

SPECIFICATION

TOTAL WALL

This Specification Data Sheet is designed to conform to a standard industry format used most frequently by Specifiers, Architects, and Registered Design Professionals.

1. PRODUCT NAMES

TOTAL WALL
Insulated Concrete Form (ICF)

2. MANUFACTURER

TOTAL WALL, Inc.
P.O. Box 8098
Madison, WI 53708
Phone 888-702-9915
Fax 888-702-9916

390 Viking Circle
Rio, Wisconsin 53960

3. DESCRIPTION

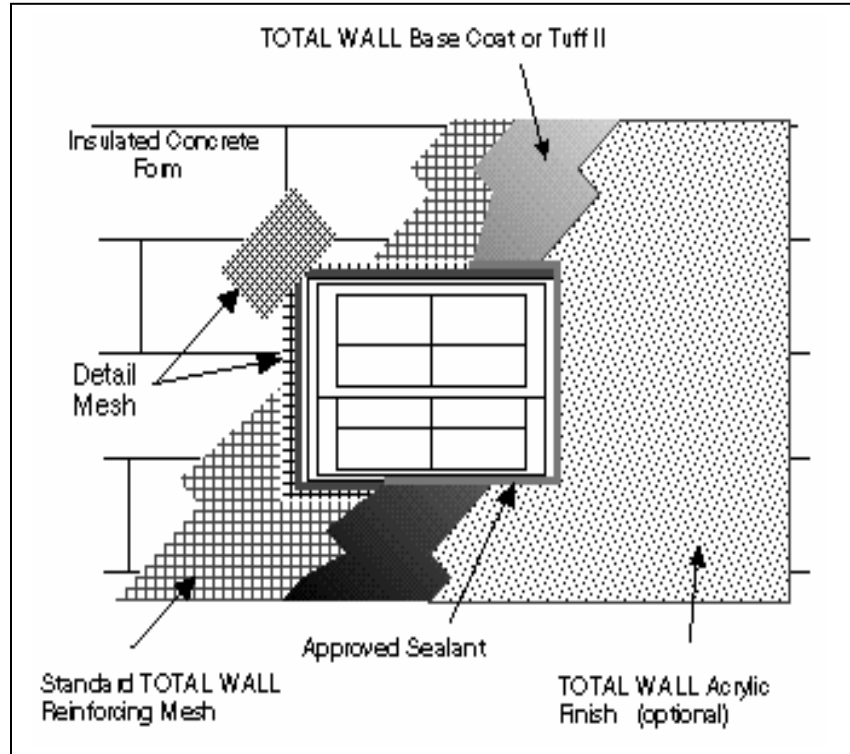
TOTAL WALL ICF

Exterior Finish Systems are non-bearing exterior claddings for commercial and residential structures constructed of polystyrene insulated concrete forms. The TOTAL WALL ICF Systems are used to weatherproof, protect and beautify any ICF structure.

Among the advantages of this exterior cladding system are:

- it is light weight and will not stress the design structure;
- it is a relatively low cost yet highly durable cladding;
- the cladding will provide impact resistance, ultraviolet protection and weather protection to the polystyrene ICF surface;
- practically any combination of color or texture is achieved;
- the structure is easily 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 40F or higher. The freshly applied products must be protected from precipitation



and the temperature maintained at 40 F or greater 24 hours. Stored products should be under cover, protected from sun and freezing conditions.

TOTAL WALL products are to be installed by TOTAL WALL Qualified Applicators and will hold a Certificate from TOTAL WALL. Their installations are eligible for a System Warranty. TOTAL WALL reserves the option to use certified inspectors on all phases of any installation. Materials: TOTAL WALL ICF Systems consist of either two layers of constituents for the One Coat System or three layers of constituents for the Two Coat System.

Layer 1 ICF substrate
Approved ICF materials are by: Reward Wall, Arxx, Polysteel, Dow Chemical, Keeva, Owens

Corning, Amoco, BuildBlock, Amvic, EcoBlock or as approved in writing by TOTAL WALL.

Layer 2. Base Coat and Reinforcing Mesh
The entire surface of the foam block is covered with reinforcing mesh embedded with a special Base Coat material. A TOTAL WALL synthetic Finish coating is recommended for optimum results in appearance and performance. If Tuff II is used as the Base Coat, it may also be used as the finish coat. To use Tuff II as the finished layer, be sure the Base Coat layer is tinted to an similar color. Texture may be controlled by either floating to achieve a sand texture or by adding additional Finish with a skip-trowel technique to achieve a freestyle texture.

Base Coat Products:

1. TOTAL WALL

T 2000 Base Coat

This product is a dry powder that contains Portland cement, polymer, specialty aggregates, rheology modifiers and curing agents. It is available in 50 lb bags in white or grey. The product is mixed with water at the job site using a jiffy mixer blade and drill (or a mortar mixer) until a mortar-like consistency is achieved (about 5 quarts of water per 50 lb bag). The mix is allowed to stand for five minutes and is then remixed; more water may be added if necessary to adjust final consistency. If the mix is too wet, dry product may be mixed in to decrease slump. Typical pot-life will be from 30 to 45 minutes. If the mix stiffens during use, it may be re-tempered by adding a few ounces of water and remixing.

2. TOTAL WALL Tuff II

(Acrylic Base Coat and Finish)

This product is available in 5 gallon pails at 65 pounds per pail. Tuff II is a fully synthetic, all acrylic base coat that is ready to use right out of the pail. Mix Tuff II for 30 seconds with a low speed mixer before use. Product may be thinned by adding 4 - 6 ounces of water per 5-gallon pail of TOTAL WALL Tuff II while mixing. Tuff II is available in grey and white plus a selection of standard colors and custom colors.

Reinforcing Meshes:

1. Standard Mesh

A polymer-coated, alkali-resistant woven fiberglass mesh with a weight of ~ 4 ounces per yard.

2. Standard Self-Sticking

Reinforcing Mesh

(for use with Tuff II only)

A polymer-coated, alkali-resistant woven fiberglass mesh with a weight of ~ 4 ounces per yard.

One face of the mesh is pretreated with an adhesive for attachment to the foam block substrate.

3. Detail Mesh

A polymer-coated, alkali-resistant woven fiberglass mesh with a weight of ~ 4 ounces per yard.

4. Self-Sticking Detail Mesh

A polymer-coated, alkali-resistant woven fiberglass mesh with a weight of ~ 4 ounces per yard.

One face of the mesh is pretreated with an adhesive for attachment to the foam block substrate.

Layer 3. 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 and Tuff II are 100% acrylic based which gives them superior durability. Total Wall Finishes are available in three grades:

1. Premier Grade - this grade is rich in internally plasticized acrylic polymer which provides for exceptional movement.

2. Classic Grade - this grade exceeds all requirements and industry standard finishes;

3. Journeyman Grade - this 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 worm-hole appearance at ~ 0.078”;

2. Swirl Fine- generates a

traditional worm hole appearance at ~ 0.065”;

3. Tuff II - generates a smooth or skip-trowel appearance at ~0.046”.

4. Plastone - generates a very smooth appearance at ~ 0.028”;

5. ShotBlast Medium- generates a coarse limestone appearance at ~ 0.078”;

6. ShotBlast 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”.

Note - Ultra Coarse Textures are also available in Swirl and ShotBlast.

Applicable Standards:

TOTAL WALL has had extensive testing performed on their coatings over rigid polystyrene foam insulation materials and on EIF assembled systems by certified and code approved independent testing laboratories. Testing is recognized by and satisfy:

International Code Council (ICC)

International Building Code (IBC)

International Residential Code (IRC)

Standard Building Code

Uniform Building Code

National Building Code

National Evaluation Service (NES)

Professional Affiliations:

TOTAL WALL maintains memberships and involvement with these organizations:

NWCB (Northwest Walls and Ceilings Bureau)

ASTM (American Society for Testing and Materials)

AWCI (Association of the Walls and Ceilings Industries)

EDI (Exterior Design Institute)

4. TECHNICAL DATA

Chemistry Polymer modified Portland cement with microfibers or Fully Synthetic 100% acrylic with patented dirt resistance and mildew resistance
Flame Spread < 5 ASTM E84
Weight ~ 1.0 - 1.3 lb (lamina only) per sq ft

5. INSTALLATION

A. Substrate Preparation and Inspection

-) The ICF surface should be clean and in sound condition. Any deteriorated, damaged or pocked areas must be repaired before proceeding.
-) The wall should be uniform. Planar irregularities greater than allowed in the contract documents should be addressed prior to installation.
-) Areas below grade that require waterproofing treatment as outlined in job documents should be treated with first with an approved membrane sealer.
-) Window corners, door corners and other natural stress points should be inspected for splits in

the foam. Any splits or breaks should be repaired with a low expanding approved foam such as EnerFoam, or equivalent. These areas will receive a 9" by 12" butterfly of detail mesh embedded in Base Coat and placed at a 45° angle to the corner.

-) Expansion joints should be placed at all through wall joints and at intersections with dissimilar substrate materials.
-) If desired, Direct Applied System coating may be terminated with any of the following accessories: PVC stops or trims, galvanized steel or solid zinc.
-) Any accessories may be attached with either grip-rite plastic nails or galvanized nails.

B. Minimum Tools and Equipment

-) A mixer for the base and finish coats (1/2" drill and jiffy mix-blade or better mixer)
-) A drill and appropriate bits and tips;
-) A razor knife, tape measure, level, hammer, bucket brush and chalk-line;
-) A caulk gun, finishing tool, a fine-toothed saw for cutting accessories;
-) A stainless steel trowel, a margin trowel, and appropriate floats.

C. Applying Base Coat and Mesh

- a) Using either Self-Stick or Standard detail mesh, embed 12" by 9" sections detail mesh in Base Coat at a 45° angle the corners of doors and windows and other high stress points.
Note- if Self-Stick Reinforcing Mesh is used, Tuff II must be

used as the Base Coat material.

The Self-Stick mesh is applied directly to the ICF surface before the Tuff II is applied.

- b) Using a steel trowel, apply Base Coat mix to the entire ICF surface in a 1/8" skim coat.
- c) Immediately embed the Standard reinforcing mesh into the freshly applied Base Coat. Using a trowel, press the mesh into the Base Coat by starting at the center and working toward the edges. Press out the air voids and wrinkles to produce a smooth Base Coat.

Apply additional Base Coat as necessary to completely cover the mesh and achieve a thickness of not less than 1/8". The fabric pattern and ICF joints must no longer be visible. The reinforcing mesh and Base Coat Should cover the entire surface and overlap the flanges of any accessories. Runs of reinforcing mesh should overlap at least 2-1/2".

- d) Allow Base Coat to cure for a minimum of 18 hours while protecting from freezing and precipitation.

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

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

With the exception of esthetic joints, all isolation joints should be a minimum width of ½” and all expansion joints should be a minimum of ¾” or 4 times the expected movement, whichever is greater. A non-absorbing backer rod and approved sealant is required.

Optionally, isolation joints or terminations may be sealed with fillet beads of approved sealant. Joint depth minimums are established by the sealant manufacturer and can be obtained from their literature or by calling TOTAL WALL Technical Services. All ICF terminations, such as windows and doors penetrations, ground terminations and expansion joints, may be made with PVC or zinc accessories. 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 should 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 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 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 and temporary or permanent mechanical attachment as applicable.

6. AVAILABILITY

TOTAL WALL materials are manufactured in Rio, WI and are purchased by Approved Applicators through TOTAL WALL Distributors. Contact your local Distributor for a list of Approved Applicators or call 888-702-9915 for assistance.

7. WARRANTY

System Warranty

TOTAL WALL, Inc. warrants its system against delamination or material defects when properly installed by an Approved TOTAL WALL Applicator according to current TOTAL WALL and job specifications in force at the time of installation. The Warranty must be requested before system installation and a completed and signed inspection check list must be submitted at the job completion prior to issuance of any Warranty. TOTAL WALL reserves the right to review any claim and make the final determination as to the validity of the claim and the cause of the claim. At no time shall the value of the Warranty exceed the original purchase price of the materials. Should TOTAL WALL receive a valid claim, TOTAL WALL, at its option, will either repair the damage, replace materials, or refund in US dollars

for the amount of damaged TOTAL WALL materials. 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. Further, 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.

End of Specification
06-2006