PermaBASE®
Building Products

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Cement Board

Exterior Applications Guide

National Gypsum®

Exclusive service provider of
PermaBASE Building Products, LLC

PermaBASE

The Best Base for a Great Finish

PermaBASE Building Products, LLC offers the industry's largest variety of cement boards covering the most demanding interior and exterior applications. Our mission is to continue to innovate new products and solutions to serve the industry.

The PermaBASE family of products provide performance and peace of mind with valuable features and applications that save you time and money. We have the size you need, and the product quality you expect for all your applications.

We innovated the use of lightweight polystyrene beads within our Portland cement core to provide performance benefits unique to the PermaBASE family of products.

- The use of polystyrene aggregate makes PermaBASE products significantly lighter and easy to cut.
- The beads also contribute to the industry's lowest water absorption, preventing the adhering mortar from drying prematurely.

PermaBASE exterior products provide the industry's best warranty with a 15-year limited exterior warranty.

VERSATILE

- One panel, many applications.
- Adhere tile, stone or thin brick directly to PermaBASE products in exterior applications – saving time and money.
- Durable substrate for direct-applied coating systems.

INSTALLS QUICKLY

- Lightweight and easy to cut – speeding up installation.
- Reduces job site waste – easier, cleaner cut.

EDGETECH® REINFORCED EDGE

- Strong, reinforced edge that reduces damage from handling.
- Allows fasteners to be installed closer to the edge without fracturing like other cement boards.
- More comfortable to handle.

FIRE-RATED WALL ASSEMBLIES

- UL fire-rated wall assemblies.
- NFPA 285 approvals.
- Approved for non-combustible construction.

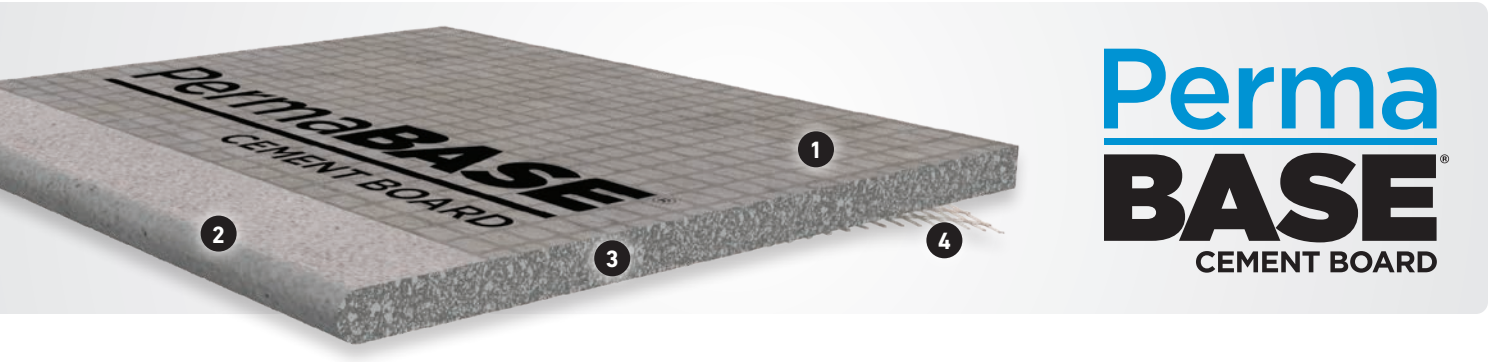
Our Focus on Exteriors

Using PermaBASE in exterior wall applications provides the architect, designer, contractor and building owner with unique benefits:

- PermaBASE is the ideal substrate for multiple finishes. We promote applications using manufactured stone, natural stone, thin brick, tile/ thin tile, and cement board stucco.
- Building Code approved substrate supported by manufactured stone, brick and tile industry installation guides.
- PermaBASE is a factory produced cement board providing consistent, reliable quality.
- Using better materials on your project will lead to improved system performance and fewer failures or repairs.
- PermaBASE is faster and easier to install than conventional systems.
- Utilizes new, improved technology and materials to shorten construction time and achieve lower installed costs.

PermaBASE® Cement Board

The Professional's Choice



PermaBASE® Cement Board is a rigid substrate made of Portland cement, aggregate and glass mesh that provides an exceptionally hard, durable surface that withstands prolonged exposure to moisture. Use PermaBASE as an underlayment or backing surface for tub and shower surrounds, floors and a variety of other interior and exterior applications. The EdgeTech reinforced edges allow for more secure application of fasteners closer to the edge.

1. Fiberglass Mesh
2. EdgeTech® Reinforced Edge
3. Cementitious Core
4. Fiberglass Mesh

ADVANTAGES

- Stays intact when exposed to water: will not rot, disintegrate or swell – built for the long run.
- Achieves the industry's lowest water-absorption rating (ASTM C473) – offering better installation.
- Helps inhibit mold growth with the highest possible score on mold tests (ASTM D3273 and ASTM G21).
- Resists impact and remains dimensionally stable – extending the life of your project.
- Holds up to the toughest conditions.
- Lightweight and easy to cut – speeding up installation.
- Reduces job site waste – easier, cleaner cut.
- Recommended substrate exterior applications of stone, thin brick and tile.
- Durable substrate for direct-applied coating systems.
- Meets UL classifications for one- and two-hour fire-rated assemblies.
- Building code approved – one substrate that does the job of many.
- 15-year limited warranty: Exterior applications.

SIZES AND PACKAGING

Thickness, Width and Length	Pieces per Unit
1/2" x 32" x 8' (12.7 mm x 813 mm x 2,438 mm)	50
1/2" x 36" x 5' (12.7 mm x 914 mm x 1,524 mm)	50
1/2" x 48" x 8' (12.7 mm x 1,219 mm x 2,438 mm)	30
5/8" x 48" x 8' (15.9 mm x 1,219 mm x 2,438 mm)	24
5/8" x 36" x 5' (15.9 mm x 914 mm x 1,524 mm)	35

Exterior Installation of PermaBASE® Cement Board

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 live (including wind) and dead loads.

Note: Cut or score PermaBASE on rough side of panel.

Control Joints: For exterior installations, consult finish manufacturer's instructions for spacing requirements. For exterior tile applications, control joints should be spaced a maximum of every 12'. If no recommendation is available, allow a maximum of 16 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 (discontinue all cross furring members located behind joint); when boards abut dissimilar materials; where framing material changes; at changes of building shape or structural system; at each story separation. Place control joints at corners of window and door openings or follow specifications of architect. Control joint cavity shall not be filled with coating or other materials.

WALLS AND CEILINGS

Wall Framing: Studs should be spaced a maximum of 16" o.c. Edges/ends of PermaBASE parallel to framing should be continuously supported. Provide additional blocking when necessary to permit proper PermaBASE attachment. Do not install PermaBASE directly over protrusions from stud plane such as heavy brackets or fastener heads.

Ceiling Framing: The deflection of the complete ceiling assembly due to dead load (including insulation, PermaBASE, bonding material and facing material) should not exceed L/360. The dead load applied to the ceiling frame should not exceed 10 psf. Ceiling joist or furring channel should not exceed 16" o.c. (Edges of PermaBASE parallel to framing should be continuously supported.) Provide additional blocking when necessary to permit proper PermaBASE attachment.

Water Barrier: While PermaBASE is unaffected by moisture, a water/air resistive barrier (WRB) must be installed to protect the cavity. The type and specific placement or location of the water barrier will vary based on local building codes and/or manufacturers' warranties. Consult the WRB manufacturer's recommendations for specific installation guidelines.

PermaBASE Cement Board: Apply PermaBASE with ends and edges closely butted but not forced together. Stagger end joints in successive courses. Drive fasteners into field of cement board first, working toward ends and edges. Space fasteners maximum 8" o.c. for walls, 6" o.c. for ceilings with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges.

Joint Reinforcement: Trowel bonding material to completely fill the tapered recessed board joints and gaps between each panel. On non-tapered joints, apply a 6" wide, approximately 1/16" thick coat of bonding material over entire joint. For all joints, immediately embed 4" alkali-resistant fiberglass mesh tape fully into applied bonding material and allow to cure. Same bonding material should be applied to corners, control joints, trims or other accessories. Feather bonding material over fasteners to fully conceal.

DECKS

Subfloor: Plywood should be securely glued and fastened to floor joists spaced a maximum of 16"o.c. Subfloor should be sloped at a minimum pitch of 1/4" per foot. The floor surface should be true to plane within 1/8" in 10'.

Underlayment: Using a 1/4" square-notched trowel, apply a setting bed of dry-set mortar to the subfloor. Immediately laminate PermaBASE to subfloor, 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 PermaBASE 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 alkali-resistant 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 it to cure.

Waterproof Membrane: Trowel apply waterproof membrane to the entire surface of the cement board, following membrane manufacturer's installation instructions in detail.

Cement Board Stucco Wall Systems (CBSS)

For use in residential and low-rise commercial applications, CBSS provides a drainage system to help prevent water from penetrating behind cladding in framed construction. It complies with ASTM D226, protecting approved sheathings/structural components and helping to evacuate incidental water.

BENEFITS INCLUDE

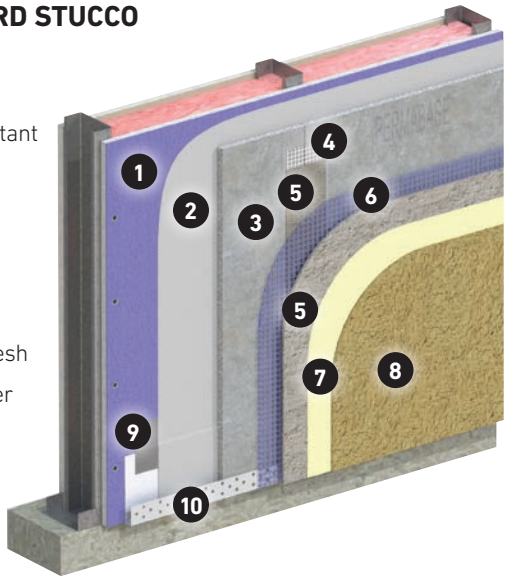
- Appropriate for all climates and resists the growth of mold and mildew.
- Extremely durable with increased resistance to impact and inclement weather.
- Acrylic polymers provide more resistance to fading, cracking and peeling.
- Engineered system that allows a faster installation while providing superior quality control (manufactured product that must comply with ASTM product specifications).
- Speed up your schedule – easier, cleaner installation than traditional stucco.
- Provide drainage system to help prevent water from penetrating behind cladding in framed construction.
- Choose from a variety of textures and color options.
- Provides a 15-year exterior warranty.

LIMITATIONS

- Follow finish material manufacturer's instructions for proper installation.
- Treat joints in PermaBASE Cement Board with mesh tape and base coat.
- Thin veneer construction can reveal planar irregularities in framing.
- Minor cracking at joints may become visible in finished exterior surface.
- Exterior finishes applied directly to PermaBASE Cement Board: Reinforcing mesh must be embedded in base coat (consult exterior finish manufacturer for additional installation requirements).
- Conventional Portland cement plaster systems: Self-furring metal lath must be used over PermaBASE Cement Board and fastened to studs.
- Code-approved water/air resistive barrier (WRB) must first be installed to protect the cavity (type and placement will vary per local building codes and/or manufacturer's specifications, installation guidelines and warranties).

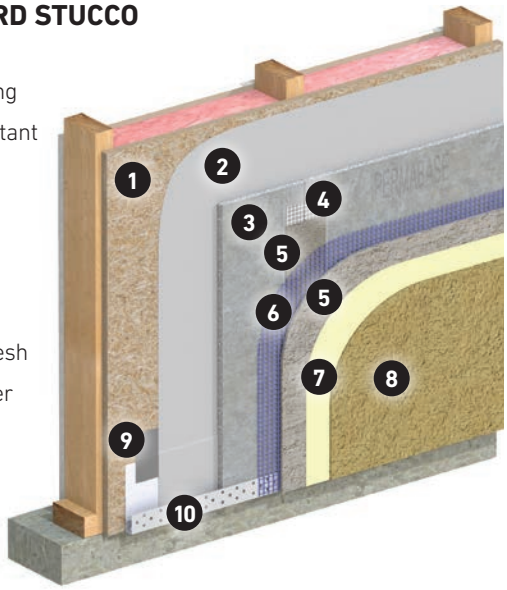
CEMENT BOARD STUCCO *Commercial*

1. Sheathing
2. Weather Resistant Barrier
3. PermaBASE® Cement Board
4. Mesh Tape
5. Base Coat
6. Reinforcing Mesh
7. Optional Primer Coat
8. Finish Coat
9. Flashing Tape
10. Weep Screed



CEMENT BOARD STUCCO *Residential*

1. Wood Sheathing
2. Weather Resistant Barrier
3. PermaBASE® Cement Board
4. Mesh Tape
5. Base Coat
6. Reinforcing Mesh
7. Optional Primer Coat
8. Finish Coat
9. Flashing Tape
10. Weep Screed



Cement Board Masonry Veneer Wall System (CBMV)

For use in residential and low-rise commercial applications, CBMV offers a complete, engineered solution for installation of adhered veneers. It provides the ability to incorporate an effective water-management system for a variety of building exteriors with manufactured or natural stone, tile and thin brick veneers.

BENEFITS INCLUDE

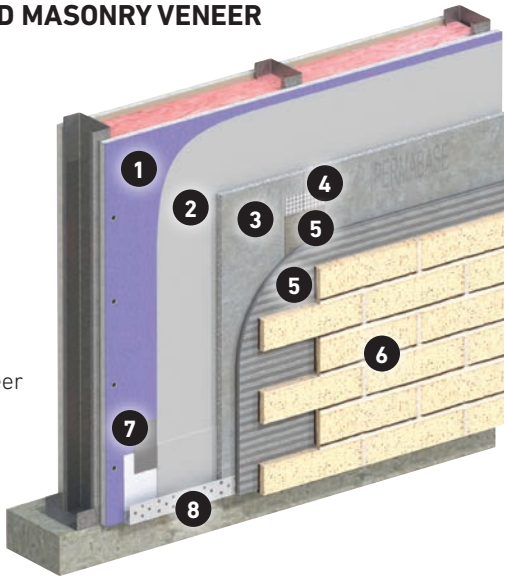
- Engineered system that allows a faster installation while providing superior quality control (manufactured product that must comply with ASTM product specifications).
- Increased performance by utilizing modified adhesive mortars (designed for hanging materials) rather than type S&N mortars (developed for stacking materials).
- Extremely durable with increased resistance to impact and inclement weather.
- Approved for use in ASTM C1780, and cement board is cited as an approved substrate for this system by the Masonry Veneer Manufacturers Association (MVMA): Installation Guide and Detailing Options for Compliance with ASTM C1780.
- Easily allows for the inclusion of continuous installation into the assembly.
- Appropriate for all climates, and resists the growth of mold and mildew.
- Speed up your schedule – faster, easier and cleaner than traditional metal lath/scratch-coat method.
- IBC/IRC compliant; meets ASTM C1325.
- PermaBASE products are approved as a substrate for direct applied finishes, tile, stone and thin brick in exterior applications, as outlined in UL Evaluation Report ER-22158.
- PermaBASE products are suitable for use in combustible and noncombustible construction under the IBC and IRC, as outlined in UL Evaluation Report ER-22158.

LIMITATIONS

- Sheathing selection and installation varies according to type of wall construction.
- Code-approved water/air resistive barrier (WRB) must be installed to protect the cavity (type and placement will vary per local building codes and/or manufacturer's specifications, installation guidelines and warranties).

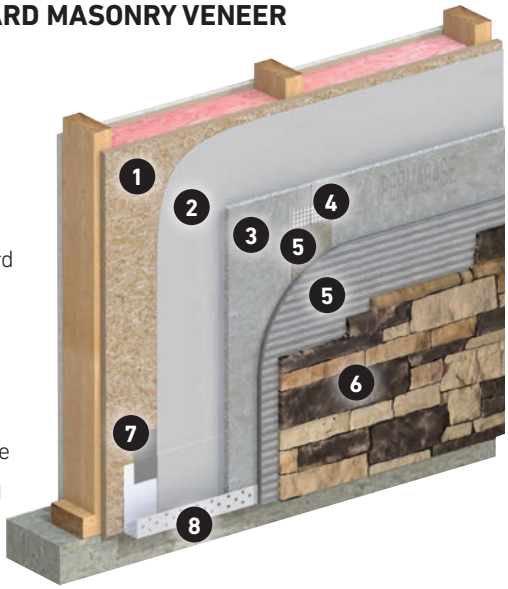
CEMENT BOARD MASONRY VENEER *Thin Brick*

1. Sheathing
2. Weather Resistant Barrier
3. PermaBASE® Cement Board
4. Mesh Tape
5. Mortar
6. Thin Brick Veneer
7. Flashing Tape
8. Weep Screed



CEMENT BOARD MASONRY VENEER *Stone*

1. Sheathing
2. Weather Resistant Barrier
3. PermaBASE® Cement Board
4. Mesh Tape
5. Mortar
6. Thin Stone Veneer
7. Flashing Tape
8. Weep Screed



PermaBASE CI™

The Best for Continuous Insulation Systems

PermaBASE CI™ Insulated Cement Board is a composite cement board combining the strength and benefits of PermaBASE® Cement Board with rigid insulation to create an ideal substrate for exterior finishes that meet or exceed most continuous insulation requirements. Manufactured in a convenient 1", 2" and 3" overall thickness, PermaBASE CI utilizes common trims and accessories.

1. Fiberglass Mesh/Mat
2. EdgeTech® Reinforced Edge
3. Cementitious Core
4. Insulation

ADVANTAGES

- Made with PermaBASE Cement Board and high-density polyiso insulation to provide durability and highly efficient insulation in one convenient package.
- Saves time and labor compared to installing separate insulation and cement board solutions.
- NFPA 285 approvals for adhered veneer finishes such as manufactured and natural stone, thin brick and tile as well as direct applied coatings of synthetic stucco.
- 15-year limited warranty: Exterior applications.

TECHNICAL DATA

Property	Method	1"	2"	3"
Dimensional Stability	ASTM D2126	<0.5%	<0.5%	<0.5%
Water Absorption	ASTM C209	<5.0%	<5.0%	<5.0%
Water Vapor Transmission	ASTM E96	<1.5 perm	<1.5 perm	<1.5 perm
Flame Spread	ASTM E84	<25	<25	<25
Smoke Developed	ASTM E84	<450	<450	<450
R-Value	ASTM C518	4	10	16
Dimensions	ASTM C473	1" x 48" x 8'	2" x 48" x 8'	3" x 48" x 8'
Weight (lbs. / sq. ft.)		2.2	2.4	2.6

SIZES AND PACKAGING

Thickness, Width and Length	Pieces per Unit
1" x 48" x 8' (25.4 mm x 1,219 mm x 2,438 mm)	30*
2" x 48" x 8' (50.8 mm x 1,219 mm x 2,438 mm)	20
3" x 48" x 8' (76.2 mm x 1,219 mm x 2,438 mm)	15*

* Special Order

Exterior Installation of PermaBASE CI™

WALLS

Wall Framing: Framing members should be spaced a maximum of 16" o.c. and shall be a minimum of 2"x 4" nominal (wood) or 20 gauge (metal). Edges of PermaBASE CI™ Insulated Cement Board parallel to framing should be continuously supported. Provide additional blocking when necessary to permit proper attachment.

Water Barrier: While PermaBASE CI Insulated Cement Board is unaffected by moisture, a water/air resistive barrier (WRB) must be installed to protect the cavity. The type and specific placement or location of the water barrier will vary based on local building codes and/or manufacturers' specifications, installation guidelines and warranties. Consult the WRB manufacturer's recommendations for specific installation guidelines.

PermaBASE CI Insulated Cement Board:

Note: PermaBASE CI can be cut using three methods:

1. Score PermaBASE CI from the foam side using a utility knife to score/cut completely through the insulation and into the back of the cement board. The board can then be snapped. Cut through the mesh on the front of board to complete the cut.
2. PermaBASE CI can be cut to length effectively with a hand saw.
3. While wearing the proper protective equipment such as safety glasses and approved respirator, use a power saw with the appropriate blade to cut through the entire panel. Penetrations can be created in the panel with a drywall saw.

Apply PermaBASE CI with ends and edges closely butted, but not forced, together. Stagger end joints in successive courses. Drive fasteners into field of cement board first, working toward ends and edges. Space fasteners maximum 8" o.c. with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. Ensure PermaBASE CI Insulated Cement Board is tight to framing. Do not overdrive screws to the point they penetrate the fiberglass mesh in PermaBASE CI.

Joint Reinforcement: Trowel bonding material to completely fill the tapered recessed board joints and gaps between each panel. On non-tapered joints, apply a 6" wide, approx. 1/16" thick, coat of bonding material over entire joint. For all joints, immediately embed 4" alkali-resistant fiberglass mesh tape fully into applied bonding material and allow to cure. Same bonding material should be applied to corners, control joints, trims or other accessories. Feather bonding material over fasteners to fully conceal.

Control Joints: For exterior installations, consult finish manufacturer for spacing requirements. For exterior tile applications, control joints should be spaced a maximum of every 12'. If no recommendation is available, allow a maximum of 16 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 (discontinue all cross-furring members located behind joint); when boards abut dissimilar materials; where framing material changes; at changes of building shape or structural system; at each story separation. Place control joints at corners of window and door openings or follow specifications of architect. Control joint cavity shall not be filled with coating or other materials.

LIMITATIONS

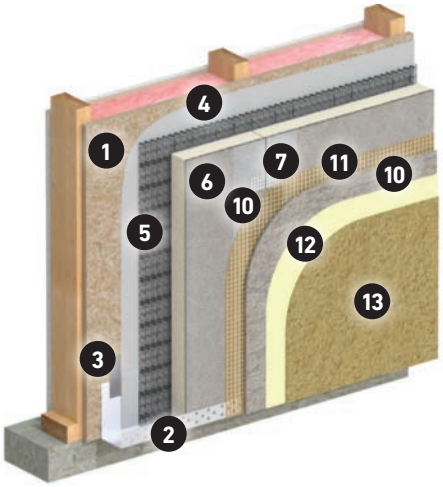
- Treat joints with 4" wide alkali-resistant fiberglass mesh tape set in a modified mortar or stucco basecoat.
- Steel framing must be minimum 20-gauge (galvanized) (.0312" design thickness) or heavier.
- Do not expose PermaBASE CI to temperatures over 220˚F (105˚C).
- Do not use PermaBASE CI as a nailing base for other finishes.
- Thin veneer construction can reveal planar irregularities in framing.
- Minor cracking at joints may become visible in finished exterior surface.
- For exterior finishes applied directly to PermaBASE CI, reinforcing mesh must be embedded in basecoat (consult exterior finish manufacturer for additional installation requirements).
- Sheathing selection and installation varies according to type of wall construction.

Advantages of Creating Continuous Insulation with PermaBASE:

- Provides better thermal comfort, lowers heating and cooling costs, reduces likelihood of trapped moisture.
- Helps mitigate the loss of heat/air conditioning by insulating the studs.
- Allows multiple finishes on one substrate.
- Works in all climates – adaptable to varying regional system requirements.
- 15-year exterior warranty.
- Speeds up your schedule – faster to install than traditional method.

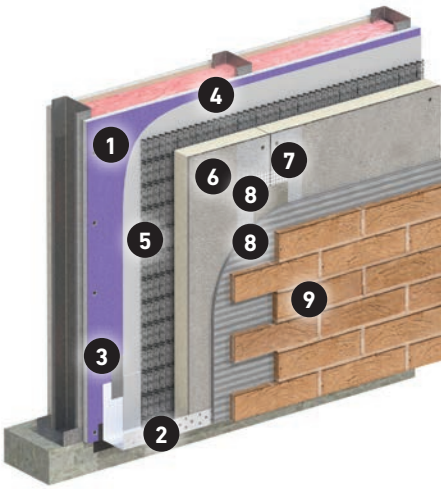
Continuous Insulation with PermaBASE CI

As building codes and building insulation requirements become increasingly stringent, you can count on PermaBASE products to help meet your substrate needs for continuous insulation. CI on the exterior envelope helps to eliminate air and moisture leakage as well as reduce thermal bridging, or the heating/cooling loss transmitted through steel studs. With PermaBASE CI, designers and contractors have a simpler, faster method of achieving continuous insulation. PermaBASE® Cement Board has also been used for years to install the final exterior finish over the exterior insulation in applications including Z-furring channels, batten strips and direct fastener applications. PermaBASE CI and PermaBASE Cement Board can be used in all types of construction, including commercial, residential and multifamily.

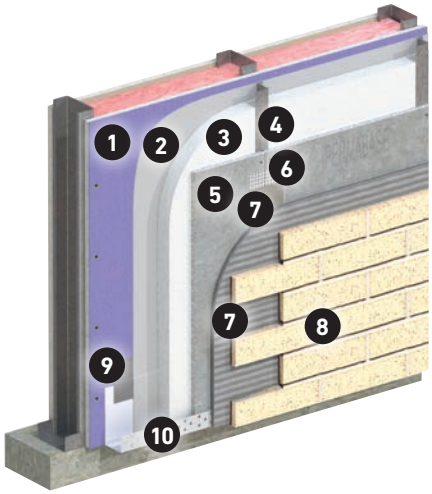


CONTINUOUS INSULATION

1. Sheathing
2. Weep Screed
3. Flashing Tape
4. Weather Resistant Barrier
5. Drainage
6. PermaBASE CI™
7. Mesh Tape
8. Mortar
9. Thin Brick
10. Base Coat
11. Reinforcing Mesh
12. Primer (Optional)
13. Finish Coat

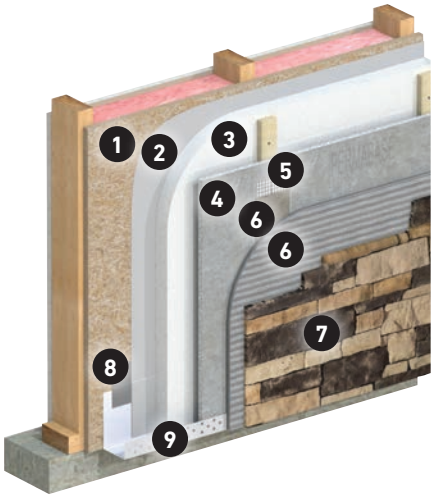


Alternative Methods to Achieve Continuous Insulation with PermaBASE



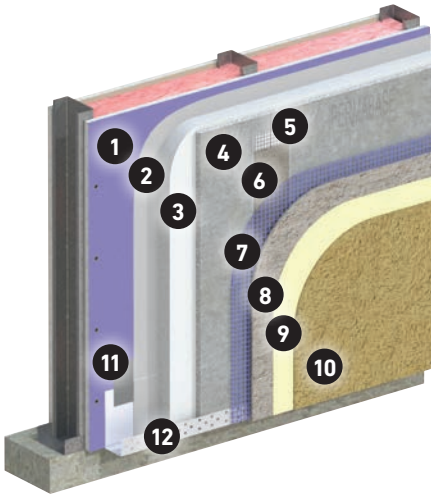
CONTINUOUS INSULATION
Z Furring-Installation

1. Sheathing
2. Weather Resistant Barrier
3. Insulation
4. Z-Furring
5. PermaBASE® Cement Board
6. Mesh Tape
7. Mortar
8. Thin Brick Veneer
9. Flashing Tape
10. Weep Screed



CONTINUOUS INSULATION
Batten Strip

1. Sheathing
2. Weather Resistant Barrier
3. Insulation
4. PermaBASE® Cement Board
5. Mesh Tape
6. Mortar
7. Thin Stone Veneer
8. Flashing Tape
9. Weep Screed



CONTINUOUS INSULATION
Specialty Fastener

1. Sheathing
2. Weather Resistant Barrier
3. Insulation
4. PermaBASE® Cement Board
5. Mesh Tape
6. Base Coat
7. Mesh
8. Base Coat
9. Primer
10. Finish Coat
11. Flashing Tape
12. Weep Screed

Installation Accessories

For a seamless installation, we recommend PermaBASE™ Cement Board Tape and PermaBASE™ Cement Board Screws.

Fasteners: PermaBASE corrosion-resistant screws or equivalent, 1-1/4", 2" or 2-1/2" long, for use with wood framing. Type S-12 screws or equivalent, 1-1/4", 2" or 2-1/2" long, for use with 20-gauge or heavier steel framing. Galvanized roofing nails, 1-1/2" long with hot-dipped galvanized coating for use with wood framing. Nails should meet Federal Specification #FF-N105B/type 2 style 20.

Joint Reinforcement: PermaBASE Cement Board Tape must be used on all edges and cuts made to size. Use 2" wide polymer-coated (alkali- resistant) mesh tape for interior applications and 4" wide polymer-coated (alkali-resistant) mesh tape is recommended for inside and outside corners and all exterior applications.

SCREWS NEEDED

Estimated Screw Requirements

Board Size	Application	Screws per Board	Screws per Sq. Ft.
4'x8'	Wall	52	1.63
4'x8'	Ceiling	63	2
3'x5'	Wall	36	2.4
3'x5'	Floor	60	4

MESH TAPE NEEDED (EST.)

Package & Coverage

Package	Coverage Sq. Ft. per roll
2" x 50" (15.2 m) Roll - 24 per carton	130
2" x 250" (76.2 m) Roll - 24 per carton	665
4" x 150" (45.7 m) Roll - 12 per carton	400

Coverage - Approximately 375 ft. per 1,000 sq. ft. of cement board

National Gypsum Company

National Gypsum Company is the exclusive service provider of reliable, high-performance building products manufactured by its affiliate companies and marketed under the Gold Bond®, ProForm®, and PermaBASE® brands. The strategic network of Gold Bond, ProForm, and PermaBASE manufacturing facilities located throughout major metropolitan hubs in North America allows us to provide the best in customer service so we can keep your fast-paced projects moving forward.

SUSTAINABILITY

Our brands create products that contribute to sustainable design by providing healthy indoor air quality; moisture, mold and mildew management; durability; optimal acoustics; life safety and increased space functionality. No matter how you define sustainability, we offer the most comprehensive set of value-added solutions in the industry.

TRUSTED PARTNER

The National Gypsum name has been synonymous with high-quality, innovative products and exceptional customer service since 1925. Our technical experts at 1-800-NATIONAL® are always a phone call away to answer any type of product or specification question.

We are Building Products for a Better Future® - one project at a time.

LIMITED WARRANTY AND REMEDIES

Products manufactured by PermaBASE Building Products, LLC ("Seller") are warranted by Seller to its customers to be free from defects in materials and workmanship at the time of shipment. Additional or different express limited warranties, limitations and exclusions may apply to specific Seller products. **Current warranty information on such products for both commercial and residential applications is available at permabase.com.** THIS EXPRESS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO SUCH PRODUCTS, AND IS IN LIEU OF AND EXCLUDES ALL OTHER EXPRESS ORAL OR WRITTEN WARRANTIES AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Seller will not be liable for any incidental, indirect or consequential losses, damages or expenses. The customer's exclusive remedy for any type of claim or action for defective products will be limited to the replacement of the products (in the form originally shipped) or, at Seller's option, to a payment or credit not greater than the original purchase price of the products.

Seller will not be liable for products claimed to be defective where the defect resulted from causes not within Sellers control, or which arose or occurred after shipment, including but not limited to accidents, misuse, mishandling, improper installation, contamination or adulteration by other materials or goods, or abnormal conditions of temperature, moisture, dirt or corrosive matter.

Any claim that products sold by Seller were defective or otherwise did not conform to the contract of sale is waived unless the customer submits it in writing to National Gypsum Services Company d/b/a National Gypsum Company, authorized sales agent and service provider to Seller, within thirty (30) days from the date the customer discovered or should have discovered the defect or non-conformance. No legal action or proceeding complaining of goods sold by Seller may be brought by the customer more than one year after the date the customer discovered or should have discovered the defect or problem of which it complains.

MOLD AND MILDEW RESISTANCE

PermaBASE was designed to provide extra protection against mold and mildew. When tested by an independent laboratory, PermaBASE received the highest possible ratings on ASTM G 21 and D 3273. The use of PermaBASE in actual installations may not produce the same results as were achieved in controlled laboratory conditions.

No material can be considered "mold-proof," nor is it certain that any material will resist mold or mildew indefinitely. When used in conjunction with good design, handling and construction practices, PermaBASE can provide increased mold resistance. As with any building material, avoiding water exposure during handling, storage and installation, and after installation is complete, is the best way to avoid the formation of mold or mildew.

Technical Information

Visit **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

National Gypsum Company is the exclusive service provider for products offered or manufactured by PermaBASE Building Products, LLC. The PermaBASE family of products is offered or manufactured by PermaBASE Building Products, LLC.

Customer Service

Atlantic Area
(800) 237-9167
atlanticareacsrs@nationalgypsum.com

Central Area
(800) 252-1065
centralareacsrs@nationalgypsum.com

Gulf Area
(800) 343-4893
gulfareacsrs@nationalgypsum.com

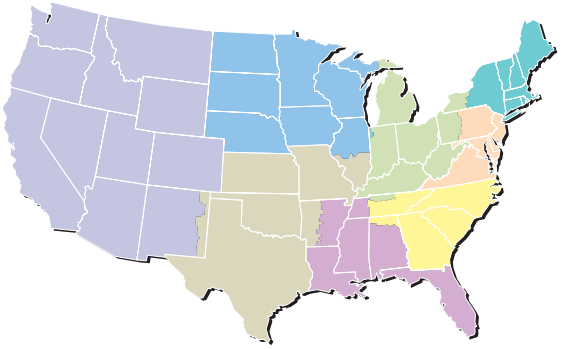
Midwest Area
(800) 323-1447
midwestareacsrs@nationalgypsum.com

Northeast Area
(800) 253-3161
northeastareacsrs@nationalgypsum.com

Southeast Area
(800) 548-9394
southeastareacsrs@nationalgypsum.com

Southwest Area
(800) 548-9396
southwestareacsrs@nationalgypsum.com

Western Area
(800) 824-4227
westernareacsrs@nationalgypsum.com



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2001 Rexford Road
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704.365.7300
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