

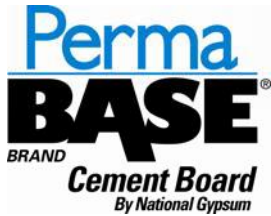
## Recommended Installation Instructions for PermaBase<sup>®</sup> Brand Cement Board as Substrate for Adhered Masonry Veneer in Exterior Applications for Commercial Construction

\*The following is the manufacturer's recommended installation instructions for use of PermaBase Cement board as a substrate for adhered masonry veneer in commercial applications. Installation must comply with all applicable building codes and design specifications. Building Code references listed below are according to International Building Code 2012. Follow code requirements having jurisdiction.

1. Framing shall be not greater than 16" o.c.
2. Plywood, OSB, or Gypsum Sheathing to be installed in accordance with structural requirements, applicable sections of IBC 2012; including sections 1604-1609, 2210, and 2308, design specifications, manufacturer's recommendations, and applicable installation standards, including ASTM Standard C1280 for gypsum sheathing. Wood and gypsum sheathing products shall be installed with corrosion-resistant fasteners. Fastener spacing requirements shall be in accordance with the structural and fire resistive design requirements.
3. Flashing around penetrations must be installed per IBC Section 1405.4 and manufacturer's recommendations.
4. Weep Screeds must comply with and be installed per IBC Section 2512.1.2, Section 6.1.5.2 of ACI 530/ASCE 5/TMS 402 referenced in IBC Section 1405.9, and manufacturer's recommendations as applicable.
5. Water resistant barrier installed per IBC Section 1404.2 and 2510.6 (Moisture management is critical. Recommended barriers include: Double layer of building felt, drainage mats, rain screens/drainage planes, liquid or sheet-applied membranes)

NOTE: The above sections are required by masonry veneer installations over metal lath and scratch coat as well.

6. PermaBase Cement Board installed horizontally or vertically with type S cement board screws through sheathing and water resistant barrier into wood framing. Fasteners must penetrate a minimum of 3/8" into steel studs. Fastener spacing to be maximum 6" o.c. along the perimeter and in the field of the cement board unless otherwise specified by the design. Screws at board edges shall be placed 3/8" in from the edge. Fastener heads are to be driven flush with the face of the cement board. All vertical joints of the cement board shall be staggered and terminate on framing. Offset horizontal cement board joints a minimum of 12" from horizontal sheathing joints. Offset vertical cement board joints a minimum of one stud space from vertical sheathing joints. No joints in cement board to occur at corners of windows or doors. Offset cement board



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joints a minimum of 8" from the corners of openings by "L" cutting the cement board around corners of openings.

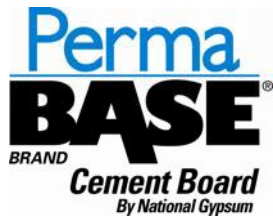
7. Treat joints in cement board with 4" wide alkali-resistant fiberglass mesh tape imbedded in LATICRETE<sup>®</sup> Masonry Veneer Mortar or LATICRETE Hi-Bond Masonry Veneer Mortar. Allow the taping treatment to harden for 12 to 24 hours at 70° F (21 °C).

8. Install LATICRETE Air & Water Barrier<sup>™</sup> waterproofing membrane in compliance with current revisions of ANSI A108.1 (2.7 Waterproofing) and ANSI A108.13. Review the installation and plan the application sequence. Pre-cut LATICRETE Waterproofing/Anti-Fracture Fabric (if required), allowing 2" (50mm) for overlap at ends and sides to fit the areas as required. Roll up the pieces for easy handling and placement. Shake or stir LATICRETE Air & Water Barrier before using.

**Pre-Treat Corners of Wall Intersections** - Fill all inside and outside corners of wall intersections to a smooth finish and changes in plane using LATICRETE Masonry Veneer Mortar or LATICRETE Hi-Bond Masonry Veneer Mortar.

**Pre-Treat Penetrations** - Pack any gaps between substrate and pipes, lights or other penetrations with LATICRETE Masonry Veneer Mortar or LATICRETE Hi-Bond Masonry Veneer Mortar. Apply a minimum 4" wide liberal coat\* of LATICRETE Air & Water Barrier surrounding all penetrations on the substrate field and allow to dry. Cover the first coat with a second liberal coat\* of LATICRETE Air & Water Barrier. Next, apply LATAPOXY Waterproof Flashing Mortar onto the penetration (to the extent of the final finished face dimension) and flash down over the pre-treated substrate and allow to harden.

**Main Application** - Allow any pre-treated areas to dry to the touch. Apply a liberal coat\* of LATICRETE Air & Water Barrier with a paint brush or heavy napped (e.g. 1/4" to 1/2" nap) roller over substrate including pre-treated areas and allow to dry to the touch. Install another liberal coat\* of LATICRETE Air & Water Barrier over the first coat. Let the top coat of LATICRETE Air & Water Barrier dry to the touch approximately 1 – 2 hours at 70°F (21°C) and 50% RH. When the top coat has dried to the touch inspect the surface for pinholes, voids, thin spots or other defects. LATICRETE<sup>®</sup> Air & Water Barrier<sup>™</sup> will dry to an olive green color when fully cured. Use additional LATICRETE Air & Water Barrier to seal any defects. For spray applications refer to LATICRETE Technical Data Sheet 410M – Spraying LATICRETE Air & Water Barrier.



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**Movement Joints (if applicable)** - Apply a liberal coat\* of LATICRETE Air & Water Barrier, approximately 8" (200mm) wide over the areas. Then embed and loop the 6" (150mm) wide LATICRETE Waterproofing/Anti-Fracture Fabric and allow the LATICRETE Air & Water Barrier liquid to bleed through. Immediately apply a second coat of LATICRETE Air & Water Barrier.

\* Dry coat thickness is 20 – 30 mil (0.02 - 0.03" or 0.5 - 0.8mm); consumption per coat is approximately 0.01 gal/ft<sup>2</sup> (approx. 0.4 L/m<sup>2</sup>); coverage is approximately 100 ft<sup>2</sup> /gal (approx. 2.5 m<sup>2</sup> / L). LATICRETE Waterproofing/Anti-Fracture Fabric can be used to pre-treat cracks, joints, curves, corners, drains, and penetrations with LATICRETE Air & Water Barrier. Use a wet film gauge to gauge waterproofing membrane thickness.

**Protection** - Provide protection for newly installed membrane, even if covered with veneer installation against exposure to rain or other water for a minimum of 2 hours at 70°F (21°C) and 50% RH. For temperatures between 40°F and 69°F (4°C to 21°C) continue this protection for a minimum 24 hour period.

Use the following LATICRETE System Materials:

**LATICRETE Air & Water Barrier**

References:

LATICRETE Data Sheets: [661.0](#), [663.5](#)

LATICRETE MSDS: [Air & Water Barrier](#), [Fabric](#)

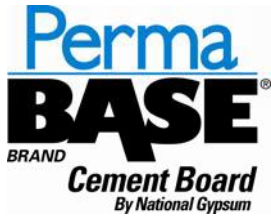
GREENGUARD Certificate: [Air & Water Barrier](#)

LATICRETE Technical Data Sheets: [188](#), [410M](#), [203](#), [661.5](#)

9. Installation of Adhered Manufactured Stone Masonry Veneer (AMSMV).

**Note: Prior to installation, ensure back of AMSMV units are clean of dust, laitance, loose concrete crumbs and any excess film that could impede bond.**

Prior to the application of mortar to the backs of the AMSMV units, the back of the AMSMV unit should be cleaned and moistened so that the unit surfaces appear damp but without free standing water and the cement backer unit substrate (or waterproofed cement backer unit substrate) should be cleaned. Using a gauging trowel, key a thin coat of LATICRETE Masonry Veneer Mortar or LATICRETE Hi-Bond Masonry Veneer Mortar to cover entire back of the AMSMV unit. Spread additional mortar onto the back of the skim coated AMSMV unit sufficient to completely fill the space between the AMSMV unit and the substrate when



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compressed against the substrate. Press the mortar covered back of the AMSMV unit against the substrate at the desired final position. Slide the AMSMV unit roughly 1" diagonally from the desired final position and back into the desired position while maintaining even pressure. This should be done in such a manner as to squeeze the mortar to fill the entire space between the AMSMV unit and the substrate, allowing excess mortar to extrude on all sides around the AMSMV unit. Clean excess extruded mortar with trowel and spread onto the next unit to be installed.

Use the following LATICRETE System Materials:

**LATICRETE<sup>®</sup> Masonry Veneer Mortar**

**LATICRETE<sup>®</sup> Hi Bond Masonry Veneer Mortar**

References:

LATICRETE Data Sheet: [060.0](#), [246.0](#)

LATICRETE MSDS: [060](#), [Hi-Bond](#)

GREENGUARD Certificate: [060](#), [Hi-Bond](#)

LATICRETE Technical Data Sheets: [105](#), [118](#), [129](#), [209](#)

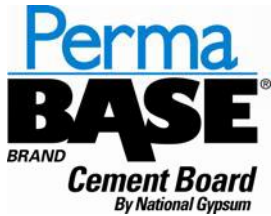
### 10. Pointing Mortar:

**NOTE TO SPECIFIER: specify color for each type/color of AMSMV unit:**

**Pointing Mortar:** Allow AMSMV units to set firm, minimum 12 hours @ 70° F (21°C). Verify joints are free of dirt, debris or spacers. Sponge or wipe dust/dirt off veneer face. Surface temperature must be between 40-90° F (4-32°C). Mix pointing mortar by hand or with a slow speed mixer to a smooth, slightly fluid consistency. Filling of the joints may be done with a grout bag, forcing LATICRETE Masonry Pointing Mortar into the joints to the desired depth, ensuring that mortar has filled all voids. Mortar should be "thumbprint" hard" before any raking is done. The curing time before the mortar is ready will vary significantly with temperature and humidity. Use a wooden raking stick, or jointing tool to rake the joints to the desired depth. Extra precaution should be taken while raking so the surface of the veneer unit is not damaged. After the mortar has dried to a firmness that prevents it being pulled out of the joint, clean off remaining mortar debris on the AMSMV unit surface with a dry, soft-bristled brush. To prevent mortar smearing, DO NOT use a wet brush to treat uncured mortar joints.

Use the following LATICRETE System Materials:

**LATICRETE Masonry Pointing Mortar**



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### References:

LATICRETE Data Sheets: [228.0](#)

LATICRETE MSDS: [228](#)

GREENGUARD Certificates: [228](#)

LATICRETE Technical Data Sheets: [201](#), [400](#)

### 11. Seal all Penetrations, Expansion and Control Joints

Honor control or expansion joints as located in contract drawings and in full conformity, especially in width and depth, with architectural details.

1. Substrate joints must carry through, full width, to surface of AMSMV units.
2. Fill and seal joints around all penetrations with LATICRETE MVIS Silicone Sealant.
3. Install expansion joints in AMSMV units over construction/cold joints or control joints in substrates.
4. Install expansion joints where AMSMV units abut restraining surfaces (such as perimeter walls, curbs, and columns), changes in plane and corners.
5. Remove all contaminants and foreign material from joint spaces/surfaces, such as dirt, dust, oil, water, frost, setting/grouting materials, sealers and old sealant/backer. Use LATICRETE Latasil™ 9118 Primer. Install appropriate backing material (e.g. closed cell backer rod) based on expansion joint design. Apply masking tape to face of veneer. Use caulking gun, or other applicator, to completely fill joints with LATICRETE MVIS Silicone Sealant. Within 5-10 minutes of filling joint, 'tool' sealant surface to a smooth finish. Remove masking tape immediately after tooling joint. Wipe smears or excess sealant off the face of absorptive surfaces immediately.

Use the following LATICRETE System Materials:

**LATICRETE® MVIS Silicone Sealant**

**LATICRETE Latasil 9118 Primer**

### References:

LATICRETE Detail Drawings: [EJ-01](#), [EJ-06](#), [EJ-08](#),

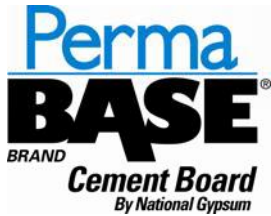
[EJ-09](#), [EJ-10](#), [EJ-12](#), [EJ-13](#), [EJ-14](#)

(Sealant treatments only)

LATICRETE Data Sheets: [233.0](#), [6526.1](#)

LATICRETE MSDS: [MVIS Silicone Sealant](#), [Primer](#)

LATICRETE Technical Data Sheets: [211](#), [252](#)



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### **Limitations:**

- A. All masonry veneer applications, regardless of structure, shall be designed to limit deflection to 1/600 of the span of supporting members, or as required by local jurisdiction.
- B. Installations shall be limited to low-rise construction, three stories or less, without specific approval from a design professional.
- C. AMSMV units shall not weigh more than 15 lbs./sq.ft.
- D. Expansion or control joints, used to limit the effect of differential movement of supports on the veneer system are to be specified by the architect, designer or veneer manufacturer, in that order.
- E. Consult adhered masonry veneer manufacturer for any additional installation criteria.