  |
|  |  |  | 60   | 90                | 75  |
|  |  |  | 100  | 85                | 70  |
|  |  |  | 200  | 70                |     |
|  |  |  | 6 inch exposure<br>2 siding nails<br>7 inches from butt edge | 0-20              | 110 |
|  |  | 40   |  | 110               | 85  |
|  |  | 60   |  | 105               | 80  |
|  |  | 100  |  | 80                |     |
|  |  | 200  |  | 70                |     |

**Notes to Tables 7A, 7B, and 7C:**

1. Table values are based on an importance factor of 1.0
2. 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 1.6 km/h

\* deleted by City of Los Angeles

**Table 8A**  
**BOCA® National Building Code/1999** \*  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type   | Fastener Type  | Weather Exposure and Fastener Location   | Height of Building (feet) | Exposure Category |     |
|--|--|--|---------------------------|-------------------|-----|
|  |  |  |                           | B                 | C   |
| Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95   | Min. 0.091 in. shank x 0.221 in. HD x 1-1/2 in. long corrosion resistant siding nail | 8 in. exposure<br>3 siding nails per 12 in. wide, 9 in. from butt edge, 2 siding nails per 6 & 8 in. wide    | 0-15                      | 110               | 90  |
|  |  |  | 20                        | 110               | 85  |
|  |  |  | 40                        | 100               | 75  |
|  |  |  | 60                        | 95                | 70  |
|  |  |  | 100                       | 75                |     |
|  |  |  | 200                       |                   |     |
|  |  | 7 in. exposure<br>3 siding nails per 12 in. wide, 8 inches from butt edge, 2 siding nails per 6 & 8 in. wide | 0-15                      | 110               | 105 |
|  |  |  | 20                        | 110               | 100 |
|  |  |  | 40                        | 110               | 90  |
|  |  |  | 60                        | 110               | 85  |
|  |  |  | 100                       | 90                | 70  |
|  |  |  | 200                       | 80                |     |
| 6 in. exposure<br>3 siding nails per 12 in. wide, 7 inches from butt edge, 2 siding nails per 6 & 8 in. wide | 0-20   | 110  | 110                       |                   |     |
|  | 40   | 110  | 100                       |                   |     |
|  | 60   | 110  | 90                        |                   |     |
|  | 100  | 100  | 80                        |                   |     |
|  | 100  | 100  | 80                        |                   |     |
|  | 200  | 85   | 70                        |                   |     |

**Table 8B**  
**SBCCI - 1999 Standard Building Code®** \*  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type   | Fastener Type  | Weather Exposure and Fastener Location   | Height of Building (feet) | Exposure Category |         |
|--|--|--|---------------------------|-------------------|---------|
|  |  |  |                           | Standard          | Coastal |
| Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95   | Min. 0.091 in. shank x 0.221 in. HD x 1-1/2 in. long corrosion resistant siding nail | 8 in. exposure<br>3 siding nails per 12 in. wide, 9 in. from butt edge, 2 siding nails per 6 & 8 in. wide    | 0-15                      | 100               | 100     |
|  |  |  | 20                        | 95                | 95      |
|  |  |  | 40                        | 85                | 85      |
|  |  |  | 60                        | 80                | 80      |
|  |  |  | 100                       |                   |         |
|  |  |  | 200                       |                   |         |
|  |  | 7 in. exposure<br>3 siding nails per 12 in. wide, 8 inches from butt edge, 2 siding nails per 6 & 8 in. wide | 0-15                      | 110               | 110     |
|  |  |  | 20                        | 105               | 105     |
|  |  |  | 40                        | 95                | 95      |
|  |  |  | 60                        | 90                | 90      |
|  |  |  | 100                       |                   |         |
|  |  |  | 200                       |                   |         |
| 6 in. exposure<br>3 siding nails per 12 in. wide, 7 inches from butt edge, 2 siding nails per 6 & 8 in. wide | 0-15   | 110  | 110                       |                   |         |
|  | 20   | 110  | 110                       |                   |         |
|  | 40   | 110  | 110                       |                   |         |
|  | 60   | 105  | 105                       |                   |         |
|  | 100  | 70   | 70                        |                   |         |
|  | 200  | 70   | 70                        |                   |         |

**Table 8C**  
**ICBO - 1997 Uniform Building Code™**  
**ALLOWABLE BASIC WIND SPEEDS (MILES PER HOUR) FOR**  
**HARDISHINGLE™ CLADDING EXTERIOR WALL FINISH**

| Sheathing Type   | Fastener Type  | Weather Exposure and Fastener Location   | Height of Building (feet) | Exposure Category |     |
|--|--|--|---------------------------|-------------------|-----|
|  |  |  |                           | B                 | C   |
| Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95 | Min. 0.091 in. shank x 0.221 in. HD x 1-1/2 in. long corrosion resistant siding nail | 8 in. exposure<br>3 siding nails per 12 in. wide, 9 in. from butt edge, 2 siding nails per 6 & 8 in. wide    | 0-15                      | 110               | 85  |
|  |  |  | 20                        | 110               | 80  |
|  |  |  | 40                        | 100               | 75  |
|  |  |  | 60                        | 90                | 70  |
|  |  |  | 100                       | 80                | 70  |
|  |  |  | 200                       | 70                |     |
|  |  | 7 in. exposure<br>3 siding nails per 12 in. wide, 8 inches from butt edge, 2 siding nails per 6 & 8 in. wide | 0-15                      | 110               | 110 |
|  |  |  | 20                        | 110               | 105 |
|  |  |  | 40                        | 110               | 100 |
|  |  |  | 60                        | 110               | 95  |
|  |  |  | 100                       | 100               | 80  |
|  |  |  | 200                       | 90                | 75  |
|  |  | 6 in. exposure<br>3 siding nails per 12 in. wide, 7 inches from butt edge, 2 siding nails per 6 & 8 in. wide | 0-15                      | 110               | 110 |
|  |  |  | 20                        | 110               | 105 |
|  |  |  | 40                        | 110               | 100 |
|  |  |  | 60                        | 110               | 95  |
|  |  |  | 100                       | 105               | 90  |
|  |  |  | 200                       | 95                | 85  |

**Notes to Tables 8A, 8B, and 8C:**

1. Table values are based on an importance factor of 1.0
2. 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 1.6 km/h

\* deleted by City of Los Angeles

**Table 9A**  
**SBCCI - 1999 Standard Building Code® \***  
 Allowable Fastener Spacing (in.)  
 Hardiplank Lap Siding fastened to ASTM C 90 Concrete Wall

| Height of Building (feet) | 6-1/4 and 6 inch wide Hardiplank |            | 7-1/2 inch wide Hardiplank |            | 8-1/4 and 8 inch wide Hardiplank |            | 9-1/2 inch wide Hardiplank |            |
|---------------------------|----------------------------------|------------|----------------------------|------------|----------------------------------|------------|----------------------------|------------|
|                           | Exposure B                       | Exposure C | Exposure B                 | Exposure C | Exposure B                       | Exposure C | Exposure B                 | Exposure C |
| 0-15                      | 18.25                            | 15.0       | 14.5                       | 12.0       | 13.75                            | 11.25      | 11.5                       | 9.5        |
| 20                        | 16.5                             | 13.75      | 13.25                      | 11.0       | 12.25                            | 10.25      | 10.5                       | 8.75       |
| 30                        | 14.75                            | 11.25      | 11.75                      | 9.0        | 11                               | 8.5        | 9.25                       | 7.25       |
| 40                        | 13.5                             | 10.0       | 10.75                      | 8.5        | 10.25                            | 7.5        | 8.5                        | 6.25       |
| 50                        | 12.75                            | 10.0       | 10.25                      | 8.0        | 9.5                              | 7.5        | 8                          | 6.25       |
| 60                        | 12.25                            | 8.75       | 9.75                       | 7.0        | 9                                | 6.5        | 7.5                        | 5.5        |

**Table 9B**  
**BOCA® National Building Code/1999**  
 Allowable Fastener Spacing (in.)  
 Hardiplank Lap Siding fastened to ASTM C 90 Concrete Wall

| Height of Building (feet) | 6-1/4 and 6 inch wide Hardiplank |            | 7-1/2 inch wide Hardiplank |            | 8-1/4 and 8 inch wide Hardiplank |            | 9-1/2 inch wide Hardiplank |            |
|---------------------------|----------------------------------|------------|----------------------------|------------|----------------------------------|------------|----------------------------|------------|
|                           | Exposure B                       | Exposure C | Exposure B                 | Exposure C | Exposure B                       | Exposure C | Exposure B                 | Exposure C |
| 0-15                      | 24.0                             | 15.0       | 24.0                       | 12.0       | 24.0                             | 11.25      | 20.25                      | 9.5        |
| 20                        | 24.0                             | 13.75      | 23.0                       | 11.0       | 21.5                             | 10.25      | 18.25                      | 8.75       |
| 40                        | 21.0                             | 11.25      | 16.75                      | 9.0        | 15.75                            | 8.5        | 13.25                      | 7.25       |
| 60                        | 17.75                            | 10.0       | 14.25                      | 8.0        | 13.25                            | 7.5        | 11.25                      | 6.25       |
| 100                       | 14.0                             | 8.75       | 11.25                      | 7.0        | 10.5                             | 6.5        | 8.75                       | 5.5        |

**Table 9C**  
**ICBO - 1997 Uniform Building Code™**  
 Allowable Fastener Spacing (in.)  
 Hardiplank Lap Siding fastened to ASTM C 90 Concrete Wall

| Height of Building (feet) | 6-1/4 and 6 inch wide Hardiplank |            | 7-1/2 inch wide Hardiplank |            | 8-1/4 and 8 inch wide Hardiplank |            | 9-1/2 inch wide Hardiplank |            |
|---------------------------|----------------------------------|------------|----------------------------|------------|----------------------------------|------------|----------------------------|------------|
|                           | Exposure B                       | Exposure C | Exposure B                 | Exposure C | Exposure B                       | Exposure C | Exposure B                 | Exposure C |
| 0-15                      | 24.0                             | 14.25      | 19.25                      | 11.25      | 18.0                             | 10.5       | 15.25                      | 9.0        |
| 20                        | 22.5                             | 13.25      | 18.0                       | 10.5       | 16.75                            | 9.75       | 14.25                      | 8.25       |
| 40                        | 17.75                            | 11.5       | 14.25                      | 9.25       | 13.5                             | 8.5        | 11.25                      | 7.25       |
| 60                        | 15.75                            | 10.5       | 12.75                      | 8.5        | 11.75                            | 8.0        | 10.0                       | 6.75       |
| 100                       | 13.25                            | 9.25       | 10.5                       | 7.5        | 9.75                             | 7.0        | 8.25                       | 5.75       |

**Notes to Table 9A, 9B, and 9C:**

1. Fasteners shall be ET&F Fastening Systems, Inc. Erico Stud nail, ET & F No. ASM-144-125, head dia. = 0.30 in., shank dia. = 0.14 in.
2. Maximum basic wind speed shall be 110 mph.
3. Exposure Category C (for Table 9A).
4. 1 inch = 25.4 mm, 1 foot = 305 mm.

\* deleted by City of Los Angeles