











# **QUALITY, COMMITMENT AND INNOVATION**

**Glasteel** is one of the largest manufacturers of Fiberglass Reinforced Panels in the North American Market, with more than 60 years of experience, supported by three state-of-the-art manufacturing plants (all ISO 9001:2015 Certified) and three strategically located distribution centers. Our mission is to offer value added 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 and selection all under one brand.



# **WALL PANELS**

# RESIN RICH SURFACES THAT ARE TOUGH, STRONG AND EASY TO CLEAN



#### **Maximum Sanitation Protection**

- 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
- Durable surface that resists shattering, scratches and abrasions



# **Outstanding Cleanability**

Cleans with regular detergents and water



#### Low Cost Installation

- Easy to handle and easy to install
- 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 4 different standard panel thicknesses
- Shipped in standard 4-foot width and in 8, 9, 10 and 12 foot lengths

# **WALL PANEL SPECIFICATIONS**

**Glasliner FRP** is available in the following sizes:

Series	Nominal	Thic	kness
Series	Nominal	. I nic	knes

1600 0.120" 1200 0.090" 180 0.060" 160 0.045"

Width: Standard 4 feet

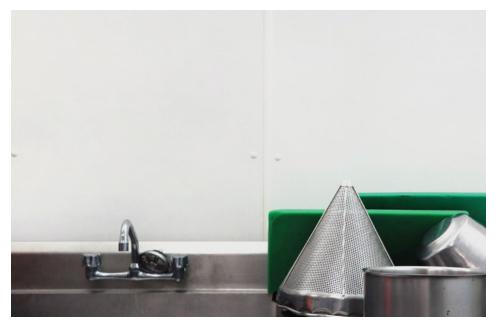
Length: 8, 9, 10 and 12 feet



#### **APPROVALS AND CERTIFICATIONS**

- ISO 9001:2015: All **Glasteel** plants are ISO 9001:2015 certified
- ASTM: All Glasliner FRP liner panels are manufactured according to industry standard ASTM D-5319-2017
- Fire Ratings: Glasliner panels are available in 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 0.090" 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 x 10⁵	3.1 x 10 <sup>5</sup>		
Tensile Strength	ASTM D-638	PSI	8,000	7,000		
Tensile Modulus	ASTM D-638	PSI	9.43 x 10 <sup>5</sup>	3.1 x 10 <sup>5</sup>		
% Elongation	ASTM D-638	%	1.20	1.80		
Water Absorption 21º 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/ºF	2.22 x10 <sup>-5</sup>	2.39 x 10 <sup>-5</sup>		
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	<b>≤</b> 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 in skids no more than 5 skids high.
- Do not allow moisture to collect on or in between panels.



#### **COLOR SELECTIONS**



**Bright White** 



**Light Gray** 



Ivory



Black



**Almond** 



Silver



Beige

#### **INSTALLATION INSTRUCTIONS**

# Safety

- Use eye protection.
- Wear filter mask to cover nose and mouth, especially when cutting.
- Refer to our website for sealant and adhesive recommendations.

#### **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
- Eye and Nose/Mouth Protection

#### **FINISH SELECTIONS**



**Traditional Pebbled Finish** 



Premium Gel Coat White only. Colors are special order



#### 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 the height measurement to allow for expansion.
- Allow for a 1/8" expansion gap around pipes and other projections.

# **Drilling Fastener Holes**

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

#### Installation reminders

- 1. Follow safety and fire guidelines during the installation and use of panels.
- 2. The first panel installed should be set to true with a plumb line.
- 3. The wall must be clean and flat.
- 4. Use moldings, silicone, nylon rivets, and adhesive for best installation.
- 5. Apply adhesive per the 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.











Installation of FRP Panels, in any application, should be approved by local building code officials before panels are ordered. Glasteel cannot ensure local code compliance in any or all situations.

NOTICE: Panels and components made of fiberglass (FRP), wood, vinyl or foam may be combustible.

DISCLAIMER and LIMITATION of Liability: The information contained in this literature is presented in good faith, and is believed to be accurate and reliable at time of publication. No representation, guarantee or warranty is made as to the completeness, reliability or accuracy of this information. This also includes NO IMPLIED WARRANTY OR MERCHANT ABILITY OR FUNCTIONAL USE FOR SPECIFIC APPLICATION.

# **ACCESSORIES**







End Cap



Divider Bar



**Outside Corner** 



Outside Corner Angle



Nylon Rivets



FRP Adhesive



Panel Adhesive
Allows new FRP panels
to be applied over
existing FRP panels

# **Applying Adhesive**

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

The actual requirements may vary. Call Glasteel for complete installation instructions.



# **CEILING PANELS**





**Moisture resistant** - does not support mold or mildew



Rustproof - 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 ← 0.25"

• Class C: General Purpose

• Class A: Fire Retardant

# **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**

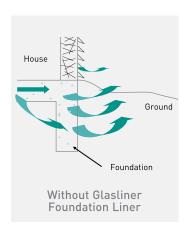
 Panel formulation makes for a strong, rigid ceiling panel.

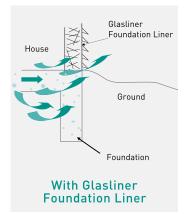
# **FOUNDATION LINER**

# GLASLINER CAN BE INSTALLED DIRECTLY ON 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.





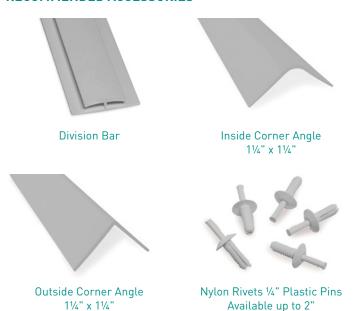




#### **FEATURES**

- UV Resistant
- 0.060" thickness
- Stain, odor and moisture resistant
- Insect and pest resistant
- Shatter resistant
- Energy efficient
- Attractive gray pebble 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

#### RECOMMENDED ACCESSORIES



<sup>\*</sup> Savings from insulated foundations vary with fuel prices, heating equipment, performance and climate.

# **SIZES**

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



# THE BEST PRODUCTS, SERVICE, PRICE & SELECTION 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.

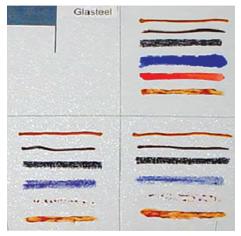
#### **Evaluation of Findings**

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 that 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 their 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 the use of stronger chemical such as alcohol and acetone to fully remove the stains. It should be noted that the blue ink stain was not completely removed from 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

# ALL GLASLINER FRP PRODUCTS ARE GREENGUARD CERTIFIED, CONTRIBUTING TO IMPROVED INDOOR AIR QUALITY

#### WHAT IS GREENGUARD CERTIFICATION?

Simply put, GreenGuard Certification ensures that a product is low-emitting. Products carrying the GreenGuard mark have been independently tested and re-tested to demonstrate that they meet GreenGuard's rigorous third-party chemical emissions standards.

GreenGuard's standards are based on established emissions criteria used by the U.S. Environmental Protection Agency (EPA), the State of California, Germany's Blue Angel Program and reputable public health agencies.



# Why is indoor air quality important?

Whether inside a home, school, business or hospital, people expect their indoor environments to be healthy and safe. Unfortunately, indoor spaces are often filled with potentially harmful pollutants.

Volatile organic compounds (VOCs) are chemicals that are released into the air from everyday furnishings, building materials and products – items like furniture, flooring and cleaners. Once airborne, VOCs can be easily inhaled by building occupants and trigger a number of health problems.

#### BENEFITS OF GREENGUARD CERTIFIED PRODUCTS

- Furnishing your building with GreenGuard Certified low-emitting products allows you to create a healthier indoor environment by improving the indoor air quality.
- GreenGuard-certified products meet some of the most stringent chemical emissions requirements in the world. Products have been independently, scientifically screened for more than 10,000 chemicals, and they are regularly monitored and retested to ensure they comply with GreenGuard standards.
- Selecting third-party certified, independently tested products helps ensure you are choosing healthier products for your building (and the air you breathe).

For more information on creating a healthier indoor environment, go to www.greenguard.org and take the interactive tour on the Consumer page.



# ADDITIONAL PRODUCT LINES OFFERED BY GLASTEEL:







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