

# **GREENGLASS**® Tile Backer

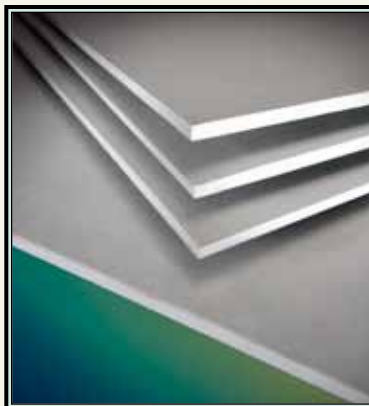
a *Temple-Inland* product



**Need superior moisture and mold resistance  
*plus* high recycled content? We've got your back.**

## **Introducing New GreenGlass® Fiberglass-Faced Tile Backer**

GreenGlass® fiberglass-faced gypsum tile backer delivers the tough moisture and mold protection so critical in high-moisture or humidity areas, plus a high recycled content level – at least 90% – that can give you a serious advantage towards environmental certification. GreenGlass is a superior tile substrate for walls, ceilings, shower and tub enclosures, countertops and residential or light commercial floors. It's ideal for use in



commercial and industrial kitchens, laundry or utility rooms, locker rooms, laboratory white rooms, operating rooms, enclosed swimming pools, residential steam rooms and even in high-humidity non-tile areas. Basically anywhere that moisture and mold resistance is crucial. When it comes to meeting the most demanding design requirements and setting the greenest construction standard, GreenGlass tile backer has your back.

*Tough as expected. Green as it gets.*

**Temple-Inland®**

## Excellent dimensional stability. Powerful moisture protection.

GreenGlass<sup>®</sup> tile backer features a built-in moisture-blocking acrylic coating that resists water penetration through its surface plus a water-resistant gypsum core formulated with the TemShield<sup>®</sup> Mold Protection System. Faced on both sides with naturally mold- and moisture-resistant fiberglass mats, GreenGlass is strong and durable, delivering a flat, stable and uniform substrate for tile applications.

## Ease of Application

GreenGlass tile backer is easy to install. It scores and snaps like traditional gypsum board and offers improved handling over most fiberglass-faced alternatives, thanks to Temple-Inland's better glass fiber encapsulation. GreenGlass also cuts cleaner and with less dust than typical cement and fiber-cement backer boards. Plus, it's lighter, which minimizes application time and installer fatigue. Finally, GreenGlass features a built-in moisture barrier that eliminates the cost and labor of installing a separate water-proof membrane often required with cement backer boards.

## Ideal Applications

Designed to be versatile, GreenGlass tile backer is ideal for wet areas, non-wet areas, and even in high-humidity non-tile areas. It provides serious moisture and mold protection as well as impact, fire and sound resistance.

### Bathrooms

Shower and tub walls, floors and ceilings. May also be used as backing for laminate-faced panels or fiberglass tub/shower units.

### Commercial/Industrial Kitchens and Food Plants

Walls, countertops, back splashes and floors. Approved as a Type X fire-resistant panel for use in many fire-rated assemblies even without tile application.

### Indoor Pool Areas/Locker Rooms

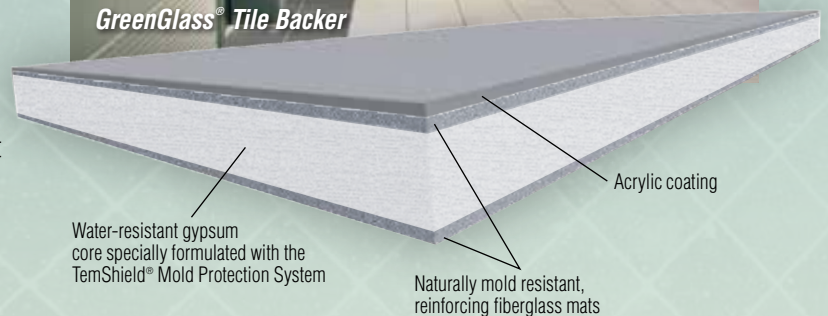
Used for its moisture barrier and moisture- and sound-resistant qualities in tile and non-tile, humid, high-traffic application areas.

### Residential Steam Rooms

Dimensionally stable and offers an even, solid surface upon which to lay the tile. Helps keep tile from shifting over time and compromising protection properties.

### Laboratory/Operating Rooms

Walls, floors and ceilings. The built-in moisture barrier blocks moisture at the surface, which helps prevent the potential of mold growth in critical environments. Eliminates the need for additional moisture/vapor retarder.



## Compliance

GreenGlass is IRC and IBC compliant in 1/4", 1/2" and 5/8" thicknesses and meets ASTM C1178 and applicable ASTM C1658, ASTM C1396 requirements as a fiberglass mat water-resistant gypsum substrate for use as a tile backer, as recognized by the Tile Council of North America (TCNA).

GreenGlass tile backer passed ceramic tile bond-strength testing conducted by the Tile Institute of America according to test standards ASTM C482 and ANSI A 137.1. Tests were performed on tile attached to a GreenGlass substrate using dry set (ANSI A 118.1) and polymer-modified (ANSI A 118.4) mortar to verify compliance with the Uniform Building Code.

TYPICAL PROPERTIES			
	1/4"	1/2"	*5/8"
Dimensions (Width x Length <sup>1</sup> )	3' x 5'	3' x 5'	4' x 8'
	4' x 4'	4' x 8'	
Edge	Square	Square	Square
Weight (Lbs./Sq. Ft.)	1.40	1.85	2.3
Textured Face Surface	Acrylic	Acrylic	Acrylic
Water Absorption	≤ 5%	≤ 5%	≤ 5%
Combustibility	Non-combust.	Non-combust.	Non-combust.
Standard Specification	ASTM C1178	ASTM C1178	ASTM C1178
	ASTM C1658	ASTM C1658	ASTM C1658
	ASTM C1396	ASTM C1396	ASTM C1396

\*5/8" complies with UL designs and requirements for Type X products.

<sup>1</sup>Other lengths available. Ask your Temple-Inland representative.

## Mold and Moisture Resistance

Produced with the TemShield Mold Protection System engineered into its gypsum core, GreenGlass tile backer is faced on both sides with naturally mold-resistant fiberglass mats. It scored a 10, the highest possible value, when tested in accordance with ASTM D3273, the standard test for mold resistance.

In addition, the water-resistant core of GreenGlass combined with its acrylic surface coating is designed to dramatically reduce wicking and moisture pass-through compared to cement-based backer panels. Moisture is stopped at the surface to resist buildup and damage within the wall cavity. Its water absorption of  $\leq 5\%$  was tested in accordance with C473.

In fact, thanks to its bonded acrylic-coated surface that acts as a built-in moisture barrier, the Tile Council of North America does not require the installation of a separate water-proof membrane behind GreenGlass as it does when cement backer boards are specified for wet area tile application.

*Note:* The ASTM D3273 lab test may not be applicable to the actual performance of building materials. No material may be labeled mold proof, and resistance to mold growth depends on many factors. Prolonged exposure to moisture may cause mold and mildew to grow on any surface. Therefore, in order to maximize the mold and mildew resistance of a material, it is essential that good design, handling and construction practices be implemented. This involves avoiding water exposure during all phases of storage, handling, shipping, installation and after installation is complete. See GA-238 for more information.

## Fire Resistance

GreenGlass tile backer is approved for use in a number of fire-rated assemblies. Tested in accordance with ASTM E136, GreenGlass  $5/8$ " Type X tile backer with acrylic coating is non-combustible, offers superior fire performance and may provide a fire-resistance rating of one or more hours depending upon the assembly in which it is applied. Tile installation is not required to achieve the fire-resistance rating. GreenGlass is a U.L.-classified substrate and can replace a  $5/8$ " Type X gypsum board in most fire-rated assemblies.

*Note:* Because ASTM procedures require that fire tests be conducted on complete building assemblies/systems and not just on the gypsum board itself, the ability of any particular gypsum board to pass a specific ASTM fire test may well depend on factors other than the fire resistance of the gypsum board being tested. These factors include the other components used to construct the building system being tested, the manner in which the system is constructed and the inherent variability of ASTM fire tests.

## Green Credits

Certified by Scientific Certification Systems (SCS) to contain at least 90% certified recycled material on a dry-weight basis, GreenGlass tile backer sets a high environmental standard. Specify it with confidence for your next project, knowing it will deliver consistent performance and contribute valuable credits in greenbuilding rating systems such as LEED and the NAHB's Green Building Standard.

GreenGlass is also third-party certified by Materials Analytical Services, LLC (MAS) to meet the performance standard established for low-emitting



materials under the Collaborative for High Performance Schools (CHPS) program. Projects using these products are eligible for contribution toward credit IEQ 4.6 in the 2009 LEED for Schools rating system and CHPS credit EQ 2.3.6, encouraging the use of gypsum board with low Volatile Organic Compounds (VOCs) emissions. In addition, MAS testing verified GreenGlass to be free of sulfur emissions.

### LEED-NC CONTRIBUTION

The use of GreenGlass tile backer can contribute toward credits in these two LEED-NC certification categories:

**MR credit 4** - Recycled Content - awards 1 or 2 points for using products with recycled content that constitute at least 10% or 20%, based on cost, of the total value of project materials.

**MR credit 5** - Locally Produced Materials - awards 1 or 2 points for using materials that are extracted and manufactured within 500 miles that constitute at least 10% or 20%, based on cost, of the total value of project materials.

### NAHB GREEN BUILDING STANDARDS

GreenGlass also contributes greatly toward N.A.H.B. Green Building Standard credits in the following certification category:

**NAHB 604.1(2)** - Pre-Consumer Recycled Content - specifies the use of recycled content products in major areas such as walls, floors, insulation and roofing.

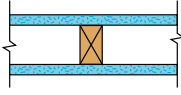
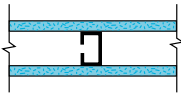
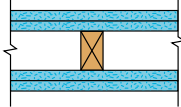
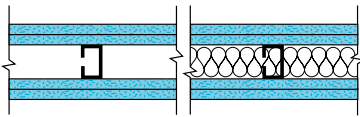
**CAUTION:** GreenGlass contains glass fibers. See our website for more important details on handling to avoid contact and inhalation of these fibers.

## Typical Assemblies and Installation Details

GreenGlass® tile backer is approved for use in a variety of assemblies and applications. Installed either vertically or horizontally, GreenGlass is ideal for commercial, multi-family and residential construction. GreenGlass 5/8" Type X tile backer can be used anywhere Type X board is generically specified. Below are several typical examples.

**LIMITATIONS/INSTALLATION INSTRUCTIONS:** See our website for important design and application limitations as well as installation instructions for a variety of tile and non-tile applications in areas such as walls, tubs, showers, countertops, floors and more.



<p>FR 1 HR. STC 30-34</p>	<p style="text-align: center;"><b>PROPRIETARY</b></p> <p><b>Load-Bearing Wall</b></p> <p><i>Construction Type: Gypsum Wallboard, Wood Studs</i></p> <p>One layer 5/8" type X GreenGlass gypsum board, water-resistant gypsum backing board, or gypsum veneer plaster base applied parallel or at right angles to each side of 2 x 4 wood studs 16" o.c. with 6d coated nails, 1 1/8" long, 0.0915" shank, 1/4" heads, 7" o.c. Joints of square edge, bevel edge or predecorated wallboard may be left exposed.</p> <p>Joints staggered 16" on opposite sides. (LOAD-BEARING)</p>	 <p><b>Thickness:</b> 4 7/8" <b>Limiting Height:</b> Refer to mfg. <b>Approx. Wt:</b> 7 psf <b>Fire Test:</b> UL Design U305, UL R1319-4, -6, 6-17-52; UL R2717-39, 1-20-66; UL R3501-52, 3-15-66; ULC W301 <b>Sound Test:</b> OR 54-8, 2-4-64</p>
<p>FR 1 HR. STC 35-39</p>	<p style="text-align: center;"><b>PROPRIETARY</b></p> <p><b>Non-Tile Walls or Ceilings</b></p> <p><i>Construction Type: Gypsum Wallboard, Steel Studs</i></p> <p>One layer 5/8" type X GreenGlass gypsum board or gypsum veneer base applied parallel or at right angles to each side of 3 5/8" steel studs 24" o.c. with 1" Type S drywall screws 8" o.c. at vertical joints and 12" o.c. at floor and ceiling runners and intermediate studs.</p> <p>Joints staggered 24" on opposite sides. (NLB)</p>	 <p><b>Thickness:</b> 4 7/8" <b>Limiting Height:</b> Refer to mfg. <b>Approx. Wt:</b> 6 psf <b>Fire Test:</b> UL Design U465, FM WP-45, 6-19-68; OSU T-1770, 8-61; ULC 79T484, 79T500, 79T497, 8-21-81, ULC W415 <b>Sound Test:</b> NGC 2005004, 6-15-05; RAL TL06-114, 4-11-06</p>
<p>FR 2 HR. STC 40-44</p>	<p style="text-align: center;"><b>PROPRIETARY</b></p> <p><b>Load-Bearing Wall</b></p> <p><i>Construction Type: Gypsum Board, Wood Studs</i></p> <p>Base layer: 5/8" type X GreenGlass gypsum board or gypsum veneer base applied at right angles to each side of 2 x 4 wood studs 24" o.c. with 6d coated nails, 1 1/8" long, 0.085 shank, 1/4" heads, 24" o.c.</p> <p>Face layer: 5/8" type X GreenGlass gypsum board or gypsum veneer base applied at right angles to each side with 8d coated nails, 2 3/8" long, 0.100" shank, 1/4" heads, 8" o.c.</p> <p>Joints staggered 24" each layer and side. Sound tested with studs 16" o.c. and with nails for base layer spaced 6" o.c. (LOAD-BEARING)</p>	 <p><b>Thickness:</b> 6 1/8" <b>Limiting Height:</b> Refer to mfg. <b>Approx. Wt:</b> 12 psf <b>Fire Test:</b> UL Design U301, FM WP 360, 9-27-74 <b>Sound Test:</b> NGC 2353, 4-1-70</p>
<p>FR 2 HR. STC 55-59</p>	<p style="text-align: center;"><b>PROPRIETARY</b></p> <p><b>Non-Tile Walls or Ceilings</b></p> <p><i>Construction Type: Gypsum Wallboard, Steel Studs</i></p> <p>Base layer: 5/8" type X GreenGlass gypsum board or gypsum veneer base applied parallel or at right angles to each side of 3 5/8" steel studs 24" o.c. with 1" Type S drywall screws 24" o.c.</p> <p>Face layer: 5/8" type X GreenGlass gypsum board or gypsum veneer base applied parallel or at right angles to each side with 1 3/8" Type S drywall screws 12" o.c.</p> <p>Joints staggered 24" each layer and side. Sound tested with 3 1/2" glass fiber friction fit in stud space. (NLB)</p>	 <p><b>Thickness:</b> 6 1/8" <b>Limiting Height:</b> Refer to mfg. <b>Approx. Wt:</b> 12 psf <b>Fire Test:</b> UL Design U411, See WP 1548 (WHI-495-0236, 1-30-80) <b>Sound Test:</b> NRCC 818-NV, 2-3-81</p>

