



G-P Gypsum

DensGlass Gold[®]

Exterior Sheathing



**Mold
and Moisture
Resistant
PAPERLESS
SOLUTIONS**

Product Overview

When tested, as manufactured, in accordance with ASTM D 3273, DensGlass Gold exterior 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, products with Dens™ Technology provide increased mold resistance compared to standard paper faced wallboard.

Available Sizes/Dimensions

DensGlass Gold Exterior Sheathing is available in 1/2" thickness and DensGlass Gold Fireguard Type X Exterior Sheathing is available in 5/8" thickness. DensGlass Gold Exterior Sheathing panels are manufactured in a 4' width and 8', 9' and 10' lengths. Other lengths are available upon request.

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DensGlass Gold® exterior sheathing is the preferred substrate under brick, stone, stucco, EIFS and siding because of its exemplary track record. DensGlass Gold sheathing should be specified for any project where flexibility and easy sheathing installation are paramount without the headaches and expense of delamination, deterioration, sagging and warping.

Mold Resistance

Independent tests confirm that DensGlass Gold exterior sheathing, with its patented glass mat design, resists the growth of mold when tested, as manufactured, per ASTM D 3273.

Strength

Glass mats penetrate into the panel to make an integrated unit that offers superb strength; outstanding resistance to delamination, deterioration, warping and job site damage; and an excellent bonding surface for EIFS. The flexural strength of DensGlass Gold exterior sheathing is approximately the same in both directions. This means DensGlass Gold exterior sheathing can be installed either vertically or horizontally without sacrificing wall strength between studs. DensGlass Gold exterior sheathing also protects and helps stabilize structural framing.

Stability

DensGlass Gold sheathing is extremely resistant to rippling, buckling and sagging, even under humid conditions — which makes it particularly suitable for soffits. In actual tests, DensGlass Gold sheathing exceeded ASTM C 79 standards for humidified deflection by a factor of five times over the standard for paper-faced gypsum sheathing.

Fire Protection

DensGlass Gold sheathing is noncombustible (as tested per ASTM E 136), so it offers outstanding protection against fire. Tests of 5/8" DensGlass Gold Fireguard™ sheathing (conducted in accordance with ASTM E 119/CAN ULC S-101) qualify the product for a variety of UL listings and other designs in the GA-600 Fire-Resistance Design Manual.

Superior Weather Protection

DensGlass Gold exterior sheathing integrates a water-resistant, treated core with a glass mat face and back to provide superb protection from the elements. Panels will not delaminate or deteriorate due to weather — even during construction delays that last as long as six months after installation.

It is not required to provide a weather resistant barrier over DensGlass Gold exterior sheathing for the protection of the gypsum sheathing itself. Consult with the local building code, design professional, owner or cladding manufacturer for weather resistant barrier requirements. DensGlass Gold exterior sheathing is the ideal substrate for a wide variety of air, water and weather barriers including building wraps, liquid applied coatings and self-adhering membranes. See page 7 for details.

Easy to Handle

DensGlass Gold exterior sheathing is lightweight and easy to handle. It can be cut and fastened with standard drywall tools and fasteners. The product is much easier to work with than wood substrate, cement board or fiber cement sheathing.

Outstanding Warranty

DensGlass Gold exterior sheathing is warranted by G-P Gypsum for six-months from purchase date against delamination from weather exposure with a five-year limited warranty against manufacturing defects and a 10-year limited warranty when used as a substrate for architecturally specified Exterior Insulation and Finish Systems (EIFS). For a copy of the limited warranty, call 1-800-225-6119. Or visit our Web site at www.gpgypsum.com.

Patents

DensGlass Gold exterior sheathing is manufactured under one or more of the following U.S. patents: 4,647,496; 4,810,569; 4,879,173; 5,135,805; 5,148,645; 5,220,762; 5,319,900; 5,342,680; 5,371,989; 5,644,880; 5,704,179; 5,791,109; 5,718,785; 5,883,024; 6,770,354; 6,808,793. Other patents pending.

Standards and Code Compliance

DensGlass Gold exterior sheathing conforms to ASTM C 1177. Application standards where applicable are in accordance with Gypsum Association Publication GA-253 for gypsum sheathing or ASTM C 1280.

Evaluated by:

- ICC-ES Legacy Report 574
- CCMC-12064-R
- ICC-ES Legacy Report 4305
- N.Y. City MEA 244-88-M
- Los Angeles RR-25008

The data relating to fire- and sound-tested assemblies is based on the characteristics, properties and performance of materials and systems obtained under controlled test conditions as set forth under the appropriate ASTM standard, such as E 119 (fire), E 90 (sound) or E 72 (structural).

Physical Properties

Product Comparison	5/8" DensGlass Gold® Fireguard™	5/8" Gypsum Sheathing, Type X	1/2" DensGlass Gold® Exterior Sheathing	1/2" Regular Gypsum Sheathing	1/2" Gypsum Fiberboard	5/8" Gypsum Fiberboard
Width, Nominal	4'	4'	4'	4'	4'	4'
Length, Standard	8', 9' 10' ± 1/4"	8', 9' 10' ± 1/4"	8', 9' 10' ± 1/4"	8', 9' 10' ± 1/4"	8'	8' – 12'
Weight/lbs/MSF	2,500	2,200	1,900	1,850	2,200 approx.	3,000 approx.
Bending Radius	8' ¹⁸	n/a	6' ¹⁸	n/a	30'	30'
Composition	Glass mat skins gypsum core	Paper skins gypsum core	Glass mat skins gypsum core	Paper skins gypsum core	No skins, paper fiber and gypsum core	No skins, paper fiber and gypsum core
Racking Strength, lbs./ft.(dry) (Ultimate – not design value)	>654 ⁹	654 ¹	>540 ⁹	540 ¹	416	n/a
Flexural Strength, ⁴ parallel, lbs. (4' weak direction)	100 ⁷	50 ²	80 ⁷	40 ²	124	189
Compressive Strength	min. 500 psi	min. 400 psi	min. 500 psi	min. 350 psi	n/a	n/a
Humidified Deflection, ^{3,4} inches	1/8"	5/8"	2/8"	10/8"	n/a	n/a
Permeance (perms) ⁵ [ng/Pa•s•m ²]	17 [970]	25 [1400]	23 [1300]	27 [1600]	35 [2000]	28 (145")
"R" Value ⁶	.67	.56	.56	.45	.50	.6
Combustibility – Core	Noncombustible	Noncombustible	Noncombustible	Noncombustible	Combustible	Combustible
Linear Expansion with Change Moisture in/in % RH	6.25 x 10 ⁻⁶	7.5 x 10 ⁻⁶	6.25 x 10 ⁻⁶	7.5 x 10 ⁻⁶	200 x 10 ⁻⁶	200 x 10 ⁻⁶
Coefficient of Thermal Expansion in/in/°F	8.5 x 10 ⁻⁶	10 x 10 ⁻⁶	8.5 x 10 ⁻⁶	10x10 ⁻⁶	n/a	n/a
Resists Growth of Mold (tested, as manufactured, per ASTM D 3273)	Yes	No	Yes	No	Yes	Yes
Handling Characteristic	Scores with utility knife and snaps easily	Scores with utility knife and snaps easily	Scores with utility knife and snaps easily	Scores with utility knife and snaps easily	Requires special tools	Requires special tools
Fasteners	Standard	Standard	Standard	Standard	Special	Special

1. Gypsum Association - GA252

2. Minimum requirements for ASTM C 79

3. Maximum requirements for ASTM C 79

4. Tested in accordance with ASTM C 473

5. Tested in accordance with ASTM E 96 (dry cup method)

6. Tested in accordance with ASTM C 518 (heat flow meter)

7. Minimum requirements for ASTM C 1177.2.

8. Double fasteners on ends as needed

9. Tested in accordance with ASTM E-72

Installation Recommendations

- DensGlass Gold sheathing must be installed in accordance with the instructions in this brochure, Gypsum Association document GA-253 or ASTM C 1280. DensGlass Gold sheathing can be attached horizontal or vertical to wood or metal framing. Use appropriate board orientation for specific fire assemblies and shear wall applications within this document, other reference documents or as required by designing authority. The framing width shall not be less than 1-1/2" wide for wood framing and 1-1/4" for steel framing. Framing members shall not vary more than 1/8" from the plane of the faces of adjacent framing.
- Fasteners should be driven flush with the panel surface (not countersunk) and into the framing system. Locate fasteners at least 3/8" from the ends and edges of the sheathing. Nails or screws, as listed in the fastener chart, may be used to attach DensGlass Gold sheathing to framing. When a pneumatic fastening system into metal framing is specified to attach DensGlass Gold sheathing, consult with manufacturer for application specifications and shear resistance data. DensGlass Gold exterior sheathing panels are not to be used as a base for nailing or other fastening.
- Install DensGlass Gold sheathing with end joints staggered on horizontal applications. Ends and edges of the sheathing should fit tightly. Sheathing panels shall not be less than 8" from the finish grade in fully weather and water-protected siding systems, and not less than 12" from the ground for properly drained and ventilated crawl spaces. Consult with the design authority for control joint recommendations.

Wall Applications

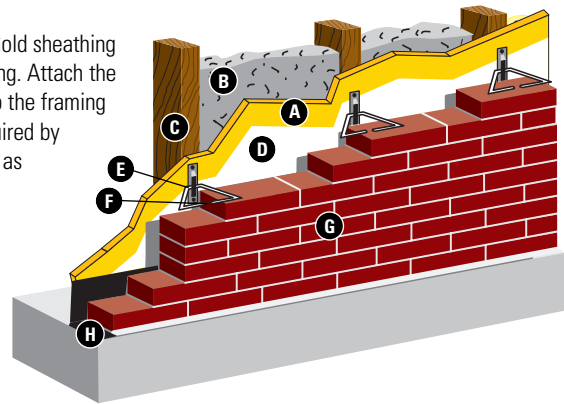
Installing Cladding over DensGlass Gold® Exterior Sheathing

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 Gold sheathing. Consult your local building codes for building wrap requirements.

- | | | |
|------------------------------|----------------------------|----------------------------|
| A. DensGlass Gold 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. Weather Resistant Barrier | J. Plywood Siding | P. Minimum 1/4" Gap |
| E. Masonry Tie | K. Vinyl Siding | |
| F. 2" (50mm) Max. Air Space | L. Fiber Cement Siding | |

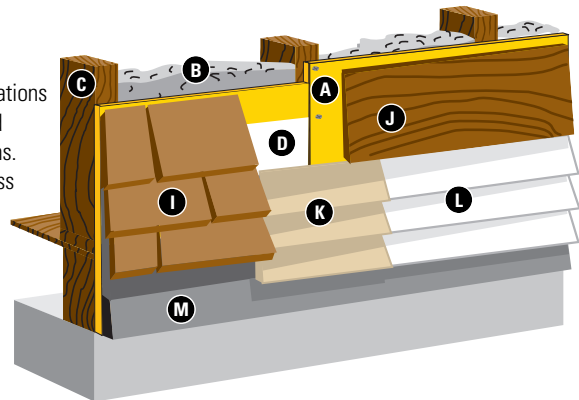
Brick Cavity Wall

Masonry veneer can be applied over DensGlass Gold 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.



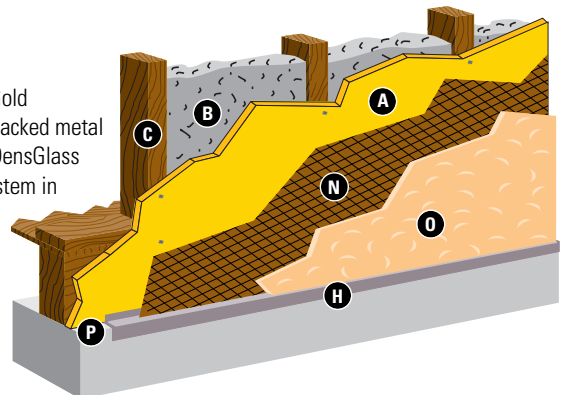
Shingles, Shakes, Vinyl, Metal, Wood, Fiber Cement Siding

DensGlass Gold 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 Gold 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 Gold sheathing using paper-backed metal lath. Paper-backed metal lath must be mechanically attached through the DensGlass Gold 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.

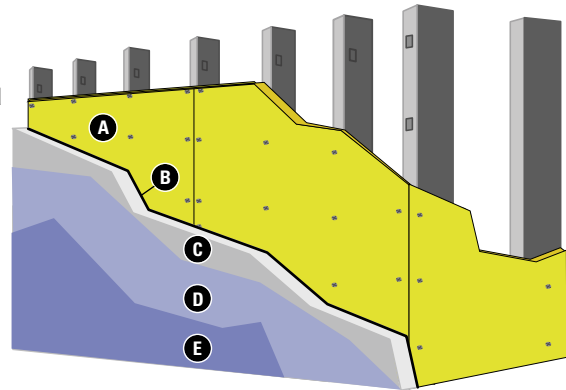
Exterior Insulation and Finish Systems (EIFS)

DensGlass Gold exterior sheathing is an ideal substrate for adhesive or mechanical application of expanded polystyrene (EPS) or extruded polystyrene insulation in EIFS applications and is recommended for all climate zones.

DensGlass Gold sheathing is designated as the preferred gypsum substrate for EIFS by EIMA, the EIFS industry members association, in the EIFS Durability Specifications Guideline. DensGlass Gold sheathing panels are treated with an exclusive “gold” primer coating. This coating, proprietary to G-P Gypsum and developed especially for DensGlass Gold sheathing, has several important advantages for EIFS applications:

- Eliminates the need for sealer/primer with adhesively applied EIFS
- Strengthens the bond between panel and surfacing product
- Makes the panel more resistant to surface water. The result: labor cost and callbacks go down while customer satisfaction on each project goes up.
- 10-year limited warranty when used in an architecturally specified EIFS application.
- Maximum framing spacing 16” o.c. for 1/2” and 24” for 5/8” DensGlass Gold sheathing.






- A. DensGlass Gold Sheathing
- B. Adhesive or Mechanically Attached
- C. Polystyrene Insulation
- D. Reinforcing Mesh Embedded in Base Coat
- E. Finish Coat



Fastening, Framing and Finishing

Thickness	Framing Spacing	Panel Orientation	Fastener Spacing – Wood Framing	Fastener Spacing – Metal Framing
1/2"	24" o.c. max. ^{1,3}	Parallel ³ or Perpendicular	8" o.c. field ² and perimeter	8" o.c. field and perimeter
5/8"	24" o.c. max. ³	Parallel ³ or Perpendicular	8" o.c. field ² and perimeter	8" o.c. field and perimeter

1. Only for mechanically attached claddings. When specified behind EIFS, maximum framing spacing for 1/2" DensGlass Gold sheathing is 16" o.c.
2. Fastener spacing around the perimeter of the wall and along intermediate vertical framing members. To meet the racking shear strength listed in the physical properties table, fastener spacing is 4" o.c. around the perimeter of each panel and 8" o.c. along vertical framing members.
3. For racking shear resistance apply panel edges parallel with framing spaced a maximum of 16" o.c. for both 1/2" and 5/8" DensGlass Gold sheathing.

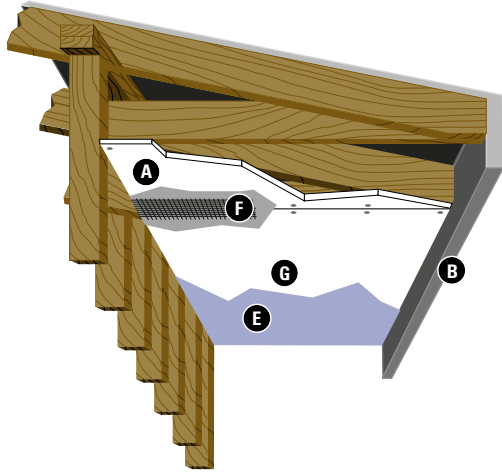
Fastener*	Length		Description	Application
	1/2" Thick	5/8" Thick		
	1"	1-1/4"	Bugle head fine thread, rust-resistant, drill point drywall screw	DensGlass Gold sheathing to heavy-gauge steel
	1"	1-1/4"	Bugle head fine thread, rust-resistant, sharp point drywall screw	DensGlass Gold sheathing to light-gauge metal framing furring
	1-1/4"	1-1/4"	Bugle head fine thread, rust-resistant, coarse thread sharp point screw	DensGlass Gold sheathing to wood framing
	1-1/4"	1-1/4"	Wafer head, rust-resistant screws, drill or sharp point	DensGlass Gold sheathing to heavy-gauge or light-gauge, metal or wood, respectively
	1-1/2"	1-3/4"	11-gauge, galvanized 7/16" head nail	DensGlass Gold sheathing to wood framing or equivalent

*For screws, meet or exceed ASTM C 1002.

Soffit Applications, Fastening, Framing and Finishing

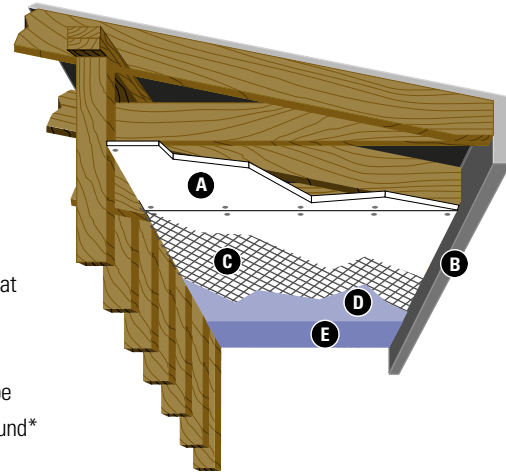
Method #1

Painted Ceilings and Soffits
Finished Joints



Method #2

Exterior Ceilings and Soffits



- A. DensGlass Gold Sheathing
- B. Drip Edge
- C. Reinforcing Mesh/Base Coat
- D. Base Coat
- E. Finish Coat
- F. 2" 10 x 10 Glass Mesh Tape
- G. ToughRock Setting Compound*

*Sandable setting compounds are not recommended.

Thickness	Framing Spacing	Orientation	Screw Spacing
1/2"	16" o.c. max	Parallel or Perpendicular	8" o.c. along framing
1/2"	24" o.c. max	Perpendicular 24" o.c. framing	8" o.c. along framing
5/8"	24" o.c. max	Parallel or Perpendicular	8" o.c. along framing

Method #1

Embed 2" wide fiberglass mesh tape in ToughRock® 90 Setting Type joint compound, or equivalent, over all joints. Once dry, apply a skim coat of the ToughRock 90 setting compound, or equivalent, over the panels to achieve a uniform, smooth finish over the entire area. Prime with exterior-grade primer and finish with two coats of exterior-grade paint.

Method #2

Apply a synthetic-type Direct Applied Finish System in accordance with the coating manufacturer's recommendation.

Special Conditions:

- Control joints are recommended a maximum of 30 feet or closer as specified by the design authority.
- The roof must be dried in or protection from the elements must be provided prior to installing DensGlass Gold sheathing in horizontal applications to prevent moisture from ponding or settling on top of the sheathing panel or within the finished soffit.
- Sandable setting compounds are not acceptable for use over DensGlass Gold sheathing in exterior soffit applications.
- G-P ToughRock 90 setting compound is not available in all markets. It is permissible to use setting-type joint compounds from other manufacturers that are equivalent to ToughRock 90 setting compound.

Soffit Board Comparison

Product Comparison	1/2" DensGlass Gold®	1/2" Gypsum Soffit Board	5/8" DensGlass Gold®	5/8" Gypsum Soffit Board
Humidified Deflection ¹ (Sag)	2/8"	7/8"	1/8"	4/8"
Water Absorption ¹	<10%	40+%	<10%	40+%
Surface Water Absorption ¹	.83 grams	2.5 grams	.83 grams	2.5 grams
Surface	Glass mat	Paper	Glass mat	Paper

1. Specified values for DensGlass Gold are found in ASTM C 1177 and ASTM C 931 for gypsum soffit board, tested in accordance with ASTM C 473.

Air and Water Resistive Barriers

The need for moisture control, greater energy savings, comfort and improved environment is driving the use of air, water and weather barriers. Manufacturers, building codes and standards organizations are improving the ways moisture is controlled in buildings. DensGlass Gold sheathing has been widely accepted for years as the preferred substrate with these systems and provides superior performance over other sheathings. The ultimate in wall performance and peace of mind is starting with the best substrate – DensGlass Gold sheathing.

DensGlass Gold sheathing is a superior substrate for a wide variety of air, water and weather barrier systems which include:

- Building wraps, including paper felts and synthetic
 - Synthetic wraps such as Tyvek®, ASTM E 1677 or equivalent
 - #15 asphalt felt, ASTM D 226, type 1 or equivalent
- Liquid or fluid applied
 - Water resistive barrier systems such as Sto Guard® as manufactured by Sto Corp., Dryvit's Backstop® NT or equivalent
 - Asphalt based coatings
- Self-adhering membranes

Follow manufacturer's installation recommendations for use with DensGlass Gold sheathing, local building code requirements and design authority's specifications.

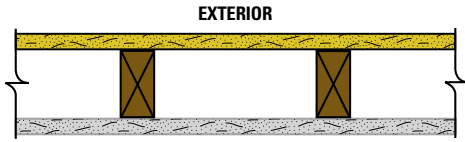
Note: It is not required to provide a weather resistant barrier over DensGlass Gold sheathing for the protection of the gypsum sheathing itself during the 6 month exposure limited warranty. Consult with local building code, design professional, owner or cladding manufacturer for water resistant barrier requirements and compatibility with the wall cladding.

Protection of Penetrations

All penetrations should be protected to prevent air and water infiltration. Follow building code, door/window manufacturer, or design authority's recommendations for flashing around openings, abutments to dissimilar materials and wall terminations.

Fire-Rated Assemblies (Wood-Framed)

1-Hour Fire Rating



Test Reference: UL U337, U 305, WHI 495-0702

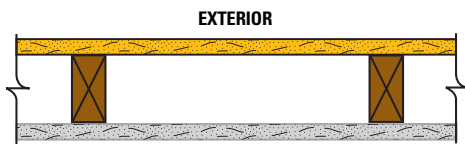
Wall Thickness: 4-3/4"

Weight per Sq. Ft.: 7.5

Exterior: 5/8" DensGlass Gold® Fireguard™ Exterior Sheathing applied parallel (U 337, U305) or at right angles (U 305) to 2 x 4 wood studs 16" o.c. with 1-3/4" galvanized roofing nails 7" o.c. for all framing members. Exterior surface covered with weather exposed cladding or finish system.

Interior: 5/8" DensArmor Plus™ Fireguard or 5/8" ToughRock® Fireguard* gypsum board applied parallel or at right angles to studs with 1-7/8" 6d coated nails 7" o.c. Stagger joints each side. (Load-bearing)

1-Hour Fire Rating



Test Reference: UL U309

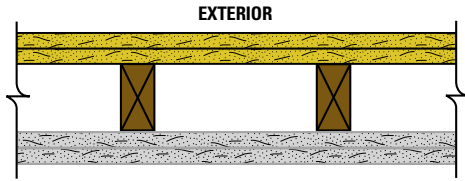
Wall Thickness: 4-3/4"

Weight per Sq. Ft.: 7.5

Exterior: 5/8" DensGlass Gold Fireguard Exterior Sheathing applied parallel or at right angles to 2 x 4 wood studs spaced 24" o.c. with 1-7/8" galvanized roofing nails 7" o.c.

Interior: 5/8" DensArmor Plus Fireguard or 5/8" ToughRock Fireguard* gypsum board to framing with 1-7/8" 6d coated nails 7" o.c. (Load-bearing)

2-Hour Fire Rating



Test Reference: UL U301

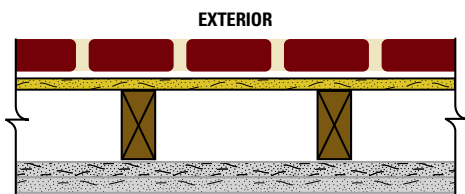
Wall Thickness: 6"

Weight per Sq. Ft.: 12.5

Exterior: Two layers 5/8" DensGlass Gold Exterior Sheathing applied parallel or at right angles to 2 x 4 wood studs 16" o.c. Base layer attached with 1-7/8" galvanized roofing nails 16" o.c. Face layer attached with 2-3/8" galvanized roofing nails 8" o.c. Stagger joints between layers and on base layer of both sides.

Interior: Two layers 5/8" DensArmor Plus Fireguard or 5/8" ToughRock Fireguard gypsum board applied horizontally or vertically to framing. Base layer attached with 1-7/8" 6d cement coated nails 16" o.c. Face layer attached with 2-3/8" 6d cement coated nails 8" o.c. Stagger joints between layers and on base layer of both sides. (Load-bearing)

2-Hour Fire Rating



Test Reference: UL U302

Wall Thickness: 10-1/8"

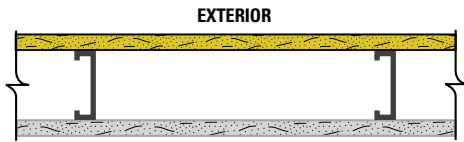
Exterior: One layer 1/2" DensGlass Gold Exterior Sheathing applied at right angles to studs with 1-3/4" galvanized roofing nails 6" o.c. Face layer is 2" x 4" x 8" clay brick with 1" air space between brick and exterior sheathing. 20-gauge galvanized wire ties attached to each stud with 8d coated nails as described above, located at every sixth course of bricks. (Load-bearing)

Interior: Two layers 5/8" DensArmor Plus Fireguard or 5/8" ToughRock Fireguard gypsum board applied parallel or at right angles to 2 x 4 wood studs 16" o.c. Base layer attached with 1-7/8" 6d coated nails 8" o.c. Face layer attached with 2-3/8" coated nails 8" o.c.

*For fire safety information, visit www.gp.com/gypsum/firesafety

Fire-Rated Assemblies (Steel-Framed)

1-Hour Fire Rating



Test Reference: UL U465

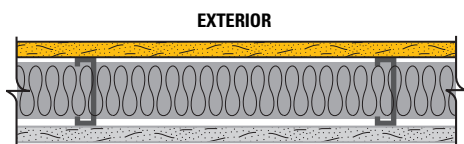
Wall Thickness: 6"

Weight per Sq. Ft.: 6 psf

Exterior: 5/8" DensGlass Gold® Fireguard™ Exterior Sheathing applied vertically to min. 3-5/8" corrosion resistant 25-gauge steel studs 24" o.c. with 1" Type S corrosion resistant bugle head screws 8" o.c. at board edges and 8" at intermediate studs.

Interior: 5/8" DensArmor Plus™ Fireguard or 5/8" ToughRock® Fireguard* gypsum board applied vertically to framing with 1" Type S bugle head screws 8" o.c. at board edges and 12" at intermediate studs.

1-Hour Fire Rating



Test Reference: UL U425

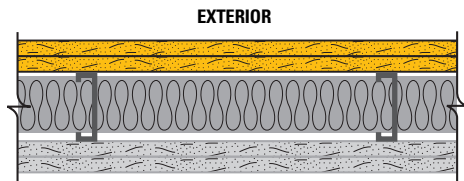
Wall Thickness: 4-3/4"

Weight per Sq. Ft.: 6 psf

Exterior: 5/8" DensGlass Gold Fireguard Exterior Sheathing applied vertically to min. 3-1/2" corrosion resistant 20-gauge steel studs 24" o.c. with 1" Type S corrosion resistant bugle head screws 8" o.c.

Interior: 5/8" DensArmor Plus Fireguard or 5/8" ToughRock Fireguard* gypsum board applied vertically to framing with 1" Type S bugle head screws 12" o.c. Insulation to completely fill stud cavity. (Load-bearing: 100% of design load)

2-Hour Fire Rating



Test Reference: UL U425

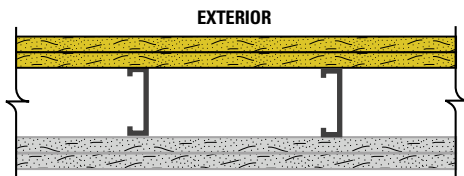
Wall Thickness: 6"

Weight per Sq. Ft.: 11 psf

Exterior: Two layers 5/8" DensGlass Gold Exterior Sheathing applied vertically to min. 3-1/2" corrosion resistant 20-gauge steel studs 24" o.c. Base layer attached with 1" Type S corrosion resistant bugle head screws 8" o.c. Face layer attached with 1-5/8" Type S corrosion resistant bugle head screws spaced 8" o.c. Joints staggered.

Interior: Two layers 5/8" DensArmor Plus Fireguard or 5/8" ToughRock Fireguard gypsum board applied vertically to framing. Base layer attached with 1" Type S bugle head screws 12" o.c. Face layer attached with 1-5/8" Type S bugle head screws spaced 12" o.c. Joints staggered. Insulation to completely fill stud cavity. (Load-bearing: 80% of design load)

2-Hour Fire Rating



Test Reference: UL U411

Wall Thickness: 5"

Weight per Sq. Ft.: 11.0

Exterior: Two layers 5/8" DensGlass Gold Exterior Sheathing applied vertically to min. 2-1/2" corrosion resistant 25-gauge steel studs 24" o.c. Base layer attached with 1" Type S corrosion resistant bugle head screws 16" o.c. Face layer attached with 1-5/8" Type S corrosion resistant bugle head screws spaced 8" o.c. Joints staggered.

Interior: Two layers 5/8" DensArmor Plus Fireguard or 5/8" ToughRock Fireguard gypsum board applied vertically to framing. Base layer attached with 1" Type S bugle head screws 16" o.c. Face layer attached with 1-5/8" Type S bugle head screws spaced 16" o.c. in the field and along vertical edges and 12" o.c. to the floor and ceiling runners. Joints staggered. Batt or blanket insulation optional.

*For fire safety information, visit www.gp.com/gypsum/firesafety

Architectural Specifications

Part 1 – General

1.0 Description

Work in this section includes, but is not limited to: wall, ceiling and soffit sheathing.

Related work specified elsewhere:

Brick masonry	Finish carpentry	Joint sealers
Stone	Exterior Insulation and Finish Systems (EIFS)	Light-gauge metal framing
Cold-formed metal framing	Siding	Painting
Rough carpentry		

1.1 Submittals

Product Data: Submit manufacturer's descriptive literature indicating material composition, thickness, sizes and fire resistance.

1.2 Quality Assurance

Fire resistance ratings: Where applicable, provide materials and construction that are identical to those of assemblies whose fire resistance ratings are indicated.

1.3 Delivery, Storage and Handling

Delivery: Deliver materials to the job site in manufacturer's original packaging, containers and bundles with manufacturer's brand name and identification intact and legible. Product also may be wrapped in temporary factory-applied plastic packaging (plastic wrap) that must be removed upon receipt. **Failure to remove the plastic shipping covers and plastic wrap may result in entrapment of condensation or moisture, which may cause application problems.**

Storage and handling: Store level and handle materials to protect against contact with damp and wet surfaces, exposure to weather, breakage and damage to edges. Provide air circulation under covering and around stacks of materials.

1.4 Limitations

DensGlass Gold® 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.

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.

When DensGlass Gold sheathing panels are used in slanted wall applications, that portion of the wall must be temporarily protected from the elements by the use of a weather resistant barrier prior to application of the cladding. Do not allow water to pond or settle on sheathing. Also, exposed wall ends such as those that may be found in parapets must be covered to prevent water from infiltrating the cavity.

G-P Gypsum does not warrant and is not responsible or liable for the performance of the cladding or exterior systems applied over DensGlass Gold sheathing. The suitability and compatibility of any system is the responsibility of the system manufacturer or design authority.

Do not laminate DensGlass Gold sheathing to masonry surfaces; use furring strips or framing.

DensGlass Gold sheathing is not intended for roof applications. For roof applications consult our DensDeck® roof board brochure.

DensGlass Gold sheathing is not intended for tile applications. For tile applications, consult our DensShield® tile backer brochure.

DensGlass Gold sheathing should not be used in lieu of plywood where required.

Do not apply DensGlass Gold sheathing below grade.

For all installations, design details such as fasteners, sealants and control joints per system specifications must be properly installed. Openings and penetrations must be properly flashed and sealed. Failure to do so will void the warranty.

Do not use DensGlass Gold sheathing as a base for nailing or mechanical fastening. Fasteners should be flush to the face of the board, not countersunk.

Part 2 – Products

2.0 Sheathing board

Acceptable Products: 1/2" DensGlass Gold Exterior Sheathing; 5/8" DensGlass Gold Fireguard™ Exterior Sheathing

Size: DensGlass Gold Exterior Sheathing: 1/2" (12.7mm) thick by 4' by 8', 9' or 10' (1.9 lb. per square foot);
 DensGlass Gold Fireguard Exterior Sheathing: 5/8" (15.9mm) thick x 4' x 8', 9' or 10' (2.5 lb. per square foot).

Composition: Gypsum sheathing manufactured in accordance with ASTM C 1177 with glass mats both sides and long edges, water-resistant treated core.

Fire resistance: Noncombustible when tested in accordance with ASTM E 136.

1/2" or 5/8" DensGlass Gold Exterior Sheathing: Flame spread 10, smoke developed 0, when tested in accordance with ASTM E 84.

5/8" DensGlass Gold Fireguard Exterior Sheathing is rated Type X as defined in ASTM C 1396 and C 36 and can be used as a replacement to any other generic assembly utilizing a 5/8" Type X gypsum board (see GA-600 for numeric assemblies). DensGlass Gold Fireguard Exterior Sheathing is UL classified, Type DGG, in UL designs N501, N502, N505, U301, U302, U305, U309, U337, U342, U354, U355, U365, U411, U425, U467, U473, U475, U617, V417, V419, X508, X516 and ULC classified, Type DGG in ULC designs U301, U302, W301, W404, W415. DensGlass Gold Fireguard exterior sheathing can be used in UL assemblies where the gypsum board is listed as *Gypsum Board (Classified or Unclassified)* for thicknesses up to 5/8".

2.1 Air, Water and Weather Barrier

If required by local building code, #15, nonperforated, asphalt saturated felt complying with ASTM D 226, Type 1, synthetic building wraps complying with ASTM E 1677, or other weather barrier system meeting local building code requirements.

2.2 Accessories

Joint tape: 2" wide 10x10 glass mesh tape, see 3.2.A.

Joint compound: ToughRock® setting-type joint compound, see 3.2.A.

Nails, wood framing: 11-gauge galvanized roofing nails with 7/16" head, 1-1/2" min. length for 1/2" DensGlass Gold and 1-3/4" length for 5/8" DensGlass Gold.

Screws, metal framing: Bugle or wafer head, self-tapping, rust-resistant, fine thread for heavy-steel gauge. Bugle or wafer head, rust-resistant sharp point, fine thread for light-gauge metal framing or furring.

Screws, wood framing: Rust-resistant, bugle or wafer head, coarse thread, 1-1/4" length sharp point for wood.

Part 3 – Execution

3.0 Preparation

Examine subframing; verify that surface of framing and furring members to receive sheathing does not vary more than 1/8" from the placement of faces of adjacent members.

3.1 Sheathing

Provide DensGlass Gold Exterior Sheathing where indicated on drawings. Install sheathing in accordance with manufacturer's instructions and applicable instructions in GA-253 and ASTM C 1280.

Install DensGlass Gold Exterior Sheathing with gold side out.

Use maximum lengths possible to minimize number of joints.

Attach DensGlass Gold Exterior Sheathing to wood framing with nails spaced 4" o.c. at perimeter for racking shear resistance; 8" o.c. at perimeter where there are framing supports and where racking shear resistance is not required; and 8" o.c. along intermediate framing in field for both conditions. Unless specified otherwise, attach DensGlass Gold Exterior Sheathing to metal framing with screws spaced 8" o.c. at perimeter where there are framing supports; and 8" o.c. along intermediate framing in field. A greater number of fasteners may be specified to obtain specific values and is allowed up to 4" o.c. spacing.

Drive fasteners to bear tight against and flush with surface of sheathing. Do not countersink. Locate fasteners minimum 3/8" from edges and ends of sheathing panels, tight against and flush with surface of sheathing.

Weather Resistant Barrier: If a weather barrier is required by the local building code, design professional, owner or cladding manufacturer over DensGlass Gold Exterior Sheathing, one of the following procedures may be used. Consult building code or design authority for proper application selection. Follow manufacturer's installation recommendations.

- A. Entire exterior face of gypsum sheathing covered with an asphalt impregnated felt or synthetic fiber wrap such as Tyvek® Commercial Wrap, or equal.
- B. Liquid applied barriers such as Sto Guard® as manufactured by Sto Corp., Dryvit's Backstop® NT or equal.
- C. Self adhering membranes.

3.2 Painted Ceilings and Soffits

Soffits must be dried in and protected from the elements during and after installation.

- A. Apply fiberglass mesh joint tape over joints and embed in setting-type joint compound specified. Skim coat surface with setting-type joint compound for smooth finish. Prime and paint with exterior grade, high quality paint.
- B. Apply EIFS with or without insulation, install as recommended by manufacturer.

DensArmor Plus™ Paperless Interior Drywall

DensArmor Plus is a new generation paperless drywall designed as a replacement for paper-faced drywall for building interiors. DensArmor Plus drywall incorporates glass mats on the surfaces of the drywall panel instead of paper facings found on traditional drywall. The combination of paperless surfaces and a moisture resistant core provides superior moisture- and mold-resistance when compared to traditional paper-faced drywall. G-P Gypsum offers a **three-month in-place exposure warranty** which means DensArmor Plus can be hung before installing doors and windows. DensArmor Plus installs using the same steps as traditional drywall.

DensGlass Gold® Exterior Sheathing

DensGlass Gold exterior sheathing is a moisture-resistant gypsum panel that can be used for exterior walls, ceilings and soffits. Its paperless, glass-mat facings and moisture-resistant core resist the effects of surface water exposure while providing resistance to mold. With a long established track record, DensGlass Gold sheathing is so weather resistant that it is backed with a **six-month in-place exposure warranty**. DensGlass Gold is the preferred sheathing for use under brick, stone, stucco and EIFS siding materials. DensGlass Gold sheathing is so widely used that its bright GOLD™ color is recognized throughout the industry.

DensShield® Tile Backer

DensShield tile backer is a patented substrate for floor, wall and ceiling ceramic tile installations. Designed with a built-in moisture barrier, DensShield protects tile installations and the wall cavity from the effects of moisture in damp areas such as bathrooms and kitchens. Incorporating glass-mat facings and a moisture resistant core, DensShield is lighter and easier to install than heavy, hard-to-work-with cement board tile backers. The combination of moisture and mold resistance, along with potential labor savings, makes DensShield the superior substrate for ceramic tile in the industry. Georgia-Pacific backs DensShield tile backer with a **lifetime limited warranty when used in residential tile installations**. In addition, DensShield offers a **20 year limited warranty** for its use in commercial applications.

DensGlass Ultra™ Shaftliner

DensGlass Ultra Shaftliner is the ideal component for gypsum board shaft wall/stairwell and area separation wall systems when a fire rating is required. DensGlass Ultra Shaftliner incorporates a moisture and mold resistant, non-combustible gypsum core with paperless glass-mat facings to resist exposure to the elements during the early stages of the construction cycle. Backed by a **six-month in-place exposure warranty**, DensGlass Ultra Shaftliner is the perfect substitute for heavy, expensive masonry construction. It also offers superior moisture and mold resistance compared to traditional paper-faced shaftliner wallboard products.

DensDeck® Roof Board

Versatile DensDeck roof board is utilized in a wide variety of roofing systems for new and re-roofing applications as cover boards, overlays, underlayments and separator boards. Featuring a combination of fire resistance, strength, moisture resistance and dimensional stability, DensDeck roof board enhances the overall performance of most roofing assemblies and is widely respected and specified by leading roofing system manufacturers. DensDeck roof board, with its paperless glass-mat facings, has been shown to withstand delamination, deterioration, warping and job site damage far more effectively than paper-faced gypsum board or other conventional roofing products, such as wood fiberboard and perlite.

DensDeck Prime® Roof Board

DensDeck Prime roof board from G-P Gypsum combines the superior features of DensDeck roof board, including fire resistance, strength, moisture resistance and dimensional stability, with an enhanced surface treatment. The coated surface of DensDeck Prime provides an ideal substrate for a wide variety of adhered roofing systems by allowing a uniform spread of adhesives, which results in a strong, consistent bond. DensDeck Prime can be used in cold mastic, torch applied modified bitumen as well as fully-adhered, single-ply systems.

DensDeck DuraGuard® Roof Board

DensDeck DuraGuard roof board from G-P Gypsum combines the superior features of DensDeck roof boards, including fire resistance, strength, moisture resistance and dimensional stability, with a durable, low perm, integrated coating. This coating provides an ideal substrate for a wide variety of adhered roofing systems, including self-adhered, hot-mopped membranes, and torched asphaltic systems. The coating assures more uniform spreading of adhesives, an excellent coverage rate, and it enhances the bond strength of membrane system-to-board without the need for field priming with a number of systems.



SALES INFORMATION AND ORDER PLACEMENT

U.S.A. Midwest: **1-800-876-4746** West: **1-800-824-7503**
South: **1-800-327-2344** Northeast: **1-800-947-4497**

CANADA Canada Toll Free: **1-800-387-6823**
Quebec Toll Free: **1-800-361-0486**

G-P Gypsum Technical Hotline: U.S.A. and Canada: **1-800-225-6119**



Some of our products have been certified by Scientific Certification Systems (SCS). SCS is an internationally recognized third-party evaluation, testing and certification organization. Its program spans a wide cross-section of the economy, including manufacturing and retailing, consumer products, the energy industry, and the home improvement and construction sectors. For details on specific G-P Gypsum products and plants, please contact our Technical Hotline at 800-225-6119.

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LIMITATION OF REMEDIES AND DAMAGES Unless otherwise stated in our written limited warranty for these products, our sole liability for any product claim shall be limited to reimbursement of the cost of repair or replacement of the affected product, up to a maximum amount of two times the original purchase price for the affected product. We shall not be responsible under any circumstances for lost profits, damage to a structure or its contents, or indirect, incidental, special or consequential damages. Claims shall be deemed waived if they are not submitted to us in writing within ten days after discovery.

SAFETY CAUTION: Some products contain fiberglass. Fibers and dust may be released from these products during normal handling and may result in skin, eye and respiratory irritation. Avoid breathing dust and contact with the skin and eyes. Follow these standard work practices: Wear a loose-fitting, long-sleeved shirt and long pants, protective gloves and eye protection (goggles or safety glasses with side shields). Wear a dust mask when sanding. Additional protection may be needed when very dusty. Do not use a power saw. For Material Safety Data Sheet or additional information, call 1-800-225-6119 or visit our website.

