Code Compliance Research Report
CCRR-0377

Issue Date: 07-17-2020
Revision Date: 07-30-2025
Renewal Date: 07-31-2026

DIVISION: 09 00 00 – FINISHES
Section: 09 29 00 – Gypsum Board

REPORT HOLDER:
Georgia-Pacific Gypsum LLC
2861 Miller Road
Decatur, Georgia 30035
(770) 987-5190
www.gp.com

REPORT SUBJECT:
DensGlass® Sheathing: 5/8 inch DensGlass® FireGuard® Sheathing and 1/2 inch DensGlass® Sheathing

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021, 2018 *International Building Code®* (IBC)
- 2024, 2021, 2018 *International Residential Code®* (IRC)
- 2023, 2020 *Florida Building Code* (FBC) (excluding High Velocity Hurricane Zones) (See Section 9)

Note: This report references the most recent version of the Code versions noted. Section numbers for earlier versions may differ.

1.2 The DensGlass Sheathing products recognized in this report have been evaluated for the following properties:

- Physical properties
- Noncombustible building material
- Surface burning characteristics
- Wind resistance

1.3 The DensGlass® Sheathing products recognized in this report have been evaluated for the following uses:

- Exterior sheathing and soffit applications
- Fire-resistance-rated construction
- Use as a substrate in direct-applied exterior finish systems

2.0 STATEMENT OF COMPLIANCE

DensGlass® FireGuard® Sheathing and DensGlass® Sheathing 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 6.0.

2.1 2024 IBC and IRC Evaluation Reports:

The Intertek CCRR is an *Evaluation Report* for approval of an alternate material, design, or method of construction in accordance with Section 104.2.3.6.1 of the 2024 IBC and Section R104.2.2.6.1 of the 2024 IRC.

3.0 DESCRIPTION

DensGlass® FireGuard® Sheathing and DensGlass® Sheathing are water-resistant-core gypsum panels complying with ASTM C1177, which is referenced in IBC Table 2506.2 and IRC Section R702.3.1.

DensGlass® FireGuard® Sheathing is 5/8 inch thick and complies with ASTM C1177 as a Type X gypsum board. The panels are supplied in 48-inch widths and lengths up to 16 feet and have square edges.

DensGlass® Sheathing is 1/2 inch thick and is supplied in panels 48 inches wide and lengths up to 16 feet and have square edges.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Surface Burning Characteristics:

The sheathing panels are Class A interior finish materials complying with IBC Section 803.1 and IRC Section R302.9, based on testing in accordance with ASTM E84.

4.2 Noncombustibility:

The sheathing panels are considered noncombustible building materials in accordance with IBC Section 703.3, based on testing in accordance with ASTM E136.

4.3 Wind Resistance:

The sheathing panels have wind resistance ratings noted in Section 5.3 and in Table 2.

4.4 Air Barrier Material:

The sheathing panels are considered air barrier materials complying with the 2021 IECC Section C402.5.1.3, Item 7.

5.0 INSTALLATION

5.1 General:

DensGlass® FireGuard® Sheathing and DensGlass® Sheathing must be installed in accordance with the manufacturer's installation instructions and this research report. Under the IBC, installation must comply with ASTM C1280 and GA-253 (Application of Gypsum Sheathing). Under the IRC, installation must comply with Section R702.3.5.

On exterior walls and soffits, the sheathing must be covered with an approved water-resistive barrier and an approved exterior wall covering. The sheathing must not be used as a nailing base, and any mechanical attachments of exterior coverings must be made directly to the structural wall. Sheathing fasteners must be flush with the panel surface without countersinking or being deep enough to break the glass mat facer.

The manufacturer's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation.

5.2 Shear Resistance:

Wood-frame shear walls sheathed with the DensGlass® sheathing panels shall be designed and constructed in accordance with IBC Section 2306.3 and are permitted to resist wind and seismic loads. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7.

The sheathing panels may be used in conventional light-framed wood walls in accordance with IBC Section 2308.9.The sheathing panels may be used as bracing to resist lateral loads due to wind and seismic forces when installed in accordance with Method GB described in IBC Table 2308.10.3(1) or IRC Section R602.10.4.

Cold-formed steel-frame shear walls sheathed with the DensGlass® sheathing panels and constructed in accordance with the materials and provisions of Section 2206.1.1 are permitted to resist wind and seismic loads. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7.

The DensGlass® Sheathing panels may be used as a component of engineered shear walls when designed in accordance with IBC Sections 2305 and 2306 for wood framed walls, or Section 2206 for light-gage steel-framed walls.

5.3 Wind Resistance:

The sheathing panels may be used to resist transverse wind loads as permitted by the applicable Code for gypsum sheathing.

Allowable wind loads for specific assemblies are described in Table 2. Allowable wind loads are applicable to wind design pressure derived from allowable stress design wind speed (V_{asd}) per IBC Section 1609.3.1.

5.4 Fire-resistance-rated Wall Assemblies:

5.4.1 One-hour Load-bearing Wood-framed Wall:

DensGlass® FireGuard® Sheathing must be installed vertically to both faces of 2 by 4 wood framing spaced maximum 16 inches on-center. The wall must be bridged every 5 feet, maximum. Joints in the sheathing must be staggered 16 inches from the opposite face. The sheathing panels must be attached using 1-3/4-inch-long galvanized nails having 7/16-inch-diameter heads and 0.128-inch-diameter shanks, spaced 8 inches on-center at edges and intermediate studs. Allowable bearing loads must not exceed 2,030 pounds per stud, 78 percent of the allowable F'_c, or 78 percent of the calculated stress with studs having a slenderness ratio, l_e/d, of 33, whichever is less.

5.4.2 One-hour Non-loadbearing Steel-framed Wall:
DensGlass® FireGuard® Sheathing may be installed vertically or horizontally to both faces of minimum No.

25 gage (0.018 in.) galvanized steel C-studs, minimum 3-5/8-inch-deep, spaced maximum 24 inches on-center. The wall must be bridged every 5 feet, maximum. Joints in the sheathing must be staggered from the opposite face. The sheathing panels must be attached using 1 inch long, Type S bugle-head screws, spaced 8 inches on-center at edges and intermediate studs. Nail heads and joints in the sheathing board must be treated in accordance with ASTM C1280 or GA-253.

5.4.3 Other Fire-resistance-rated Construction:

One layer of DensGlass® FireGuard® Sheathing may be substituted for the gypsum sheathing specified for exterior faces of Assembly Nos. 15-1.1, 15-1.5, and 15-1.6 of IBC Table 721.1(2).

5.5 Direct-applied Exterior Finish Systems:

DensGlass® FireGuard® Sheathing may be used as a substrate for direct-applied exterior finish systems that have a current evaluation report in which the board is specifically named. Installation of the system is limited to areas where the average of the daily lows for any month is at least 30°F. Allowable negative transverse loads recognized in the evaluation report for the direct-applied exterior finish system shall be derived from values that have been reduced 14 percent or substantiated by transverse load tests following specimen conditioning per Footnote 2 of Table 1 of ICC-ES AC59.

6.0 CONDITIONS OF USE

6.1 The products must be manufactured, identified, and installed in accordance with this report, the manufacturer's published installation instructions, and the applicable Code. If there is a conflict between the manufacturer's published installation instructions and this report, this report governs.
6.2 Shear walls using the sheathing must not be used to resist forces imposed by masonry and/or concrete walls.

6.3 The sheathing is manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 EVIDENCE SUBMITTED

7.1 Reports of tests in accordance with ASTM C1177, ASTM E84, ASTM E119, ASTM E136, and ASTM E330.

7.2 Reports of tests in accordance with the ICC-ES Acceptance Criteria for Direct-applied Exterior Finish Systems (DEFS) (AC59), dated June 2010 (editorially revised November 2015).

7.3 Quality documentation.

8.0 IDENTIFICATION

Each DensGlass® FireGuard® Sheathing and the DensGlass® Sheathing board is identified with the name of the manufacturer (Georgia-Pacific Gypsum LLC), a plant identifier and date code, the product name, the board thickness, and the Code Compliance Research Report number (CCRR-0377).

9.0 OTHER CODES

9.1 Florida Building Code:

The DensGlass® FireGuard® Sheathing and DensGlass® Sheathing described in Sections 2.0 through 7.0 of this report comply with the *Florida Building Code – Building* and the *Florida Building Code – Residential,* for the editions indicated in Section 1.1 of this report, excluding High-velocity Hurricane Zones (HVHZ).

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – *Product Evaluation and Approval.*

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.

TABLE 1 – PROPERTIES EVALUATED

Property	APPLICABLE CODE SECTIONS[1]			
	IBC	IRC	FBC – Building	FBC – Residential
Physical properties	2506.2	R702.3.1	2506.2	R702.3.1
Noncombustible Material	703.3	NA	703.5	NA
Surface burning characteristics	803.1	R302.9	803.1	R302.9
Wind resistance	1609	R702.3.5	1609	R702.3.5
Shear resistance	2505, 2306.3, 2308.10.3	R602.10.4	2505, 2306.3	NA
Fire-resistance	703	R302	703	R302

[1]Section Numbers pertain to the most recent edition cited in Section 1.1 of this Report.

TABLE 2 - ALLOWABLE WIND PRESSURES FOR WALLS WITH NO. 18 GAGE (43 MIL) GALVANIZED STEEL FRAMING

Framing Spacing (in.)	Sheathing	Fasteners and Spacing (in.)	Allowable Wind Load (psf)
24	5/8 in. DensGlass, applied vertically or horizontally	1 in., S-12, #6 bugle-head screws at 8 in. oc	23
16	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in. #6 bugle-head screws at 8 in. oc	44
16	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in., #6 bugle-head screws at 6 in. oc	59
16	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in. #6 bugle-head screws at 4 in. oc	66
12	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in. #6 bugle-head screws at 8 in. oc	55
12	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in., #6 bugle-head screws at 6 in. oc	55
12	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in. #6 bugle-head screws at 4 in. oc	79
8	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in. #6 bugle-head screws at 8 in. oc	76
8	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in., #6 bugle-head screws at 6 in. oc	65
8	5/8 in. DensGlass, applied vertically or horizontally	1-1/4 in. #6 bugle-head screws at 4 in. oc	106
16	1/2 in. DensGlass, applied vertically or horizontally	1 in., S-12, #6 bugle-head screws at 8 in. oc	18