

**DIVISION: 09 00 00—FINISHES**

**Section: 09 30 00—Tiling**

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**

**Section: 07 25 00—Water-Resistive Barriers/Weather Barriers**

**Section: 07 27 00—Air Barriers**

**REPORT HOLDER:**

JOHNS MANVILLE

**EVALUATION SUBJECT:**

**1/4-IN. GOBOARD® COMPOSITE BACKER BOARD;  
1/2-IN. GOBOARD® COMPOSITE BACKER BOARD;  
5/8-IN. GOBOARD® COMPOSITE BACKER BOARD;  
GOBOARD® WEDGE COMPOSITE BACKER BOARD**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2015 and 2012 *International Building Code*® (IBC)
- 2015 and 2012 *International Residential Code*® (IRC)

**Properties evaluated:**

- Physical Characteristics
- Surface Burning Characteristics
- Waterproofness
- Water-resistive barrier
- Air permeability

## 2.0 USES

### 2.1 General:

*GoBoard*® composite backer boards are for use as an alternative non-structural substrate for field-applied ceramic tile or dimensional stone on interior floors, walls, and ceilings in wet and dry areas. *GoBoard*® Wedge composite backer board is for use on interior floors.

### 2.2 Backer:

*GoBoard*® composite backer boards and *GoBoard*® Wedge composite backer board used as a tile backer board provide equivalent performance to ANSI A118.9 cementitious backer units (CBU).

### 2.3 Waterproof Membrane:

*GoBoard*® composite backer boards and *GoBoard*® Wedge composite backer board used as a waterproof membrane in

interior wet areas provides equivalent performance to ANSI A118.10 when installed in accordance with Section 4.2.4 of this report.

### 2.4 Water Resistive Barrier:

*GoBoard*® composite backer boards are for use as a water resistive barrier when installed in accordance with Section 4.2.8 of this report.

## 3.0 DESCRIPTION

### 3.1 General:

*GoBoard*® composite backer boards, as shown in Figures 1 through 3, are composite backer boards available in three thicknesses: 1/4-inch (6 mm), 1/2-inch (12.7 mm) and 5/8-inch (15.9 mm). *GoBoard*® Wedge composite backer board, as shown in Figure 4, is a composite backer board with a tapering thickness from 1/8 inch (3 mm) to 1 1/8 inches (28.6 mm).

The 1/4-inch (6 mm) and 1/2-inch (12.7 mm) thick *GoBoard*® composite backer boards are considered Class B materials with a flame-spread index of 75 or less and a smoke-developed index of 450 or less. The 5/8-inch (15.9 mm) *GoBoard*® composite backer board and the *GoBoard*® Wedge composite backer board are considered to be Class A material with a flame-spread index of 25 or less and a smoke-developed index of 450 or less.

### 3.2 Materials:

*GoBoard*® composite backer boards and *GoBoard*® Wedge composite backer board have a polyisocyanurate foam core laminated with a glass mat facer on each face.

### 3.3 Physical Properties:

**3.3.1** The 1/2-inch (12.7 mm) *GoBoard*® composite backer board meets the minimum requirements of a Type II Class 4 board specified in ASTM C1289.

**3.3.2** The 5/8-inch (15.9 mm) *GoBoard*® composite backer board meets the minimum physical properties of Type II Class 4 board specified in ASTM C1289, with the exception of the limitation on thickness. Thermal properties reported in Table 5 reflect the performance in the nominal material thicknesses.

### 3.4 Dimensions and Tolerances:

*GoBoard*® composite backer boards and *GoBoard*® Wedge composite backer board meet the dimension and tolerance requirements found in ANSI A118.9.

## 4.0 DESIGN AND INSTALLATION

### 4.1 Design:

The scope of this report is limited to evaluation of *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board as tile backer boards and waterproof membranes, and *GoBoard*<sup>®</sup> composite backer boards used as a water-resistive barrier and air barrier material. Details related to incorporation of the product beyond that scope are the responsibility of the designer of record.

### 4.2 Installation:

**4.2.1 General:** *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board shall be fabricated, identified and erected in accordance with this report, the approved construction documents and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report shall govern. Approved construction documents shall be available at all times on the jobsite during installation.

**4.2.2 Fastening:** *GoBoard*<sup>®</sup> composite backer boards are to be installed with 0.122-inch-diameter (3.1 mm) x 1<sup>1</sup>/<sub>2</sub>-inch long (38.1 mm) barbed shank roofing nails, #8-18 x 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm) *GoBoard*<sup>®</sup> Steel Stud screws, #9-18 x 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm) *GoBoard*<sup>®</sup> Hi-Lo Wood Screws, #7 x 1<sup>5</sup>/<sub>8</sub>-inch-long (41.3 mm) *GoBoard*<sup>®</sup> Hi-Lo Wood Screws for wood with 1<sup>1</sup>/<sub>4</sub>-inch-diameter (32 mm) washers, #6 x 1<sup>5</sup>/<sub>8</sub>-inch-long (41.3 mm) self-tapping screws for steel studs with 1<sup>1</sup>/<sub>4</sub>-inch-diameter (32 mm) washers, #10 x 1<sup>1</sup>/<sub>4</sub>-inch-long (32 mm) Backer-On Screws or 1-inch x 1<sup>1</sup>/<sub>2</sub>-inch (25.4 mm x 38 mm) 16 Ga. galvanized staples. Fastener maximum spacings are indicated in Tables 1 through 4.

**4.2.3 Joints:** A 1<sup>1</sup>/<sub>8</sub>-inch (3.2 mm) gap is to be provided between *GoBoard*<sup>®</sup> composite backer board and *GoBoard*<sup>®</sup> *Wedge* composite backer board edges at all joints.

**4.2.4 Waterproof Barrier Construction:** The following construction shall be used for *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board when used in interior wet areas such as showers and baths. *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board used as the waterproof barrier shall be installed in accordance with either of the following procedures:

**4.2.4.1** The composite backer boards shall be laid out with a 1<sup>1</sup>/<sub>8</sub>-inch (3.2 mm) gap provided at all board joints. The gap shall be filled with Johns Manville *GoBoard*<sup>®</sup> Sealant or *GoBoard*<sup>®</sup> Pro Sealant, silyl-modified polyether hybrid sealants meeting ASTM C920, Type S, Grade NS, Class 25 or better. The sealant shall be spread over a 1-inch (25.4 mm) width adjacent to the seam on each piece of *GoBoard*<sup>®</sup> composite backer board. The same sealant shall be used to cover a 2-inch (50.8 mm) diameter area over all fastener heads.

**4.2.4.2** The composite backer boards shall be laid out with a 1<sup>1</sup>/<sub>8</sub>-inch (3.2 mm) gap provided at all joints. The gap shall be filled with mortar and a 2-inch (50.8 mm) wide self-adhesive, alkaline resistant fiberglass mesh tape applied parallel to and centered over the joint. Mortar shall then be applied over the joint. Once the mortar is cured, two layers of a liquid water-proofing membrane, meeting ANSI A118.10, shall be applied over the mortar. A final layer of mortar shall be applied over the water-proofing membrane. The same procedure shall be used over fastener heads, except the cement board alkaline resistant fiberglass mesh tape is not required in these areas.

**4.2.5 Walls:** *GoBoard*<sup>®</sup> composite backer boards may be installed on wall framing with a maximum spacing of 16 inches (406 mm) on center. Vertical *GoBoard*<sup>®</sup> composite backer board edges must be continuously supported.

**4.2.6 Ceilings:** *GoBoard*<sup>®</sup> composite backer boards may be installed on ceiling framing with a maximum spacing of 16 inches (406 mm) on center.

**4.2.7 Floors:** The 1<sup>1</sup>/<sub>4</sub>-inch (6 mm) and 1<sup>1</sup>/<sub>2</sub>-inch (12.7 mm) thick *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board may be installed as a backer for tile flooring. The boards must be fully supported by minimum 1<sup>9</sup>/<sub>32</sub>-inch-thick (15.1 mm) PS-1, Exposure 1 plywood with joists spaced a maximum of 16 inches (406 mm) on center. The boards shall be installed on a level subfloor with thin-set mortars complying with ANSI A118.1. A tiled floor assembly using 1<sup>1</sup>/<sub>4</sub>-inch (6 mm) and 1<sup>1</sup>/<sub>2</sub>-inch (12.7 mm) thick *GoBoard*<sup>®</sup> composite backer boards and installed in accordance with this report meets the requirements for a *Light Commercial Rating*, per the Tile Council of North America *TCNA Handbook*. A tiled floor assembly using *GoBoard*<sup>®</sup> *Wedge* composite backer boards installed in accordance with this report meets the requirements for a *Residential Rating*, per the Tile Council of North America *TCNA Handbook*.

**4.2.8 Water-resistive Barrier:** The following construction shall be used for *GoBoard*<sup>®</sup> composite backer boards when used on exterior walls as part of a water resistive barrier:

The 1<sup>1</sup>/<sub>2</sub>-inch (12.7 mm) and thicker *GoBoard*<sup>®</sup> composite backer boards shall be laid out with a 1<sup>1</sup>/<sub>8</sub>-inch (3.2 mm) gap provided at all board joints. The boards shall be fastened to the framing using 1-inch x 1<sup>1</sup>/<sub>2</sub>-inch (25.4 mm x 38 mm) 16 Ga. galvanized staples at 2 inches (50.8 mm) on center around the perimeter with a 3<sup>1</sup>/<sub>8</sub>-inch (9.5 mm) edge distance and 6 inches (152.4 mm) on center in the field. The gap at *GoBoard*<sup>®</sup> composite backer board joints shall be filled with Johns Manville *GoBoard*<sup>®</sup> Sealant or *GoBoard*<sup>®</sup> Pro Sealant, silyl-modified polyether hybrid sealants meeting ASTM C920, Type S, Grade NS, Class 25 or better. The sealant shall be spread over a 2-inch (50.8 mm) width adjacent to the seam on each piece of *GoBoard*<sup>®</sup> composite backer board. The same sealant shall be used to cover a 1<sup>1</sup>/<sub>2</sub>-inch-diameter (38 mm) area over all fastener heads.

**4.2.9 Thermal Barrier:** *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board that are tiled over and installed in accordance with this report do not require a thermal barrier on the interior/tiled surface when installed in a floor, ceiling, or wall assembly.

## 5.0 CONDITIONS OF USE

The *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* composite backer board described in this report comply with, or are a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

**5.1** The 1<sup>1</sup>/<sub>4</sub>-inch (6 mm) and 1<sup>1</sup>/<sub>2</sub>-inch (12.7 mm) *GoBoard*<sup>®</sup> composite backer boards and *GoBoard*<sup>®</sup> *Wedge* are rated for use on interior applications as identified in this report, except as noted in Sections 5.2.

**5.2** The 1<sup>1</sup>/<sub>2</sub>-inch (12.7 mm) and 5<sup>1</sup>/<sub>8</sub>-inch (15.9 mm) *GoBoard*<sup>®</sup> composite backer boards used as part of a water-resistive barrier in exterior wall applications shall be installed in accordance with Section 4.2.8.

**5.3** When installed in accordance with this report, *GoBoard*<sup>®</sup> composite backer board will support loads as described in Tables 1 through 4.

- 5.4 When installed in accordance with this report, 5/8-inch (15.9 mm) *GoBoard*® composite backer board will perform as an air barrier material with air permeability as described in Table 5.
- 5.5 *GoBoard*® composite backer boards and *GoBoard*® *Wedge* composite backer board shall be considered a combustible building element when assessing construction type in accordance with IBC Chapter 6.
- 5.6 *GoBoard*® composite backer boards and *GoBoard*® *Wedge* composite backer board evaluated as part of fire-resistance rated assemblies is outside the scope of this report.
- 5.7 Refer to Table 2 for the maximum veneer load *GoBoard*® composite backer boards can support for the intended application.
- 5.8 Installation of 1/4-inch (6 mm) and 1/2-inch (12.7 mm) *GoBoard*® composite backer boards requires the backer boards to be supported by a structural sheathing. The 1/4-inch (6 mm) and 1/2-inch (12.7 mm) *GoBoard*® composite backer boards and *GoBoard*® *Wedge* composite backer board installed on floors must be applied over a rated subfloor.
- 5.9 The 5/8-inch (15.9 mm) *GoBoard*® composite backer board for use as a backer for floor tile is outside the scope of this report.
- 5.10 *GoBoard*® composite backer boards and *GoBoard*® *Wedge* composite backer board shall not be located within 6 inches (152.4 mm) of exposed earth.
- 5.11 *GoBoard*® composite backer boards and *GoBoard*® *Wedge* composite back board are manufactured in Cornwall, Ontario, Canada under a quality control program with inspections by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

- 6.1 Report of tests in accordance with ANSI A118.1, ANSI A118.9 and ANSI A118.10.

- 6.2 Report of load testing for transverse load, flexural strength, tensile strength, breaking strength and seam strength.
- 6.3 Report of durability testing, including freezing and thawing, biodeterioration, concentrated loading, falling ball impact, and linear variation due to moisture and temperature.
- 6.4 Report of tests addressing fastener pull through and fastener dowel bearing strength.
- 6.5 Reports of tests in accordance with ASTM E84.
- 6.6 Reports of tests in accordance with NFPA 286.
- 6.7 Reports of tests in accordance with ASTM C627.
- 6.8 Reports of tests in accordance with ASTM D4068.
- 6.9 Reports of tests in accordance with ASTM E331.
- 6.10 Reports of tests in accordance with ASTM C518.
- 6.11 Reports of tests in accordance with ASTM E96.
- 6.12 Report of test in accordance with ASTM E2178.

**7.0 IDENTIFICATION**

- 7.1 *GoBoard*® composite backer boards and *GoBoard*® *Wedge* composite back board are identified with the following information:
  - 7.1.1 The ICC-ES Evaluation Report number (ESR-3767), or ICC NTA, LLC certification mark (NTA's NER No. NER-1047).
  - 7.1.2 Manufacturer Name
  - 7.1.3 Product Identification
  - 7.1.4 Production Date, Code, or Lot/Batch Number
- 7.2 The report holder's contact information is the following:

**JOHNS MANVILLE  
POST OFFICE BOX 5108  
DENVER, COLORADO 80217**

**TABLE 1—TRANSVERSE LOAD PERFORMANCE**

| SHEATHING                 | DESCRIPTION OF FRAMING                  | FASTENER   | FASTENER SPACING (edge/field)           | IN-USE LOAD DIRECTION | ALLOWABLE LOAD <sup>1,2</sup> (psf) | LOAD AT L/240 <sup>2</sup> (psf) |
|---------------------------|---|--|---|-----------------------|-------------------------------------|----------------------------------|
| 1/2-inch <i>GoBoard</i> ® | 2x4 Stud Grade SPF spaced 16" on center | #9-18 x 1 1/4" <i>GoBoard</i> ® Hi-Lo Wood Screws                                    | 8"/8" spacing with 3/8" edge distance   | Negative              | 28                                  | 20                               |
|                           |   |  |   | Positive              | 29                                  | 23                               |
| 1/2-inch <i>GoBoard</i> ® | 2x4 Stud Grade SPF spaced 16" on center | #7 x 1 5/8" <i>GoBoard</i> ® Hi-Lo Wood Screws for wood with 1 1/4" diameter washers | 12"/12" spacing with 3/8" edge distance | Negative              | 36                                  | 26                               |
|                           |   |  |   | Positive              | 40                                  | 27                               |
| 5/8-inch <i>GoBoard</i> ® | 2x4 Stud Grade SPF spaced 16" on center | #9-18 x 1 1/4" <i>GoBoard</i> ® Hi-Lo Wood Screws                                    | 8"/8" spacing with 3/8" edge distance   | Negative              | 28                                  | 20                               |
|                           |   |  |   | Positive              | 29                                  | 23                               |

For SI: 1 inch = 25.4 mm; 1 foot = 304.8 mm; 1 psf = 0.0479 kPa.

<sup>1</sup> Allowable load based on a safety factor of 3.

<sup>2</sup> The wall framing shall be designed to comply with the deflection limit of Table 1604.3 and Section 1405.10.3 of the IBC, as applicable. The L/240 limit shown above is based on the deflection of the sheathing between the studs.

TABLE 2—ALLOWABLE VENEER WEIGHT BASED ON FASTENER CAPACITY<sup>1</sup>

| ORIENTATION          | FASTENER   | ALLOWABLE WEIGHT (psf)                        |   |  |
|----------------------|--|---|---|--|
|                      |  | 6" on center fasteners<br>16" on center studs | 8" on center fasteners<br>16" on center studs | 12" on center fasteners<br>16" on center studs |
| Ceiling <sup>3</sup> | 0.122" shank diameter x 1 1/2" barbed shank roofing nails (0.383" head diameter) | 15  | 11  | —  |
|                      | #10 x 1 1/4" Backer-On Screws  | 15  | 11  | —  |
|                      | #8-18 x 1 1/4" GoBoard® Steel Stud screws  | 28  | 21  | —  |
|                      | #9-18 x 1 1/4" GoBoard® Hi-Lo Wood Screws  | 28  | 21  | —  |
|                      | 1"x 1 1/2" 16 Ga. galvanized staples   | 16  | 12  | —  |
|                      | #7 x 1 5/8" GoBoard® Hi-Lo Wood Screws for wood with 1 1/4" diameter washers     | 31  | 23  | 15   |
|                      | #6 x 1 5/8" self-tapping screws for steel studs with 1 1/4" diameter washers     | 31  | 23  | 15   |
| Wall <sup>2</sup>    | #10 x 1 1/4" Backer-On Screws  | 18  | 14  | —  |
|                      | #8-18 x 1 1/4" GoBoard® Steel Stud screws  | 48  | 36  | —  |
|                      | #9-18 x 1 1/4" GoBoard® Hi-Lo Wood Screws  | 48  | 36  | —  |
|                      | 1"x 1 1/2" No. 16 Ga. galvanized staples   | 31  | 41  | —  |
|                      | #7 x 1 5/8" GoBoard® Hi-Lo Wood Screws for wood with 1 1/4" diameter washers     | 142   | 106   | 71   |
|                      | #6 x 1 5/8" self-tapping screws for steel studs with 1 1/4" diameter washers     | 142   | 106   | 71   |

For SI: 1 inch = 25.4 mm; 1 foot = 304.8 mm; 1 psf = 0.0479 kPa.

<sup>1</sup>Applicable to 1/4-inch (6 mm), 1/2-inch (12.7 mm) and 5/8-inch (15.9 mm) GoBoard® composite backer boards.

<sup>2</sup>Allowable load is based on a safety factor of 3.

<sup>3</sup>Allowable load is based on a safety factor of 5.

TABLE 3—FASTENER HEAD PULL THROUGH VALUES

| FASTENER   | FASTENER PULL THROUGH STRENGTH <sup>1</sup> |     |                   |     |                   |     |
|--|---|-----|-------------------|-----|-------------------|-----|
|  | (lbs)                                       |     |                   |     |                   |     |
|  | 1/4-inch GoBoard®                           |     | 1/2-inch GoBoard® |     | 5/8-inch GoBoard® |     |
|  | Wet   | Dry | Wet               | Dry | Wet               | Dry |
| #10 x 1 1/4" Backer-On Screws  | —   | —   | 49                | 52  | 49                | 52  |
| #8-18 x 1 1/4" GoBoard® Steel Stud screws                                    | 68  | 86  | 68                | 86  | 68                | 86  |
| #9-18 x 1 1/4" GoBoard® Hi-Lo Wood Screws                                    | 68  | 85  | 68                | 85  | 68                | 85  |
| 1"x 1 1/2" 16 Ga. galvanized staples   | 54  | 60  | 54                | 60  | 54                | 60  |
| #7 x 1 5/8" GoBoard® Hi-Lo Wood Screws for wood with 1 1/4" diameter washers | 102   | 180 | 102               | 180 | 102               | 180 |
| #6 x 1 5/8" self-tapping screws for steel studs with 1 1/4" diameter washers | 102   | 180 | 102               | 180 | 102               | 180 |

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N.

<sup>1</sup> Values shown are ultimate loads based on testing in accordance with ASTM D1037 Section 15. No safety factor has been applied.

**TABLE 4—ALLOWABLE IN-PLANE RACKING SHEAR STRENGTH (POUNDS PER FOOT)<sup>1</sup>**

| PRODUCT                               | FRAMING  | FASTENER                                 | FASTENER SPACING (edge/field)                             | ALLOWABLE LOAD (plf) | LOAD FOR 5/8-INCH DEFLECTION <sup>2</sup> (plf) | LOAD FOR 0.2-INCH DEFLECTION <sup>2</sup> (plf) |
|---------------------------------------|--|--|---|----------------------|---|---|
| 1/2-inch and 5/8-inch GoBoard®<br>Dry | 2x4 Stud Grade SPF studs spaced 16" on center<br>Double top plate<br>Single bottom plate | 1"x 1 1/2" No. 16 Ga. galvanized staples | 2"/6" spacing parallel to framing with 3/8" edge distance | 158                  | 104   | 145   |
| 1/2-inch and 5/8-inch GoBoard®<br>Wet | 2x4 Stud Grade SPF studs spaced 16" on center<br>Double top plate<br>Single bottom plate | 1"x 1 1/2" No. 16 Ga. galvanized staples | 2"/6" spacing parallel to framing with 3/8" edge distance | 146                  | 56  | 87  |

For SI: 1 inch = 25.4 mm; 1 plf = 14.6 N/m.

<sup>1</sup>Allowable load is based on a safety factor of 3. It is the responsibility of the designer of record to select the appropriate safety factor or deflection limit. Allowable loads were obtained from testing dry and wet assemblies in accordance with ASTM E72 Sections 14 and 15 respectively. Wet assemblies per the standard are to account for wetting possible during construction of a structure, when, because of rain, the framing and sheathing may be wetted on one or both sides. It is the responsibility of the designer of record to select the appropriate values.

<sup>2</sup>The deflection limits, as published in this table, are based on testing of an 8-foot (2.44 m) x 8-foot (2.44 m) wall assembly.

**TABLE 5—TEST VALUES**

| PROPERTY   | PRODUCT                         |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                |    |
|--|---------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------|----|
|  | 1/4-inch GoBoard®               |                      |                      |                      | 1/2-inch GoBoard®    |                      |                      |                      | 5/8-inch GoBoard®    |                      |                      |                      | GoBoard® Wedge |    |
|  | F <sub>y</sub> (lbs)            | F <sub>u</sub> (lbs) | Yield Strength (psi) | Break Strength (psi) | F <sub>y</sub> (lbs) | F <sub>u</sub> (lbs) | Yield Strength (psi) | Break Strength (psi) | F <sub>y</sub> (lbs) | F <sub>u</sub> (lbs) | Yield Strength (psi) | Break Strength (psi) |                |    |
| ASTM C947, Average Flexural Strength (4" Wide Specimen on 12" Span)                          |                                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                | NR |
|  | Dry:                            | 16                   | 34                   | 701                  | 1452                 | 45                   | 64                   | 650                  | 932                  | 65                   | 91                   | 535                  | 747            | NR |
|  | Wet:                            | 11                   | 17                   | 479                  | 729                  | 20                   | 34                   | 300                  | 495                  | 27                   | 55                   | 220                  | 453            | NR |
| Average ANSI A118.1 Shear Bond Strength (7 days dry conditioning)                            | Greater than or equal to 50 psi |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                | NR |
| Average ANSI A118.1 Shear Bond Strength (7 days dry plus 7 days water soaked conditioning)   | Greater than or equal to 50 psi |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                |    |
| Average ANSI A118.1 Shear Bond Strength (28 days dry conditioning)                           | Greater than or equal to 50 psi |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                | NR |
| Average ANSI A118.1 Shear Bond Strength (84 days dry conditioning)                           | Greater than or equal to 50 psi |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                | NR |
| Average ANSI A118.1 Shear Bond Strength (7 days dry plus 100 days water soaked conditioning) | Greater than or equal to 50 psi |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                | NR |

See notes at end of Table 5.

(Continued)

TABLE 5—TEST VALUES (CONTINUED)

| PROPERTY   | PRODUCT   |                               |                             |                       |
|--|---|-------------------------------|-----------------------------|-----------------------|
|  | 1/4-inch GoBoard®   | 1/2-inch GoBoard®             | 5/8-inch GoBoard®           | GoBoard® Wedge        |
| ASTM C666, Procedure B, 25 Cycles of Freezing and Thawing                                | No defects observed   |                               |                             | NR                    |
| ASTM G21: Resistance to Fungi  | No Growth   |                               |                             |                       |
| ASTM G22: Resistance to Bacteria   | No Growth   |                               |                             |                       |
| ASTM D2394 Concentrated Load, Average Compressive Stress at 0.05" Deformation            | NR  | 262 psi                       | 240 psi                     | NR                    |
| ASTM D1037, Section 21: Falling Ball, Average Drop Height Producing Failure              | NR  | Dry: 30-in.<br>Soaked: 27-in. | Dry: 31-in<br>Soaked: 34-in | Dry: 19<br>Soaked: 19 |
| ASTM E84: Surface Burning Characteristics  | Class B Material  |                               | Class A Material            | Class A Material      |
| ASTM E331, Resistance to Water Penetration   | —   | Pass                          | Pass                        | NR                    |
| ASTM C627, Robinson Floor Test on Tile Installation System                               | Light Commercial  |                               | —                           | Residential           |
| ASTM C518 as Specified by ASTM C1289 Section 11.2 Thermal Transmission                   | 1/2-inch GoBoard®: Thermal Resistance of 2.11 hr·ft <sup>2</sup> ·°F/BTU @75°F<br>ASTM C1289-15 Type II Class 4<br>5/8-inch GoBoard®: Thermal Resistance of 2.41 hr·ft <sup>2</sup> ·°F/BTU @75°F |                               |                             | NR                    |
| ASTM E96 Water Vapor Permeability  | 1/2-inch GoBoard®: 0.50 Perms<br>5/8-inch GoBoard®: 0.43 Perms<br>(Procedure A Desiccant Method at 73.4°F, 50%RH)   |                               |                             | NR                    |
| ASTM E96 Water Vapor Permeability as Modified by TCNA Handbook                           | 1/2-inch GoBoard® 0.69 Perms<br>5/8-inch GoBoard® 0.53 Perms<br>(Procedure E Desiccant Method at 100±1.8°F, 90±2%RH)  |                               |                             | NR                    |
| ASTM E2178 Air Permeability  | 1/2-inch GoBoard®: Air Permeability < 0.004cfm/ft <sup>2</sup> at 75 Pa<br>(Meets 2015 IECC C402.5.1.2.1)   |                               |                             | NR                    |
| ASTM D1037, Section 24, Average Linear Variation Due to Moisture                         | Less than or Equal to 0.07%   |                               |                             |                       |
| ASTM D1204, Average Linear Variation Due to Temperature                                  | Less than or equal to 0.7%  |                               |                             |                       |
| ASTM C297, Average Tensile Strength  | Greater than or equal to 35 psi   |                               |                             |                       |
| 2015 IBC Section 803.12 (2012 IBC Section 803.10) Temperature Test, 200°F for 30 minutes | Interior materials did not detach when tested in horizontal and vertical directions   |                               |                             | NR                    |
| ASTM D4068, Hydrostatic Pressure Test  | Pass  |                               |                             |                       |
| ASTM D751, Average Strength Test Values  | Breaking Strength: Greater than 170 psi<br>Seam Strength: Greater than 8 lbf/in   |                               |                             |                       |

For SI: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 psi = 6.8948 kPa

“NR” denotes “Not Required” due to the application.

“—”denotes that this product thickness was not tested.

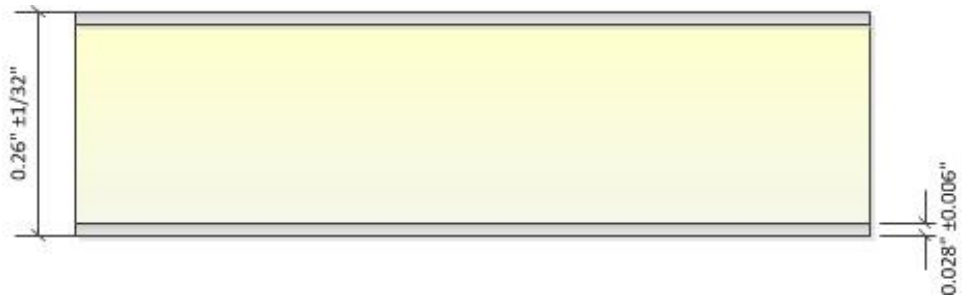


FIGURE 1— $1/4$ -INCH GOBOARD® THICKNESS DIMENSIONS

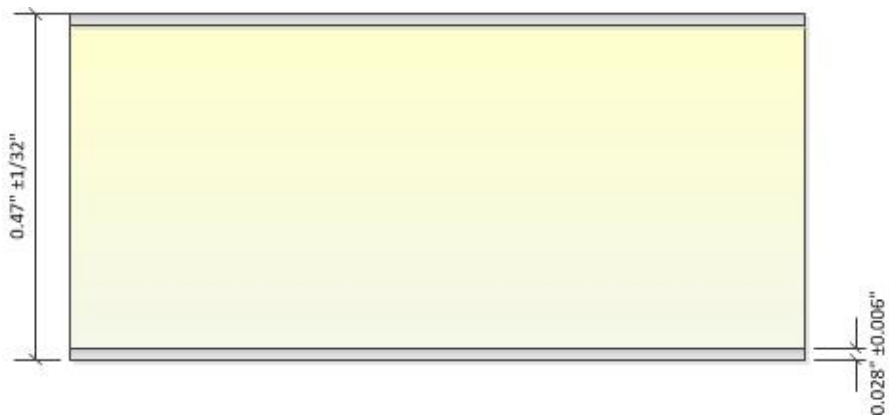


FIGURE 2— $1/2$ -INCH GOBOARD® THICKNESS DIMENSIONS

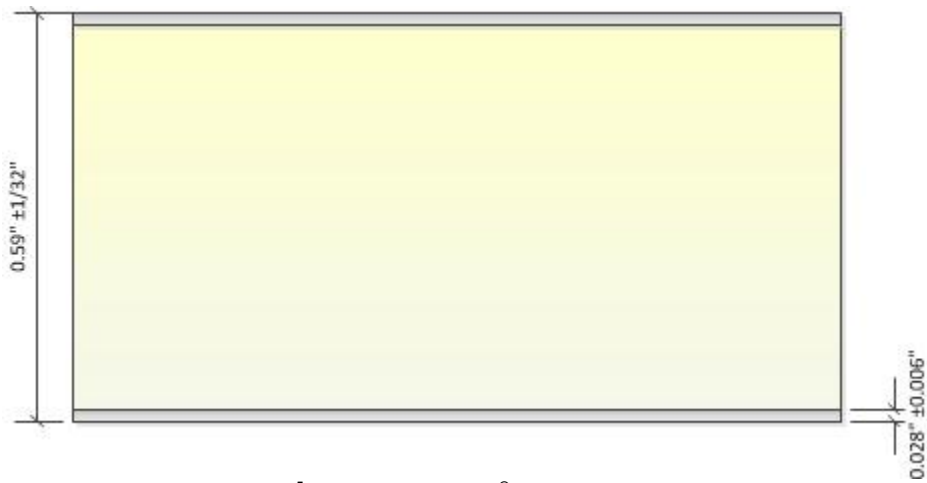


FIGURE 3— $5/8$ -INCH GOBOARD® THICKNESS DIMENSIONS

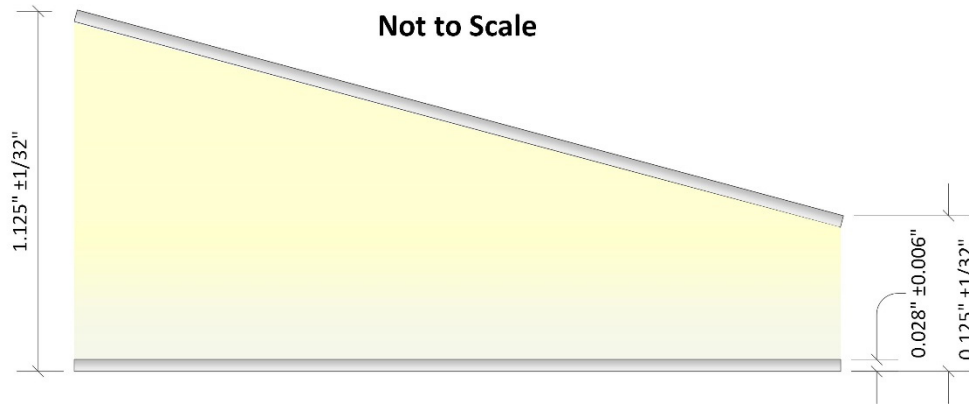


FIGURE 4—GOBOARD® WEDGE THICKNESS DIMENSIONS

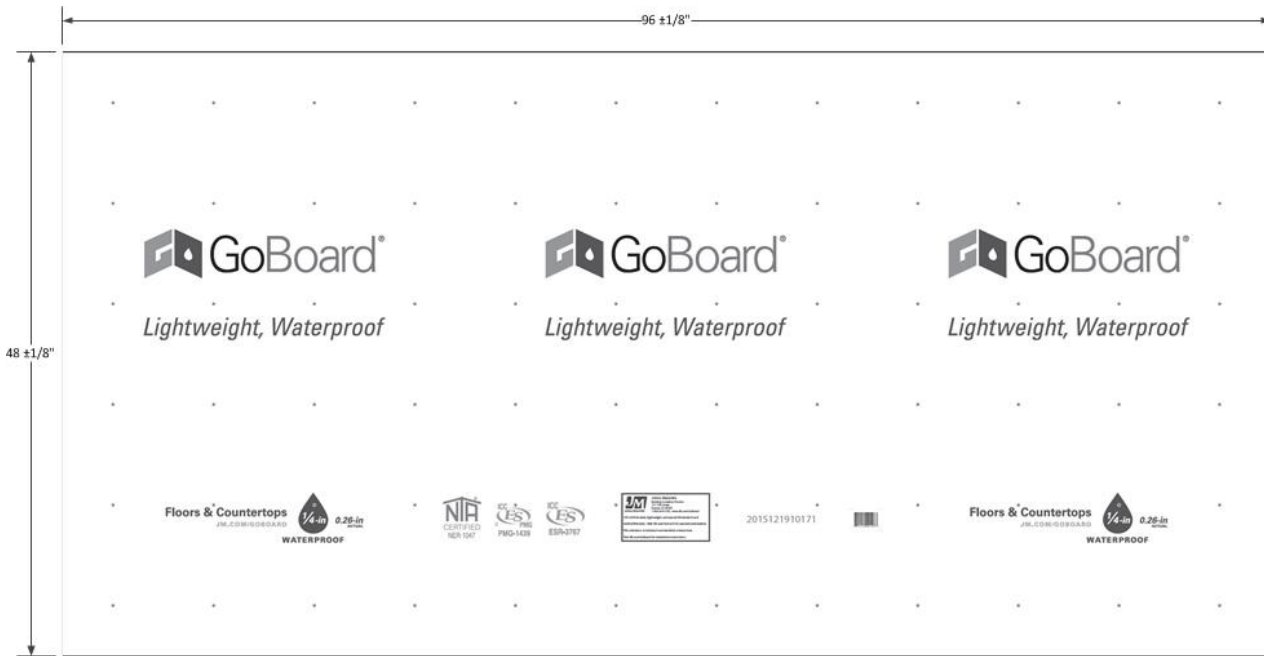
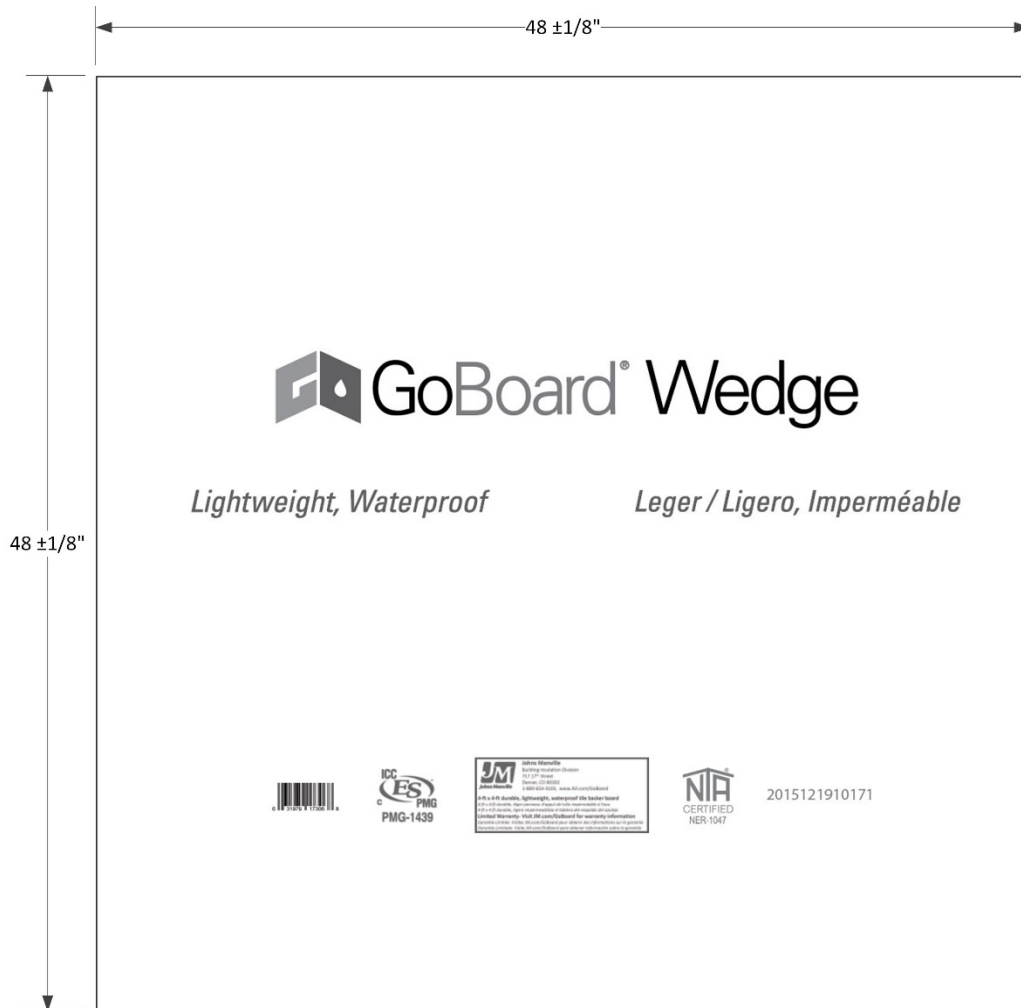


FIGURE 5—GOBOARD® 48-INCH X 96-INCH SHEET DIMENSIONS  
 (1/4-INCH GOBOARD® IS SHOWN AS AN EXAMPLE; DIMENSIONS ARE THE SAME FOR ALL THREE THICKNESSES)



FIGURE 6—GOBOARD® 36-INCH X 60-INCH SHEET DIMENSIONS  
 (1/2-INCH GOBOARD® IS SHOWN AS AN EXAMPLE; DIMENSIONS ARE THE SAME FOR 1/4-INCH AND 1/2-INCH)





**FIGURE 7—GOBOARD® WEDGE 48-INCH X 48-INCH SHEET DIMENSIONS  
(ALSO AVAILABLE IN 48-INCH X 96-INCH SHEETS)**