

TOTAL GOLD PM □ CLASS PM □

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Class PM Hard Coat EIFS

AMERICA'S EIFS AND STUCCO COMPANY!

1. PRODUCT NAME

Total Gold PM

Hard Coat Exterior Insulated and Finish Systems (EIFS)

2. MANUFACTURER

Total Wall, Inc.
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3. DESCRIPTION

Total Gold PM is a non-bearing exterior cladding for commercial and residential structures. This system is used to weatherproof, beautify and insulate any structure. The advantages of this exterior cladding system are:

- It has the high resistance to sharp impact damage
- It does not consume interior space
- It is highly energy efficient and takes advantage of the "mass effect" of the structure
- The exterior insulation tends to move the dew point toward the outside of the wall
- Practically any combination of color or texture can be achieved
- The structure can be accessorized with architectural enhancements made of the same materials as the wall system (arches, quoins, etc.)

Limitations:

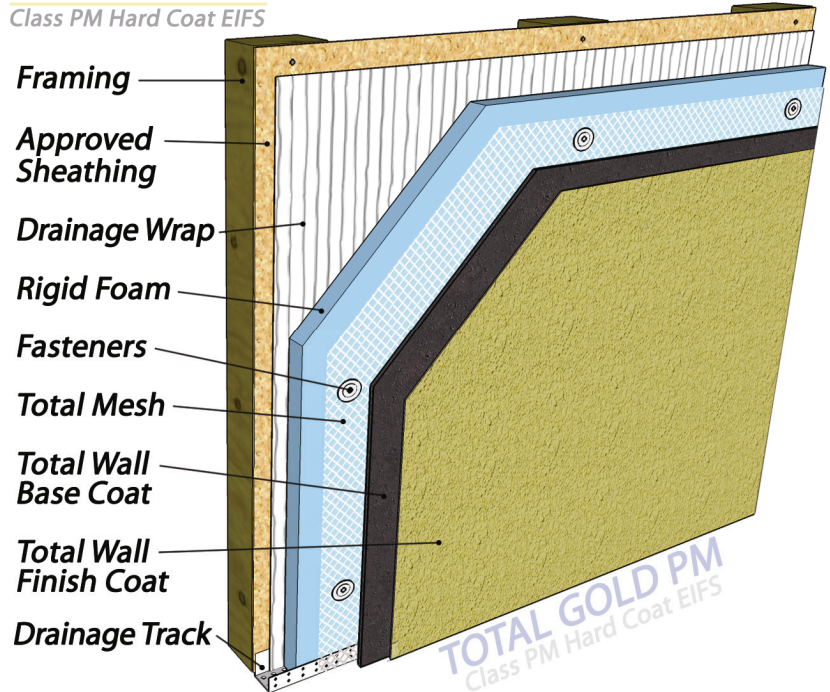
Total Wall products must be applied in temperatures of 40°F or higher. The freshly applied products must be protected from precipitation and the temperature maintained at 40°F or greater for 24 hours.

Stored products must be covered, and protected from sun and freezing conditions.

Total Wall products must be installed by certified Total Wall

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registered applicators. Only registered applicator installations are eligible for a Total Wall System Warranty.

Total Wall reserves the option to use certified inspectors on all phases of any installation.

Materials:

Total Gold PM consists of 4 layers or constituents:

1. Substrate
2. Extruded polystyrene insulation board
3. Reinforced base coat
4. Finish coat

The Total Gold PM system is always mechanically fastened to the substrate. An adhesive may be used in addition to the mechanical fasteners as an option for increased bond or to help compensate for minor substrate irregularities. Consult Total Wall technical services if an adhesive is being considered. The type of fastener used is determined by the insulation foam thickness. Specific system trim accessories are also used.

The accessories typically include:

- Starter track
- Corner bead
- Expansion V-joint
- Stop bead

Layer 1 - Substrate

Approved substrates are:

- Masonry
 - Brick
 - Concrete block
 - Concrete
 - Stucco
- Sheathings
 - Exterior gypsum
 - Exterior grade plywood
 - Cement board
 - Oriented strand board
 - DensGlass, GlasRoc, E2XP

The sheathings must be properly attached to wood or metal framing, with spacing at 12", 16" or 24" o.c.

*Note: Moisture sensitive substrates require moisture barrier and moisture drainage plane.

Layer 2 - Rigid Insulation

The rigid insulation board shall be 2 pound per cubic foot density Extruded Polystyrene (XPS) board manufactured in accordance with Total Wall specifications and meeting ASTM C578 Type IV requirements, have an R value of approximately 5.0 per inch, be in either 4' x 8' or 2' x 8' sheets, with a minimum thickness of 1" and a maximum thickness of 4".

Layer 3 -

- **Reinforcing Mesh**
- **Fasteners**
- **Trim Accessories**
- **Hard Coat Base Coat**

Reinforcing Mesh:

A polymer coated woven fiberglass mesh with a weight of ~ 4.3 ounces per yard and a weave opening of ~0.31" x 0.28". Meeting ASTM D4029 criteria, a thickness of 0.022" and roll dimensions of 38" x 150'. Runs of hard coat reinforcing mesh are lapped 2.5".

Fasteners:

Total Wall fasteners use a special design, non-corroding 1.75" polypropylene cap and corrosion resistant screws.

- Type "W" is for wood
- Type "S" is for steel
- Type "H-LS" is for light gauge steel
- Type "M" is for masonry

The length of the fastener is determined by the thickness of the EIFS. For steel or wood, the fastener must be able to penetrate the framing members by at least 1/2". For masonry, the fastener holes must be pre-drilled and the fastener should have a minimum 1" penetration into the masonry substrate.

Trim Accessories:

Trim accessories include:

- Starter track – used at the lower termination of the system
- Corner bead – used at outside corners
- Stop bead – used at system terminations

- V-joint – a control joint accessory used to relieve stress that may cause cracking

The trim accessories are available in metal (either galvanized steel or solid zinc) or in PVC plastic. The use of metal accessories is recommended in climates where temperatures reach below 40° F.

Base Coat:

1. Total Wall pre-bagged Two Coat HardCoat Base

This product is a dry powder that contains Portland cement, polymer, chopped fiberglass strands, specialty aggregates and workability agents. It is available in 50 lb bags. Mix with water using a jiffy mixer blade and drill (or a mortar mixer) until a mortar like consistency is achieved. Use about 5 qts of water per 50 lb bag. Pot life will be from 30 – 45 minutes. If the mix stiffens during use, add a few ounces of water and remix.

2. Total Wall field mixed Two Coat HardCoat Base

Ingredients:

1. Portland cement – type I, II or I-II, and be fresh, lump free and conform to ASTM C150.
2. Sand – clean sharp quartz silica sand, with an average 40 – 55 mesh size distribution and conform to ASTM C144.
3. Chopped fibers – a pre-weighed bag of fibers available from Total Wall.
4. Acrylic additive – a 100% acrylic polymer emulsion and available only from Total Wall.

Total Wall Two Coat HardCoat Base is field blended using the following mix ratio in a mortar mixer:

- 94 lbs Portland cement
- 150 lb silica sand
- 1 bag Total Wall fibers
- 42 lbs (5 g) Liquid Acrylic Additive

Add up to 1 pint of clean water to adjust workability if needed. Allow the mix to stand for about 2 minutes, and then remix for 2 minutes. Final consistency should be a mortar like, easily trowelable mixture.

Layer 4- Finish Coat

The Finish Coat is the outer coating that gives color and texture to the system. The Finish coat also provides protection against weather, mildew, and pollution. All Total Wall Finishes are 100% acrylic based, giving them superior durability, and are available in two grades:

1. Premier Grade

Premier grade is rich in internally plasticized acrylic polymer, which provides for exceptional movement.

2. Journeyman Grade

Journeyman grade is designed for superior workability and performance.

Total Wall Finishes are available in the following textures and may be trowel applied or spray applied:

1. **Swirl Coarse** - generates a traditional wormhole appearance at ~ 0.078"

2. **Ultra Coarse** - generates a very coarse wormhole appearance at 0.098"

3. **Swirl Fine** - generates a traditional wormhole appearance at ~ 0.065"

4. **Shot Blast Coarse** - generates a coarse limestone appearance at ~0.059"

5. **Shot Blast Medium** - generates a coarse limestone appearance at ~ 0.078"

6. **Shot Blast Fine** - generates a very fine limestone appearance at ~ 0.044"

7. **Freestyle** - generates a variety of hand-applied textures at varying thicknesses

8. **Gemstone** - generates a variety of marble grain looks using colored aggregates in a clear acrylic base at ~ 0.046"

Applicable Standards:

Total Wall has had extensive testing performed on each individual system component and on the assembled system by certified and code approved independent testing laboratories.

- International Code Council (ICC)
- International Building Code (IBC)

- National Evaluation Services (NES)
- Uniform Building Code
- National Building Code
- Standard Building Code
- International Residential Code

Professional Affiliations:

- Total Wall maintains memberships and involvement with these organizations:
- Exterior Design Institute (EDI)
 - American Society for Testing and Materials (ASTM)
 - Federation of Societies for Coatings and Technology (FSCT)
 - Association of the Wall and Ceiling Industries (AWCI)
 - Northwest Walls and Ceilings Bureau (NWCB)

4. TECHNICAL DATA

R-VALUE	~ R 5 per inch
Perm Rating	~ 1.53 @ 1"
Weight	~ 3 lb per ft ² @ 1"
Impact Rating	~ 45" per lb
Compressive Strength of Base Coat	~ 4260 psi

5. INSTALLATION

A. Substrate Preparation

- ✓ The wall must be clean and in sound condition. Any deteriorated, rotted, damaged or soft areas must be repaired before proceeding.
- ✓ The wall must be uniform. Planar irregularities greater than 1/4" in 10' must be addressed prior to installation. Install waterproofing tape at penetrations and flashings as required.
- ✓ Plan the placement of control joints (V-joint accessory). Control joints are recommended to control movement stresses at the following locations:
 - Door and window corners
 - Changes in elevation and changes in substrate material
 - Through wall joints
 - When any panel length to width (or width to length) ratio is greater than 2.5:1
 - When any panel size exceeds 150 ft²
 - Any area that may have movement stresses
- ✓ Project windows, plants and other areas as necessary before proceeding.

B. Minimum Tools and Equipment

- ✓ Drill mixer 1/2" and jiffy mix-blade
- ✓ Drill and appropriate bits and for fasteners
- ✓ Razor knife
- ✓ Tape measure
- ✓ Level
- ✓ Rasp
- ✓ Bucket brush
- ✓ Chalk-line
- ✓ Stainless steel trowel
- ✓ Margin trowel
- ✓ Appropriate float
- ✓ Hot knife tool or fine-toothed saw for cutting foam boards

C. Mounting the XPS board to the wall

- a)** All insulation boards must meet specific performance criteria. These criteria include fire resistance, density minimums, and dimensional stability. Any discolored or warped boards must be rasped and used as cut trim pieces. Using a level and a mason's chalk line, snap a line at what will be the lower edge of the Total Gold PM system.
- b)** Measure and cut a length of metal weep base and fasten it to the substrate. For colder climates, the weep base must be galvanized steel or solid zinc. Warmer climates may use PVC as an option trim material. The bottom row of insulation boards will rest directly on this weep base strip.
- c)** Place the rigid insulation board on the wall beginning at the weep base and install two Total Wall fasteners (use opposite corners) to hold the board in place. If the system is being installed over masonry, the fastener holes must be pre-drilled with the proper size diameter masonry bit, tap or screw depending on the fastener type, through the pre-drilled holes. For steel or wood studs, screw the fastener through the foam board and sheathing into the stud. In all cases, the heads of the fasteners should be nearly flush with the surface of the insulation boards. Continue mounting insulation boards in this fashion using a running bond pattern.
- d)** Insert a sliver of foam board in any gaps between insulation boards at doors, windows and other protrusions. Be sure to

leave room (~0.5") for insertion of backer rod and caulk sealant between the EIFS and the edge of the door, window or other protrusion in the wall.

e) Lightly etch board surfaces with a wire brush.

f) Measure and cut long sheets of Total Wall Hard Coat Reinforcing Mesh to cover the entire face of the insulation boards. Attach the reinforcing mesh to the insulation boards by installing the remaining fasteners through the mesh and through the insulation boards and into the studs or masonry as required. The final fastener density should be approximately 1 fastener per ft². Strips of the 38" wide mesh must overlap by at least 2.5". Try to keep the mesh even and snug with the surface of the board.

g) Measure and cut a length of metal surface mount V-joint and place it on the foam. Press plastic gripping nails at the edges of the flanges to hold the V-joint in place. Be sure that the V-joint flanges overlap the reinforcing mesh.

h) Measure and cut lengths of 1/4" ground stop bead for all system or wall terminations. This includes through wall joints, window and door edges, other wall protrusions and stops. The flange edge must overlap the reinforcing mesh by at least 2". Press plastic gripping nails (available from Total Wall) into the edges of the flanges to hold the stop bead in place.

i) At all outside corners, measure, cut and install corner bead (metal or PVC), or optionally install special corner mesh. Attach the corner units to the foam board with plastic grip nails and be sure that the flanges overlap the reinforcing mesh.

D. Applying HardCoat Base Coat

- a)** Using a steel trowel, apply HardCoat BaseCoat mix to the surface of the foam insulation boards in a 0.25" thick coat.
- b)** Use the top edge of the trim accessories to help gauge the 0.25" thickness of the HardCoat Base coat application.

Immediately fill any voids or gaps in the base coat and continue an uninterrupted application for each system panel. Never stop an application in the middle of a panel. Use a moistened darby or slicker to help level the HardCoat BaseCoat.

c) Allow base coat to cure for a minimum of 18 hours while protecting from freezing and precipitation.

d) Remove any trowel marks by rubbing a pumice stone over the surface.

e) An optional layer of Total Wall primer may be applied to the base coat to assure finish coat color consistency. It is highly recommended to apply a primer before applying any vibrant finish color.

E. Finishing

a) Apply the Total Wall finish of choice directly out of the bucket onto the cured base coat using a stainless steel trowel.

b) Texture or float the finish to achieve the desired result.

c) Allow the finish to cure by protecting from freezing and precipitation for 24 hours.

F. Installing Sealant

With the exception of esthetic joints, all isolation joints must be a minimum width of 1/2" and all expansion joints must be a minimum of 3/4" or 4 times the expected movement, whichever is greater.

Joint depth minimums are established by the sealant manufacturer and can be obtained from their literature or by calling Total Wall Technical Services.

All insulation board edges must be back-wrapped with mesh and base coat.

Apply a primer when recommended by the sealant manufacturer. Insert a proper diameter backer rod to allow for its compression into the joint at a uniform depth. The depth is to allow for the desired thickness caulk bead.

The backer rod must be a closed cell polyethylene material or an

extruded polyolefin with a non-absorbing skin.

Prepare the sealant according to the manufacturer's instructions. Apply the sealant with a pressure gun and properly sized nozzle. Fill the surface of the prepared joint with a smooth, solid, even bead of sealant. The bead must be free of sags, voids and wrinkles. Tool the joint to eliminate air pockets and force contact with the joint surfaces.

G. Architectural Enhancements

Architectural shapes such as quoins, corners, arches, and cornices can be added after the base coat has cured. Foam shapes can be mounted using Total Wall Blue Mastic Adhesive or EnerFoam and temporary or permanent mechanical attachment as applicable. These shapes are then base coated and finished to match the flat wall application described above. Alternatively, completely finished shapes which match or accent the flat wall system can be mounted to the base coated or finished system. The quoins may be made at the job site, or can be ordered, as well as any architectural enhancement, from Total Wall, Inc. Architectural enhancements are prefabricated and ready to mount to the wall.

H. Precautions

Although this system will safely release water that inadvertently reaches behind the EIFS, it is designed to be constructed to prevent water intrusion. Therefore, all details must be properly constructed. These details include: all caulking details; kick outs; flashings; terminations; and utility penetrations.

6. AVAILABILITY

Total Wall materials are manufactured in Wisconsin, and are purchased by Registered Applicators through Total Wall Distributors. Contact your local distributor for a list of Registered Applicators or call Total Wall, Inc. (888-702-9915) customer service for assistance.

7. WARRANTY

Total Wall warrants its system against delamination or material defects when properly installed by a Registered Total Wall Applicator according to current Total Wall and job specifications in force at the time of installation.

No warranty stated herein shall be effective until the goods and labor subject to said warranty have been paid for in full. Total Wall makes no other express warranty or warranty of merchantability. Furthermore, Total Wall makes no warranty that the products of its manufacture are fit for any particular purpose.

Defects caused by misuse, improper storage, mishandling or improper application shall not be warranted. Total Wall is not responsible for damage or injury for materials not manufactured by Total Wall, acts of God, structural movement, or defective materials or their application on the warranted structure.