

## TOTAL DIRECT DA □ CLASS DA □ Section 09220

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Exterior Finish System Applied Direct Over Sheathing **AMERICA'S EIFS AND STUCCO COMPANY!**

### 1. PRODUCT NAME

#### **Total Direct DA**

Direct Applied Exterior Finish System (DEFS)

### 2. MANUFACTURER

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### 3. DESCRIPTION

Total Direct DA Direct Applied System is a non-bearing exterior cladding for commercial and residential structures. This system is used to weatherproof and beautify any structure. The advantages of this exterior cladding system are:

- It is a relatively low cost yet highly durable cladding
- When installed with a moisture resistive barrier and proper details, the exterior performs as a moisture drainage system which allows any water that enters the system to safely exit
- Practically any combination of color or texture can be achieved
- The structure is easily accessorized with architectural enhancements such as; arches, quoins, etc.
- The existing sheathing may be exterior gypsum, plywood, or OSB. The moisture barrier is lapped to prevent water from entering the wall cavity

### TOTAL DIRECT DA

Class DA DEFS

Framing

Approved Sheathing

Drainable Wrap

Total Mesh  
(embedded in base coat)

Total Wall Base Coat

Total Wall Finish Coat

Drainage Track

#### **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, and protected from sun and freezing conditions. 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 Wall Class DA DEFS consists of 5 layers or constituents:

1. Framing/Sub-sheathing
2. Moisture barrier
3. Approved sheathing
4. Base coat / Reinforcing mesh
5. Finish coat

#### **Layer 1 - Framing and Sub-sheathing**

Approved framing is steel or wood with a maximum spacing of 16" o.c. The sub-sheathing is or may be wood or siliconized-core gypsum sheathing.

#### **Layer 2 - Moisture Barrier**

An approved self-draining moisture barrier such as:

- Tyvek StuccoWrap
- RainDrop HouseWrap
- Weather Trek
- Vortec Drainage Barrier

These are installed over the sub-sheathing.

The moisture barrier is lapped to prevent water that may run down the wall from entering the wall cavity and is installed over a PVC drainage track or starter track with weeps at the lower system termination. PVC accessories are used also at expansion joints and all window and door penetrations.

### **Layer 3-Approved Sheathing**

For exterior wall areas that are exposed to the elements, the sheathing must be a cement board such as:

- Durock
- Permabase
- Or equivalent

For protected areas, such as soffits or entrance ways, the acceptable substrate may be a siliconized-core gypsum board such as:

- DensGlass
- Fiberock
- GlasRoc or E2XP
- Cement board

The sheathing is installed with galvanized, zinc or climacoat screw fasteners, as approved by the sheathing manufacturer.

### **Layer 4 - Base Coat and Reinforcing Mesh**

In Direct Applied Systems, the sheathing joints are treated with base coat and a strip of reinforcing mesh followed by the entire surface of the sheathing being covered with base coat and reinforcing mesh. This protects the sheathing joints with a double layer of mesh and base coat.

#### **Base Coat:**

#### **1. Total Wall T-2000 Base Coat**

This product is a dry powder that contains Portland cement, polymer, and specialty aggregates. 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 (about 5 quarts of water per 50-lb. bag). Wait 5 minutes and remix. Pot life will be from 30 to 45 minutes. If the mix stiffens during use, add a few ounces of water and remix.

#### **2. EZ Base NCB (Non Cement Base)**

This product is a ready to use, fully synthetic base coat. Mix before use. Product may be

thinned by adding 4 - 6 ounces of water per 5 gallon pail of Total Wall EZ Base while mixing. Mix with a low speed jiffy mixer blade on a drill.

#### **3. Total Wall Foam N' Base ES**

This product contains a liquid acrylic polymer plus specialty aggregates and modifiers. Mix in a 1:1 ratio by weight with Type I, II or I-II Portland cement at the job site. Add 16 - 24 ounces of water to a 5 gallon pail of mix to adjust to a mortar-like consistency. Wait 5 minutes and remix. Pot life will be from 30 to 45 minutes. If the mix stiffens during use, add a few ounces of water and remix.

#### **Reinforcing Mesh:**

#### **1. Standard Self-Sticking Reinforcing 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.

#### **2. 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 5 - 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 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 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, 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 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 (NWCBB)

## 4. TECHNICAL DATA

Acrylic Polymer coating over coated fiberglass embedded in polymer modified Portland cement

Flame Spread < 5 ASTM E84  
Weight ~ 0.7 - 0.8 lb (lamina only) per ft<sup>2</sup>

## 5. INSTALLATION

### A. Substrate Preparation and Panel Inspection

- ✓ The exterior sheathing must be clean and in sound condition with smooth side facing in toward the framing. Any deteriorated, 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.
- ✓ The ground termination must have a PVC weep base.
- ✓ Create control joints at system penetrations, such as windows and doors, if required by sheathing manufacturer. In the absence of control joints at these locations, sheathing boards should be "L" cut around windows and doors with a 1/2" gap to allow for sealant joint construction with a casing bead or a 45° PVC trim accessory bead along jambs and sills and will later receive the sealant. The window head receives a weep base, providing the window detailing and design permits this detail.
- ✓ Floor lines in wood frame construction must receive a 1/2" to 3/4" expansion joint with each side of the joint terminated with a PVC casing bead. The moisture barrier is continuous behind all joints.
- ✓ Expansion joints should be placed at all through-wall joints, at intersections of dissimilar substrate materials, and anticipated high stress areas. Install control joints in accordance with the sheathing manufacturer specifications.
- ✓ All sheathing boards are loosely butted, and not gapped, unless required by the sheathing manufacturer.

- ✓ Exterior sheathing joints must not align with any sub-sheathing joints. Vertical joints must be staggered so that ends are not in a straight line.
- ✓ Fasteners must be corrosion resistant screws of proper length to penetrate either steel framing by 1/2" or wood framing by 1".
- ✓ Fasteners must be installed a maximum of 16" o.c. horizontally and 8" o.c. vertically, with heads flush with the panel surface.
- ✓ All PVC accessories must be attached with either stainless steel or galvanized staples or nails.

### B. Minimum Tools and Equipment

- ✓ Drill mixer 1/2" and jiffy mix-blade
- ✓ Screw gun
- ✓ Staple gun
- ✓ Razor knife
- ✓ Tape measure
- ✓ Level
- ✓ Hammer
- ✓ Bucket brush
- ✓ Caulk gun
- ✓ Finishing tools
- ✓ Fine-toothed saw
- ✓ Snips
- ✓ Stainless steel trowel
- ✓ Margin trowel
- ✓ Appropriate float
- ✓ Chalk-line or laser-level

### C. Applying Base Coat and Mesh

- a)** Using a trowel or knife, fill the gaps between the boards with base coat and allow to dry.
- b)** Using a steel trowel, apply base coat mix to the surface of the sheathing board joints in a 1/8" skim coat.
- c)** Immediately embed minimum 4.5" width Total Wall detail mesh in the base coat and allow to dry.
- d)** Install 9" x 12" butterflies of mesh and base coat at natural stress points, such as corners of windows where control joints do not exist, and allow to dry.
- e)** Apply base coat mix to entire surface of the sheathing boards and immediately embed 4.3 ounce reinforcing mesh into the wet base coat. Lap runs of mesh a minimum of 2.5". 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 so that the fabric pattern is not visible or barely visible. The reinforcing mesh and base coat must cover the entire surface and overlap the flanges of the trim accessories. Level the base coat with a second pass to eliminate planar differences between areas that have received a double coating of base coat and mesh and those which have a single layer base coat of mesh.

**f)** Allow Total Wall Base Coat to cure for a minimum of 18 hours while protecting from freezing and precipitation.

**g)** 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.

### 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 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 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, or 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.

#### **G. Precautions:**

Although this system will safely release water that inadvertently gets behind the DEFS, it is designed to be constructed to prevent water intrusion.

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 must 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 must 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.