

# Diamond Wall PM

Premium one coat stucco system

PRODUCTS INTERNATIONAL

**Diamond Wall PM** is a code compliant plaster system that creates a long-lasting exterior cladding for residential and commercial projects. One coat stucco has the appearance and advantages of traditional three coat stucco, including one-hour fire-resistive-rated assemblies, but with increased energy efficiency, reduced labor costs, and schedule savings. The Diamond Wall PM System offers an upgrade to current one coat stucco systems by providing improved crack resistance, flexural and tensile strength, and impact resistance.

## System Description

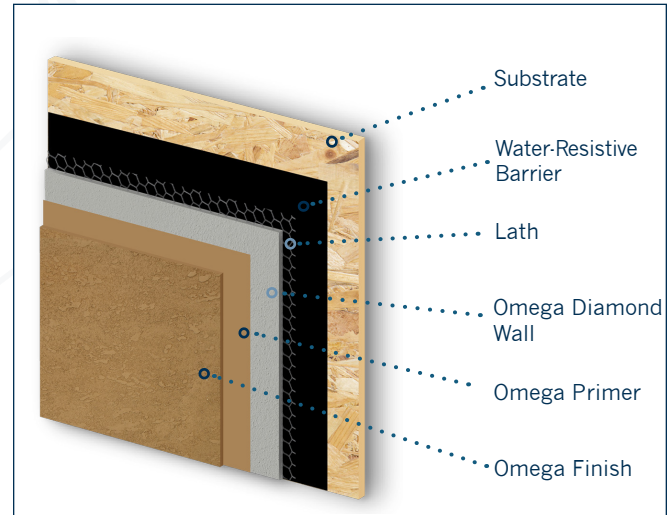
The Diamond Wall PM consists of a water-resistive barrier installed over open framing or sheathing. Foam board is then attached over the water-resistive barrier. Foam is optional if sheathing is used. Next, metal lath is fastened over the foam board sheathing and the Diamond Wall PM base coat is applied as a single layer at a minimum  $\frac{3}{8}$ -inch thickness. Diamond Wall Concentrate is a factory prepared blend of portland cement complying with ASTM C150, chopped fibers, and proprietary ingredients field mixed with sand, water, and Diamond Wall PM Admix. Diamond Wall PM is also available in a sanded version that requires only water and PM Admix to be added. After the base coat has properly cured, the finish coat is then applied.

## Design Considerations

- May be applied over open steel or wood framed construction or the following substrates:
  - ASTM C1396 water-resistant gypsum sheathing
  - ASTM C1177 glassmat faced gypsum sheathing, such as DensGlass Gold from GP
  - ASTM C1325 cement boards, such as Durock from USG
  - ASTM C1278 gypsum fiber panels, such as Aqua Tough from Fiberock Brand
  - Exterior grade or exposure 1 plywood
  - Exposure 1 OSB
  - Poured concrete or masonry
- Available in proprietary one-hour fire-resistive-rated assemblies
- Available in non-combustible assemblies
- May be panelized to meet project construction needs
- Design and installation requirements can be found in the Diamond Wall Intertek CCRR-0467 report

## Uses

Diamond Wall is an excellent exterior wall cladding for new or retrofit residential, multi-family, commercial, or institutional projects.



Diamond Wall PM insulating system over open framing.

## DIAMOND WALL PM ADVANTAGES

FEATURES	BENEFITS
<i>Acrylic Modified</i>	Improved crack resistance, flexural and tensile strength, and impact resistance; No water curing required
<i>Low Life-cycle Costs</i>	Will last decades with minimal maintenance
<i>Durable and Impact Resistant</i>	Can withstand years of weather and physical abuse
<i>Cement-based</i>	Fungus, rot, and insect resistant
<i>Fire-resistant</i>	Non-combustible and available in 1-hour fire-resistive rated assemblies
<i>Acceptable Base Coat for a Variety of Finishes</i>	Cementitious or acrylic textured finishes, acrylic, paint, and stone are all finish options
<i>Reduced Labor Costs</i>	Only requires one base coat application
<i>Shorter Construction Schedule</i>	Finish coat can be applied in as little as 24-hours after the base coat; some finishes may require longer cure times
<i>Improved Energy Efficiency</i>	Using foam board increases the wall assembly's R-value
<i>Consistency</i>	Factory blended, requiring only sand and water to be added in the field
<i>Lighter Weight</i>	5 to 7 lbs/ft <sup>2</sup> . Reduces the base coat weight by approximately 50% compared to three coat stucco
<i>System Warranty</i>	Up to 15-years when used in combination with other Omega products

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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## System Components

The following products are components in the Diamond Wall PM system. Please see the product's data sheet for additional information.

### Water-resistive Barrier<sup>1</sup>

- Minimum No. 15 asphalt nonperforated felt complying with ASTM D 226 for Type I (IBC or IRC) or asphalt-saturated rag felt complying with UL Standard 55A (UBC)<sup>1</sup>
- Minimum Grade D kraft building paper complying with UBC Standard 14-1 or ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38)<sup>1</sup>
- Material recognized in a current evaluation report as complying with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38)<sup>1</sup>
- When applied over any wood-based sheathing, the water-resistive barrier shall be either: (a) a minimum of two layers of Grade D kraft building paper or (b) one layer of EPS or XEPS insulation board, having horizontal tongue-and-groove edges, over one layer of Grade D kraft building paper having a minimum water-resistance rating of 60 minutes
- AkroGuard Water/Air Barrier: Fluid applied water-resistive/air barrier assembly

### Foam Board<sup>1</sup> (Optional when sheathing is used)

- EPS or XPS: Type II (EPS), Type IV, or Type X (XPS) board complying with ASTM C578 with a nominal density of 1½ pound per cubic foot and a thickness of 1 to 1½-inches over open framing or ½ to 1½-inches over sheathing
- Polyisocyanurate: A nominal density of 2 pound per cubic foot, and a thickness of 1 to 1½-inches

### Lath<sup>1</sup>

- Woven Wire (20-gauge): Nominal No. 20 gauge [0.035 inch], 1-inch opening, galvanized steel complying with ASTM C1032. Meets minimum requirement. Recommend upgrade to heavier lath options.
- Woven Wire (17-gauge): Nominal No. 17 gauge [0.058 inch], 1½-inch opening, galvanized steel complying with ASTM C1032
- Welded Wire: Nominal No. 16 gauge [0.065 inch], 2-inch-by-2-inch opening, galvanized steel complying with ASTM C933
- Metal Lath: Complying with ASTM C847 (IBC or IRC) or with Table 25-B of the UBC as applicable

### Base Coat

- Diamond Wall PM Concentrate: Diamond Wall is a factory prepared blend of portland cement complying with ASTM C150, chopped fibers, and proprietary ingredients.
- Diamond Wall Sanded: Diamond Wall is a factory prepared blend of portland cement complying with ASTM C150, sand, chopped fibers, and proprietary ingredients.

### Admixture

Diamond Wall PM Admixture: A 100% acrylic polymer liquid additive and proprietary ingredients.

### Sand<sup>1</sup>

Sand shall be clean and free from deleterious amounts of loam, clay, silt, soluble salts, or organic matter and shall be graded in accordance with ASTM C144, C897, or within the limits listed in the ESR-1194 report.

### Finishes

A variety of finish options are available:

- OmegaFlex Finishes: 100% acrylic-based finishes
- AkroFlex Finishes: 100% acrylic-based finishes
- AkroLastic Finishes: Elastomeric acrylic-based finishes
- ColorTek Stucco: Portland cement-based stucco finishes<sup>2</sup>
- AkroCoat: 100% acrylic paint
- Elastomeric 44: Elastomeric acrylic-based coating
- Travertino: Portland cement-based limestone finish<sup>2</sup>
- Valentino Finishes: Approved Valentino finishes

<sup>1</sup>Manufactured by others

<sup>2</sup>Application of ColorTek Stucco or other cementitious finishes requires the use of a bonding agent or an acrylic admixture

### Disclaimer

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### Technical Assistance

Technical assistance and information is available by calling Omega Products International at (951) 737-7447 or FAX (951) 520-2594 or by email at info@omega-products.com.

## Installation & Design Requirements

- DO NOT MOIST CURE.
- To reduce the likelihood of the stucco cracking, it is recommended the building carry a minimum of 90 percent of the dead building load and the interior gypsum be installed prior to installation of the stucco.
- Wood-based sheathing should be gapped 1/8-inch to allow for expansion and be attached per code requirements using corrosion resistant fasteners.
- Substrates must be structurally sound, clean, and dry without planar irregularities greater than 1/4-inches in 10-feet.
- Maximum allowable deflection of structural wall components is 1/360 of the span.
- Expansion joints should be installed at floor line, dissimilar substrates, and through wall expansion joints. Final expansion and control joint design and location are the responsibility of the design professional.
- Store and apply all component products per the product's data sheet.
- Do not use below grade. Terminate a minimum of 4-inches above grade, 2-inches above finished grade, or as specified by local code.
- All openings shall be properly flashed and designed to allow water to escape to the outside of the wall.
- All penetrations shall be properly flashed and/or sealed using approved methods.
- Walls should be designed to prevent bulk water from getting behind the stucco or running down the face of the stucco. The bottom of the wall should have weep screed or another effective means to drain any water that may get behind the stucco.
- Do not apply Diamond Wall when the ambient and surface temperature is below 40°F (4°C). To ensure proper hydration in cold weather applications (approximately 50°F to 32°F) use OmegaCure admix. Refer to OmegaCure data sheet for additional information.
- Protect Diamond Wall from freezing for a period of not less than 24-hours after set has occurred.
- Protect applied product from inclement weather until dry.
- Refer to stone veneer manufacturer's requirements for lath installation when applying stone over Diamond Wall.
- Sufficient slope on faces of plastered surfaces shall be provided to prevent water, snow, or ice from accumulating or standing.
- Optional EPS foam plant-ons may be used to add architectural detailing.
- Some Omega finishes may be applied after a minimum cure time of 24-hours. Refer to finish product data sheet for additional information.
- Heavier lath (such as 17-gauge woven wire, welded wire, or 3.4 grooved expanded metal lath) is recommended to improve lath embedment and help insure minimum Diamond Wall thickness.

## System Upgrades

The following products are optional upgrades to the Diamond Wall PM System. The use of these products will increase the system's performance and warranty. Refer to the appropriate Omega product or system data sheet for additional information.

### Primer

- RapidPrime or AkroFlex Primer is recommended when using acrylic-based finishes.

### Crack Isolation System

- The Omega Crack Isolation System reduces the appearance of stucco cracking by adding layer of fiber glass mesh embedded in base coat that is applied over the Diamond Wall.