

TOTAL ONE HS □ STUCCO SYSTEM □ Section 09220

MasterFormat 2004 09-24-23

Hard Coat Stucco System

AMERICA'S EIFS AND STUCCO COMPANY!

1. PRODUCT NAME

Total One HS

Portland Cement Plaster Hard Coat Stucco System

2. MANUFACTURER

Total Wall, Inc.
P.O. Box 366
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www.TotalWall.com
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3. DESCRIPTION

Total One HS 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:

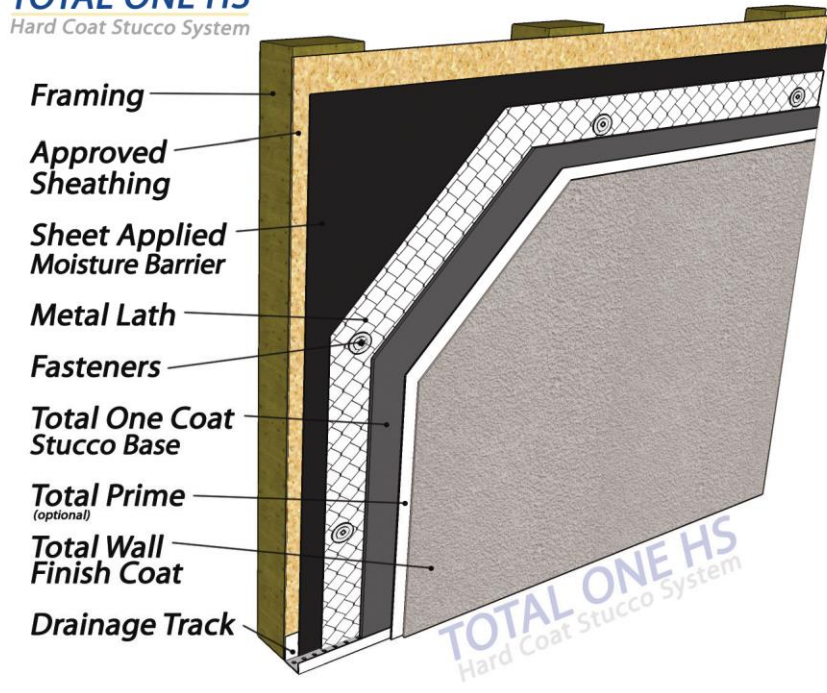
- It has the high resistance to sharp impact damage
- It does not consume interior space
- It is highly energy efficient and takes advantage of the "mass effect" of the structure
- The exterior insulation tends to move the dew point toward the outside of the wall
- Practically any combination of color 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 must be maintained at 40° F or greater for 24 hours. Stored products must be covered, protected from sun and freezing conditions.

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Total Wall products must be installed by certified Total Wall registered applicators. Only registered applicator installations are eligible for a System Warranty.

Total Wall reserves the right to use certified inspectors on any phase of installation.

Materials:

Total One HS system consists of 4 layers or constituents:

1. Substrate
2. Liquid applied bonding agent or sheet applied moisture barrier
3. Stucco base (includes metal lath when installed over sheathing or painted masonry)
4. Finish coat

The Total One Coat HS is applied over a moisture barrier and metal lath when installed over sheathing or painted masonry.

The Total One HS system is a direct applied exterior Portland cement plaster hard coat system when installed over raw masonry.

Trim accessories typically include:

- Corner bead
- Expansion V-joint
- Stop bead

Layer 1 - Substrate

Approved direct application substrates are:

- Raw concrete block
- Raw concrete
- Raw brick
- CMU

All other substrates, including sheathing and painted masonry, receive a layer of moisture barrier and metal lath.

Layer 2 - Liquid applied bonding agent for raw masonry, or sheet-applied moisture barrier over sheathing or painted masonry.

For raw masonry, Total Wall Stucco Bond is roller applied, brush applied, or spray applied. The bonding agent can dry for 2 hours. The substrate will receive the Portland cement plaster within 24 hours. For sheathing or painted masonry, install one or two layers of approved sheet applied moisture barrier.

Layer 3 – Stucco Base (and metal lath if installed over sheathing or painted masonry)

Install the specified metal lath reinforcement and required accessories in accordance with project specifications, Total Wall Long Form Specifications, ASTM C1063 and Lath and Plastering Guidelines. The combination of scratch and brown coats is called the Portland cement stucco base. The product to use is Total One Coat Stucco.

Total One Coat is trowel applied. The first pass is a scratch coat that is typically 1/4" - 3/8" in thickness and allowed time to set. A 24-hour minimum hydration of scratch coat is recommended.

The scratch coat is followed by a brown coat, which is filled out to near the specified total thickness of the plaster coat. (Allow for the thickness of the finish coat). The brown coat is recommended to be moist cured for 48 hours and air dried for an additional 24 hours minimum, before application of the synthetic finish coat.

Mixing: Add up to 220 pounds of clean silica sand (approximately 45-70 mesh) per 80-pound bag of Total One Coat Stucco Concentrate. Using a low-speed mixer with a jiffy blade, add approximately 6.75 gallons per batch of stucco (one bag plus 220 pounds of sand).

For improved performance and extended warranty, replace 1 gallon of mix water with 1 gallon

of Total Wall Liquid Acrylic Additive. After initial mixing, allow the mix to stand for 2-5 minutes, and then remix, adding a small amount of water to adjust workability, if necessary. Mix pot-life will vary depending on temperature and batch size. An average pot-life of 40 minutes can be anticipated. Total One Coat Stucco mix may be re-tempered one time if mix becomes too stiff. Final consistency should be a creamy, light and easily troweled mixture.

Total Prime, an optional primer, may be applied over the stucco base before applying the finish coat, to maximize coverage of the finish coat and to even out the suction of the base coat.

Trim Accessories:

Trim accessories include:

- 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 are 40° F and below.

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 with 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 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. ShotBlast 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, Inc. 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, Inc. 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 (NWCBC)

4. TECHNICAL DATA

R-VALUE	~ R 5 per inch
Perm Rating	~ 1.53 at 1"
Weight	~ 3 lb. per ft ² at 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.
- ✓ 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
- ✓ Protect 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. Applying Total One Coat Mix

Using a trowel, apply the stucco mix to the wall surface. If lath or netting has been installed, key the stucco mix thoroughly into the reinforcement.

The first pass is a scratch coat and is typically 1/4" to 3/8" thickness. The next pass is the brown coat. Use multiple passes or lifts to achieve the desired thickness.

Apply stucco mix in accordance with ASTM C926 in either a two-coat process or a three-coat process. Keep a wet edge and work to natural stops such as corners or joints. A darby, slicker, or rod, is used to assist in leveling the applied stucco.

The stucco should be moist cured for a minimum of 48 hours and then allowed to dry and cure for an additional 24 hours minimum, while protecting from freezing and precipitation.

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

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.

D. Applying the Finish

- a) Apply the Total Wall Finish of choice directly out of the bucket

onto the cured base coat using a stainless steel trowel. The thickness of the finish is gauged by the largest aggregate in the texture selected.

b) Immediately texture or float the finish with the proper floating tool and motion to achieve the desired result.

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

E. Installing Sealant

Except for aesthetic 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.

F. Architectural Enhancements

Architectural shapes such as quins, corners, arches, and cornices can be added after the

base coat has cured. Foam shapes can be mounted using Total Wall Blue Mastic Adhesive, 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, 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 ordered, along with any architectural enhancement, from Total Wall, Inc. Architectural enhancements are prefabricated and ready to mount to the wall.

G. Precautions

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

a Registered Total Wall Applicator according to current Total Wall, Inc. and job specifications in force at the time of installation.

No warranty stated herein must be effective until the goods and labor subject to said warranty have been paid for in full. Total Wall, Inc. makes no other express warranty or warranty of merchantability. Further, Total Wall, Inc. 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 must not be warranted. Total Wall, Inc. is not responsible for damage or injury for materials not manufactured by Total Wall, Inc., acts of God, structural movement, or defective materials or their application on the warranted structure.

7. WARRANTY

Total Wall warrants its system against delamination or material defects when properly installed by