

CertainTeed

# **Diamondback**<sup>®</sup>

*GlasRoc<sup>®</sup> Tile Backer*



**CertainTeed**  
SAINT-GOBAIN



# Diamondback® GlasRoc® Tile Backer

## Product Overview

Diamondback® Tile Backer is a superior tile substrate for walls and ceilings, especially designed by CertainTeed to meet the demands of high-moisture areas. Diamondback 1/4" Tile Backer (6.4 mm) is suitable for use as an underlayment for tile countertops and floor applications. With an innovative, built-in moisture-blocking coating that resists moisture at the surface, Diamondback Tile Backer protects tile installations and wall cavities from moisture intrusion and excessive vapor transfer by eliminating the need for a separate moisture barrier. Because paperless tile backer boards provide increased mold resistance, Diamondback Tile Backer is well-suited for tile and non-tile installations in wet and non-wet applications, areas of high humidity and for fire-rated assemblies.



Diamondback® Sample

### Features

- Specially formulated water-resistant core.
- Excellent fire-resistance properties, and numerous fire-rated designs.
- Conformity to design and code requirements.
- Lifetime Limited Warranty for residential applications.
- 20 Year Limited Warranty for commercial applications.
- Meets ASTM C 1178, which is recognized by the Tile Council of North America (TCNA).
- Meets ASTM C 627 Robinson Floor Test for use as underlayment [1/4" (6.4 mm)]
- Reduced surface alkalinity versus conventional cement board.

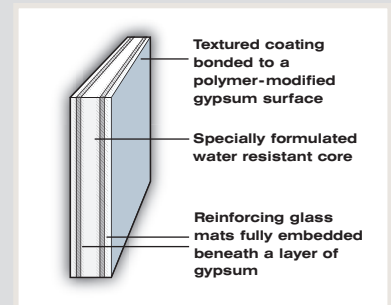
### Advantages

- The unique texture coating and pattern design create a superior bond between the board surface and tile adhesive that helps prevent tile slippage during installation.
- A superior water-resistant surface that inhibits water vapor permeance.
- Mold resistance rating of 10 when tested in accordance with ASTM D 3273.
- Lighter weight than typical gypsum, cement and fiber cement backer boards.
- Cuts like regular gypsum board and is easy to handle and install – with minimal skin irritation due to fully embedded glass mats.
- Low VOCs; GREENGUARD Children and Schools<sup>SM</sup> Certified.

## EGRG® Products – Superior Technology

CertainTeed's EGRG® products feature unique Embedded Glass Reinforced Gypsum® (EGRG®) technology. This patented\* technology combines a protective coating on the face, with reinforced glass mats fully embedded into a water-resistant gypsum core, positioned beneath a polymer-modified gypsum surface. The EGRG offering provides:

- Water-resistant, paperless surface that is designed to meet the requirements of the application.
- Numerous fire-rated assembly designs for safety and performance.
- Moisture and mold resistance for protection and durability.
- Lightweight and designed to cut like regular gypsum board for ease of installation.



\*Covered by U.S. Patent No. 6,524,679; 6,878,321; 6,866,492; and other patents pending.

# Technical Properties

Properties	Diamondback® Tile Backer 1/4" (6.4 mm)	Diamondback® Tile Backer 1/2" (12.7 mm)	Diamondback® Tile Backer Type X 5/8" (15.9 mm)
Sizes Available*	3' x 5' (915 mm x 1525 mm) 4' x 4' (1220 mm x 1220 mm)	32' x 5' (815 mm x 1525 mm) 3' x 5' (915 mm x 1525 mm) 4' x 5' (1220 mm x 1525 mm) 4' x 8' (1220 mm x 2440 mm)	4' x 5' (1220 mm x 1525 mm) 4' x 8' (1220 mm x 2440 mm)
Weight - Lbs/Sq.Ft. (Kg/m²)	1.6 (7.8)	1.9 (9.3)	2.4 (11.7)
Flame Spread/Smoke Developed***	less than 25/50	less than 25/50	less than 25/50
Mold Resistance Rating**	10	10	10
Standard Specification	ASTM C 1178	ASTM C 1178	ASTM C 1178

\* Other lengths available. Ask your CertainTeed sales representative.  
 \*\* No mold growth detected. Note that 10 is highest rating possible.  
 \*\*\* Tested per ASTM E 84, CAN/ULC-S102.

## Code Compliance and Testing Standards

Diamondback® products are IRC, IBC and National Building Code of Canada compliant in 1/4" (6.4 mm), 1/2" (12.7 mm) and 5/8" (15.9 mm) thicknesses and meets ASTM C 1178 as a glass mat water-resistant gypsum backing panel for use as a tile backer, as recognized by the Tile Council of North America (TCNA).

The TCNA recommends the use of a moisture barrier for cement backer boards in wet areas; however, Diamondback products have a built-in moisture barrier that stops moisture at the surface, thereby eliminating the need for an additional barrier.

**Mold Resistance Test** – When tested in accordance with ASTM D 3273, Diamondback products exhibited no evidence of mold or fungal growth after a period of 28 days of exposure, yielding a rating of 10, the best level of performance for mold resistance.

Under certain job site conditions, mold resistance for building products may produce different results than those achieved in a controlled, laboratory setting; however, when handled properly, using appropriate design methods and construction practices, CertainTeed's Embedded Glass Reinforced Gypsum® (EGRG®) Technology provides increased mold resistance compared to standard moisture resistant paper faced wallboard.

**Diamondback Tile Backer products meet ASTM C 1178, which is referenced by the Tile Council of North America (TCNA).**

**1/4" (6.4 mm) Diamondback Tile Backer has passed the ASTM C 627 Robinson Floor Test for residential and light commercial floors. This includes TCNA Recognition for specific Floor Systems.**

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Through the responsible development of innovative and sustainable building products, CertainTeed has helped shape the building products industry for more than 100 years. Founded in 1904 as General Roofing Manufacturing Company, the firm's slogan "Quality Made Certain, Satisfaction Guaranteed," quickly inspired the name CertainTeed. Today, CertainTeed® is North America's leading brand of exterior and interior building products, including roofing, siding, fence, decking, railing, trim, foundations, pipe, insulation, gypsum, ceilings and access covers.



# Bathtub and Shower Walls, Ceilings and Floors

## Walls or Ceilings

When using Diamondback® Tile Backer as a tile substrate in residential wall applications, panels should be installed with the textured side facing the interior. Tiles should always be applied to the textured side.

Diamondback Tile Backer can be scored and cut with a standard utility knife and requires no special tools. Working from the textured side, pieces snap after scoring only one face. After cutting panels to required size, make cutouts and then snug fit ends and edges, being certain not to leave gaps between panels.

When used as a tile substrate for walls, minimum 20-gauge steel or wood framing should not exceed 16" (400 mm) o.c. without blocking for 1/2" (12.7 mm); or 24" (610 mm) o.c. for 5/8" (15.9 mm). Panels can be applied horizontally or vertically.

When used as a tile substrate for ceilings, panels should be applied perpendicular to framing. Framing should be spaced no greater than 12" (300 mm) o.c. for 1/2" (12.7 mm) thickness or 16" (400 mm) o.c. for 5/8" (15.9 mm) thickness. For walls and ceilings, fasteners should be spaced 6" (150 mm) o.c. on wood and metal framing. Drive fasteners flush with textured surface and do not countersink. Use 1-1/2" (38 mm) galvanized roofing nails for 1/2" (12.7 mm) and 1-3/4" (44 mm) for 5/8" (15.9 mm) Diamondback products. For 1/2" (12.7 mm)

Diamondback product, use 1-1/2" (38 mm) (minimum) corrosion-resistant backerboard screws. For 5/8" (15.9 mm) Diamondback product, use 1-5/8" (41 mm) (minimum) corrosion-resistant backerboard screws. Using nominal 2" (50 mm) wide alkali-resistant fiberglass mesh tape such as FibaTape® Cement Board Tape, bed tape on all joints and corners with material used to set tiles. Apply sealant to seal fixture and plumbing penetrations and abutments to dissimilar materials. If Diamondback Tile Backer meets gypsum board outside the shower, and tiles extend beyond the gypsum board joint and Diamondback Tile Backer, apply nominal 2" (50 mm) wide alkali-resistant fiberglass mesh tape, such as FibaTape® Cement Board Tape, to the joint and skim with latex-modified thinset.

If Diamondback Tile Backer meets gypsum board outside the shower, and tiles end before the gypsum board joint and Diamondback Tile Backer, apply nominal 2" (50 mm) wide fiberglass mesh tape such as FibaTape® Mold-X10™ Drywall Tape to the joint and skim with setting type joint compound, such as CertainTeed® M2Tech® 90, in order to create a smooth, paintable surface.

## Residential and Light Commercial Floors

1/4" (6.4 mm) Diamondback Tile Backer is approved for use as an underlayment for

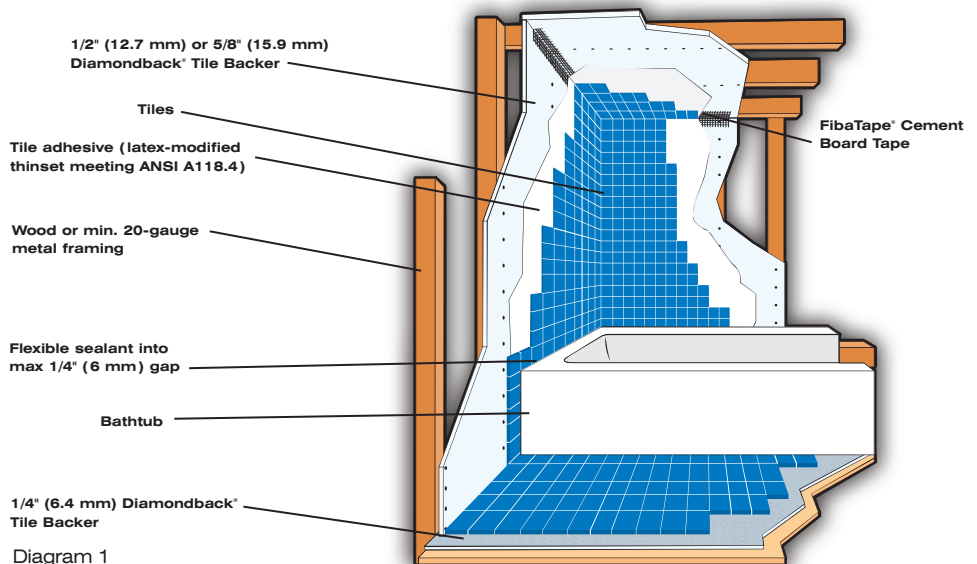
interior residential and light commercial floor tile applications as defined in the TCNA Handbook for Ceramic, Glass, and Stone Tile Installation.

Install 1/4" (6.4 mm) Diamondback product over the 3/4" (19.1 mm) plywood subfloor with the textured pattern side up using a latex-modified thinset (ANSI A118.4 or better) liberally applied with a 1/2" x 1/2" (12.7 x 12.7 mm) square-tooth notched trowel. The Diamondback product is embedded into the mortar while still pliant. Diamondback Tile Backer board joints are to be staggered to not align with the subfloor joints and butted tightly. Fasten Diamondback Tile Backer to the subfloor with 1-1/4" (32 mm) corrosion-resistant screws beginning in the center of each board and working toward the edges. Space fasteners a maximum 8" (200 mm) o.c. in both directions, driving them flush with the surface (Do Not Countersink). Apply a thin coat of latex-modified thinset (ANSI A118.4 or better) to board joints and embed 2" wide alkali-resistant fiberglass mesh tape with latex-modified thinset. Apply flooring-grade tile with latex-modified thinset (ANSI A118.4 or better) using a 1/4" x 1/4" (6.4 x 6.4 mm) square-tooth notched trowel. Use a 2" x 2" (51 x 51 mm) or larger floor-grade tile. Apply standard floor grout (ANSI A118.6) or polymer modified grout (ANSI A118.7) to the tile joints in accordance with manufacturer's application instructions.

## Special notes:

Do not use an additional moisture barrier. (Diamondback Tile Backer has a built-in moisture barrier).

- Do not use all-purpose joint compound or paper tape in wet areas. Use nominal 2" (50 mm) wide alkali-resistant fiberglass mesh tape.
- In all corners, prior to applying the mesh tape, apply a small bead of sealant to the joint without spreading it over the face of Diamondback.
- Do not use Diamondback Tile Backer as a base for nailing and mechanical fastening.
- Do not laminate Diamondback Tile Backer directly to concrete or masonry block. Framing or furring of wall is necessary.



## Shower Receptors

Before installing Diamondback® Tile Backer on walls (see Diagram 2), the shower pan or rubber membrane must be adequately sloped to the main drain or weep-hole so as not to impede proper water drainage.

For showers with curbs, a waterproof membrane must be applied up walls for a minimum of 3" (75 mm) and a maximum of 6" (150 mm) above the finished curb. Diamondback Tile Backer should not be used in the curb.

For showers without curbs, a waterproof membrane should be applied up walls for a minimum of 6" (150 mm) and a maximum of 8" (200 mm). Satisfactory blocking should be applied at the bottom framing (e.g., wood).

Special notes: Do not place Diamondback Tile Backer into the shower mortar bed. Leave a maximum 1/4" (6 mm) gap and fill with flexible sealant.

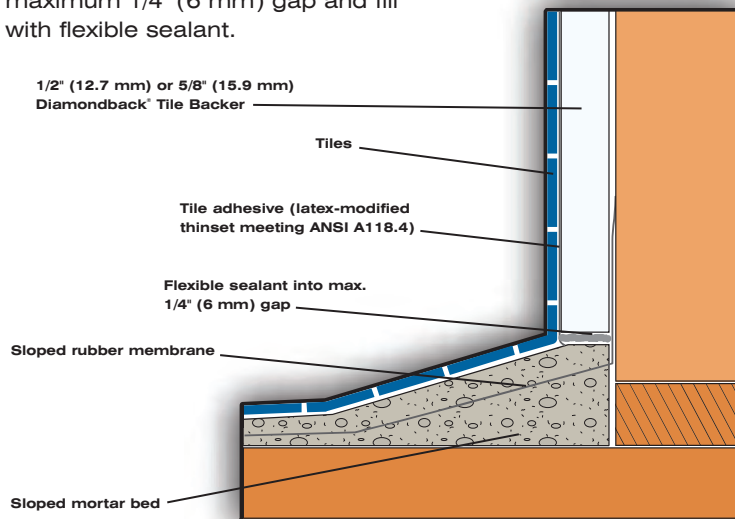


Diagram 2

## Bathtub or Shower Receptor

Diamondback Tile Backer may be applied on walls horizontally or vertically.

Thoroughly filling the space between the tile and tub with a flexible sealant will help prevent water penetration.

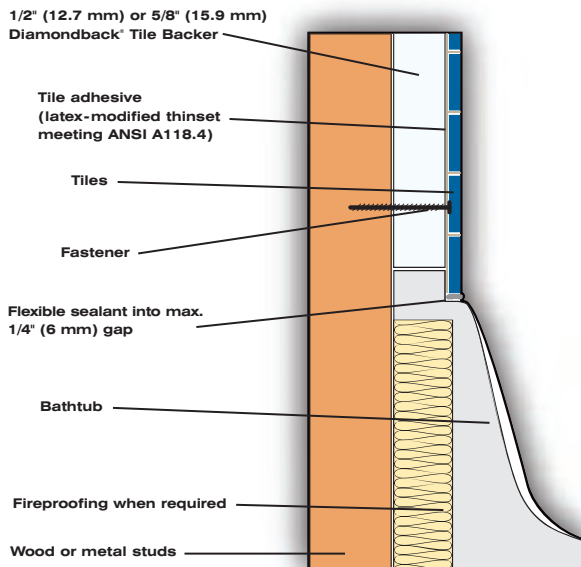


Diagram 3

## Shower Pan

Additional Notes: Diamondback Tile Backer may be applied on walls horizontally or vertically.

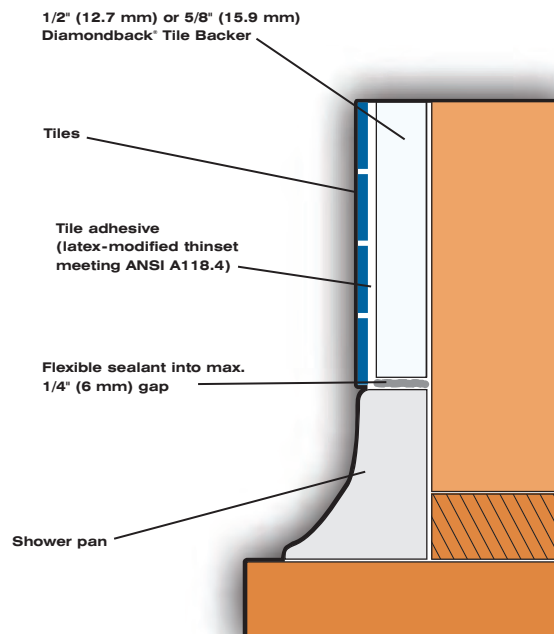


Diagram 4

# Countertops

When using Diamondback® Tile Backer on countertops (see Diagram 5), a minimum 23/32" (18.3 mm) exterior glue plywood base must first be installed flat and level, followed by a bedding coat of latex-modified thinset on the plywood using a 1/4" x 1/4" x 1/4" (6 mm x 6 mm x 6 mm) notched trowel. Framing spacing should not exceed 24" (610 mm) o.c. Overhangs, expansion/control joints on cantilever counters must be supported to prevent movement.

Apply clean, dry Diamondback product to the base with the textured side facing out prior to the leveling material setting up. Fasten panel every 6" to 8" (150 mm to 200 mm) o.c. in both directions, using 1-1/4" (32 mm) galvanized roofing nails or 1-1/4" (32 mm) corrosion-resistant backerboard screws.

Stagger joints of Diamondback Tile Backer panels with those of the plywood base, butting joints tightly. Tape all joints and corners using nominal 2" (50 mm) wide self-adhering, alkali-resistant fiberglass mesh tape, such as FibaTape® Cement Board Tape and embed the tape with latex cement mortar that meets ANSI A118.4.

Install tile using latex-modified thinset, expansion/control joints and grout in accordance with ANSI A108.

Use a waterproof membrane (ANSI A118.10) to seal edge and bottom of plywood overhang at face of counter and all other plywood surfaces and edges that will be exposed to water or moisture, especially around automatic dishwashers.

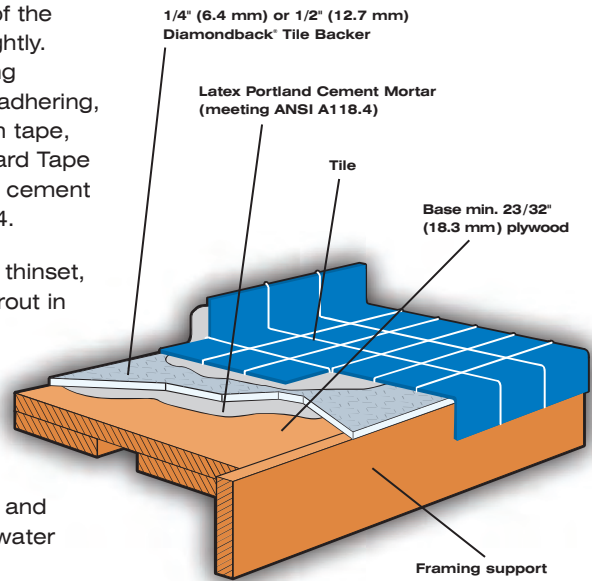


Diagram 5

# Non-Tile Walls or Ceilings

## Non-Tile, Non-Wet, High-Humidity Areas

Diamondback Tile Backer may also be used in interior non-tile areas that do not come in contact with water, but that experience exposure to high levels of humidity intermittently, such as areas outside tubs and showers in residential construction (see Diagram 6).

For walls, wood framing or steel (25-gauge min.) should be spaced no greater than 16" (400 mm) o.c. for 1/2" (12.7 mm) Diamondback Tile Backer and 24" (610 mm) o.c. for 5/8" (15.9 mm) Diamondback Tile Backer. For ceilings, Diamondback Tile Backer should be installed perpendicular to framing with framing spaced no greater than 12" (300 mm) o.c. for 1/2" (12.7 mm) thickness and 16" (400 mm) o.c. for 5/8" thickness.

Apply nominal 2" (50 mm) wide fiberglass mesh tape, such as FibaTape® Mold-X10™ Drywall Tape, over joints and angles, embedding the tape in a setting-type joint compound, such as CertainTeed's mold resistant CertainTeed® M2Tech® 90 Setting Compound. Using a trowel, apply a heavy skim coat to the entire panel with the compound to create a smooth surface for

paint or wallpaper application. If necessary to create a suitably smooth surface, apply an additional medium skim coat of all purpose joint compound, such as CertainTeed All-Purpose or Lite All-Purpose ready-mixed joint compounds. Before applying paint or wallpaper, the surface should be primed for high-moisture areas as recommended by the product's manufacturer for applications over setting type joint compound.

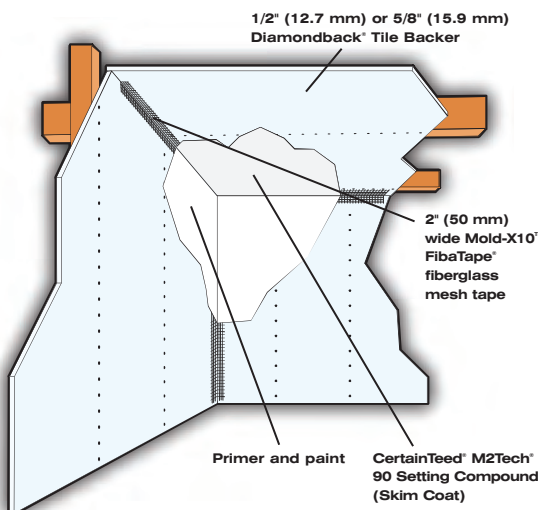


Diagram 6

## Finishing Products



CertainTeed® Light Sand 90



CertainTeed M2Tech® 90 Setting Compound



CertainTeed All-Purpose



CertainTeed Mould Resistant Lite All-Purpose



FibaTape® Mold-X10 Drywall Tape



FibaTape® Cement Board Tape

# Fire-Rated Assemblies

## Diamondback® Tile Backer Type X: The Ultimate Choice

- CertainTeed offers over 70 Type X fire-rated designs in the GlasRoc® family.
- 5/8" (15.9 mm) Diamondback® Tile Backer meets Type X requirements.
- Tile installation is not required to achieve a 1- or 2-hour fire rating.
- Aligns perfectly with 5/8" (15.9 mm) CertainTeed and M2Tech® Type X gypsum board and is UL Classified.

### 1-Hour Fire Rating

Test Reference: UL U305

Partition Thickness: 4-3/4" (120.7 mm)

Weight, lbs. per Sq. Ft.: 6.8 (33.2 Kg/m<sup>2</sup>)

5/8" (15.9 mm) Diamondback® Tile Backer Type X applied parallel or at right angles to 2 x 4 wood studs 16" (400 mm) o.c. with 1-7/8" (48 mm) phosphate coated nails 7" (175 mm) o.c. Joints staggered each side and covered with nominal 2" (50 mm) wide 10 x 10 alkali-resistant fiberglass mesh tape and tile adhesive. (Load bearing)

### 2-Hour Fire Rating

Test Reference: UL U301

Partition Thickness: 6" (152 mm)

Weight, lbs. per Sq. Ft.: 12.0 (58.6 Kg/m<sup>2</sup>)

Base Layer: 5/8" (15.9 mm) CertainTeed® and M2Tech® Type X or Diamondback Tile Backer Type X gypsum board. Base layer attached horizontally or vertically to minimum 2 x 4 wood studs 16" (400 mm) o.c. with 1-7/8" (48 mm) nails spaced 6" (150 mm) o.c.

Face Layer: 5/8" (15.9 mm) Diamondback Tile Backer Type X applied horizontally or vertically. Face layer attached to studs over base layer with 2-3/8" (60 mm) nails spaced 8" (200 mm) o.c. Vertical joints located over studs. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side. (Load bearing)

### 2-Hour Fire Rating

Test Reference: UL U411

Partition Thickness: 5" (127 mm)

Weight, lbs. per Sq. Ft.: 11 (53.7 Kg/m<sup>2</sup>)

Base Layer: 5/8" (15.9 mm) CertainTeed and M2Tech® Type X or Diamondback Tile Backer Type X gypsum board applied parallel to each side of 2-1/2" (64 mm) metal studs 24" (600 mm) o.c. with 1" (25 mm) Type S screws 16" (400 mm) o.c.

Face Layer: 5/8" (15.9 mm) Diamondback Tile Backer Type X applied parallel to each side of studs with 1-5/8" (41 mm) Type S screws 16" (400 mm) o.c. at edge joints, 12" (300 mm) o.c. at perimeter and intermediate studs. Stagger joints 24" (600 mm) o.c. each layer and side. (Non-load bearing)

See "UL Fire Resistance Directory" for additional fire-rated assemblies.



## Diamondback® Tile Backer Benefits

### Better Physical Performance

Tested in accordance with ASTM C 1178, Diamondback Tile Backer meets or exceeds all physical property requirements.

### Enhanced Dimensional Stability

Diamondback Tile Backer resists delamination, rippling, buckling and sagging related to environmental conditions, such as changes in temperature and relative humidity. Diamondback Tile Backer will provide a flat and uniform substrate for tile applications. To back it up, CertainTeed provides a lifetime limited warranty for residential applications and a 20 year limited warranty for commercial applications.

### Enhanced Fire Protection

Testing in accordance with ASTM E 136 proved that Diamondback Tile Backer Type X is noncombustible and offers superior fire performance. It achieves a flame-spread/smoke developed rating of less than 25/50 when tested per ASTM E 84, CAN/ULC-S102. Diamondback Tile Backer Type X is UL Classified for Fire resistance for use in fire rated designs. (UL Designation – Type EGRG or GlasRoc)

### Easy to Handle and Install

Diamondback Tile Backer is handled and installed like regular paper-faced gypsum.

In addition, it:

- Is significantly lighter than conventional cement board, resulting in lower installation cost.
- The unique texture coating and pattern design create a superior bond between the board surface and tile adhesive that helps prevent tile slippage during installation.
- Moisture barrier face eliminates the need for additional moisture/vapor retarder.
- Can be scored and cut with a standard utility knife. No power tools required, reducing the amount of particle dust versus conventional cement board.
- Snaps free after scoring only one face
- Is easier to handle because skin irritations are minimized due to fully embedded glass mats and our innovative coating on the face.
- Has uniform field and edge hardness, making trimming and fastening quick and easy, as well as, reducing occurrence of overdriven fasteners.

### Low VOCs; GREENGUARD Children & Schools<sup>SM</sup> Certified

### Moisture and Mold Resistance

Because Diamondback Tile Backer contains no starches or sugars, it naturally resists mold growth. When tested in accordance with ASTM D 3273, Diamondback Tile Backer exhibited no evidence of mold after a period of 28 days of exposure, yielding a rating of 10, the highest rating possible.

### Increased Durability

Diamondback Tile Backer resists delaminating because the glass mats are fully embedded into the panel, creating a more durable, dimensionally stable panel.

### Standards and Code Compliance

Diamondback Tile Backer conforms to ASTM C 1178 standards for glass mat water-resistant gypsum backing panel for use as a tile backer. Installation standards, where applicable, are per the Tile Council of North America Inc.'s TCNA Handbook for Ceramic, Glass and Stone Tile Installation for glass mat water-resistant gypsum backer board.



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