

# PermaBASE UltraBacker<sup>®</sup> Cement Board

09 28 00 / NGC

Technical Information  
800.NATIONAL • 800.628.4662

## DESCRIPTION

PermaBASE UltraBacker<sup>®</sup> Cement Board features a smooth mesh and mat surface that creates a more rigid and easier to handle product and an improved surface providing superior tile bond. It is ideally suited as an underlayment for ceramic tile on floors, countertops, tub decks and outdoor kitchen counters.

## BASIC USES

### Applications

Use PermaBASE UltraBacker Cement Board as an underlayment for ceramic tile on floors, countertops, tub decks and outdoor kitchen counters.

### Advantages

- Smooth mesh and mat surface creates a more rigid and easier to handle product and provides superior tile bond.
- EdgeTech<sup>®</sup> Reinforced Edge allows for closer fastener application of nails or screws at the edge without crumbling or spinout.
- Cuts easily with a standard utility knife. No need for specialty or power tools.
- No need to modify adjacent thresholds when abutting to carpet, wood flooring or other common flooring materials, due to 1/4" (6.4 mm) thickness.
- Resists mold and moisture. Will not rot, disintegrate or swell when exposed to moisture.
- Works with all brands of thin-sets and grouts.
- Achieves UL GREENGUARD Gold Certification for low chemical emissions into indoor air during product usage. For more information, visit: [ul.com/gg](http://ul.com/gg).
- Qualifies as a low-VOC emitting material by meeting California Specification 01350.

## INSTALLATION RECOMMENDATIONS

### Interior Applications

**General:** All framing should comply with local building code requirements and be designed to provide support with a maximum allowable deflection of L/360 under all intended loads.

**Note:** Cut or score UltraBacker on printed side of panel. Install tile and tile setting materials in accordance with current ANSI specifications and Tile Council of North America (TCNA) guidelines.

**Control joints:** Consult finish manufacturer for spacing requirements. If no recommendation is available, allow a maximum of 30 lineal feet between control joints. A control joint must be installed but not limited to the following locations: where expansion joints occur in the framing or building. Follow specifications of architect. See TCNA Handbook, *Installation Method EJ171-Movement Joint Design Essentials*, for industry guidelines.

### Floors & Counters

**Subfloor or Base:** For flooring applications with 16" o.c. floor joists, 5/8" tongue-and-groove exterior grade plywood or 3/4" tongue and groove exterior grade OSB may be used. For 19.2" o.c. and 24" o.c. floor joists, 3/4" tongue and groove exterior grade plywood or OSB must be used. Tile size for floors with 24" o.c. floor joists must be 12" x 12" or larger. The joists and subfloor assembly must meet L/360, as well as the appropriate code tables, for live and dead loads.

**Underlayment:** Using a 1/4" square-notched trowel, apply a setting bed of Latex-Portland Cement mortar or Thin-Set mortar to the subfloor or counter base. Immediately laminate UltraBacker to subfloor or base leaving a 1/8" space between boards at all joints and corners. Leave a 1/4" gap along walls. Stagger joints so they do not line up with underlying substrate joints. Fasten UltraBacker every 8" o.c. throughout board field and around all edges while setting bed mortar is still workable. Around perimeter of each board, locate fasteners 2" from the corners and not less than 3/8" from the edges. Fill all joints solid with bonding material. On non-tapered joints, such as butt ends, apply a 6" wide, 1/16" thick coat over the entire joint. For all joints, embed fiberglass mesh tape fully into applied bonding material; ensure that tape is centered over joint. Apply bonding material over fasteners to fully conceal. Remove all excess bonding material and allow to cure.

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Job Name \_\_\_\_\_

Contractor \_\_\_\_\_ Date \_\_\_\_\_

Submittal Approvals: (Stamps or Signatures)

**PermaBASE**  
**ULTRA**  
**BACKER<sup>®</sup>**  
**CEMENT BOARD**

# PermaBASE UltraBacker® Cement Board

## TECHNICAL DATA

Physical Properties		1/4" PermaBASE UltraBacker
Thickness <sup>1</sup> , Nominal		1/4" (6.4 mm)
Weight, Nominal		1.8 lbs./sq. ft. (8.8 k/m <sup>2</sup> )
Edges		Round
Flexural Strength <sup>8</sup>		≥ 1,750 lbf.
Fastener Holding <sup>7</sup> (Wet and Dry)		≥ 90 lbs.
Freeze/Thaw Cycles <sup>10</sup>		100
Compressive Strength <sup>11</sup>		N/A
Thermal Resistance <sup>3</sup>		R = .2, K = 2.7
Permeance <sup>4</sup>		> 10 perms
Water Absorption <sup>9</sup> (% of Weight)		< 8%
Falling Ball Impact <sup>7</sup> (12" Drop)		Pass
Linear Variation with Change Moisture <sup>7</sup>		≤ 0.07%
Mold Resistance <sup>5</sup> , (ASTM D3273)		Score of 10
Mold Resistance <sup>6</sup> , (ASTM G21)		Score of 0
Product Standard Compliance		ASTM C1325
Fire-Resistance Characteristics		
Core Type		N/A
UL Type Designation		N/A
Surface Burning Characteristics <sup>2</sup>		Class A
Flame Spread <sup>2</sup>		0
Smoke Development <sup>2</sup>		0
Applicable Standards and References		
		ANSI A118.9 <i>Test Methods and Specification for Cementitious Backer Units</i>
		ASTM C473 <i>Standard Test Methods for Physical Testing of Gypsum Panel Products</i>
		ASTM C518 <i>Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus</i>
		ASTM C666 <i>Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing</i>
		ASTM C947 <i>Standard Test Method for Flexural Properties of Thin-Section Glass-Fiber-Reinforced Concrete (Using Simple Beam with Third-Point Loading)</i>
		ASTM C1325 <i>Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units</i>
		ASTM D1037 <i>Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials</i>
		ASTM D2394 <i>Standard Test Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring</i>
		ASTM D3273 <i>Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber</i>
		ASTM E84 <i>Standard Test Method for Surface Burning Characteristics of Building Materials</i>
		ASTM E96 <i>Standard Test Methods for Water Vapor Transmission of Materials</i>
		ASTM E330 <i>Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference</i>
		ASTM G21 <i>Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi</i>
		PermaBASE Building Products, LLC Manufacturer Standards, <i>NGC Construction Guide</i>
1. Specified values per ASTM C1396, tested in accordance with ASTM C473.		
2. Tested in accordance with ASTM E84.		
3. Tested in accordance with ASTM C518.		
4. Tested in accordance with ASTM E96.		
5. Tested in accordance with ASTM D3273 and rated in accordance with ASTM D3274.		
6. Tested in accordance with ASTM G21.		
7. Specified values per ASTM C1325, tested in accordance with ASTM D1037.		
8. Specified values per ASTM C1325, tested in accordance with ASTM C947.		
9. Tested in accordance with ASTM C473, 24-hour immersion.		
10. Per ANSI A118.9 procedure B. Tested in accordance with ASTM C666.		
11. Tested in accordance with ASTM D2394.		

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**ULTRA**  
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## LIMITATIONS

### Interior

- Treat joints with alkali-resistant fiberglass mesh tape set in a modified mortar.
- Do not use conventional paper gypsum board tape, joint compound and gypsum board nails or screws.
- Steel framing must be minimum 20-gauge (galvanized) (.0312" design thickness) or heavier.
- Do not use 1/4" UltraBacker on walls or ceilings.
- Do not use with vinyl flooring.
- Do not expose UltraBacker to temperatures over 220°F (105°C).
- Do not use UltraBacker as a nailing base for other finishes.

### Handling and Project Conditions

- Avoid water exposure during shipping, handling, storage, installation and after installation of cement boards to avoid the formation of mold or mildew.
- Store cement boards off the ground and under cover. Store boards flat. Use sufficient supports extending under the entire length of cement boards to prevent sagging.
- Keep cement boards dry to minimize the potential for mold growth. Take adequate care while transporting, storing, applying and maintaining cement boards.
- Do not apply cement boards with visible signs of moisture damage or mold growth. Do not apply cement boards over other building materials where conditions exist that are favorable to mold growth.

### Maintenance Following Application

- Maintain essential elements of sound weather-tight building envelope, including roofing, joint sealants, windows and flashings.
- Take immediate and appropriate remediation measures as soon as water leaks or condensation sources are identified.
- Perform routine cleaning and maintenance operations using methods that prevent moisture saturation of cement boards.

## SIZES AND PACKAGING

Thickness, Width and Length	# of Pcs. per Unit
1/4" x 36" x 5' (6.4 mm x 914 mm x 1,524 mm)	60



National Gypsum Company is the exclusive service provider for products manufactured by PermaBASE Building Products, LLC.

## FOR MORE INFORMATION

### Architectural Specifications

PermaBASE Building Products CSI MasterFormat® 3-part guide specifications are downloadable as editable Microsoft® Word documents at: [permabase.com](http://permabase.com).

### Latest Technical Information and Update

Visit [permabase.com](http://permabase.com) or call National Gypsum Company Construction Services: 1-800-NATIONAL (628-4662).

### Technical Information *Información Técnica*

**1-800-NATIONAL®**  
1-800-628-4662

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