Glasliner® FRP

Quality, commitment and innovation

Glasteel, with more than 50 years of experience, is one of the largest manufacturers of Fiberglass Reinforced Panels in the North American Market supported by three state-of-the-art manufacturing plants (all ISO 9001:2008 Certified) and three strategically located distribution centers. Our mission is to offer added value products with the highest quality standards, competitive pricing and best customer service of the industry.

Glasliner FRP meets many of today's demanding applications that require high sanitation needs. These applications range from restaurants and supermarkets to restrooms and storage areas. Glasteel's process uses a special type of high strength polyester resin combined with fiberglass reinforcement to produce liner panels offering superior quality and durability. The result is a panel with a resin rich surface that is tough, strong and easy to clean.

**The Best Products, Service, Price & Selection
All Under One Brand**

Glasliner® FRP

Wall,Ceiling & Laminated Liner Panels

Resin rich surfaces that are tough, strong and easy to clean.

Maximum Sanitation Protection

- Meets USDA Standards
- Maximum sanitation protection
- Significant cost savings over other materials

Excellent Quality

- Years of dependable performance
- Resin rich surface that is tough & easy to clean
- Meets today's high sanitation standards
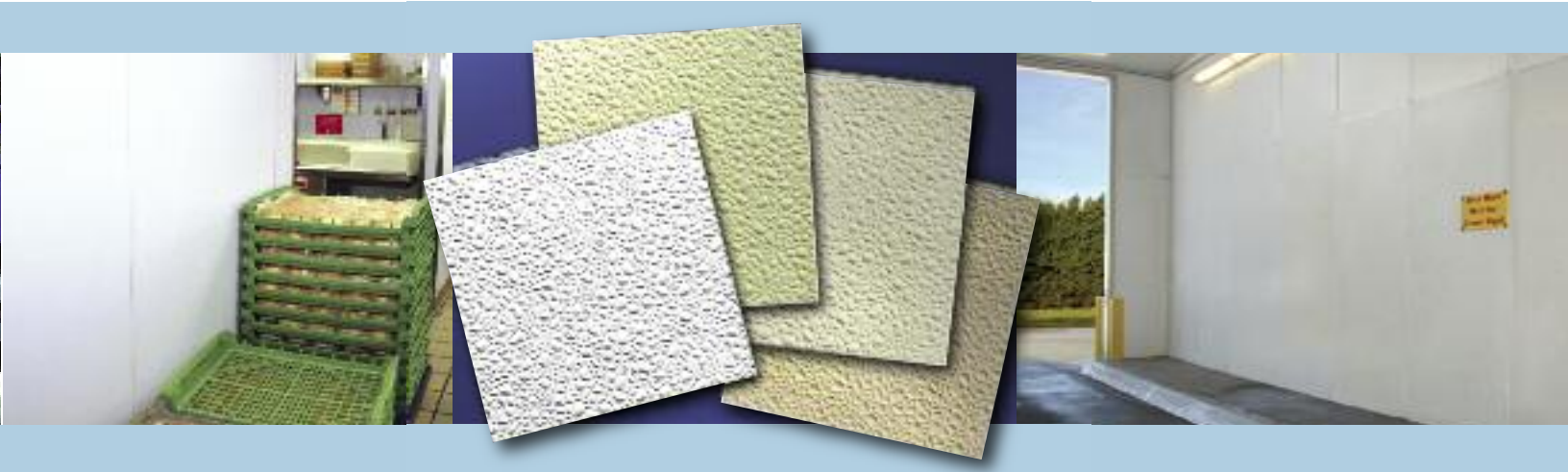
Moisture Resistant

- Does not support mold or mildew
- Will not rust or corrode

Highly Impact Resistant

- Extremely high strength to weight ratio
- Tough surface that resists shattering, scratches and abrasions

Outstanding Cleanability

- Cleans with regular detergents and water

Wall Panel Specifications

Glasliner FRP is available in the following sizes:

Series	Nominal Thickness
1600	.125"
1200	.090"
180	.060"
160	.045"
150	.035"

Width Standard 4 Feet
Length 8, 9, 10 and 12 Feet

![Glasliner FRP logo]

Wall Panels

Low Cost Installation

- Easy to handle and install in any type of construction, and over any type of existing wall surface
- No special tools needed
- More economical than stainless steel or ceramic tile

Improved Chemical Resistance

- Resists stains
- Rust proof - will not corrode
- Minimum maintenance and never needs painting

Superior Flexibility
- Panels are flexible enough to lay flat, allowing a better fit into areas with close tolerance seams

Custom Designed Liner Panels
- Available in 5 different standard panel thicknesses
- Shipped in standard 4 foot width and in 8, 9, 10 and 12 foot lengths

Approvals & Certifications

- **ISO 9001:2008:** All Glasteel plants are ISO 9001:2008 Certified
- **Meets USDA/FSIS requirements**
- **Canadian Food Inspection Agency (CFIA) accepted**
- **ASTM:** All Glasliner FRP liner panels are manufactured according to industry standard ASTM D-5319-2008

- **Fire Ratings:** Glasliner products are available on multiple fire ratings, such as Class C (general purpose) and Class A (fire retardant). Please contact your Glasteel representative for test results.

Typical Physical Properties for .090" Contractor Grade

Property	Test Method	Unit	Glasteel Class C General Purpose Result	Glasteel Class A Fire Retardant Result
Flexural Strength	ASTM D-790	PSI	17,000	10,000
Flexural Modulus	ASTM D-790	PSI	6.0×10^5	3.1×10^5
Tensile Strength	ASTM D-638	PSI	8,000	7,000
Tensile Modulus	ASTM D-638	PSI	9.43×10^5	3.1×10^5
% Elongation	ASTM D-638	%	1.20	1.80
Water Absorption 21°C @ 72 hrs.	ASTM D-570	%	0.17	0.72
Izod Impact Strength	ASTM D-256	ft.-lbs. /in.	7.0	7.16
Coef. of Linear Thermal Expansion	ASTM D-696	in./in. /°F	2.22×10^{-5}	2.39×10^{-5}
Barcol Hardness	ASTM D-2583	Avg.	30	35
Specific Gravity	ASTM D-792	N/A	1.6138	1.5743
Abrasion Resistance	TABER	% WT Loss	0.293	0.391
Flash Ignition Temp.	ASTM 1929	°C	430	400
Self Ignition Temp.	ASTM 1929	°C	450	430
Flame Spread	ASTM E-84	N/A	≤200	≤25
Smoke Generation	ASTM E-84	N/A	<450	<450

Storage Recommendations

- Store panels indoors in a cool, dry, well-ventilated area
- Panels should be stacked on skids not more than 5 skids high
- Do not allow moisture to collect on or in-between panels
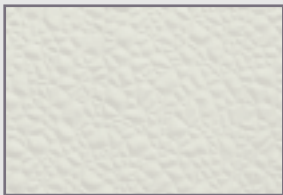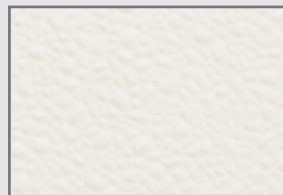
Color Selections

Bright White

Almond

Ivory

Beige

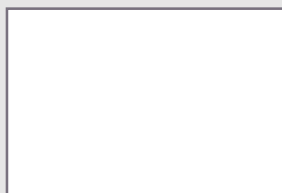**Light Gray**

Silver

Black

Two Surface Finishes

Traditional pebbled finish

Premium Gel Coat

Installation Instructions

Safety:
- Use eye protection.
- Wear filter mask to cover nose and mouth, especially when cutting.
- Use manufacturer's recommended sealants and adhesives.

Tools Needed:
- Power or hand saw (fine tooth or carbide blade)
- Power or hand drill (carbide tip recommended)
- Carpenter's square
- Hammer, tape measure and level
- Adhesive and notched trowel
- Silicone sealant and caulking gun
- Vinyl moldings and 3/4" nylon fasteners

Preparation:
- It is important to store Glasliner FRP flat, on a clean, dry surface for 24 hours before installation. It is preferable to store them inside the actual area of installation or, at least, under similar climate conditions.
- Walls must be clean and free of all substances.
- Level any high or low spots on walls. Concrete block walls may require a leveling coat of plaster or other similar material.

Cutting Glasliner FRP for Floor to Ceiling Heights of 8 Feet or Less:

- Subtract 1/2" from height measurement to allow for expansion.
- Allow for 1/8" expansion gap around pipes and other projections.

Drilling Fastener Holes:

- Pre-drill fastener holes before applying adhesive.
- Fastener holes should be slightly oversize to allow for normal expansion and contraction.
- Drill holes no further than 8" apart and 1" from outside edge, 16" apart on intermediate and on 16" centers.
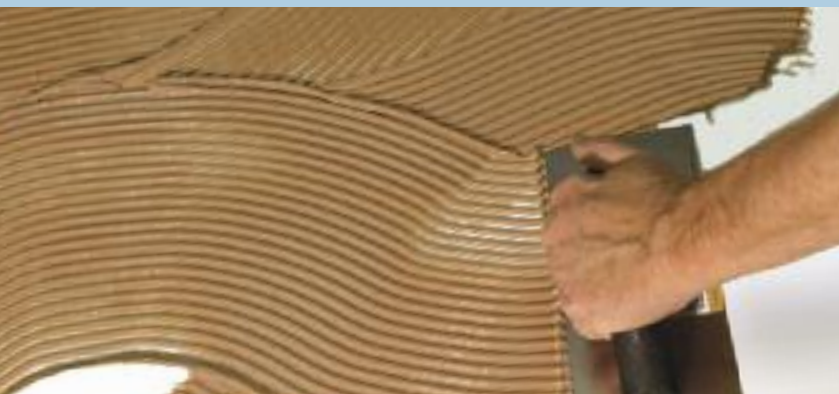
Installation reminders:

1. Follow safety and fire guidelines during installation and use of panels.
2. First panel installed should be set true with plumb line.
3. Wall must be clean and flat.
4. Use moldings, silicone, nylon rivets and adhesive for best installation.
5. Apply adhesive per manufacturer's instructions.
6. Install panels and moldings.
7. Seal edges and moldings.
8. Remove excess silicone.
9. Clean panels after installation with light detergent.

800-238-5546

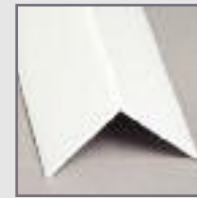# Accessories

Inside Corner

End Cap

Divider Bar

Outside Corner

Outside Corner Angle

Nylon Rivets

FRP Adhesive

Applying Adhesive

- For best installation, combine adhesive and nylon fasteners.
- Glasliner FRP should never be installed on uneven walls using only adhesive.

Actual requirements may vary. Call Glasteel for complete installation instructions.

www.glasteel.com

Glasliner FRP

Ceiling Panels

Applications
- Food processing areas
- Restaurants
- Bathrooms
- Storage rooms
- Schools
- Hospitals
- Many other applications where sanitation is required

Easy to Install
- Cut to size for easy installation
- Lightweight and easy to handle

Minimal Deflection
- Panel formulation makes for a strong, rigid ceiling panel

Characteristics
- Moisture resistant - does not support mold or mildew
- Rust proof - will not corrode
- Stain resistant
- High strength-to-weight ratio
- Easily removable for cleaning

Ceiling Panel Specifications

Sizes 23 3/4" x 23 3/4"
        23 3/4" x 47 3/4"
Thickness 0.100"
Finishes Textured or Smooth
Color Standard Colors
Sag Tolerance ← .25"

Fire Rating
- Class C: General Purpose
- Class A: Fire Retardant

Laminated Panels

Why use Laminated FRP panels?
- Ease of installation
- Reduced labor costs
- Durable
- Sanitary
- Easily Maintained

FRP Panels are laminated to:
- Plywood
- OSB

Laminated Panel Specifications

Sizes 4' x 8' and 4' x 10'
Substrate Thickness 3/8" standard
Color Bright White

Ideal for:
- Agricultural buildings
- Kitchens
- Restrooms
- Storage areas
- Laboratories
- Food processing plants
- Health care facilities
- Convenience stores
- Kennels and veterinary clinics
- Walk-in coolers and freezers

For other substrates, colors or sizes, please contact Glasteel.

Moldings

3/8" Cap
(.460 opening)

3/8" Divider
(.460 opening)

3/8" ISC/Cove
(.460 opening)

3/8" OSC
(.460 opening)

1-1/2"
OSC Angle

1-1/2"
ISC Angle

2-Piece
Divider

800-238-5546

www.glasteel.com

Glasliner FRP

Foundation Liner

Glasliner can be installed directly to solid walls or over insulation. As an extra barrier of protection against moisture and insects,

Glasliner also traps in the energy used to heat and cool your home.

Without Glasliner Foundation Liner

With Glasliner Foundation Liner
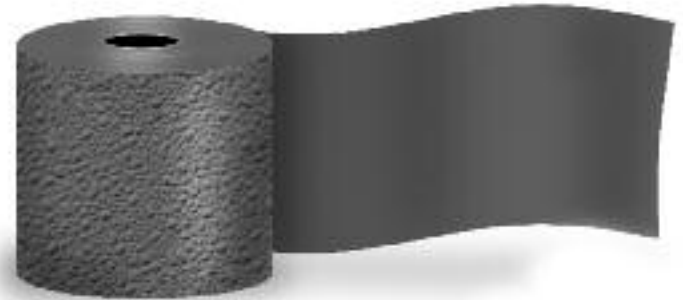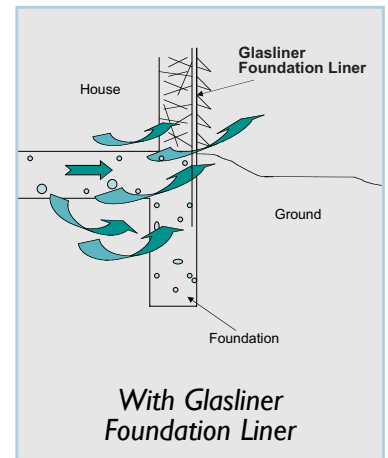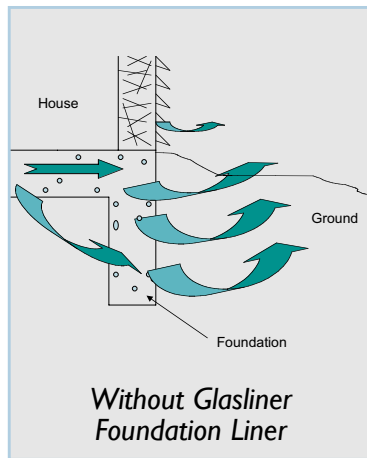
Features

- UV Resistant
- .060" thickness
- Stain, odor and moisture resistant
- Insect and pest resistant
- Shatter resistant
- Energy efficient
- Attractive gray pebbled finish adds value to your property
- Protects basements and crawlspaces from flooding
- Easy to install on both existing buildings and new construction
- Can be installed directly to solid walls or over insulation
- Stays strong and sturdy in any season
- 10 year Limited Warranty

Sizes

- Standard 50' lengths
- 1', 2' and 4' widths.

Recommended Accessories

Division Bar		Inside Corner Angle 1 1/4" x 1 1/4"	
Nylon Rivets 1/4" Plastic Pins Available up to 2"		Outside Corner Angle 1 1/4" x 1 1/4"	

*Savings from insulated foundations vary with fuel prices, heating equipment, performance, and climate.

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All Under One Brand

Independent Laboratory Test Results

REASON FOR ANALYSIS: Evaluation of the **White Glasteel FRP Panel** from the viewpoint of overall stain resistance properties as well as resistance to chemical cleaners and high intensity UV light.

EXECUTIVE SUMMARY: The **White Glasteel FRP Panel** demonstrates good overall stain resistance properties both before and after surface abrasion tests. In addition the **White Glasteel FRP Panel** demonstrates good resistance to high intensity UV light and general household cleaning chemicals such as bleach, ammonia, alcohol and acetone with no material degradation noted after exposure tests..

EVALUATION OF FINDINGS:

Stain Resistance Properties: The **White Glasteel FRP Panel** demonstrates good overall stain resistance properties on the original surface with all stains being removed after cleaning tests. The abraded surface demonstrates generally good stain resistance with only the ink stain remaining visible after cleaning tests. The stain resistance test consists of applying generous amounts of a variety of stains, including red fruit drink, ketchup, mustard and barbecue sauce as well as some very aggressive stains such as blue ink and permanent marker. These stains were applied to the original as received surface and to a surface which was abraded with sandpaper to remove any surface coatings. The stains were then allowed to set for a period of 48 hours. The stained areas were then cleaned with a variety of cleaning chemicals to determine overall cleanability. The ketchup, fruit drink and barbecue sauce were all easily removed with a typical household cleaner on both the abraded and original surfaces. The mustard and permanent marker did require use of a stronger chemical such as alcohol and acetone to fully remove the stains. It should be noted the blue ink stain was not completely removed on the abraded test surface when using all the listed cleaning chemicals.

UV Resistance: The **White Glasteel FRP Panel** exhibits no discoloration or other surface degradation after 60-hours of exposure to high intensity UV light.

Chemical Resistance: The **White Glasteel FRP Panel** surface showed no evidence of material degradation after exposure to household cleaner, ammonia cleaner, bleach (1% solution), alcohol (70% isopropyl) and acetone.

Before Stain Cleaning Test

After Stain Cleaning Test

Glasteel™

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