

GP G-P Gypsum
a Georgia-Pacific company

DensGlass Silver™ Structural Wall Sheathing



G-P Gypsum — Your Complete Resource for Innovative Gypsum Products

Product Overview

When tested, as manufactured, in accordance with ASTM D 3273, DensGlass Silver™ sheathing scored a 10, the highest level of performance for mold resistance under the ASTM D 3273 test method.

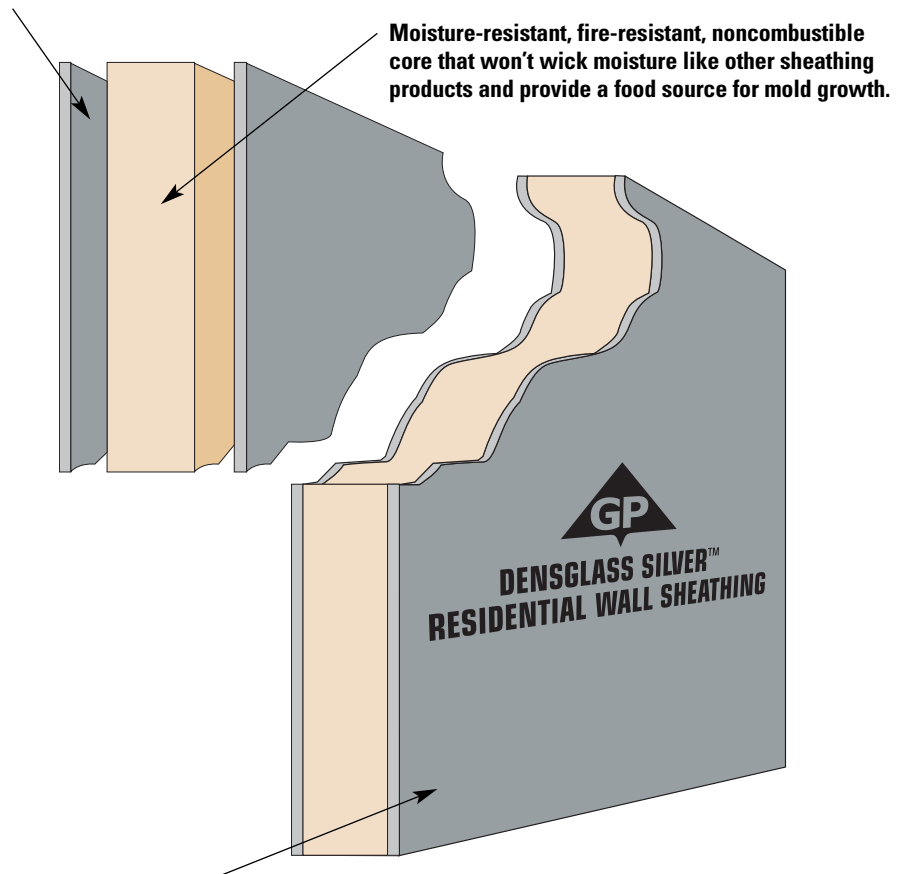
The score of 10, in the ASTM D 3273 test, indicates no mold growth in a 4-week controlled laboratory test. The mold resistance of any building product when used in actual job site conditions may not produce the same results as were achieved in the controlled, laboratory setting. No material can be considered mold proof. When properly used with good design, handling and construction practices, DensGuard® products provide increased mold resistance compared to standard paper faced wallboard.

DensGlass Silver™ residential structural wall sheathing incorporates the proven glass mat Dens Technology™ with a moisture-resistant core to produce a residential exterior sheathing that:

- Meets requirements of ASTM C 1177 and applicable sections of ASTM C 79. Recognized in the 2003 International Residential Code for one- and two-family dwellings.
- Provides a fire thermal barrier between the siding and the framing.
- Provides mold resistance. Tested, as manufactured, per ASTM D 3273.
- Provides moisture resistance. 90-day in-place exposure warranty.
- Provides product stability. No warping, rippling or buckling.
- Is noncombustible. Superior fire resistance compared to traditional wood, wood fiberboard or foam core sheathing.
- Has a three-year limited warranty against manufacturing defects.

A NAHB study reveals that moisture from wet materials arriving on the job site and moisture from materials getting wet during construction are the leading causes of moisture related problems such as mold in the home. DensGlass Silver sheathing, as well as the other DensGuard® products, can't stop the moisture but can assist in keeping a moisture problem from becoming a mold problem by using glass mats that remove a food source for mold growth.

Glass mat on back of DensGlass Silver sheathing provides moisture and mold resistance for the wall cavity where moisture and mold problems can go undetected.



Silver colored coated fiberglass mat provides moisture resistance for added durability to the home. DensGlass Silver sheathing comes with a 90-day exposure warranty.

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Physical Properties

Properties	DensGlass Silver™ Sheathing
Thickness, Nominal Inches	1/2" (12.7mm)
Width, Nominal	4' (1220mm)
Length, Standard	8' – 9' (2440mm – 2745mm)
Weight/lbs./ea. panel	61 lbs. for 8'
Bending Radius	6'
Surfacing	Glass mats on face and back
"R" Value ²	.47
Flame Spread/Smoke Developed ³	15/5
Combustibility ⁴ Core	Noncombustible
Linear Expansion with Change Moisture in/in/% RH	6.25 x 10 ⁻⁶
Coefficient of Thermal Expansion in/in/°F	8.5 x 10 ⁻⁶
Resists Growth of Mold ⁵	Yes
Handling Characteristics (easy to score, cut, snap)	Cuts with utility knife. No special tools required.
Fasteners	Nails, screws, staples
Water Absorption ¹	<10%
Water Vapor Transmission ⁶	10 perms min.

1. Per ASTM C 473, Method A

2. Tested per ASTM C 518

3. Tested per ASTM E 84, ULC S102

4. Tested per ASTM E 136

5. Tested, as manufactured, per ASTM D 3273

6. Tested per ASTM E 96

(dry cup method)

Building Code Recognitions

DensGlass Silver sheathing complies with ASTM C 1177 and applicable sections of ASTM C 79 for gypsum sheathing. Gypsum sheathing has been recognized in the model building codes as an acceptable wall bracing material for many years. Its presence in the codes precludes the need for a specific evaluation report.

2003 International Residential Code:

1/2" gypsum sheathing referenced in Section R602.10.3 Method 5, Table R602.3(1) and Table R602.10.1. ASTM C 1177 and C 79 are referenced in Section R702.3.

2003 International Building Code:

1/2" gypsum sheathing referenced in Section 2304.6, Table 2304.6 and in Conventional frame construction: Section 2308.9.3 Method 5 and Table 2308.9.3(1). ASTM C 1177 and C 79 are referenced in Table 2506.2.

2000 International Residential Code:

1/2" gypsum sheathing referenced in Section R602.10.3 Method 5 and Table R602.10.3. ASTM C 1177 and C 79 are referenced in Section R702.3.

2000 International Building Code:

1/2" gypsum sheathing referenced in Conventional light frame construction: Section 2308.9.3 Method 5 and Table 2308.9.3(1). ASTM C 1177 and C 79 are referenced in Table 2506.2.

1999 BOCA National Building Code:

1/2" gypsum sheathing referenced in Wood frame construction: Section 2305.8.1 and Table 2305.13. ASTM C 1177 and C 79 are referenced in Table 2503.2.

1997 ICBO Uniform Building Code:

1/2" gypsum sheathing referenced in Conventional light frame construction: Section 2320.11.3 Method 5 and Table 23-IV-C-1. ASTM C 79 is referenced in section 2502.

1999 SBCCI Standard Building Code:

Light frame construction: Section 2308.2.2, Table 2308.2.2A and Table 2308.2.2B. ASTM C 1177 and C 79 are referenced in Table 2503.

Installation Instructions

Installing DensGlass Silver™ Sheathing to Wood Framing

1. DensGlass Silver sheathing can be installed vertically with the long edges parallel to the studs, or horizontally with the long edges perpendicular to the studs. Vertical joints should be centered on framing members with edges butted together. DensGlass Silver sheathing should extend from sill to top plate. Back horizontal joints when vertically applied with framing for proper fastening. Fasten DensGlass Silver sheathing so silver side faces out.
2. When shear values are not required, DensGlass Silver sheathing should be fastened to wall framing so fastener spacing does not exceed 8" o.c. between fasteners for nails and screws and not greater than 6" with staples. Fastening to be in accordance with GA 253 and ASTM C 1280.
3. For shear resistance, apply panels vertically. Use fasteners and fastener spacing as listed in IRC section R602.10.3, method 5 or use the chart for desired shear value. When the prescriptive bracing requirements (Method 5) of the International Residential Code are used, the fastener spacing is 7" o.c.
4. Fasteners should be driven flush with the panel surface (do not countersink). DensGlass Silver sheathing is not to be used as a base for nailing or mechanical fastening. Always follow your local building code for bracing requirements.

This drawing is for illustration purposes only. Fasten panel 3" or 4" o.c. on perimeter and 6" o.c. in field of the panel. For shear values, see the chart below.

Fasteners

1-1/4"

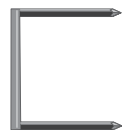


Bugle head fine thread, rust-resistant, coarse thread sharp point screw (Type W)

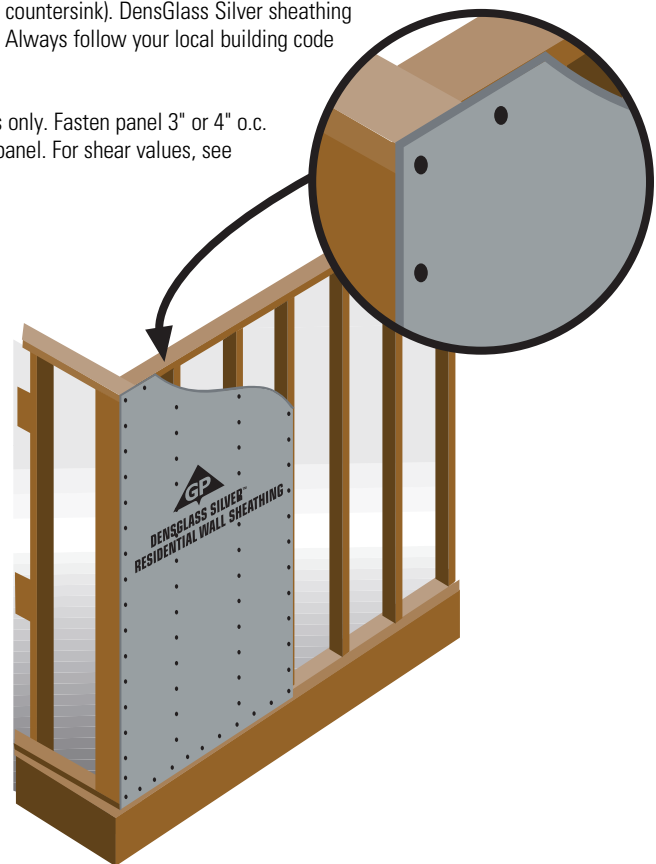
1-1/2"



Hot dip 11-gauge, galvanized 7/16" head nail or equivalent



7/16" crown, 1-1/4" leg 16-gauge galvanized or 1" crown, 1-1/4" leg 16-gauge galvanized



Shear Values and Comparisons

	Perimeter Fastening ¹	Lbs/Lineal ft. ²	
		1-1/2" roofing nail	7/16" crown staple
1/2" DensGlass Silver Sheathing	3" o.c.	235	210
	4" o.c.	180	160
FiberBrace®	3" o.c.	230	200
	4" o.c.	170	150
Thermo-ply® Structural Grade Red	3" o.c.	n/a	125 ³
	4" o.c.	n/a	n/a

1. 6" Fastener spacing in field of the panel 2. With 2.8 safety Factor 3. Value from ICC ER #2407

FiberBrace® is a registered trademark of Temple-Inland Inc.

Thermo-ply® is a registered trademark of Ludlow Corporation.

Installation Instructions

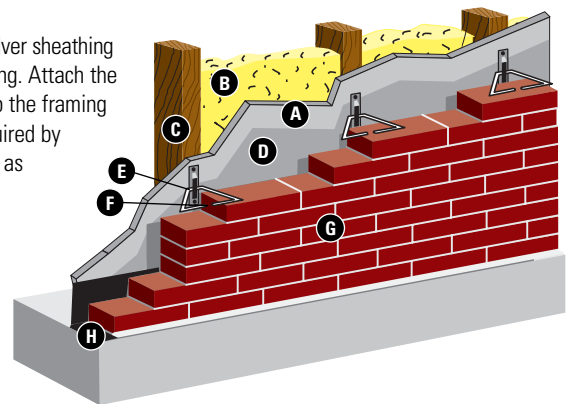
Installing Cladding over DensGlass Silver™ Sheathing

Most conventional exterior sidings and wall coverings — including wood, vinyl, composition, metal, stone, brick, wood shingles, shakes and plywood panels — may be applied over DensGlass Silver sheathing. Consult your local building codes for building wrap requirements.

- | | | |
|-------------------------------|----------------------------|----------------------------|
| A. DensGlass Silver Sheathing | G. Brick Veneer | M. Metal Siding |
| B. Insulation | H. Flashing and Weeps | N. Paper-Backed Metal Lath |
| C. Framing | I. Wood Shingles or Shakes | O. Conventional Stucco |
| D. Building Wrap | J. Plywood Siding | P. Minimum 1/4" Gap |
| E. Masonry Tie | K. Vinyl Siding | |
| F. 2" (50mm) Max. Air Space | L. Fiber Cement Siding | |

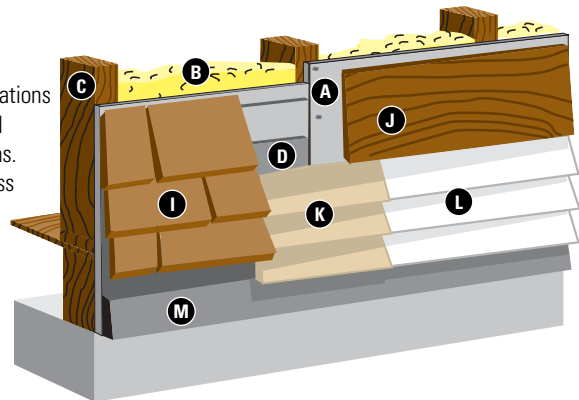
Brick Cavity Wall

Masonry veneer can be applied over DensGlass Silver sheathing just as it would be over any other type of sheathing. Attach the masonry ties securely through the panels and into the framing using an 8d (or larger) nail. Space the ties as required by masonry courses. Apply weather-resistant barrier as required by building code or design authority.



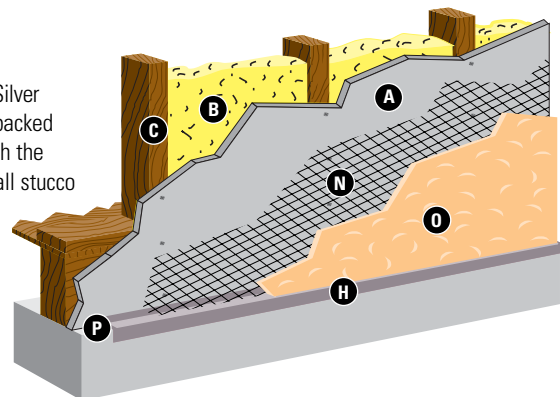
Shingles, Shakes, Vinyl, Metal, Wood, Fiber Cement Siding

DensGlass Silver sheathing can be used in applications such as under wood shakes or shingles, plywood panel siding or other horizontal siding applications. All siding must be attached through the DensGlass Silver sheathing and into the framing. Apply weather-resistant barrier as required by building code or design authority.



Conventional Stucco

Stucco systems may be applied over DensGlass Silver sheathing using paper-backed metal lath. Paper-backed metal lath must be mechanically attached through the DensGlass Silver sheathing into the framing. Install stucco system in accordance with the manufacturer's instructions, the Stucco Manufacturers Association guidelines and local building code requirements.



Illustrations not intended for design or specification purposes.

Fire Safety

Reduce Risk of House to House Fire

Fire safety, in addition to moisture and mold protection in the wall cavity, are reasons builders are choosing DensGlass Silver sheathing as their residential wall sheathing.

A NIST (National Institute of Standards and Technology) study reveals that in homes built 6 feet apart, using a fire resistive barrier on the exterior wall, such as 1/2" gypsum board, provides protection to the interior of a home exposed to fire from a neighboring home.*

DensGlass Silver sheathing is a paperless gypsum sheathing engineered to resist fire, moisture and mold. It consists of glass mats on the face and back of the panel with a moisture resistant gypsum core. The glass mats are not a food source for mold as other paperfaced wood or fiber faced sheathings are.

Dens Glass Silver sheathing:

- Is recognized in the International Residential Code, as gypsum sheathing, for one and two family dwellings.
- Is noncombustible and provides a fire barrier between the siding and the framing.
- Provides mold resistance protection for the wall cavity – tested, as manufactured, per ASTM D 3273.
- Provides moisture resistance – 90 day in-place exposure warranty.
- Has product stability – No warping, rippling or buckling.
- Has a three year limited warranty against manufacturing defects.



Houses built close together are more at risk of being damaged by fire from a neighboring home than homes in less urban or more rural subdivisions spaced further apart.

*November 2004, NIST Report, lab experiments simulate house to house fire spread.

Limitations

DensGlass Silver sheathing can be used as wall bracing as allowed by the building code. It is not a direct replacement for plywood or OSB.

DensGlass Silver sheathing is exceptionally resistant to weather, but it is not intended for immersion in water. Cascading roof/floor water should be directed away from the sheathing until appropriate drainage is installed. Openings and penetrations must be properly flashed and sealed. Failure to do so will void the warranty.

The use of forced air heaters creates volumes of water vapor which, when not properly vented, can condense on building materials. The use of these heaters and any resulting damage is not the responsibility of G-P Gypsum. Consult heater manufacturer for proper use and ventilation. Avoid any condition that will create moisture in the air and condensation on the exterior walls during periods when the exterior temperature is lower than the interior.

Do not laminate DensGlass Silver sheathing to masonry surfaces; use furring strips or framing spaced maximum 24" o.c.

Do not use DensGlass Silver sheathing for roof or floor applications. DensGlass Silver sheathing is not to be used as a base for nailing or mechanical fastening.

Do not apply DensGlass Silver sheathing below grade.

G-P Gypsum does not warrant and is not responsible or liable for the performance of the cladding or exterior systems applied over DensGlass Silver sheathing.

Do not use DensGlass Silver sheathing as a base for the Exterior Insulation and Finish System (EIFS). All product warranties will be null and void if it is used as a base for EIFS.

CAUTION: THIS PRODUCT CONTAINS CONTINUOUS FILAMENT FIBERGLASS

Fiber released during normal handling of this product can cause skin, eye and respiratory irritation. Avoid breathing dust and contact with skin and eyes. Follow these standard work practices:

- Wear long-sleeved, loose-fitting clothing, gloves and eye protection.
- Use a dust mask, such as a 3M Model N95 or equivalent.
- Wash exposed areas with soap and warm water after handling.
- Wash work clothes separately from other clothing; rinse washer thoroughly. Operations that generate high airborne fiber concentrations (over 10 fibers/cc) require additional respiratory protection.

DensGlass Gold® Exterior Sheathing is a patented, unique paperless sheathing panel engineered with a moisture-resistant treated core surfaced with glass mat facings and a gold-colored, bond-enhancing primer coating. DensGlass Gold sheathing was created to withstand normal weather and moisture exposure for up to 6 months. DensGlass Gold sheathing can be used in exterior insulated finish systems. DensGlass Gold sheathing resists the growth of mold when tested, as manufactured, per ASTM D 3273.

DensShield® Tile Backer is a patented, premium performance tile substrate. Its unique properties have provided a wealth of labor saving benefits while offering ultimate moisture protection for professional tile installations on interior floors, walls, ceilings and countertops. Its heat-cured gray acrylic coating serves as a built-in vapor barrier that protects both the tile installation and the wall cavity behind it.

DensDeck® Roof Board is a patented, nonstructural, glass-mat faced noncombustible, water-resistant treated gypsum core panel. It is approved by all leading roofing systems manufacturers for use in commercial roof assemblies and has received the highest performance rating for fire, wind uplift, strength and moisture resistance.

DensDeck Prime® Roof Board is a premium roof board that combines all the features of standard DensDeck roof board with an enhanced surface treatment. The nonstructural roof board is engineered with a proprietary, non-asphaltic coating to enhance bonding in commercial single-ply and built-up roofing systems.

DensGlass® Ultra Shaftliner™ features a patented, coated glass mat. Independent tests confirm that DensGlass Ultra Shaftliner, with its patented glass mat design, resists the growth of mold when tested, as manufactured, per ASTM D 3273.

DensDeck DuraGuard™ Roof Board has all the properties of DensDeck roof board. It has a low perm, integrated, durable coating that enhances bond strength of the membrane system without requiring field priming. Features a moisture-resistant, treated core and a coated glass mat on back side.

DensGlass Silver™ Residential Sheathing was designed with innovative Dens Technology™ and incorporates the proven glass mat DensGuard® Technology. A moisture-resistant core meets requirements of ASTM C 1177 and applicable sections of ASTM C 79.

DensArmor® Plus Wallboard Panel is an interior panel with a moisture-resistant, noncombustible gypsum core using coated glass mat facings on both front and back of the board. The glass mat facing finishes like paper faced wallboard. DensArmor Plus wallboard resists the growth of mold when tested, as manufactured, per ASTM D 3273 providing unparalleled protection from problems caused by moisture intrusion.

Updates and Current Information: www.gpgypsum.com

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Northeast: 1.800.947.4497

West: 1.800.824.7503

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Quebec: 1.800.361.0486

Technical Hotline:

1-800-225-6119 (M-F, 8-6 EST)

Literature Requests:

1-800-BUILD GP

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