ICC-ES Evaluation Report

ESR-4812

Reissued May 2025

This report also contains:

- **CA Supplement**

Subject to renewal May 2026

DIVISION: 09 00 00—FINISHES Section: 09 30 00—Tiling	REPORT HOLDER: JOHNS MANVILLE	EVALUATION SUBJECT: 1/2-IN. GOBOARD® PRO COMPOSITE BACKER BOARD	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015 and 2012 *International Building Code*® (IBC)
- 2021, 2018, 2015 and 2012 *International Residential Code*® (IRC)

Properties evaluated:

- Physical Characteristics
- Surface Burning Characteristics
- Waterproofness

2.0 USES

2.1 General:

GoBoard® *Pro* composite backer boards may be used 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.

2.2 Waterproof Membrane:

GoBoard® *Pro* 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.

3.0 DESCRIPTION

3.1 General:

GoBoard® *Pro* backer board, as shown in Figure 1, is a 1/2-inch (12.7 mm) thick composite backer board.

GoBoard® *Pro* composite backer board is considered a Class A material with a flame-spread index of 25 or less and a smoke-developed index of 450 or less.

3.2 Material:

GoBoard® *Pro* composite backer board has a polyisocyanurate foam core laminated with a fiber glass scrim reinforcing a non-woven polyester facer on each face.

3.3 Physical Properties:

GoBoard® *Pro* composite backer board meets the physical and performance properties shown in Table 4. Thermal properties reported in Table 4 reflect the performance in the nominal material thicknesses.

3.4 Dimensions and Tolerances:

GoBoard® Pro composite backer boards are available in a nominal thickness of ½ inch (12.7 mm) with nominal width up to 48 inches (1219 mm) and length up to 96 inches (2438 mm). The tolerance on the width and length is square to within 1/8-inch and the tolerance on thickness is 1/32-inch (1.6 mm).

4.0 DESIGN AND INSTALLATION

4.1 Design:

The scope of this report is limited to evaluation of *GoBoard® Pro* composite backer board as a tile backer board and waterproof membrane. 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® Pro* composite backer board shall be fabricated, identified and installed in accordance with this report, the approved construction documents, the manufacturer's published installation instructions, and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report shall govern. The manufacturer's published installation instructions shall be available at all times on the jobsite during installation.

4.2.2 Fasteners: *GoBoard® Pro* composite backer boards shall be installed with #9-18 x $1^1/_4$-inch-long (32 mm) *GoBoard®* Hi-Lo Wood Screws, #7 x $1^5/_8$-inch-long (41.3 mm) *GoBoard®* Hi-Lo Wood Screws for wood with $1^1/_4$-inch-diameter (32 mm) washers, or 1-inch x $1^1/_2$-inch (25.4 mm x 38 mm) 16 Ga. Galvanized staples. Fastener maximum spacings are indicated in Tables 1 and 2.

4.2.3 Joints: A $^1/_8$-inch (3.2 mm) gap is to be provided between *GoBoard® Pro* composite backer board edges at all joints.

4.2.4 Waterproof Barrier Construction: The following construction shall be used for *GoBoard® Pro* composite backer boards when used in interior wet areas such as showers and baths. The composite backer boards shall be laid out with a $^1/_8$-inch (3.2 mm) gap provided at all board joints. The gap shall be filled with Johns Manville *GoBoard®* Sealant or *GoBoard® 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 Pro®* composite backer board. The same sealant shall be used to cover a 2-inch (50.8 mm) diameter area over all fastener heads.

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

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

4.2.7 Floors: *GoBoard® Pro* composite backer boards may be installed as a backer for tile flooring. The backer boards must be fully supported by minimum $^{19}/_{32}$-inch-thick (15.1 mm) PS-1, Exposure 1 plywood with joists spaced a maximum of 16 inches (406 mm) on center. The backer boards shall be installed on a level subfloor with thin-set mortars complying with ANSI A118.1. A tiled floor assembly using *GoBoard® Pro* 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*. Joints shall be installed in accordance with either of the following procedures:

4.2.7.1 For Waterproof Barrier Construction, the composite backer boards shall be laid out with a 1/8-inch (3.2 mm) gap provided at all board joints. The gap shall be filled with Johns Manville *GoBoard®* Pro Sealant. The sealant shall be spread over a 1½-inch (38 mm) width adjacent to the seam on each piece of *GoBoard Pro®* composite backer board. *GoBoard® Seam Fabric* shall be immediately applied over the sealant using a clean putty knife. The same sealant shall be used to cover a 2-inch (50.8 mm) diameter area over all fastener heads.

4.2.7.2 If waterproofing is not required, the composite backer boards may be laid out with a $^1/_8$-inch (3.2 mm) gap provided at all joints. The gap may 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 ensuring that the tape is fully covered.

4.2.8 Thermal Barrier: *GoBoard® Pro* composite backer boards covered with tiles and installed in accordance with this report do not require a thermal barrier installed over the tiled surface of a floor, ceiling, or wall assembly.

5.0 CONDITIONS OF USE:

The *GoBoard® Pro* composite backer board described in this report complies with, or is 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 *GoBoard® Pro* composite backer board is evaluated for use on interior applications as described in this report.

5.2 When installed in accordance with this report, *GoBoard® Pro* composite backer board will support loads as described in Tables 1 through 3.

5.3 *GoBoard® Pro* composite backer board shall be considered a combustible building element when assessing construction type in accordance with IBC Chapter 6.

5.4 Use of *GoBoard® Pro* composite backer board as part of fire-resistance rated assemblies has not been evaluated and is outside the scope of this report.

5.5 Refer to Table 2 for the maximum veneer load *GoBoard® Pro* composite backer boards can support for the intended application.

5.6 *GoBoard® Pro* composite backer board installed on floors must be applied over a span rated subfloor.

5.7 *GoBoard® Pro* composite backer board shall not be located within 8 inches (203.2 mm) of exposed earth.

5.8 *GoBoard®* Pro composite backer board is manufactured in Cornwall, Ontario under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Report of tests in accordance with applicable sections of ANSI A118.1, and ANSI A118.10.

6.2 Report of tests in accordance with ASTM C297.

6.3 Report of tests in accordance with ASTM C518.

6.4 Report of tests in accordance with ASTM C627.

6.5 Report of tests in accordance with ASTM C666.

6.6 Report of tests in accordance with ASTM C947.

6.7 Report of tests in accordance with ASTM D751.

6.8 Report of tests in accordance with ASTM D1037.

6.9 Report of tests in accordance with ASTM D1204.

6.10 Report of tests in accordance with ASTM D2394.

6.11 Report of tests in accordance with ASTM D4068.

6.12 Report of tests in accordance with ASTM E84.

6.13 Report of tests in accordance with ASTM E96.

6.14 Report of tests in accordance with ASTM E330.

6.15 Report of tests in accordance with NFPA 286.

7.0 IDENTIFICATION

7.1 *GoBoard® Pro* composite backer boards are identified with the following information:

7.1.1 The ICC-ES Evaluation Report number (ESR-4812).

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
(800) 654-3103
www.jm.com

TABLE 1—TRANSVERSE LOAD PERFORMANCE

DESCRIPTION OF FRAMING	FASTENER	FASTENER SPACING (edge/field)	IN-USE LOAD DIRECTION	ALLOWABLE LOAD[1,2] (psf)	LOAD AT L/240[2] (psf)
2x4 Stud Grade SPF spaced 16" on center	#9-18 x 1 1/4" *GoBoard*® Hi-Lo Wood Screws	12"/12" spacing with 3/8" edge distance	Negative	33	25
			Positive	34	24
	#7 x 1⅝" *GoBoard*® Hi-Lo Wood Screws with 1 1/4-diameter washers	12"/12" spacing with 3/8" edge distance	Negative	38	27
			Positive	31	22
	1-in. x 1-1-1/2" 16 Ga. Galvanized Staples	12"/12" spacing with 3/8" edge distance	Negative	36	27
			Positive	31	21

For **SI:** 1 inch = 25.4 mm; 1 foot = 304.8 mm; 1 psf = 0.0479 kPa.
[1] Allowable load based on a safety factor of 3.
[2] The wall framing shall be designed in accordance with the ANSI/AWC National Design Specification for Wood Construction 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

APPLICATION	FASTENER	ALLOWABLE WEIGHT (psf)		
		6" on center fasteners 16" on center studs	8" on center fasteners 16" on center studs	12" on center fasteners 16" on center studs
Ceiling[1]	1"x 1 1/2" 16 Ga. galvanized staples	26	20	—
	#9-18 x 1 1/4" *GoBoard*® Hi-Lo Wood Screws	48	36	—
	#7 x 1 5/8" *GoBoard*® Hi-Lo Wood Screws with 1 1/4" diameter washers	90	68	45
Wall[2]	1"x 1 1/2" 16 Ga. galvanized staples	49	37	—
	#9-18 x 1 1/4" *GoBoard*® Hi-Lo Wood Screws	49	36	—
	#7 x 1 5/8" *GoBoard*® Hi-Lo Wood Screws with 1 1/4" diameter washers	135	101	68

For **SI:** 1 inch = 25.4 mm; 1 foot = 304.8 mm; 1 psf = 0.0479 kPa.
[1]Allowable load is based on a safety factor of 5.
[2]Allowable load is based on a safety factor of 3.

TABLE 3—FASTENER HEAD PULL THROUGH VALUES

FASTENER	FASTENER PULL THROUGH STRENGTH (lbs)	
	Wet	Dry
1"x 1 1/2" 16 Ga. galvanized staples	94	88
#9-18 x 1 1/4" *GoBoard*® Hi-Lo Wood Screws	164	160
#7 x 1 5/8" *GoBoard*® Hi-Lo Wood Screws with 1 1/4" diameter washers	322	301

For **SI:** 1 inch = 25.4 mm; 1 lb = 4.45 N.
[1] Values shown are ultimate loads based on testing in accordance with ASTM D1037 Section 15. No safety factor has been applied.

TABLE 4—PERFORMANCE VALUES

PROPERTY	PERFORMANCE VALUE(S)		
ASTM C947, Average Flexural Strength (4” Wide Specimen on 10” Span)		Yield Strength (psi)	Break Strength (psi)
	Dry:	859	964
	Wet:	616	697
Average ANSI A118.10 Shear Bond Strength (7 days dry conditioning)	Greater than or equal to 50 psi		
Average ANSI A118.10 Shear Bond Strength (7 days dry plus 7 days water-soaked conditioning)	Greater than or equal to 50 psi		
Average ANSI A118.10 Shear Bond Strength (28 days dry conditioning)	Greater than or equal to 50 psi		
Average ANSI A118.10 Shear Bond Strength (84 days dry conditioning)	Greater than or equal to 50 psi		
Average ANSI A118.10 Shear Bond Strength (7 days dry plus 100 days water-soaked conditioning)	Greater than or equal to 50 psi		
ASTM C666, Procedure B, 25 Cycles of Freezing and Thawing	No defects observed		
ASTM G21: Resistance to Fungi	Rating: 1		
ANSI A118.10 Section 4.1: Fungus and Micro-organism Resistance	No Growth		
ASTM G22: Resistance to Bacteria	No Growth		
ASTM D2394 Concentrated Load, Average Compressive Stress at 0.05” Deformation	336 psi		
ASTM D1037, Section 21: Falling Ball, Average Drop Height Producing Failure	>39 in.		
ASTM E84: Surface Burning Characteristics	Class A Material		
ASTM C627, Robinson Floor Test on Tile Installation System	Light Commercial		
ASTM C518, Thermal Transmission Properties	Thermal Resistance of 2.15 $hr \cdot ft^2 \cdot °F/BTU$ @75°F		
ASTM E96 Water Vapor Permeability as Modified by TCNA Handbook	0.30 Perms (Procedure E Desiccant Method at 100±1.8°F, 90±2%RH)		
ASTM D1037, Section 24, Average Linear Variation Due to Moisture	0.14%		
ANSI A118.10 Section 4.4 (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		
2021 and 2018 IBC Section 803.14 (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		
ANSI A118.10 Section 4.5 (ASTM D4068), Hydrostatic Pressure Test	Pass		
ANSI A118.10 Sections 4.2 and 4.3 (ASTM D751), Average Strength Test Values	Breaking Strength: Greater than 170 psi Seam Strength: Greater than 8 lbf/in		

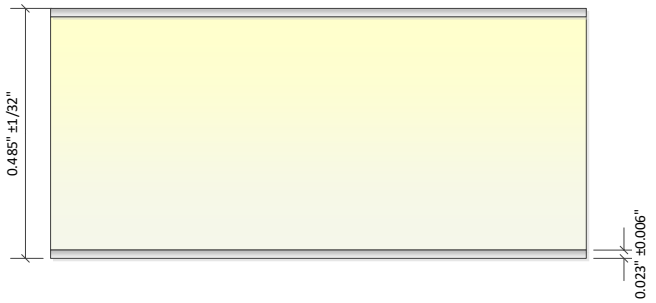

FIGURE 1—1/2-INCH GOBOARD® PRO THICKNESS DIMENSIONS

ICC-ES Evaluation Report

ESR-4812 CA Supplement

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This report is subject to renewal May 2026.

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DIVISION: 09 00 00—FINISHES
Section: 09 30 00—Tiling

REPORT HOLDER:

JOHNS MANVILLE

EVALUATION SUBJECT:

1/2-IN. GOBOARD® PRO COMPOSITE BACKER BOARD

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that 1/2-in. GoBoard® Pro composite back boards, described in ICC-ES evaluation report ESR-4812, have also been evaluated for compliance with the codes noted below.

Applicable code edition*(s)*:

- *2022 California Building Code* (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- *2022 California Residential Code* (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The 1/2-in. GoBoard® Pro composite back boards, described in Sections 2.0 through 7.0 of the evaluation report ESR-4812, comply with CBC Chapter 6, 8, and 14, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 6, 8, and 14, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The 1/2-in. GoBoard® Pro composite back boards, described in Sections 2.0 through 7.0 of the evaluation report ESR-4812, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapter 7, as applicable.

This supplement expires concurrently with the evaluation report, reissued May 2025.