

**DIVISION: 07 00 00 -THERMAL AND MOISTURE PROTECTION**  
**Section: 07 45 00 – Fiber-reinforced Cementitious Panels**

**REPORT HOLDER:**

Nichiha USA Inc.  
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Johns Creek, Georgia 30097  
[www.nichiha.com](http://www.nichiha.com)

**REPORT SUBJECT:**

**NichiProducts™ Fiber-Cement Siding Products**

### 1.0 SCOPE OF EVALUATION

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

- 2018, 2015, and 2012 *International Building Code*® (IBC)
- 2018, 2015, and 2012 *International Residential Code*® (IRC)
- 2017 and 2014 *Florida Building Code – Building (FBC) and Residential (FRC)* (see Section 9)
- 2016 and 2013 *California Building Code – Building (CBC) and Residential (CRC)* (see Section 9)

NOTE: This report references 2018 Code sections with [2015] Code sections shown in brackets where they differ.

**1.2** The NichiProducts™ siding products described in this report have been evaluated for the following properties (see Table 1):

- Physical properties
- Wind resistance
- Surface burning characteristics
- Noncombustibility
- Weather protection
- Fire-resistance-rated construction

**1.3** The NichiProducts™ siding products have been evaluated for the following uses (see Table 1):

- Use as an exterior wall covering in accordance with IBC Section 1405.16 and IRC Section R703.10.
- Use on exterior walls in Types I, II, III, and IV construction

- Use on exterior walls permitted to be of Type V construction.
- Use on walls required to be of fire-resistance-rated construction.

### 2.0 STATEMENT OF COMPLIANCE

The NichiProducts™ siding products recognized in this report comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

### 3.0 DESCRIPTION

#### 3.1 NichiProducts™ Fiber Cement Siding Products:

The siding products are used for lap and panel siding. A description of the siding products, their dimensions and their intended application is in Table 2.

### 4.0 PERFORMANCE CHARACTERISTICS

**4.1 Physical Properties:** The siding products comply with ASTM C1186, Type A, Grade II, in accordance with IBC Section 1403.10 [1404.10] and IRC Section R703.10.

**4.2 Wind Resistance:** The maximum allowable wind pressure for each of the siding products is described in Tables 3, 4, 5 and 6.

**4.3 Surface Burning Characteristics:** The siding products have a flame spread index of 0 and a smoke-developed index of 0, when tested in accordance with ASTM E84.

**4.4 Noncombustibility:** The siding products are noncombustible building construction materials complying with IBC Section 703.5 as determined by testing in accordance with ASTM E136.

**4.5 Weather Protection:** Siding products are installed in accordance with Section 5.2 of this report.



**4.6 Fire-resistance-rated Construction:** Fire-resistance-rated construction is outside the scope of this report.

## 5.0 INSTALLATION

### 5.1 General:

The siding must be installed in accordance with the Nichiha USA Inc., published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

### 5.2 Application:

Under the IBC, the siding products must be installed over a water-resistive barrier complying with Sections 1403.2 [1404.2] and 1402.5 [1403.5], and must be attached as described for the specific assembly in Tables 3, 4, 5, and 6.

Under the IRC, the siding products must be installed over a water-resistive barrier complying with Section R703.2. Lap siding and panel siding may be installed as described in Table R703.3(1) [R703.4], for areas in which the design pressure does not exceed 30 psf and the mean roof height does not exceed the limits in Table R703.3.1, or as described in Tables 3 through 6. For conditions that exceed these limits, the panels must be installed as described in Table 7.

## 6.0 CONDITIONS OF USE

**6.1** Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

**6.2** When allowable wind speed is determined in accordance with Table 3, the allowable wind speed must be equal to or greater than the design wind speed calculated in accordance with the applicable Code.

**6.3** When the wall construction includes a combustible water-resistive barrier and is required to be of Type I, II, III, or IV construction, use of the siding products is limited to a maximum 40 feet in height above grade plane except under the 2018 [2015] IBC where data has been presented to the building official demonstrating compliance with the Exception to Section 1402.5 [1403.5].

**6.4** The NichiProducts™ siding products are produced under a quality control program with inspections by Intertek Testing Services NA, Inc.

## 7.0 SUPPORTING EVIDENCE

**7.1** Reports of tests in accordance with ASTM C1186, ASTM E84, ASTM E136, and ASTM E330.

**7.2** Data in accordance with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), dated June 2012 (editorially revised September 2015).

**7.3** Intertek Listing Report "Nichiha NichiProducts™ Fiber Cement Siding Products" on the [Intertek Directory of Building Products](#).

**7.4** Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

## 8.0 IDENTIFICATION

The NichiProducts™ siding products are identified with the Nichiha USA Inc., name, and address, the product name, the Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0258).



## 9.0 OTHER CODES

### 9.1 California Building Code

#### 9.1.1 Scope of Evaluation:

The NichiProducts™ siding products were evaluated for compliance with the 2016 and 2013 California Building Code, including Chapter 7A. The siding products are noncombustible materials as defined in CBC Section 202 and as permitted for use on exterior walls in CBC Section 707A.3.





9.1.2 Conclusion:

The siding products, described in Sections 2.0 through 7.0 of this report, comply with the 2016 and 2013 California Building Code, subject to the conditions noted in Section 6.0 of this report. Section numbers for the CBC – Building and Residential correspond to the 2015 IBC and IRC section numbers.

9.2 Florida Building Code

9.2.1 Scope of Evaluation:

The NichiProducts™ siding products were evaluated for compliance with the 2017 and 2014 *Florida Building Code – Building*, *Florida Building Code – Residential* and *Florida Building Code – Energy Conservation*.

9.2.2 Conclusion:

The siding products described in Sections 2.0 through 7.0 of this report, comply with the 2017 and 2014 *Florida Building Code – Building*, *Florida Building Code – Residential* and *Florida Building Code – Energy*, subject to the following conditions:

- Use of the siding product for compliance with the High-Velocity Hurricane Zone provisions of the 2017 and 2014 *Florida Building Code – Building* and the *Florida Building Code – Residential* has not been evaluated, and is outside the scope of this Research Report.
- Section numbers for the FBC – Building and Residential correspond to the 2015 IBC and IRC section numbers.
- Intertek is a quality assurance entity approved by the Florida Building Commission.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

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TABLE 1 – PROPERTIES EVALUATED

| PROPERTY                        | 2018 and 2015 IBC SECTION <sup>1</sup> | 2018 and 2015 IRC SECTION <sup>1</sup> | 2017 and 2014 FBC - Building | 2017 and 2014 FBC – Residential | 2016 and 2013 CBC |
|---------------------------------|--|--|------------------------------|---------------------------------|-------------------|
| Physical properties             | 1403.10<br>[1404.10]                   | R703.10                                | 1404.10                      | R703.10                         | 1404.10           |
| Surface burning characteristics | 1403.10<br>[1404.10]                   | R703.10                                | 1404.10                      | R703.10                         | 1404.10           |
| Noncombustibility               | 703.5                                  | NA                                     | 703.5                        | NA                              | 202, 703.5        |
| Wind resistance                 | 1404.16<br>[1405.16]                   | R703.16                                | 1405.16                      | 703.1.2                         | 1405.16           |
| Weather resistance              | 1403.2<br>[1404.2]                     | R703.2                                 | 1404.2                       | R703.2                          | 1404.2            |

<sup>1</sup> Section numbers may be different for earlier versions of the International and Florida Codes.

TABLE 2 – NICHHA SIDING DESCRIPTION

| Product Name                                  | Nominal Thickness (in.) | Siding Dimensions  | Intended Use       | Description  |
|---|-------------------------|--|--------------------|--|
| NichiBoard™ plank                             | 5/16                    | Width: 5.25, 6.25, 7.25, 8.25, 9.25 and 12 inches<br>Length: 12 feet | Lap siding         | Smooth or Cedar finish                                     |
| NichiPanel™ sheets                            | 5/16                    | 4 feet by 8 feet<br>4 feet by 10 feet<br>4 feet by 12 feet           | Panel siding       | Cedar, Smooth, Stucco and Grooved- 8-in.- oc- Cedar finish |
| NichiStraight™ and NichiStaggered™ lap panels | 5/16                    | 16 inches wide by 4 foot long  | Lap panel siding   | Designed to look like individual cedar shakes              |
| NichiShake™ cladding                          | 5/16                    | Width: 6.25, 8.25 and 12 inches<br>Length: 18 inches                 | Lap shingle siding | Designed to look like individual cedar shakes              |



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**Table 3 - Design Loads for Negative Transverse Wind Load (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type               | Siding Fastener <sup>5</sup> | Face/Blind | Effective Fastener    |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed |       |       | ASCE 7-10 Ultimate |       |       |    |     |     |    |
|---------------------------|------------------------------|------------|-----------------------|------------|--------------|--|----------------------|----------------------------|-------|-------|--------------------|-------|-------|----|-----|-----|----|
|                           |                              |            | Frame/Horizontal (in) | Field (in) |              |  |                      | Exp B                      | Exp C | Exp D | Exp B              | Exp C | Exp D |    |     |     |    |
| 5.25" / 6.25" NichiBoard™ | 6d Double HD MAZE Coil Nail  | Face       | 16                    | 5.25/6.25  | SPF          | -49.5  | 15                   | 143                        | 130   | 118   | 185                | 168   | 153   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 20                   | 143                        | 126   | 115   | 185                | 163   | 149   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 25                   | 143                        | 124   | 113   | 185                | 160   | 146   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 30                   | 143                        | 121   | 111   | 185                | 156   | 144   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 40                   | 138                        | 118   | 109   | 178                | 152   | 140   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 50                   | 133                        | 115   | 106   | 172                | 148   | 137   |    |     |     |    |
|                           |                              |            |                       |            | 60           | 130  | 113                  | 105                        | 168   | 146   | 135                |       |       |    |     |     |    |
|                           |                              |            |                       |            | DF           | -76.5  | 15                   | 170                        | 162   | 147   | 210                | 209   | 190   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 20                   | 170                        | 157   | 144   | 210                | 203   | 185   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 25                   | 170                        | 154   | 141   | 210                | 199   | 182   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 30                   | 170                        | 151   | 139   | 210                | 195   | 179   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 40                   | 170                        | 146   | 135   | 210                | 189   | 174   |    |     |     |    |
|                           |                              |            | 50                    | 166        |              |  | 143                  | 132                        | 210   | 184   | 171                |       |       |    |     |     |    |
|                           |                              |            | 60                    | 162        | 140          | 130  | 209                  | 181                        | 168   |       |                    |       |       |    |     |     |    |
|                           |                              |            | 24                    | 5.25/6.25  | SPF          | -33.0  | 15                   | 117                        | 106   | 97    | 151                | 137   | 125   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 20                   | 117                        | 103   | 94    | 151                | 133   | 122   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 25                   | 117                        | 101   | 93    | 151                | 130   | 119   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 30                   | 117                        | 99    | 91    | 151                | 128   | 117   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 40                   | 112                        | 96    | 89    | 145                | 124   | 114   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 50                   | 109                        | 94    | 87    | 141                | 121   | 112   |    |     |     |    |
|                           |                              |            |                       |            | 60           | 106  | 92                   | 86                         | 137   | 119   | 110                |       |       |    |     |     |    |
|                           |                              |            |                       |            | DF           | -51.0  | 15                   | 146                        | 132   | 120   | 188                | 171   | 155   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 20                   | 146                        | 128   | 117   | 188                | 166   | 151   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 25                   | 146                        | 126   | 115   | 188                | 162   | 149   |    |     |     |    |
| 30                        | 146                          | 123        |                       |            |              |  | 113                  | 188                        | 159   | 146   |                    |       |       |    |     |     |    |
| 40                        | 140                          | 119        |                       |            |              |  | 110                  | 180                        | 154   | 142   |                    |       |       |    |     |     |    |
| 50                        | 135                          | 117        | 108                   | 175        |              |  | 151                  | 140                        |       |       |                    |       |       |    |     |     |    |
| 60                        | 132                          | 115        | 106                   | 171        | 148          | 137  |                      |                            |       |       |                    |       |       |    |     |     |    |
| 5.25" / 6.25" NichiBoard™ | 6d Double HD MAZE Coil Nail  | Blind      | 16                    | 5.25/6.25  | SPF          | -35.1  | 15                   | 121                        | 110   | 100   | 156                | 142   | 129   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 20                   | 121                        | 107   | 97    | 156                | 138   | 126   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 25                   | 121                        | 104   | 96    | 156                | 135   | 123   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 30                   | 121                        | 102   | 94    | 156                | 132   | 121   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 40                   | 116                        | 99    | 92    | 150                | 128   | 118   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 50                   | 112                        | 97    | 90    | 145                | 125   | 116   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 60                   | 110                        | 95    | 88    | 142                | 123   | 114   |    |     |     |    |
|                           |                              |            |                       |            |              |  | 24                   | 5.25/6.25                  | SPF   | -23.4 | 15                 | 99    | 90    | -- | 127 | 116 | -- |
|                           |                              |            |                       |            |              |  |                      |                            |       |       | 20                 | 99    | 87    | -- | 127 | 112 | -- |
|                           |                              |            | 25                    | 99         | 85           | --   |                      |                            |       |       | 127                | 110   | --    |    |     |     |    |
|                           |                              |            | 30                    | 99         | --           | --   |                      |                            |       |       | 127                | 108   | --    |    |     |     |    |
|                           |                              |            | 40                    | 95         | --           | --   |                      |                            |       |       | 122                | --    | --    |    |     |     |    |
|                           |                              |            | 50                    | 92         | --           | --   |                      |                            |       |       | 118                | --    | --    |    |     |     |    |
|                           |                              |            | 60                    | 90         | --           | --   |                      |                            |       |       | 116                | --    | --    |    |     |     |    |



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**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type               | Siding Fastener <sup>5</sup>                     | Face/Blind | Effective Fastener Spacing |             | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|---------------------------|--|------------|----------------------------|-------------|--------------|--|----------------------|---|-------|-------|--|-------|-------|
|                           |  |            | Frame/Horizontal (in)      | Field (in)  |              |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
| 5.25" / 6.25" NichiBoard™ | Double HD MAZE Asphalt & Fiberglass Shingle Nail | Blind      | 12                         | 5.25/6.25   | 7/16" OSB    | -41.0  | 15                   | 130   | 118   | 108   | 168  | 153   | 139   |
|                           |  |            |                            |             |              |  | 20                   | 130   | 115   | 105   | 168  | 149   | 136   |
|                           |  |            |                            |             |              |  | 25                   | 130   | 113   | 103   | 168  | 145   | 133   |
|                           |  |            |                            |             |              |  | 30                   | 130   | 110   | 101   | 168  | 142   | 131   |
|                           |  |            |                            |             |              |  | 40                   | 125   | 107   | 99    | 162  | 138   | 128   |
|                           |  |            |                            |             |              |  | 50                   | 121   | 105   | 97    | 157  | 135   | 125   |
|                           |  |            | 16                         | 5.25/6.25   | 7/16" OSB    | -30.7  | 15                   | 113   | 103   | 93    | 146  | 132   | 120   |
|                           |  |            |                            |             |              |  | 20                   | 113   | 100   | 91    | 146  | 129   | 117   |
|                           |  |            |                            |             |              |  | 25                   | 113   | 98    | 89    | 146  | 126   | 115   |
|                           |  |            |                            |             |              |  | 30                   | 113   | 96    | 88    | 146  | 123   | 113   |
|                           |  |            |                            |             |              |  | 40                   | 108   | 93    | 86    | 140  | 120   | 111   |
|                           |  |            |                            |             |              |  | 50                   | 105   | 91    | --    | 136  | 117   | 108   |
|                           |  |            | 24                         | 5.25/6.25   | SPF          | -56.1  | 15                   | 153   | 139   | 126   | 197  | 179   | 163   |
|                           |  |            |                            |             |              |  | 20                   | 153   | 135   | 123   | 197  | 174   | 159   |
|                           |  |            |                            |             |              |  | 25                   | 153   | 132   | 121   | 197  | 170   | 156   |
|                           |  |            |                            |             |              |  | 30                   | 153   | 129   | 119   | 197  | 167   | 153   |
|                           |  |            |                            |             |              |  | 40                   | 147   | 125   | 116   | 189  | 162   | 149   |
|                           |  |            |                            |             |              |  | 50                   | 142   | 122   | 113   | 183  | 158   | 146   |
|                           |  |            | 24                         | 5.25/6.25   | 7/16" OSB    | -20.5  | 15                   | 92  | --    | --    | 119  | 108   | --    |
|                           |  |            |                            |             |              |  | 20                   | 92  | --    | --    | 119  | 105   | --    |
|                           |  |            |                            |             |              |  | 25                   | 92  | --    | --    | 119  | --    | --    |
|                           |  |            |                            |             |              |  | 30                   | 92  | --    | --    | 119  | --    | --    |
|                           |  |            |                            |             |              |  | 40                   | 89  | --    | --    | 114  | --    | --    |
|                           |  |            |                            |             |              |  | 50                   | 86  | --    | --    | 111  | --    | --    |
| 5.25" / 6.25" NichiBoard™ | Aerosmith Fastening Systems, VersaPin            | Face       | 16                         | 5.25/6.25   | 20 GA Steel  | -136.3                                       | 15                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                           |  |            |                            |             |              |  | 20                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                           |  |            |                            |             |              |  | 25                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                           |  |            |                            |             |              |  | 30                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                           |  |            |                            |             |              |  | 40                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                           |  |            |                            |             |              |  | 50                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                           |  |            | 24                         | 5.25/6.25   | 20 GA Steel  | -90.9  | 15                   | 170   | 170   | 160   | 210  | 210   | 207   |
|                           |  |            |                            |             |              |  | 20                   | 170   | 170   | 156   | 210  | 210   | 202   |
|                           |  |            |                            |             |              |  | 25                   | 170   | 168   | 154   | 210  | 210   | 198   |
|                           |  |            |                            |             |              |  | 30                   | 170   | 164   | 151   | 210  | 210   | 195   |
|                           |  |            |                            |             |              |  | 40                   | 170   | 159   | 147   | 210  | 206   | 190   |
|                           |  |            |                            |             |              |  | 50                   | 170   | 156   | 144   | 210  | 201   | 186   |
|                           |  | Blind      | 5.25/6.25                  | 20 GA Steel | -27.5        | 15   | 107                  | 97  | 88    | 138   | 125  | 114   |       |
|                           |  |            |                            |             |              | 20   | 107                  | 94  | 86    | 138   | 122  | 111   |       |
|                           |  |            |                            |             |              | 25   | 107                  | 92  | --    | 138   | 119  | 109   |       |
|                           |  |            |                            |             |              | 30   | 107                  | 90  | --    | 138   | 117  | 107   |       |
|                           |  |            |                            |             |              | 40   | 103                  | 88  | --    | 132   | 113  | --    |       |
|                           |  |            |                            |             |              | 50   | 99                   | 86  | --    | 128   | 111  | --    |       |
|                           |  | 60         | 97                         | --          | --           | 125  | 109                  | --  |       |       |  |       |       |





**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type       | Siding Fastener <sup>5</sup> | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |     |
|-------------------|------------------------------|------------|----------------------------|------------|--------------|--|----------------------|---|-------|-------|--|-------|-------|-----|
|                   |                              |            | Frame/Horizontal (in)      | Field (in) |              |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |     |
| 7.25" NichiBoard™ | 6d Double HD MAZE Coil Nail  | Face       | 16                         | 7.25       | SPF          | -42.7  | 15                   | 133   | 121   | 110   | 172  | 156   | 142   |     |
|                   |                              |            |                            |            |              |  | 20                   | 133   | 117   | 107   | 172  | 152   | 138   |     |
|                   |                              |            |                            |            |              |  | 25                   | 133   | 115   | 105   | 172  | 148   | 136   |     |
|                   |                              |            |                            |            |              |  | 30                   | 133   | 113   | 103   | 172  | 145   | 134   |     |
|                   |                              |            |                            |            |              |  | 40                   | 128   | 109   | 101   | 165  | 141   | 130   |     |
|                   |                              |            |                            |            |              |  | 50                   | 124   | 107   | 99    | 160  | 138   | 128   |     |
|                   |                              |            | 60                         | 121        | 105          | 97   | 156                  | 135   | 126   |       |  |       |       |     |
|                   |                              |            | DF                         | -66.0      | 15           | 166  | 150                  | 136   | 210   | 194   | 176  |       |       |     |
|                   |                              |            |                            |            | 20           | 166  | 146                  | 133   | 210   | 188   | 172  |       |       |     |
|                   |                              |            |                            |            | 25           | 166  | 143                  | 131   | 210   | 184   | 169  |       |       |     |
|                   |                              |            |                            |            | 30           | 166  | 140                  | 129   | 210   | 181   | 166  |       |       |     |
|                   |                              |            |                            |            | 40           | 159  | 136                  | 125   | 205   | 175   | 162  |       |       |     |
|                   |                              | 50         |                            |            | 154          | 133  | 123                  | 199   | 171   | 159   |  |       |       |     |
|                   |                              | SPF        | -28.4                      | 24         | 7.25         | SPF  | -28.4                | 15  | 109   | 99    | 90   | 140   | 127   | 116 |
|                   |                              |            |                            |            |              |  |                      | 20  | 109   | 96    | 88   | 140   | 124   | 113 |
|                   |                              |            |                            |            |              |  |                      | 25  | 109   | 94    | 86   | 140   | 121   | 111 |
|                   |                              |            |                            |            |              |  |                      | 30  | 109   | 92    | --   | 140   | 119   | 109 |
|                   |                              |            |                            |            |              |  |                      | 40  | 104   | 89    | --   | 135   | 115   | 106 |
|                   |                              |            |                            |            |              |  |                      | 50  | 101   | 87    | --   | 130   | 112   | --  |
|                   |                              | 60         | 99                         | 86         | --           | 127  | 110                  | --  |       |       |  |       |       |     |
|                   |                              | DF         | -44.0                      | 24         | 7.25         | DF   | -44.0                | 15  | 135   | 123   | 111  | 175   | 158   | 144 |
|                   |                              |            |                            |            |              |  |                      | 20  | 135   | 119   | 109  | 175   | 154   | 140 |
|                   |                              |            |                            |            |              |  |                      | 25  | 135   | 117   | 107  | 175   | 151   | 138 |
|                   |                              |            |                            |            |              |  |                      | 30  | 135   | 114   | 105  | 175   | 147   | 136 |
| 40                | 130                          |            |                            |            |              |  |                      | 111   | 102   | 167   | 143  | 132   |       |     |
| 50                | 126                          |            |                            |            |              |  |                      | 108   | 100   | 162   | 140  | 130   |       |     |
| 60                | 123                          | 106        | 99                         | 158        | 137          | 128  |                      |   |       |       |  |       |       |     |
| Blind             | -26.1                        | 16         | 7.25                       | SPF        | -26.1        | 15   | 104                  | 95  | 86    | 135   | 122  | 111   |       |     |
|                   |                              |            |                            |            |              | 20   | 104                  | 92  | --    | 135   | 119  | 108   |       |     |
|                   |                              |            |                            |            |              | 25   | 104                  | 90  | --    | 135   | 116  | 106   |       |     |
|                   |                              |            |                            |            |              | 30   | 104                  | 88  | --    | 135   | 114  | --    |       |     |
|                   |                              |            |                            |            |              | 40   | 100                  | 85  | --    | 129   | 110  | --    |       |     |
|                   |                              |            |                            |            |              | 50   | 97                   | --  | --    | 125   | 108  | --    |       |     |
| 60                | 95                           | --         | --                         | 122        | 106          | --   |                      |   |       |       |  |       |       |     |



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**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type       | Siding Fastener <sup>5</sup>                      | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-------------------|---|------------|----------------------------|------------|--------------|--|----------------------|---|-------|-------|--|-------|-------|
|                   |   |            | Frame/Horizontal (in)      | Field (in) |              |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
| 7.25" NichiBoard™ | Double HD MAZE Asphalt & Fiberglass Shingle Nail  | Blind      | 12                         | 7.25       | 7/16" OSB    | -35.3  | 15                   | 121   | 110   | 100   | 156  | 142   | 129   |
|                   |   |            |                            |            |              |  | 20                   | 121   | 107   | 98    | 156  | 138   | 126   |
|                   |   |            |                            |            |              |  | 25                   | 121   | 105   | 96    | 156  | 135   | 124   |
|                   |   |            |                            |            |              |  | 30                   | 121   | 102   | 94    | 156  | 132   | 122   |
|                   |   |            |                            |            |              |  | 40                   | 116   | 99    | 92    | 150  | 128   | 118   |
|                   |   |            |                            |            |              |  | 50                   | 113   | 97    | 90    | 145  | 125   | 116   |
|                   |   |            | 60                         | 110        | 95           | 89   | 142                  | 123   | 114   |       |  |       |       |
|                   |   |            | 15                         | 117        | 106          | 96   | 151                  | 137   | 124   |       |  |       |       |
|                   |   |            | 20                         | 117        | 103          | 94   | 151                  | 133   | 121   |       |  |       |       |
|                   |   |            | 25                         | 117        | 101          | 92   | 151                  | 130   | 119   |       |  |       |       |
|                   |   |            | 30                         | 117        | 99           | 91   | 151                  | 127   | 117   |       |  |       |       |
|                   |   |            | 40                         | 112        | 96           | 88   | 145                  | 124   | 114   |       |  |       |       |
|                   | 50  | 109        | 94                         | 87         | 140          | 121  | 112                  |   |       |       |  |       |       |
|                   | 60  | 106        | 92                         | 85         | 137          | 119  | 110                  |   |       |       |  |       |       |
|                   | 15  | 102        | 93                         | --         | 132          | 120  | 109                  |   |       |       |  |       |       |
|                   | 20  | 102        | 90                         | --         | 132          | 117  | 106                  |   |       |       |  |       |       |
|                   | 25  | 102        | 88                         | --         | 132          | 114  | --                   |   |       |       |  |       |       |
|                   | 30  | 102        | 87                         | --         | 132          | 112  | --                   |   |       |       |  |       |       |
|                   | 40  | 98         | --                         | --         | 127          | 108  | --                   |   |       |       |  |       |       |
|                   | 50  | 95         | --                         | --         | 123          | 106  | --                   |   |       |       |  |       |       |
|                   | 60  | 93         | --                         | --         | 120          | --   | --                   |   |       |       |  |       |       |
|                   | 15  | 151        | 137                        | 124        | 195          | 177  | 160                  |   |       |       |  |       |       |
|                   | 20  | 151        | 133                        | 121        | 195          | 172  | 157                  |   |       |       |  |       |       |
|                   | 25  | 151        | 130                        | 119        | 195          | 168  | 154                  |   |       |       |  |       |       |
| 30                | 151   | 127        | 117                        | 195        | 164          | 151  |                      |   |       |       |  |       |       |
| 40                | 145   | 124        | 114                        | 187        | 160          | 147  |                      |   |       |       |  |       |       |
| 50                | 140   | 121        | 112                        | 181        | 156          | 144  |                      |   |       |       |  |       |       |
| 60                | 137   | 119        | 110                        | 177        | 153          | 142  |                      |   |       |       |  |       |       |
|                   | *Double HD MAZE Asphalt & Fiberglass Shingle Nail | Blind      | 16                         | 7.25       | SYP          | -54.7  |                      |   |       |       |  |       |       |

\*Fasteners shall be located a minimum distance of 3/4" from the vertical siding edges at corners and splices.







**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type       | Siding Fastener <sup>5</sup>          | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Des | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-------------------|---------------------------------------|------------|----------------------------|------------|--------------|---------------|----------------------|---|-------|-------|--|-------|-------|
|                   |                                       |            | Frame/Horizontal (in)      | Field (in) |              |               |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                   |                                       |            |                            |            |              |               |                      |   |       |       |  |       |       |
| 7.25" NichiBoard™ | Aerosmith Fastening Systems, VersaPin | Face       | 16                         | 7.25       | 20 GA Steel  | -117.5        | 15                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                   |                                       |            |                            |            |              |               | 20                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                   |                                       |            |                            |            |              |               | 25                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                   |                                       |            |                            |            |              |               | 30                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                   |                                       |            |                            |            |              |               | 40                   | 170   | 170   | 167   | 210  | 210   | 210   |
|                   |                                       |            |                            |            |              |               | 50                   | 170   | 170   | 164   | 210  | 210   | 210   |
|                   |                                       |            | 60                         | 170        | 170          | 162           | 210                  | 210   | 209   |       |  |       |       |
|                   |                                       |            | 24                         | 7.25       | 20 GA Steel  | -78.3         | 15                   | 170   | 164   | 149   | 210  | 210   | 192   |
|                   |                                       |            |                            |            |              |               | 20                   | 170   | 159   | 145   | 210  | 205   | 188   |
|                   |                                       |            |                            |            |              |               | 25                   | 170   | 156   | 143   | 210  | 201   | 184   |
|                   |                                       |            |                            |            |              |               | 30                   | 170   | 152   | 140   | 210  | 197   | 181   |
|                   |                                       |            |                            |            |              |               | 40                   | 170   | 148   | 137   | 210  | 191   | 176   |
|                   |                                       |            |                            |            |              |               | 50                   | 168   | 145   | 134   | 210  | 187   | 173   |
|                   |                                       |            |                            |            |              |               | 60                   | 164   | 142   | 132   | 210  | 183   | 170   |
| 8.25" NichiBoard™ | 6d Double HD MAZE Coil Nail           | Face       |                            |            |              |               | 16                   | 8.25  | SPF   | -37.5 | 15   | 125   | 113   |
|                   |                                       |            | 20                         | 125        | 110          | 100           |                      |   |       |       | 161  | 142   | 130   |
|                   |                                       |            | 25                         | 125        | 108          | 99            |                      |   |       |       | 161  | 139   | 127   |
|                   |                                       |            | 30                         | 125        | 105          | 97            |                      |   |       |       | 161  | 136   | 125   |
|                   |                                       |            | 40                         | 120        | 102          | 95            |                      |   |       |       | 155  | 132   | 122   |
|                   |                                       |            | 50                         | 116        | 100          | 93            |                      |   |       |       | 150  | 129   | 120   |
|                   |                                       |            | 60                         | 113        | 98           | 91            |                      |   | 146   | 127   | 118  |       |       |
|                   |                                       |            | DF                         | -58.0      | 15           | 155           |                      |   | 141   | 128   | 200  | 182   | 165   |
|                   |                                       |            |                            |            | 20           | 155           |                      |   | 137   | 125   | 200  | 177   | 161   |
|                   |                                       |            |                            |            | 25           | 155           | 134                  | 123   | 200   | 173   | 158  |       |       |
|                   |                                       |            | 24                         | 8.25       | SPF          | -25.0         | 15                   | 102   | 92    | --    | 132  | 119   | 108   |
|                   |                                       |            |                            |            |              |               | 20                   | 102   | 90    | --    | 132  | 116   | 106   |
|                   |                                       |            |                            |            |              |               | 25                   | 102   | 88    | --    | 132  | 114   | --    |
|                   |                                       |            |                            |            |              |               | 30                   | 102   | 86    | --    | 132  | 111   | --    |
|                   |                                       |            |                            |            |              |               | 40                   | 98  | --    | --    | 126  | 108   | --    |
|                   |                                       |            |                            |            |              |               | 50                   | 95  | --    | --    | 122  | 105   | --    |
|                   |                                       |            |                            |            | 60           | 92            | --                   | --  | 119   | --    | --   |       |       |
|                   |                                       |            |                            |            | DF           | -38.6         | 15                   | 127   | 115   | 104   | 164  | 148   | 135   |
| 20                | 127                                   | 112        |                            |            |              |               | 102                  | 164   | 144   | 132   |  |       |       |
| 25                | 127                                   | 109        | 100                        | 164        |              |               | 141                  | 129   |       |       |  |       |       |
| 30                | 127                                   | 107        | 98                         | 164        | 138          | 127           |                      |   |       |       |  |       |       |
| 40                | 122                                   | 104        | 96                         | 157        | 134          | 124           |                      |   |       |       |  |       |       |
| 50                | 118                                   | 102        | 94                         | 152        | 131          | 121           |                      |   |       |       |  |       |       |
| 60                | 115                                   | 100        | 93                         | 148        | 129          | 120           |                      |   |       |       |  |       |       |





**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type       | Siding Fastener <sup>5</sup>                     | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Des | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-------------------|--|------------|----------------------------|------------|--------------|---------------|----------------------|---|-------|-------|--|-------|-------|
|                   |  |            | Frame/Horizontal (in)      | Field (in) |              |               |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                   |  |            |                            |            |              |               |                      |   |       |       |  |       |       |
| 8.25" NichiBoard™ | Double HD MAZE Asphalt & Fiberglass Shingle Nail | Blind      | 12                         | 8.25       | 7/16" OSB    | -29.5         | 15                   | 111   | 100   | 91    | 143  | 130   | 118   |
|                   |  |            |                            |            |              |               | 20                   | 111   | 98    | 89    | 143  | 126   | 115   |
|                   |  |            |                            |            |              |               | 25                   | 111   | 96    | 87    | 143  | 123   | 113   |
|                   |  |            |                            |            |              |               | 30                   | 111   | 94    | 86    | 143  | 121   | 111   |
|                   |  |            |                            |            |              |               | 40                   | 106   | 91    | --    | 137  | 117   | 108   |
|                   |  |            |                            |            |              |               | 50                   | 103   | 89    | --    | 133  | 114   | 106   |
|                   |  |            | 60                         | 100        | 87           | --            | 130                  | 112   | --    |       |  |       |       |
|                   |  |            | 16                         | 8.25       | SPF          | -23.7         | 15                   | 99  | 90    | --    | 128  | 116   | 106   |
|                   |  |            |                            |            |              |               | 20                   | 99  | 87    | --    | 128  | 113   | --    |
|                   |  |            |                            |            |              |               | 25                   | 99  | 86    | --    | 128  | 110   | --    |
|                   |  |            |                            |            |              |               | 30                   | 99  | --    | --    | 128  | 108   | --    |
|                   |  |            |                            |            |              |               | 40                   | 95  | --    | --    | 123  | 105   | --    |
|                   | 50   | 92         |                            |            |              |               | --                   | --  | 119   | --    | --   |       |       |
|                   | 16   | 8.25       | SYP                        | -43.0      | 15           | 134           | 121                  | 110   | 173   | 157   | 142  |       |       |
|                   |  |            |                            |            | 20           | 134           | 118                  | 108   | 173   | 152   | 139  |       |       |
|                   |  |            |                            |            | 25           | 134           | 115                  | 106   | 173   | 149   | 136  |       |       |
|                   |  |            |                            |            | 30           | 134           | 113                  | 104   | 173   | 146   | 134  |       |       |
|                   |  |            |                            |            | 40           | 128           | 110                  | 101   | 166   | 142   | 131  |       |       |
|                   |  |            |                            |            | 50           | 124           | 107                  | 99  | 160   | 138   | 128  |       |       |
|                   | 60   | 121        | 105                        | 98         | 157          | 136           | 126                  |   |       |       |  |       |       |

\*Fasteners shall be located a minimum distance of 3/4" from the vertical siding edges at corners and splices.





**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type       | Siding Fastener <sup>5</sup>                     | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |     |
|-------------------|--|------------|----------------------------|------------|--------------|--|----------------------|---|-------|-------|--|-------|-------|-----|
|                   |  |            | Frame/Horizontal (in)      | Field (in) |              |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |     |
| 8.25" NichiBoard™ | Aerosmith Fastening Systems, VersaPin            | Face       | 16                         | 8.25       | 20 GA Steel  | -103.3                                       | 15                   | 170   | 170   | 170   | 210  | 210   | 210   |     |
|                   |  |            |                            |            |              |  | 20                   | 170   | 170   | 167   | 210  | 210   | 210   |     |
|                   |  |            |                            |            |              |  | 25                   | 170   | 170   | 164   | 210  | 210   | 210   |     |
|                   |  |            |                            |            |              |  | 30                   | 170   | 170   | 161   | 210  | 210   | 208   |     |
|                   |  |            |                            |            |              |  | 40                   | 170   | 170   | 157   | 210  | 210   | 203   |     |
|                   |  |            |                            |            |              |  | 50                   | 170   | 166   | 154   | 210  | 210   | 199   |     |
|                   |  |            | 60                         | 170        | 163          | 151  | 210                  | 210   | 195   |       |  |       |       |     |
|                   |  |            | 24                         | 8.25       | 20 GA Steel  | -68.8  | 15                   | 169   | 153   | 139   | 210  | 198   | 180   |     |
|                   |  |            |                            |            |              |  | 20                   | 169   | 149   | 136   | 210  | 193   | 176   |     |
|                   |  |            |                            |            |              |  | 25                   | 169   | 146   | 134   | 210  | 188   | 173   |     |
|                   |  |            |                            |            |              |  | 30                   | 169   | 143   | 131   | 210  | 185   | 170   |     |
|                   |  |            |                            |            |              |  | 40                   | 162   | 139   | 128   | 210  | 179   | 165   |     |
|                   |  |            |                            |            |              |  | 50                   | 157   | 136   | 126   | 203  | 175   | 162   |     |
|                   |  |            |                            |            |              |  | 60                   | 153   | 133   | 124   | 198  | 172   | 160   |     |
| 9.25" NichiBoard™ | 6d Double HD MAZE Coil Nail                      | Face       |                            |            |              |  | 16                   | 9.25  | SPF   | -33.4 | 15   | 118   | 107   | 97  |
|                   |  |            | 20                         | 118        | 104          | 95   |                      |   |       |       | 152  | 134   | 122   |     |
|                   |  |            | 25                         | 118        | 102          | 93   |                      |   |       |       | 152  | 131   | 120   |     |
|                   |  |            | 30                         | 118        | 100          | 92   |                      |   |       |       | 152  | 129   | 118   |     |
|                   |  |            | 40                         | 113        | 97           | 89   |                      |   |       |       | 146  | 125   | 115   |     |
|                   |  |            | 50                         | 110        | 94           | 88   |                      |   |       |       | 141  | 122   | 113   |     |
|                   |  |            | 60                         | 107        | 93           | 86   |                      |   | 138   |       | 120  | 111   |       |     |
|                   |  |            | DF                         | -51.7      | 15           | 147  |                      |   | 133   |       | 121  | 189   | 172   | 156 |
|                   |  |            |                            |            | 20           | 147  |                      |   | 129   |       | 118  | 189   | 167   | 152 |
|                   |  |            |                            |            | 25           | 147  |                      |   | 126   |       | 116  | 189   | 163   | 150 |
|                   |  |            |                            |            | 30           | 147  |                      |   | 124   |       | 114  | 189   | 160   | 147 |
|                   |  |            |                            |            | 40           | 141  |                      |   | 120   |       | 111  | 182   | 155   | 143 |
|                   |  |            |                            |            | 50           | 136  | 117                  | 109   | 176   | 152   | 140  |       |       |     |
|                   |  |            | 60                         | 133        | 115          | 107  | 172                  | 149   | 138   |       |  |       |       |     |
|                   |  |            | 24                         | 9.25       | SPF          | -22.3  | 15                   | 96  | 87    | --    | 124  | 113   | --    |     |
|                   |  |            |                            |            |              |  | 20                   | 96  | --    | --    | 124  | 110   | --    |     |
|                   |  |            |                            |            |              |  | 25                   | 96  | --    | --    | 124  | 107   | --    |     |
|                   |  |            |                            |            |              |  | 30                   | 96  | --    | --    | 124  | --    | --    |     |
|                   |  |            |                            |            |              |  | 40                   | 92  | --    | --    | 119  | --    | --    |     |
|                   |  |            |                            |            |              |  | 50                   | 89  | --    | --    | 115  | --    | --    |     |
|                   |  |            |                            |            | 60           |  | 87                   | --  | --    | 113   | --   | --    |       |     |
|                   |  |            |                            |            | DF           |  | -34.5                | 15  | 120   | 109   | 99   | 154   | 140   | 127 |
|                   |  |            |                            |            |              |  |                      | 20  | 120   | 106   | 96   | 154   | 136   | 124 |
|                   |  |            |                            |            |              |  |                      | 25  | 120   | 103   | 95   | 154   | 133   | 122 |
| 30                | 120  | 101        |                            |            |              |  |                      | 93  | 154   | 131   | 120  |       |       |     |
| 40                | 115  | 98         |                            |            |              |  |                      | 91  | 148   | 127   | 117  |       |       |     |
| 50                | 111  | 96         | 89                         | 144        |              | 124  |                      | 115   |       |       |  |       |       |     |
| 60                | 109  | 94         | 87                         | 140        | 122          | 113  |                      |   |       |       |  |       |       |     |
| 9.25" NichiBoard™ | Double HD MAZE Asphalt & Fiberglass Shingle Nail | Blind      | 12                         | 9.25       | 7/16" OSB    | -23.5  | 15                   | 99  | 90    | --    | 127  | 116   | 105   |     |
|                   |  |            |                            |            |              |  | 20                   | 99  | 87    | --    | 127  | 112   | --    |     |
|                   |  |            |                            |            |              |  | 25                   | 99  | 85    | --    | 127  | 110   | --    |     |
|                   |  |            |                            |            |              |  | 30                   | 99  | --    | --    | 127  | 108   | --    |     |
|                   |  |            |                            |            |              |  | 40                   | 95  | --    | --    | 122  | --    | --    |     |
|                   |  |            |                            |            |              |  | 50                   | 92  | --    | --    | 118  | --    | --    |     |
|                   |  |            |                            |            |              |  | 60                   | 90  | --    | --    | 116  | --    | --    |     |





**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type       | Siding Fastener <sup>5</sup>          | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-------------------|---------------------------------------|------------|----------------------------|------------|--------------|--|----------------------|---|-------|-------|--|-------|-------|
|                   |                                       |            | Frame/Horizontal (in)      | Field (in) |              |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                   |                                       |            |                            |            |              |  |                      |   |       |       |  |       |       |
| 9.25" NichiBoard™ | Aerosmith Fastening Systems, VersaPin | Face       | 16                         | 9.25       | 20 GA Steel  | -92.1  | 15                   | 170   | 170   | 161   | 210  | 210   | 208   |
|                   |                                       |            |                            |            |              |  | 20                   | 170   | 170   | 157   | 210  | 210   | 203   |
|                   |                                       |            |                            |            |              |  | 25                   | 170   | 169   | 155   | 210  | 210   | 200   |
|                   |                                       |            |                            |            |              |  | 30                   | 170   | 165   | 152   | 210  | 210   | 196   |
|                   |                                       |            |                            |            |              |  | 40                   | 170   | 160   | 148   | 210  | 207   | 191   |
|                   |                                       |            |                            |            |              |  | 50                   | 170   | 157   | 145   | 210  | 202   | 188   |
|                   |                                       |            | 60                         | 170        | 154          | 143  | 210                  | 199   | 185   |       |  |       |       |
|                   |                                       |            | 24                         | 9.25       | 20 GA Steel  | -61.4  | 15                   | 160   | 145   | 132   | 206  | 187   | 170   |
|                   |                                       |            |                            |            |              |  | 20                   | 160   | 141   | 129   | 206  | 182   | 166   |
|                   |                                       |            |                            |            |              |  | 25                   | 160   | 138   | 126   | 206  | 178   | 163   |
|                   |                                       |            |                            |            |              |  | 30                   | 160   | 135   | 124   | 206  | 174   | 160   |
|                   |                                       |            |                            |            |              |  | 40                   | 153   | 131   | 121   | 198  | 169   | 156   |
|                   |                                       |            |                            |            |              |  | 50                   | 148   | 128   | 119   | 192  | 165   | 153   |
|                   |                                       |            |                            |            |              |  | 60                   | 145   | 126   | 117   | 187  | 162   | 151   |





**Table 3 - Continued (NichiBoard™ Plank)<sup>1,4,7</sup>**

| Siding Type     | Siding Fastener <sup>5</sup>          | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |             |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |     |     |     |     |
|-----------------|---------------------------------------|------------|----------------------------|------------|--------------|--|----------------------|---|-------------|-------|--|-------|-------|-----|-----|-----|-----|
|                 |                                       |            | Frame/Horizontal (in)      | Field (in) |              |  |                      | Exp B   | Exp C       | Exp D | Exp B  | Exp C | Exp D |     |     |     |     |
|                 |                                       |            |                            |            |              |  |                      |   |             |       |  |       |       |     |     |     |     |
| 12" NichiBoard™ | 6d Double HD MAZE Coil Nail           | Face       | 16                         | 12         | SPF          | -25.8  | 15                   | 103   | 94          | 85    | 134  | 121   | 110   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 20                   | 103   | 91          | --    | 134  | 118   | 108   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 25                   | 103   | 89          | --    | 134  | 115   | 106   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 30                   | 103   | 87          | --    | 134  | 113   | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 40                   | 99  | --          | --    | 128  | 110   | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 50                   | 96  | --          | --    | 124  | 107   | --    |     |     |     |     |
|                 |                                       |            |                            |            | 60           | 94   | --                   | --  | 121         | 105   | --   |       |       |     |     |     |     |
|                 |                                       |            |                            |            | DF           | -39.8  | 15                   | 129   | 117         | 106   | 166  | 151   | 137   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 20                   | 129   | 113         | 104   | 166  | 147   | 134   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 25                   | 129   | 111         | 102   | 166  | 143   | 131   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 30                   | 129   | 109         | 100   | 166  | 140   | 129   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 40                   | 123   | 106         | 97    | 159  | 136   | 126   |     |     |     |     |
|                 |                                       |            | 50                         | 120        |              |  | 103                  | 96  | 154         | 133   | 123  |       |       |     |     |     |     |
|                 |                                       |            | 24                         | 12         | SPF          | -17.2  | 15                   | --  | --          | --    | 109  | --    | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 20                   | --  | --          | --    | 109  | --    | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 25                   | --  | --          | --    | 109  | --    | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 30                   | --  | --          | --    | 109  | --    | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 40                   | --  | --          | --    | --   | --    | --    |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 50                   | --  | --          | --    | --   | --    | --    |     |     |     |     |
|                 |                                       |            |                            |            | DF           | -26.6  | 15                   | 105   | 95          | 87    | 136  | 123   | 112   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 20                   | 105   | 93          | --    | 136  | 120   | 109   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 25                   | 105   | 91          | --    | 136  | 117   | 107   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 30                   | 105   | 89          | --    | 136  | 115   | 105   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 40                   | 101   | 86          | --    | 130  | 111   | --    |     |     |     |     |
| 50              | 98                                    | --         |                            |            |              |  | --                   | 126   | 109         | --    |  |       |       |     |     |     |     |
| 12" NichiBoard™ | Aerosmith Fastening Systems, VersaPin | Face       | 16                         | 12         | 20 GA Steel  | -71.0  | 15                   | 170   | 156         | 142   | 210  | 201   | 183   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 20                   | 170   | 151         | 138   | 210  | 196   | 179   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 25                   | 170   | 148         | 136   | 210  | 191   | 175   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 30                   | 170   | 145         | 133   | 210  | 187   | 172   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 40                   | 165   | 141         | 130   | 210  | 182   | 168   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 50                   | 160   | 138         | 128   | 206  | 178   | 165   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 60                   | 156   | 135         | 126   | 201  | 175   | 162   |     |     |     |     |
|                 |                                       |            |                            |            |              |  | 24                   | 12  | 20 GA Steel | -47.3 | 15   | 140   | 127   | 116 | 181 | 164 | 149 |
|                 |                                       |            |                            |            |              |  |                      |   |             |       | 20   | 140   | 124   | 113 | 181 | 160 | 146 |
|                 |                                       |            | 25                         | 140        | 121          | 111  |                      |   |             |       | 181  | 156   | 143   |     |     |     |     |
|                 |                                       |            | 30                         | 140        | 119          | 109  |                      |   |             |       | 181  | 153   | 141   |     |     |     |     |
|                 |                                       |            | 40                         | 135        | 115          | 106  |                      |   |             |       | 174  | 149   | 137   |     |     |     |     |
|                 |                                       |            | 50                         | 130        | 112          | 104  |                      |   |             |       | 168  | 145   | 134   |     |     |     |     |
|                 |                                       |            | 60                         | 127        | 110          | 103  |                      |   |             |       | 164  | 142   | 132   |     |     |     |     |

Notes:

1. NichiBoard™ fiber cement lap siding may only be installed on vertical walls. Fasteners must be installed in a way that does not damage the board during installation. Where necessary, pre-drilled holes may be used in combination with hand-nailed fasteners to avoid damage to the fiber cement product.
2. ASCE 7-05 Basic Wind Speeds are based upon occupancy category II, a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (GCpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 170mph.
3. ASCE 7-10 Ultimate Wind Speeds are based upon a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (GCpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 210mph.
4. The values in this table are based on testing per ASTM E330 and represent the allowable capacity of the siding to resist the wind pressures associated with the corresponding wind speed.
5. Fastener specifications for those used in testing are outlined in Table 7 of this Intertek CCRR. These specifications may be used by the designer of record to determine the acceptability of alternative fasteners.
6. Allowable design pressures in highlighted cells have been adjusted based on the listed allowable withdrawal capacity of the tested fastener.
7. Framing and bracing are beyond the scope of this evaluation report.
8. Allowable design pressures for assemblies described in this table are applicable to the NichiBoard Plank attached to ASTM C90 fully-grouted CMU block wall using ITW Ramset TE Series power actuated fasteners (ICC-ES ESR-1799). Minimum fastener embedment is 1 inch; fasteners must be placed a minimum of 5.1 inches from the edge of the wall.





**Table 4 - Design Loads for Negative Transverse Wind Load (NichiPanel™ Sheet)<sup>1,4,7</sup>**

| Panel Fastener <sup>5</sup> | Fastener Spacing |            | Framing Type | Framing Spacing | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-----------------------------|------------------|------------|--------------|-----------------|--|----------------------|---|-------|-------|--|-------|-------|
|                             | Perimeter (in)   | Field (in) |              |                 |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                             |                  |            |              |                 |  |                      |   |       |       |  |       |       |
| 6d Double HD MAZE Coil Nail | 6                | 12         | SPF Lumber   | 16"o.c.         | -28.7  | 15                   | 109   | 99    | 90    | 141  | 128   | 116   |
|                             |                  |            |              |                 |  | 20                   | 109   | 96    | 88    | 141  | 124   | 113   |
|                             |                  |            |              |                 |  | 25                   | 109   | 94    | 86    | 141  | 122   | 111   |
|                             |                  |            |              |                 |  | 30                   | 109   | 92    | --    | 141  | 119   | 109   |
|                             |                  |            |              |                 |  | 40                   | 105   | 90    | --    | 135  | 116   | 107   |
|                             |                  |            |              |                 |  | 50                   | 101   | 87    | --    | 131  | 113   | --    |
| 6d Double HD MAZE Coil Nail | 8                | 8          | SPF Lumber   | 16"o.c.         | -43.0  | 15                   | 134   | 121   | 110   | 173  | 157   | 142   |
|                             |                  |            |              |                 |  | 20                   | 134   | 118   | 108   | 173  | 152   | 139   |
|                             |                  |            |              |                 |  | 25                   | 134   | 115   | 106   | 173  | 149   | 136   |
|                             |                  |            |              |                 |  | 30                   | 134   | 113   | 104   | 173  | 146   | 134   |
|                             |                  |            |              |                 |  | 40                   | 128   | 110   | 101   | 166  | 142   | 131   |
|                             |                  |            |              |                 |  | 50                   | 124   | 107   | 99    | 160  | 138   | 128   |
|                             |                  |            | SPF Lumber   | 24"o.c.         | -30.4  | 15                   | 112   | 102   | 93    | 145  | 132   | 120   |
|                             |                  |            |              |                 |  | 20                   | 112   | 99    | 91    | 145  | 128   | 117   |
|                             |                  |            |              |                 |  | 25                   | 112   | 97    | 89    | 145  | 125   | 115   |
|                             |                  |            |              |                 |  | 30                   | 112   | 95    | 87    | 145  | 123   | 113   |
|                             |                  |            |              |                 |  | 40                   | 108   | 92    | 85    | 139  | 119   | 110   |
|                             |                  |            |              |                 |  | 50                   | 105   | 90    | --    | 135  | 116   | 108   |
| 6d Double HD MAZE Coil Nail | 6                | 6          | SPF Lumber   | 16"o.c.         | -57.3  | 15                   | 154   | 140   | 127   | 199  | 181   | 164   |
|                             |                  |            |              |                 |  | 20                   | 154   | 136   | 124   | 199  | 176   | 160   |
|                             |                  |            |              |                 |  | 25                   | 154   | 133   | 122   | 199  | 172   | 157   |
|                             |                  |            |              |                 |  | 30                   | 154   | 130   | 120   | 199  | 168   | 155   |
|                             |                  |            |              |                 |  | 40                   | 148   | 127   | 117   | 191  | 163   | 151   |
|                             |                  |            |              |                 |  | 50                   | 143   | 124   | 115   | 185  | 160   | 148   |
|                             |                  |            | SPF Lumber   | 24"o.c.         | -40.6  | 15                   | 130   | 118   | 107   | 168  | 152   | 138   |
|                             |                  |            |              |                 |  | 20                   | 130   | 115   | 105   | 168  | 148   | 135   |
|                             |                  |            |              |                 |  | 25                   | 130   | 112   | 103   | 168  | 145   | 133   |
|                             |                  |            |              |                 |  | 30                   | 130   | 110   | 101   | 168  | 142   | 130   |
|                             |                  |            |              |                 |  | 40                   | 125   | 107   | 98    | 161  | 138   | 127   |
|                             |                  |            |              |                 |  | 50                   | 121   | 104   | 96    | 156  | 134   | 125   |
| 6d Double HD MAZE Coil Nail | 4                | 4          | SPF Lumber   | 16"o.c.         | -85.9  | 15                   | 170   | 170   | 156   | 210  | 210   | 201   |
|                             |                  |            |              |                 |  | 20                   | 170   | 167   | 152   | 210  | 210   | 196   |
|                             |                  |            |              |                 |  | 25                   | 170   | 163   | 149   | 210  | 210   | 193   |
|                             |                  |            |              |                 |  | 30                   | 170   | 160   | 147   | 210  | 206   | 189   |
|                             |                  |            |              |                 |  | 40                   | 170   | 155   | 143   | 210  | 200   | 185   |
|                             |                  |            |              |                 |  | 50                   | 170   | 151   | 140   | 210  | 195   | 181   |
|                             |                  |            | SPF Lumber   | 24"o.c.         | -60.9  | 15                   | 159   | 144   | 131   | 205  | 186   | 169   |
|                             |                  |            |              |                 |  | 20                   | 159   | 140   | 128   | 205  | 181   | 165   |
|                             |                  |            |              |                 |  | 25                   | 159   | 137   | 126   | 205  | 177   | 162   |
|                             |                  |            |              |                 |  | 30                   | 159   | 134   | 124   | 205  | 174   | 159   |
|                             |                  |            |              |                 |  | 40                   | 153   | 130   | 120   | 197  | 168   | 156   |
|                             |                  |            |              |                 |  | 50                   | 148   | 127   | 118   | 191  | 165   | 152   |
| 60                          | 144              | 125        | 116          | 186             | 162  | 150                  |   |       |       |  |       |       |





**Table 4 - Continued (NichiPanel™ Sheet)<sup>1,4,7</sup>**

| Panel Fastener <sup>5</sup> | Fastener Spacing |            | Framing Type | Framing Spacing | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-----------------------------|------------------|------------|--------------|-----------------|--|----------------------|---|-------|-------|--|-------|-------|
|                             | Perimeter (in)   | Field (in) |              |                 |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
| 8d Masonite Siding Nails    | 6                | 12         | SPF Lumber   | 16"o.c.         | -39.9  | 15                   | 129   | 117   | 106   | 166  | 151   | 137   |
|                             |                  |            |              |                 |  | 20                   | 129   | 114   | 104   | 166  | 147   | 134   |
|                             |                  |            |              |                 |  | 25                   | 129   | 111   | 102   | 166  | 143   | 131   |
|                             |                  |            |              |                 |  | 30                   | 129   | 109   | 100   | 166  | 141   | 129   |
|                             |                  |            |              |                 |  | 40                   | 124   | 106   | 98    | 160  | 136   | 126   |
|                             |                  |            |              |                 |  | 50                   | 120   | 103   | 96    | 155  | 133   | 123   |
|                             |                  |            |              |                 |  | 60                   | 117   | 101   | 94    | 151  | 131   | 122   |
|                             |                  |            |              | 24"o.c.         | -26.6  | 15                   | 105   | 95    | 87    | 136  | 123   | 112   |
|                             |                  |            |              |                 |  | 20                   | 105   | 93    | --    | 136  | 120   | 109   |
|                             |                  |            |              |                 |  | 25                   | 105   | 91    | --    | 136  | 117   | 107   |
|                             |                  |            |              |                 |  | 30                   | 105   | 89    | --    | 136  | 115   | 105   |
|                             |                  |            |              |                 |  | 40                   | 101   | 86    | --    | 130  | 111   | --    |
|                             |                  |            |              |                 |  | 50                   | 98  | --    | --    | 126  | 109   | --    |
|                             |                  |            |              |                 |  | 60                   | 95  | --    | --    | 123  | 107   | --    |
| 8d Masonite Siding Nails    | 8                | 8          | SPF Lumber   | 16"o.c.         | -59.9  | 15                   | 158   | 143   | 130   | 204  | 185   | 168   |
|                             |                  |            |              |                 |  | 20                   | 158   | 139   | 127   | 204  | 180   | 164   |
|                             |                  |            |              |                 |  | 25                   | 158   | 136   | 125   | 204  | 176   | 161   |
|                             |                  |            |              |                 |  | 30                   | 158   | 133   | 123   | 204  | 172   | 158   |
|                             |                  |            |              |                 |  | 40                   | 151   | 129   | 119   | 195  | 167   | 154   |
|                             |                  |            |              |                 |  | 50                   | 147   | 126   | 117   | 189  | 163   | 151   |
|                             |                  |            |              |                 |  | 60                   | 143   | 124   | 115   | 185  | 160   | 149   |
|                             |                  |            |              | 24"o.c.         | -39.9  | 15                   | 129   | 117   | 106   | 166  | 151   | 137   |
|                             |                  |            |              |                 |  | 20                   | 129   | 114   | 104   | 166  | 147   | 134   |
|                             |                  |            |              |                 |  | 25                   | 129   | 111   | 102   | 166  | 143   | 131   |
|                             |                  |            |              |                 |  | 30                   | 129   | 109   | 100   | 166  | 141   | 129   |
|                             |                  |            |              |                 |  | 40                   | 124   | 106   | 98    | 160  | 136   | 126   |
|                             |                  |            |              |                 |  | 50                   | 120   | 103   | 96    | 155  | 133   | 123   |
|                             |                  |            |              |                 |  | 60                   | 117   | 101   | 94    | 151  | 131   | 122   |
| 8d Masonite Siding Nails    | 6                | 6          | SPF Lumber   | 16"o.c.         | -79.9  | 15                   | 170   | 165   | 150   | 210  | 210   | 194   |
|                             |                  |            |              |                 |  | 20                   | 170   | 161   | 147   | 210  | 207   | 189   |
|                             |                  |            |              |                 |  | 25                   | 170   | 157   | 144   | 210  | 203   | 186   |
|                             |                  |            |              |                 |  | 30                   | 170   | 154   | 142   | 210  | 199   | 183   |
|                             |                  |            |              |                 |  | 40                   | 170   | 149   | 138   | 210  | 193   | 178   |
|                             |                  |            |              |                 |  | 50                   | 169   | 146   | 135   | 210  | 188   | 175   |
|                             |                  |            |              |                 |  | 60                   | 165   | 143   | 133   | 210  | 185   | 172   |
|                             |                  |            |              | 24"o.c.         | -53.3  | 15                   | 149   | 135   | 123   | 192  | 174   | 158   |
|                             |                  |            |              |                 |  | 20                   | 149   | 131   | 120   | 192  | 169   | 155   |
|                             |                  |            |              |                 |  | 25                   | 149   | 128   | 118   | 192  | 166   | 152   |
|                             |                  |            |              |                 |  | 30                   | 149   | 126   | 116   | 192  | 162   | 149   |
|                             |                  |            |              |                 |  | 40                   | 143   | 122   | 113   | 184  | 158   | 145   |
|                             |                  |            |              |                 |  | 50                   | 138   | 119   | 110   | 179  | 154   | 143   |
|                             |                  |            |              |                 |  | 60                   | 135   | 117   | 109   | 174  | 151   | 140   |





**Table 4 - Continued (NichiPanel™ Sheet)<sup>1,4,7</sup>**

| Panel Fastener <sup>5</sup> | Fastener Spacing |            | Framing Type | Framing Spacing | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-----------------------------|------------------|------------|--------------|-----------------|--|----------------------|---|-------|-------|--|-------|-------|
|                             | Perimeter (in)   | Field (in) |              |                 |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                             |                  |            |              |                 |  |                      |   |       |       |  |       |       |
| 8d Masonite Siding Nails    | 4                | 4          | SPF Lumber   | 16" o.c.        | -119.8                                       | 15                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                             |                  |            |              |                 |  | 20                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                             |                  |            |              |                 |  | 25                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                             |                  |            |              |                 |  | 30                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                             |                  |            |              |                 |  | 40                   | 170   | 170   | 169   | 210  | 210   | 210   |
|                             |                  |            |              |                 |  | 50                   | 170   | 170   | 166   | 210  | 210   | 210   |
|                             |                  |            |              |                 |  | 60                   | 170   | 170   | 163   | 210  | 210   | 210   |
|                             | 4                | 4          | SPF Lumber   | 24" o.c.        | -79.9  | 15                   | 170   | 165   | 150   | 210  | 210   | 194   |
|                             |                  |            |              |                 |  | 20                   | 170   | 161   | 147   | 210  | 207   | 189   |
|                             |                  |            |              |                 |  | 25                   | 170   | 157   | 144   | 210  | 203   | 186   |
|                             |                  |            |              |                 |  | 30                   | 170   | 154   | 142   | 210  | 199   | 183   |
|                             |                  |            |              |                 |  | 40                   | 170   | 149   | 138   | 210  | 193   | 178   |
|                             |                  |            |              |                 |  | 50                   | 169   | 146   | 135   | 210  | 188   | 175   |
|                             |                  |            |              |                 |  | 60                   | 165   | 143   | 133   | 210  | 185   | 172   |







**Table 4 - Continued (NichiPanel™ Sheet)<sup>1,4,7</sup>**

| Panel Fastener <sup>5</sup>       | Fastener Spacing |            | Framing Type | Framing Spacing | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-----------------------------------|------------------|------------|--------------|-----------------|--|----------------------|---|-------|-------|--|-------|-------|
|                                   | Perimeter (in)   | Field (in) |              |                 |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                                   |                  |            |              |                 |  |                      |   |       |       |  |       |       |
| Grabber #8 Flat Wafer Head Screws | 6                | 12         | SPF Lumber   | 16"o.c.         | -55.9  | 15                   | 152   | 138   | 126   | 197  | 179   | 162   |
|                                   |                  |            |              |                 |  | 20                   | 152   | 134   | 123   | 197  | 173   | 158   |
|                                   |                  |            |              |                 |  | 25                   | 152   | 131   | 120   | 197  | 170   | 156   |
|                                   |                  |            |              |                 |  | 30                   | 152   | 129   | 118   | 197  | 166   | 153   |
|                                   |                  |            |              |                 |  | 40                   | 146   | 125   | 115   | 189  | 161   | 149   |
|                                   |                  |            |              |                 |  | 50                   | 142   | 122   | 113   | 183  | 158   | 146   |
|                                   |                  |            |              | 60              | 138  | 120                  | 111   | 179   | 155   | 144  |       |       |
|                                   |                  |            |              | 24"o.c.         | -37.3  | 15                   | 124   | 113   | 103   | 161  | 146   | 132   |
|                                   |                  |            |              |                 |  | 20                   | 124   | 110   | 100   | 161  | 142   | 129   |
|                                   |                  |            |              |                 |  | 25                   | 124   | 107   | 98    | 161  | 139   | 127   |
|                                   |                  |            |              |                 |  | 30                   | 124   | 105   | 97    | 161  | 136   | 125   |
|                                   |                  |            |              |                 |  | 40                   | 119   | 102   | 94    | 154  | 132   | 122   |
|                                   |                  |            | 50           |                 |  | 116                  | 100   | 92    | 149   | 129  | 119   |       |
|                                   |                  |            | 20 GA Steel  | 16"o.c.         | -48.5  | 15                   | 142   | 129   | 117   | 183  | 166   | 151   |
|                                   |                  |            |              |                 |  | 20                   | 142   | 125   | 114   | 183  | 162   | 148   |
|                                   |                  |            |              |                 |  | 25                   | 142   | 123   | 112   | 183  | 158   | 145   |
|                                   |                  |            |              |                 |  | 30                   | 142   | 120   | 110   | 183  | 155   | 142   |
|                                   |                  |            |              |                 |  | 40                   | 136   | 116   | 108   | 176  | 150   | 139   |
|                                   |                  |            |              |                 |  | 50                   | 132   | 114   | 105   | 170  | 147   | 136   |
|                                   |                  |            |              | 60              | 129  | 112                  | 104   | 166   | 144   | 134  |       |       |
|                                   |                  |            |              | 24"o.c.         | -32.4  | 15                   | 116   | 105   | 96    | 150  | 136   | 123   |
|                                   |                  |            |              |                 |  | 20                   | 116   | 102   | 93    | 150  | 132   | 121   |
|                                   |                  |            |              |                 |  | 25                   | 116   | 100   | 92    | 150  | 129   | 118   |
|                                   |                  |            |              |                 |  | 30                   | 116   | 98    | 90    | 150  | 127   | 116   |
| 40                                | 111              | 95         |              |                 |  | 88                   | 144   | 123   | 113   |  |       |       |
| 50                                | 108              | 93         | 86           |                 |  | 139                  | 120   | 111   |       |  |       |       |
| 60                                | 105              | 91         | --           | 136             | 118  | 109                  |   |       |       |  |       |       |
| Grabber #8 Flat Wafer Head Screws | 8                | 8          | SPF Lumber   | 16"o.c.         | -83.8  | 15                   | 170   | 169   | 154   | 210  | 210   | 199   |
|                                   |                  |            |              |                 |  | 20                   | 170   | 165   | 150   | 210  | 210   | 194   |
|                                   |                  |            |              |                 |  | 25                   | 170   | 161   | 147   | 210  | 208   | 190   |
|                                   |                  |            |              |                 |  | 30                   | 170   | 158   | 145   | 210  | 204   | 187   |
|                                   |                  |            |              |                 |  | 40                   | 170   | 153   | 141   | 210  | 198   | 182   |
|                                   |                  |            |              |                 |  | 50                   | 170   | 149   | 138   | 210  | 193   | 179   |
|                                   |                  |            |              | 60              | 169  | 147                  | 136   | 210   | 190   | 176  |       |       |
|                                   |                  |            |              | 24"o.c.         | -55.9  | 15                   | 152   | 138   | 126   | 197  | 179   | 162   |
|                                   |                  |            |              |                 |  | 20                   | 152   | 134   | 123   | 197  | 173   | 158   |
|                                   |                  |            |              |                 |  | 25                   | 152   | 131   | 120   | 197  | 170   | 156   |
|                                   |                  |            |              |                 |  | 30                   | 152   | 129   | 118   | 197  | 166   | 153   |
|                                   |                  |            |              |                 |  | 40                   | 146   | 125   | 115   | 189  | 161   | 149   |
|                                   |                  |            | 50           |                 |  | 142                  | 122   | 113   | 183   | 158  | 146   |       |
|                                   |                  |            | 60           | 138             | 120  | 111                  | 179   | 155   | 144   |  |       |       |
|                                   |                  |            | 20 GA Steel  | 16"o.c.         | -72.8  | 15                   | 170   | 158   | 143   | 210  | 204   | 185   |
|                                   |                  |            |              |                 |  | 20                   | 170   | 153   | 140   | 210  | 198   | 181   |
|                                   |                  |            |              |                 |  | 25                   | 170   | 150   | 137   | 210  | 194   | 177   |
|                                   |                  |            |              |                 |  | 30                   | 170   | 147   | 135   | 210  | 190   | 174   |
|                                   |                  |            |              |                 |  | 40                   | 167   | 143   | 132   | 210  | 184   | 170   |
|                                   |                  |            |              |                 |  | 50                   | 162   | 139   | 129   | 209  | 180   | 167   |
|                                   |                  |            |              | 60              | 158  | 137                  | 127   | 204   | 177   | 164  |       |       |
|                                   |                  |            |              | 24"o.c.         | -48.5  | 15                   | 142   | 129   | 117   | 183  | 166   | 151   |
|                                   |                  |            |              |                 |  | 20                   | 142   | 125   | 114   | 183  | 162   | 148   |
|                                   |                  |            |              |                 |  | 25                   | 142   | 123   | 112   | 183  | 158   | 145   |
|                                   |                  |            |              |                 |  | 30                   | 142   | 120   | 110   | 183  | 155   | 142   |
|                                   |                  |            |              |                 |  | 40                   | 136   | 116   | 108   | 176  | 150   | 139   |
|                                   |                  |            | 50           |                 |  | 132                  | 114   | 105   | 170   | 147  | 136   |       |
|                                   |                  |            | 60           | 129             | 112  | 104                  | 166   | 144   | 134   |  |       |       |





**Table 4 - Continued (NichiPanel™ Sheet)<sup>1,4,7</sup>**

| Panel Fastener <sup>5</sup>       | Fastener Spacing |            | Framing Type | Framing Spacing | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|-----------------------------------|------------------|------------|--------------|-----------------|--|----------------------|---|-------|-------|--|-------|-------|
|                                   | Perimeter (in)   | Field (in) |              |                 |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|                                   |                  |            |              |                 |  |                      |   |       |       |  |       |       |
| Grabber #8 Flat Wafer Head Screws | 6                | 6          | SPF Lumber   | 16"o.c.         | -111.8                                       | 15                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 20                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 25                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 30                   | 170   | 170   | 167   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 40                   | 170   | 170   | 163   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 50                   | 170   | 170   | 160   | 210  | 210   | 207   |
|                                   |                  |            | 60           | 170             | 170  | 158                  | 210   | 210   | 203   |  |       |       |
|                                   |                  |            | 15           | 170             | 160  | 145                  | 210   | 206   | 187   |  |       |       |
|                                   |                  |            | 20           | 170             | 155  | 142                  | 210   | 200   | 183   |  |       |       |
|                                   |                  |            | 25           | 170             | 152  | 139                  | 210   | 196   | 180   |  |       |       |
|                                   |                  |            | 30           | 170             | 149  | 137                  | 210   | 192   | 176   |  |       |       |
|                                   |                  |            | 40           | 169             | 144  | 133                  | 210   | 186   | 172   |  |       |       |
|                                   | 50               | 164        | 141          | 131             | 210  | 182                  | 169   |       |       |  |       |       |
|                                   | 60               | 160        | 138          | 129             | 206  | 179                  | 166   |       |       |  |       |       |
|                                   | 15               | 170        | 170          | 166             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 20               | 170        | 170          | 162             | 210  | 210                  | 209   |       |       |  |       |       |
|                                   | 25               | 170        | 170          | 159             | 210  | 210                  | 205   |       |       |  |       |       |
|                                   | 30               | 170        | 170          | 156             | 210  | 210                  | 201   |       |       |  |       |       |
|                                   | 40               | 170        | 165          | 152             | 210  | 210                  | 196   |       |       |  |       |       |
|                                   | 50               | 170        | 161          | 149             | 210  | 208                  | 192   |       |       |  |       |       |
|                                   | 60               | 170        | 158          | 147             | 210  | 204                  | 189   |       |       |  |       |       |
|                                   | 15               | 164        | 149          | 135             | 210  | 192                  | 174   |       |       |  |       |       |
|                                   | 20               | 164        | 145          | 132             | 210  | 187                  | 170   |       |       |  |       |       |
|                                   | 25               | 164        | 141          | 130             | 210  | 183                  | 167   |       |       |  |       |       |
| 30                                | 164              | 138        | 127          | 210             | 179  | 164                  |   |       |       |  |       |       |
| 40                                | 157              | 134        | 124          | 203             | 174  | 160                  |   |       |       |  |       |       |
| 50                                | 152              | 131        | 122          | 197             | 170  | 157                  |   |       |       |  |       |       |
| 60                                | 149              | 129        | 12           | 192             | 167  | 155                  |   |       |       |  |       |       |
| Grabber #8 Flat Wafer Head Screws | 4                | 4          | SPF Lumber   | 16"o.c.         | -136.0                                       | 15                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 20                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 25                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 30                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 40                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            |              |                 |  | 50                   | 170   | 170   | 170   | 210  | 210   | 210   |
|                                   |                  |            | 60           | 170             | 170  | 170                  | 210   | 210   | 210   |  |       |       |
|                                   |                  |            | 15           | 170             | 170  | 160                  | 210   | 210   | 207   |  |       |       |
|                                   |                  |            | 20           | 170             | 170  | 156                  | 210   | 210   | 202   |  |       |       |
|                                   |                  |            | 25           | 170             | 167  | 153                  | 210   | 210   | 198   |  |       |       |
|                                   |                  |            | 30           | 170             | 164  | 151                  | 210   | 210   | 195   |  |       |       |
|                                   |                  |            | 40           | 170             | 159  | 147                  | 210   | 206   | 190   |  |       |       |
|                                   | 50               | 170        | 156          | 144             | 210  | 201                  | 186   |       |       |  |       |       |
|                                   | 60               | 170        | 153          | 142             | 210  | 197                  | 183   |       |       |  |       |       |
|                                   | 15               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 20               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 25               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 30               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 40               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 50               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 60               | 170        | 170          | 170             | 210  | 210                  | 210   |       |       |  |       |       |
|                                   | 15               | 170        | 170          | 160             | 210  | 210                  | 207   |       |       |  |       |       |
|                                   | 20               | 170        | 170          | 156             | 210  | 210                  | 202   |       |       |  |       |       |
|                                   | 25               | 170        | 167          | 153             | 210  | 210                  | 198   |       |       |  |       |       |
| 30                                | 170              | 164        | 151          | 210             | 210  | 195                  |   |       |       |  |       |       |
| 40                                | 170              | 159        | 147          | 210             | 206  | 190                  |   |       |       |  |       |       |
| 50                                | 170              | 156        | 144          | 210             | 201  | 186                  |   |       |       |  |       |       |
| 60                                | 170              | 153        | 142          | 210             | 197  | 183                  |   |       |       |  |       |       |





**Table 4 - Continued (NichiPanel™ Sheet)<sup>1,4,7</sup>**

| Panel Fastener <sup>5</sup>            | Fastener Spacing |            | Framing Type | Framing Spacing | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|--|------------------|------------|--------------|-----------------|--|----------------------|---|-------|-------|--|-------|-------|
|  | Perimeter (in)   | Field (in) |              |                 |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
|  |                  |            |              |                 |  |                      |   |       |       |  |       |       |
| Aeromsmith Fastening Systems, VersaPin | 6                | 12         | 20 GA Steel  | 16"o.c.         | -29.3  | 15                   | 110   | 100   | 91    | 142  | 129   | 117   |
|  |                  |            |              |                 |  | 20                   | 110   | 97    | 89    | 142  | 126   | 115   |
|  |                  |            |              |                 |  | 25                   | 110   | 95    | 87    | 142  | 123   | 113   |
|  |                  |            |              |                 |  | 30                   | 110   | 93    | 86    | 142  | 120   | 111   |
|  |                  |            |              |                 |  | 40                   | 106   | 90    | --    | 137  | 117   | 108   |
|  |                  |            |              |                 |  | 50                   | 102   | 88    | --    | 132  | 114   | 106   |
| Aeromsmith Fastening Systems, VersaPin | 8                | 8          | 20 GA Steel  | 16"o.c.         | -43.9  | 15                   | 135   | 123   | 111   | 174  | 158   | 144   |
|  |                  |            |              |                 |  | 20                   | 135   | 119   | 109   | 174  | 154   | 140   |
|  |                  |            |              |                 |  | 25                   | 135   | 117   | 107   | 174  | 150   | 138   |
|  |                  |            |              |                 |  | 30                   | 135   | 114   | 105   | 174  | 147   | 135   |
|  |                  |            |              |                 |  | 40                   | 130   | 111   | 102   | 167  | 143   | 132   |
|  |                  |            |              |                 |  | 50                   | 126   | 108   | 100   | 162  | 140   | 129   |
| Aeromsmith Fastening Systems, VersaPin | 6                | 6          | 20 GA Steel  | 16"o.c.         | -58.5  | 15                   | 156   | 141   | 129   | 201  | 183   | 166   |
|  |                  |            |              |                 |  | 20                   | 156   | 137   | 126   | 201  | 178   | 162   |
|  |                  |            |              |                 |  | 25                   | 156   | 135   | 123   | 201  | 174   | 159   |
|  |                  |            |              |                 |  | 30                   | 156   | 132   | 121   | 201  | 170   | 156   |
|  |                  |            |              |                 |  | 40                   | 150   | 128   | 118   | 193  | 165   | 152   |
|  |                  |            |              |                 |  | 50                   | 145   | 125   | 116   | 187  | 161   | 149   |
| Aeromsmith Fastening Systems, VersaPin | 4                | 4          | 20 GA Steel  | 16"o.c.         | -87.9  | 15                   | 170   | 170   | 158   | 210  | 210   | 203   |
|  |                  |            |              |                 |  | 20                   | 170   | 169   | 154   | 210  | 210   | 199   |
|  |                  |            |              |                 |  | 25                   | 170   | 165   | 151   | 210  | 210   | 195   |
|  |                  |            |              |                 |  | 30                   | 170   | 161   | 148   | 210  | 208   | 192   |
|  |                  |            |              |                 |  | 40                   | 170   | 157   | 145   | 210  | 202   | 187   |
|  |                  |            |              |                 |  | 50                   | 170   | 153   | 142   | 210  | 198   | 183   |
|  | 24"o.c.          | -35.6      | 15           | 122             | 110  | 100                  | 157   | 143   | 129   |  |       |       |
|  |                  |            | 20           | 122             | 107  | 98                   | 157   | 139   | 126   |  |       |       |
|  |                  |            | 25           | 122             | 105  | 96                   | 157   | 136   | 124   |  |       |       |
|  |                  |            | 30           | 122             | 103  | 95                   | 157   | 133   | 122   |  |       |       |
|  |                  |            | 40           | 117             | 100  | 92                   | 151   | 129   | 119   |  |       |       |
|  |                  |            | 50           | 113             | 98   | 90                   | 146   | 126   | 117   |  |       |       |
| 60                                     | 110              | 96         | 89           | 143             | 124  | 115                  |   |       |       |  |       |       |

Notes:

- NichiPanel™ fiber cement flat sheet siding may only be installed on vertical walls. Fasteners must be installed in a way that does not damage the board during installation. Where necessary, pre-drilled holes may be used in combination with hand-nailed fasteners to avoid damage to the fiber cement product.
- ASCE 7-05 Basic Wind Speeds are based upon occupancy category II, a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (Gcpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 170mph.
- ASCE 7-10 Ultimate Wind Speeds are based upon a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (Gcpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 210mph.
- The values in this table are based on testing per ASTM E330 and represent the allowable capacity of the siding to resist the wind pressures associated with the corresponding wind speed.
- Fastener specifications for those used in testing are outlined in Table 7 of this Intertek CCRR. These specifications may be used by the designer of record to determine the acceptability of alternative fasteners.
- Allowable design pressures in highlighted cells have been adjusted based on the listed allowable withdrawal capacity of the tested fastener.
- Framing and bracing are beyond the scope of this evaluation report.
- Allowable design pressures for assemblies described in this table are applicable to the NichiPanel attached to ASTM C90 fully-grouted CMU block wall using ITW Ramset TE Series power actuated fasteners (ICC-ES ESR-1799). Minimum fastener embedment is 1 inch; fasteners must be placed a minimum of 5.1 inches from the edge of the wall.





**Table 5 - Design Loads for Negative Transverse Wind Load (NichiStraight™/NichiStaggered™ Lap Panel)<sup>1,4,7</sup>**

| Siding Type                    | Siding Fastener <sup>5</sup>           | Face/Blind | Effective Fastener Spacing |            | Framing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |       |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|--------------------------------|--|------------|----------------------------|------------|--------------|--|----------------------|---|-------|-------|--|-------|-------|
|                                |  |            | Frame/Horizontal (in)      | Field (in) |              |  |                      | Exp B   | Exp C | Exp D | Exp B  | Exp C | Exp D |
| NichiStraight™/NichiStaggered™ | 6d Double HD MAZE Coil Nail            | Blind      | 12                         | 8.625      | 7/16" OSB    | -23.5  | 15                   | 99  | 90    | --    | 128  | 116   | 105   |
|                                |  |            |                            |            |              |  | 20                   | 99  | 87    | --    | 128  | 113   | --    |
|                                |  |            |                            |            |              |  | 25                   | 99  | 85    | --    | 128  | 110   | --    |
|                                |  |            |                            |            |              |  | 30                   | 99  | --    | --    | 128  | 108   | --    |
|                                |  |            |                            |            |              |  | 40                   | 95  | --    | --    | 122  | --    | --    |
|                                |  |            |                            |            |              |  | 50                   | 92  | --    | --    | 119  | --    | --    |
|                                |  |            | 60                         | 90         | --           | --   | 116                  | --  | --    |       |  |       |       |
|                                |  |            | 15                         | 122        | 111          | 101  | 158                  | 143   | 130   |       |  |       |       |
|                                |  |            | 20                         | 122        | 108          | 98   | 158                  | 139   | 127   |       |  |       |       |
|                                |  |            | 25                         | 122        | 105          | 96   | 158                  | 136   | 125   |       |  |       |       |
|                                |  |            | 30                         | 122        | 103          | 95   | 158                  | 133   | 122   |       |  |       |       |
|                                |  |            | 40                         | 117        | 100          | 92   | 151                  | 129   | 119   |       |  |       |       |
|                                |  |            | 50                         | 113        | 98           | 91   | 146                  | 126   | 117   |       |  |       |       |
|                                |  |            | 60                         | 111        | 96           | 89   | 143                  | 124   | 115   |       |  |       |       |
|                                |  |            | 15                         | 100        | 90           | --   | 129                  | 117   | 106   |       |  |       |       |
|                                |  |            | 20                         | 100        | 88           | --   | 129                  | 113   | --    |       |  |       |       |
|                                |  |            | 25                         | 100        | 86           | --   | 129                  | 111   | --    |       |  |       |       |
|                                |  |            | 30                         | 100        | --           | --   | 129                  | 109   | --    |       |  |       |       |
| 40                             | 96                                     | --         | --                         | 123        | 106          | --   |                      |   |       |       |  |       |       |
| 50                             | 93                                     | --         | --                         | 120        | --           | --   |                      |   |       |       |  |       |       |
| 60                             | 90                                     | --         | --                         | 117        | --           | --   |                      |   |       |       |  |       |       |
| NichiStraight™/NichiStaggered™ | 6d Ring Shank Double HD MAZE Coil Nail | Blind      | 12                         | 8.625      | 7/16" OSB    | -24.9  | 15                   | 102   | 92    | --    | 131  | 119   | 108   |
|                                |  |            |                            |            |              |  | 20                   | 102   | 90    | --    | 131  | 116   | 106   |
|                                |  |            |                            |            |              |  | 25                   | 102   | 88    | --    | 131  | 113   | --    |
|                                |  |            |                            |            |              |  | 30                   | 102   | 86    | --    | 131  | 111   | --    |
|                                |  |            |                            |            |              |  | 40                   | 98  | --    | --    | 126  | 108   | --    |
|                                |  |            |                            |            |              |  | 50                   | 95  | --    | --    | 122  | 105   | --    |
| 60                             | 92                                     | --         | --                         | 119        | --           | --   |                      |   |       |       |  |       |       |
| NichiStraight™/NichiStaggered™ | #8-18 Wafer Head ROCK-ON™ Screws       | Blind      | 24                         | 8.625      | 20 GA Steel  | -49.6  | 15                   | 144   | 130   | 118   | 185  | 168   | 153   |
|                                |  |            |                            |            |              |  | 20                   | 144   | 127   | 116   | 185  | 163   | 149   |
|                                |  |            |                            |            |              |  | 25                   | 144   | 124   | 114   | 185  | 160   | 147   |
|                                |  |            |                            |            |              |  | 30                   | 144   | 121   | 112   | 185  | 157   | 144   |
|                                |  |            |                            |            |              |  | 40                   | 138   | 118   | 109   | 178  | 152   | 140   |
|                                |  |            |                            |            |              |  | 50                   | 133   | 115   | 107   | 172  | 149   | 138   |
|                                |  |            |                            |            |              |  | 60                   | 130   | 113   | 105   | 168  | 146   | 136   |

Notes:

1. **NichiStraight™/NichiStaggered™ Lap Panel** fiber cement siding may only be installed on vertical walls. Fasteners must be installed in a way that does not damage the board during installation. Where necessary, pre-drilled holes may be used in combination with hand-nailed fasteners to avoid damage to the fiber cement product.
2. ASCE 7-05 Basic Wind Speeds are based upon occupancy category II, a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (Gcpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 170mph.
3. ASCE 7-10 Ultimate Wind Speeds are based upon a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (Gcpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 210mph.
4. The values in this table are based on testing per ASTM E330 and represent the allowable capacity of the siding to resist the wind pressures associated with the corresponding wind speed.
5. Fastener specifications for those used in testing are outlined in Table 7 of this Intertek CCRR. These specifications may be used by the designer of record to determine the acceptability of alternative fasteners.
6. Allowable design pressures in highlighted cells have been adjusted based on the listed allowable withdrawal capacity of the tested fastener.
7. Framing and bracing are beyond the scope of this evaluation report.
8. Allowable design pressures for assemblies described in this table are applicable to the NichiStraight/NichiStaggered lap panels attached to ASTM C90 fully-grouted CMU block wall using ITW Ramset TE Series power actuated fasteners (ICC-ES ESR-1799). Minimum fastener embedment is 1 inch; fasteners must be placed a minimum of 5.1 inches from the edge of the wall.



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**Table 6 - Design Loads for Negative Transverse Wind Load (NichiShake™ Shingles)<sup>1,4,7</sup>**

| Siding Fastener <sup>5</sup> | Fasteners per Shake         |              |           | Sheathing Type | Allowable Design Pressure (psf) <sup>6</sup> | Building Height (ft) | ASCE 7-05 Basic Wind Speed (MPH) <sup>2</sup> |           |       | ASCE 7-10 Ultimate Wind Speed (MPH) <sup>3</sup> |       |       |
|------------------------------|-----------------------------|--------------|-----------|----------------|--|----------------------|---|-----------|-------|--|-------|-------|
|                              | 6-1/4" Width                | 8-1/4" Width | 12" Width |                |  |                      | Exp B   | Exp C     | Exp D | Exp B  | Exp C | Exp D |
|                              | 6d Double HD MAZE Coil Nail | 2            | 2         |                |  |                      | 3   | 7/16" OSB | -30.6 | 15   | 113   | 102   |
|                              |                             |              |           |                |  | 20                   | 113   | 99        | 91    | 146  | 128   | 117   |
|                              |                             |              |           |                |  | 25                   | 113   | 97        | 89    | 146  | 126   | 115   |
|                              |                             |              |           |                |  | 30                   | 113   | 95        | 88    | 146  | 123   | 113   |
|                              |                             |              |           |                |  | 40                   | 108   | 93        | 85    | 140  | 119   | 110   |
|                              |                             |              |           |                |  | 50                   | 105   | 90        | --    | 135  | 117   | 108   |
|                              |                             |              |           |                |  | 60                   | 102   | 89        | --    | 132  | 115   | 106   |

Notes:

- NichiShake™ fiber-cement shingle siding may only be installed on vertical walls. Fasteners must be installed in a way that does not damage the board during installation. Where necessary, pre-drilled holes may be used in combination with hand-nailed fasteners to avoid damage to the fiber cement product.
- ASCE 7-05 Basic Wind Speeds are based upon occupancy category II, a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (GCpi) equal to +/- 0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 170mph.
- ASCE 7-10 Ultimate Wind Speeds are based upon a wind directionality factor (Kd) equal to 0.85, an internal pressure coefficient (GCpi) equal to +/-0.18, and an external pressure coefficient (GCp) equal to -1.4. The effects of topographic features have not been considered and the wind speed has been limited to 210mph.
- The values in this table are based on testing per ASTM E330 and represent the allowable capacity of the siding to resist the wind pressures associated with the corresponding wind speed.
- Fastener specifications for those used in testing are outlined in Table 7 of this Intertek CCRR. These specifications may be used by the designer of record to determine the acceptability of alternative fasteners.
- Allowable design pressures in highlighted cells have been adjusted based on the listed allowable withdrawal capacity of the tested fastener.
- Framing and bracing are beyond the scope of this evaluation report.





**Table 7 - Specifications of Tested Fasteners**

| Siding Fastener                                    | Length (in)                    | Head Diameter (in) | Shank Diameter (in) | Material <sup>1,2,3</sup>    | Siding Type <sup>5</sup>       | Minimum Fastener Penetration into Material (in) | Fastener Withdrawal Value (lbs) |      |
|--|--------------------------------|--------------------|---------------------|------------------------------|--------------------------------|---|---------------------------------|------|
| 6d Double HD MAZE Coil Nail                        | 2                              | 0.237              | 0.099               | SPF                          | NichiPanel™                    | 1 <sup>11</sup> / <sub>16</sub>                 | 42.2                            |      |
|  |                                |                    |                     |                              | NichiBoard™ (Face)             | 1 <sup>3</sup> / <sub>8</sub>                   | 34.4                            |      |
|  |                                |                    |                     |                              | NichiBoard™ (Blind)            | 1 <sup>11</sup> / <sub>16</sub>                 | 42.2                            |      |
|  |                                |                    |                     |                              | NichiStraight™/NichiStaggered™ | 1 <sup>3</sup> / <sub>8</sub>                   | 34.4                            |      |
|  |                                |                    |                     | DF                           | NichiBoard™ (Face)             | 1 <sup>3</sup> / <sub>8</sub>                   | 53.1                            |      |
|  |                                |                    |                     |                              | NichiBoard™ (Blind)            | 1 <sup>11</sup> / <sub>16</sub>                 | 65.2                            |      |
|  | 2.5                            | 0.236              | 0.097               | SPF                          | NichiStraight™/NichiStaggered™ | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 16.9 |
|  |                                |                    |                     |                              | NichiShake™                    | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 16.9 |
| 6d Ring Shank Double HD MAZE Coil Nail             | 2                              | 0.233              | 0.105               | SPF                          | NichiBoard™ (Face)             | 1 <sup>7</sup> / <sub>8</sub>                   | 45.9                            |      |
|  |                                |                    |                     |                              | NichiBoard™ (Blind)            | 2 <sup>3</sup> / <sub>16</sub>                  | 53.6                            |      |
|  |                                |                    |                     | 7 <sub>16</sub> " OSB        | NichiFrontier™ (Face)          | 1 <sup>1</sup> / <sub>8</sub>                   | 29.8                            |      |
|  |                                |                    |                     |                              | NichiFrontier™ (Blind)         | 1 <sup>9</sup> / <sub>16</sub>                  | 41.4                            |      |
|  |                                |                    |                     | SYP                          | NichiStraight™/NichiStaggered™ | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 17.9 |
|  |                                |                    |                     |                              | NichiFrontier™ (Face)          | 1 <sup>1</sup> / <sub>8</sub>                   | 46.1                            |      |
| NichiFrontier™ (Blind)                             | 1 <sup>9</sup> / <sub>16</sub> | 64.0               |                     |                              |                                |   |                                 |      |
| 8d Masonite Siding Nails                           | 2.5                            | 0.313              | 0.118               | SPF                          | NichiPanel™                    | 2 <sup>3</sup> / <sub>16</sub>                  | 65.2                            |      |
| Double HD MAZE Asphalt & Fiberglass Shingle Nail   | 1.75                           | 0.365              | 0.125               | SPF                          | NichiBoard™ (Face)             | 1 <sup>1</sup> / <sub>8</sub>                   | 35.5                            |      |
|  |                                |                    |                     |                              | NichiBoard™ (Blind)            | 1 <sup>7</sup> / <sub>16</sub>                  | 45.4                            |      |
|  |                                |                    |                     | 7 <sub>16</sub> " OSB        | SYP                            | NichiBoard™ (Blind)                             | 1 <sup>7</sup> / <sub>16</sub>  | 70.1 |
|  |                                |                    |                     |                              | NichiBoard™ (Face)             | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 21.3 |
|  |                                |                    |                     |                              | NichiBoard™ (Blind)            | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 21.3 |
| Double HD Grip Rite Roofing Nail                   | 2.5                            | 0.383              | 0.125               | SPF w/ 7 <sub>16</sub> " OSB | NichiFrontier™ (Face)          | 1 <sup>5</sup> / <sub>8</sub>                   | 51.3                            |      |
|  |                                |                    |                     |                              | NichiFrontier™ (Blind)         | 2 <sup>1</sup> / <sub>16</sub>                  | 65.1                            |      |
|  | 1.75                           | 0.362              | 0.125               | 7 <sub>16</sub> " OSB        | NichiFrontier™ (Face)          | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 21.3 |
|  |                                |                    |                     |                              | NichiFrontier™ (Blind)         | 7 <sub>16</sub> " OSB                           | 7 <sub>16</sub>                 | 21.3 |
| Grabber #8 Flat Wafer Head Screws <sup>6</sup>     | 1.625                          | 0.406              | 0.166               | SPF                          | NichiPanel™                    | 1 <sup>5</sup> / <sub>16</sub>                  | 85.0                            |      |
|  |                                |                    |                     | 20 GA Steel                  | NichiPanel™                    | --  | 88.3                            |      |
|  |                                |                    |                     |                              | NichiPanel™                    | --  | 94.7                            |      |
| Aerosmith Fastening Systems, VersaPin <sup>7</sup> | 1.5                            | 0.301              | 0.106               | 20 GA Steel                  | NichiBoard™ (Face)             | --  | 94.7                            |      |
|  |                                |                    |                     |                              | NichiBoard™ (Blind)            | --  | 94.7                            |      |
|  | 1.375                          | 0.251              | 0.107               | 20 GA Steel                  | NichiPanel™                    | --  | 94.7                            |      |
|  |                                |                    |                     |                              | NichiPanel™                    | --  | 94.7                            |      |
| #8-18 Wafer Head ROCK-ON™ Screws <sup>8</sup>      | 1.625                          | 0.395              | 0.162               | 20 GA Steel                  | NichiFrontier™ (Face)          | --  | 95.0                            |      |
|  |                                |                    |                     |                              | NichiFrontier™ (Blind)         | --  | 95.0                            |      |
|  |                                |                    |                     |                              | NichiStraight™/NichiStaggered™ | --  | 95.0                            |      |
| Aerosmith Fastening Systems, SurePin <sup>9</sup>  | 1.25                           | 0.300              | 0.145               | Concrete Block               | NichiBoard™ (Face)             | 3/4   | 233.1                           |      |
|  | 2                              | 0.300              | 0.145               | Concrete Block               | NichiBoard™ (Blind)            | 1 <sup>1</sup> / <sub>8</sub>                   | 233.8                           |      |
|  |                                |                    |                     |                              | NichiStraight™/NichiStaggered™ | 1 <sup>1</sup> / <sub>8</sub>                   | 233.8                           |      |

Notes:

1. SPF (Spruce-Pine-Fir) framing material is assumed to have a Specific Gravity of 0.42 or greater.
2. DF (Douglas Fir) framing material is assumed to have a Specific Gravity of 0.5 or greater.
3. OSB sheathing material is assumed to have a Specific Gravity of 0.5 or greater. Where fasteners are installed through OSB sheathing into SPF studs, a Specific Gravity of 0.42 shall be assumed for the entire fastener penetration depth.
4. SYP (Southern Yellow Pine) framing material is assumed to have a Specific Gravity of 0.5 or greater.
5. Alternative fasteners must meet the minimum head and shank diameters listed in Table 8. The required length and withdrawal capacity shall be determined by the design professional of record in accordance with the requirements of Table 3. 4. 5. 6, and 7 of this Intertek CCRR.
6. Fastener pull-out capacity based on manufacturer (Grabber Construction Products, Inc.) technical data sheet and a safety factor of 3.
7. Fastener pull-out capacity based on PEI Product Report PER-06014 and a safety factor of 3.
8. Fastener pull-out capacity based on ITW Buildex and Illinois Tool Works, Inc. Product Report No. 02722 and a safety factor of 3.
9. Fastener pull-out capacity based on PEI Product Report PER-07021 and a safety factor of 5.

