

Total Wall Technical Bulletin Index

- Issue # 1001 Mesh Application over Quick-R™ Board or Stucco Shield II™ Board for the PI Class Exterior Insulated and Finish System
- Issue # 1002 Detail mesh application for Class MD Moisture Drainage and Class PB for Soft Coat and Architectural Details
- Issue # 1003 Joint Sealant Application and Warranty Considerations
- Issue # 1004 Why Extruded Foam Insulation Board should not be used to make a traditional Soft Coat PB EIFS
- Issue # 1005 EIFS Re-Coat with T-WALL LASTIC Elastomeric Coating
- Issue # 1006 TOTAL WALL and the Environment
- Issue # 1007 When to prime the base coat before applying finish on EIFS
- Issue # 1008 Re-Skimming an EIFS Wall
- Issue # 1009 TOTAL WALL EIFS Standard System vs. Drainage System
- Issue # 1010 Application over ICF (insulated concrete form) Foam Block Systems
- Issue # 1011 Using TOTAL WALL EIFS Finish over Hard Coat Stucco
- Issue # 1012 Changing the texture on an existing EIFS
- Issue # 1013 TOTAL WALL color matching tips and techniques
- Issue # 1014 EIFS Finishes for indoor swimming areas
- Issue # 1015 Direct applied over cement board
- Issue # 1016 Texturing finish coats
- Issue # 1017 Architectural joints in EIFS
- Issue # 1018 Woodpeckers in EIFS
- Issue # 1019 Exterior coating terminations at grade on ICF Block construction (ICF)
- Issue # 1020 Using T-WALL LASTIC and Textured T-WALL LASTIC
- Issue # 1021 EIFS vs. Traditional Stucco
- Issue # 1022 Notched Trowel Selection for Applying Blue Mastic Adhesive
- Issue # 1023 Using TOTAL WALL Finish over Urethane Base Coat

TECHNICAL BULLETIN888.702.9917
www.totalwall.com

Issue # 1024	TOTAL WALL Finish Coat Accelerator
Issue # 1025	Save time using TOTAL WALL EZ Base NCB
Issue # 1026	Do I Need to be concerned about Rust from the Finish?
Issue # 1027	Upgrading TOTAL WALL EIFS with a Moisture Barrier
Issue # 1028	Direct Applied Over Concrete Masonry
Issue # 1029	TOTAL WALL Reinforcing Mesh
Issue # 1030	Applicator Program
Issue # 1031	Maintenance and Repairs of TOTAL WALL EIFS
Issue # 1032	Use of TOTAL WALL Blue Mastic to Adhere Panels
Issue # 1033	High Impact Mesh Alternatives with TOTAL WALL EIFS
Issue # 1034	Extending EIFS Below Grade
Issue # 1035	Special Inspections
Issue # 1036	Synthetic Finish Retarder
Issue # 1037	Wall System dew point information
Issue # 1038	Sealant listing update
Issue # 1039	Sheathings for Direct Applied Exterior Finish (DEFS) update
Issue # 1040	Tips on Total Wall #11 Single Component tintable caulk sealant
Issue # 1041	Base Coats and Hot Weather
Issue # 1042	Tint Vile Program
Issue # 1043	Does the finish smell like ammonia?
Issue # 1044	Open Pore Textures
Issue # 1045	Perm Rating
Issue # 1046	Storage of Partial Pails of Finish to be later used for Touch-up
Issue # 1047	Tips on Texture and Coverage of Synthetic Finish over Hard Coat Stucco
Issue # 1048	Individual Product (Non-System) Warranty Coverage
Issue # 1049	Starter Track
Issue # 1050	Color Stability
Issue # 1051	Swimming Pool Rooms
Issue # 1052	Distributor Base 3 Program

TOTAL WALL

AMERICA'S EIFS AND STUCCO COMPANY!

TECHNICAL BULLETIN

888.702.9917
www.totalwall.com

For copies of Technical Bulletins please contact Total Wall with the Issue Number you need.

**MESH APPLICATION
OVER QUICK-R™ BOARD OR STUCCO SHIELD II™ BOARD
FOR TOTAL LITE PI EXTERIOR INSULATED AND FINISH SYSTEM**

Traditionally, the standard mesh application practice calls for coating the board with Base Coat first and then embedding reinforcing mesh or detail mesh. Since the Base Coat is applied to the board first, it must be squeezed through the mesh as the mesh is pressed into the Base Coat with a trowel. The popular position is that this procedure surrounds the reinforcing mesh with Base Coat, which optimizes performance. TOTAL WALL recognizes this procedure as the standard method. The PI system must be fully meshed.

An alternate method of applying mesh and Base Coat is to first adhere self-stick mesh to the board and then apply the Base Coat over the board and mesh. Although this method does not fully embed the mesh, it does produce a strong, reinforced Base Coat result. Use of self-stick mesh is acceptable only for details such as back wrapping and architectural shapes.

The *TOTAL WALL* Technical Department

DETAIL MESH APPLICATION FOR CLASS MD MOISTURE DRAINAGE AND CLASS PB SOFT COAT AND ARCHITECTURAL DETAILS

Detail mesh (and starter mesh) is used for back wrapping board edges, meshing architectural joints and meshing architectural shapes. As was stated in Technical Bulletin Issue # 1001, the standard mesh application practice calls for coating the board with Base Coat first and then embedding the detail mesh.

An alternative method of applying detail mesh and Base Coat is to first adhere self-stick mesh to the board or architectural shape and then apply the Base Coat over the meshed area. Once again, although this method does not fully embed the mesh, it does produce a strong, reinforced Base Coat unit.

Based on extensive experience and testing, TOTAL WALL holds the following position:

1. TOTAL WALL authorizes the use of the alternative method for applying TOTAL WALL self stick detail mesh to board edges for back-wrapping purposes.
2. TOTAL WALL authorizes the use of the alternative method for applying TOTAL WALL self-stick detail mesh to architectural shapes and architectural joints.

In summary, TOTAL WALL recognizes both; the standard method and the alternative method of detail starter mesh application. As always, in addressing detail work, it is imperative that quality workmanship be maintained.

The **TOTAL WALL** Technical Department

JOINT SEALANT APPLICATION AND WARRANTY CONSIDERATIONS

In 1996, water intrusion problems on residential EIFS applications in Wilmington, NC had received national attention. The NAHB has determined that many of the water intrusion problems are due to either: 1) the absence of caulk sealant or 2) improperly applied caulk sealant. One example of an improperly applied caulk sealant is a "finger wipe" film of caulk over the seam between the EIFS and a window or door. It is important to note that no water got through the EIFS facia; it was all joint, detail, flashing and window failure.

To paraphrase Robert Thomas, author of the *EIFS Design Handbook*, sealant joints are NOT a place to scrim on EIFS design. Sealant performance is "crucial" to EIFS performance. The Wilmington situation is actual field proof of the necessity for proper caulk joints. The following is a concise summary of TOTAL WALL policy regarding joint sealant application:

1. Joint sealant and related details are a crucial step in EIFS installation.
2. Joint sealant application and/or inspections are often a function of the EIFS contractor. If a separate contractor performs the joint sealant, the EIFS contractor is authorized to inspect the installation and countersign the inspection checklist.
3. All EIFS systems will be held back a 3/8" to 1/2" inch from windows, doors and other protrusions, allowing for a proper caulk sealant isolation joint. If the window or door detail does not permit an isolation joint, a triangular fillet joint using a quarter-round backer rod and caulk sealant will be used.
4. All PB, MD and PI installations will be back wrapped where the caulk sealant joint meets the EIFS. The caulk sealant should be bonded to the Base Coat rather than the Finish Coat.
5. All caulk sealant joints will use a non-absorbing backer rod.
6. The caulk sealant must be an approved sealant.
7. No TOTAL WALL Warranty is valid without proper joint installation.
8. Any deviations or changes to the standard "backer rod and caulk" system must be reviewed and approved by TOTAL WALL Technical Services prior to Warranty Approval.

The **TOTAL WALL** Technical Department

WHY EXTRUDED FOAM INSULATION BOARD SHOULD NOT BE USED TO MAKE A TRADITIONAL SOFT COAT PB EIFS

Traditional Soft Coat PB EIFS (Exterior Insulation and Finish Systems) use one-pound density EPS (Expanded Polystyrene) insulation board. Traditional Hard Coat PM EIFS use two-pound density XPS (Extended Polystyrene) insulated board. Why not cross the systems and make a PB System out of XPS? Here's why not:

There is a big difference in physical properties between EPS and XPS. EPS has very low modulus of elasticity. That means it moves easily with substrate movement and it does not transfer significant stresses to the base coat. This practice works well down to an EPS board thickness as low as 3/4". On the other hand, XPS has several times the strength of EPS and a much higher modulus of elasticity. XPS will transfer significant movement stresses from the substrate through to the Base Coat and Finish layers. In addition, polystyrene plastic has a coefficient of expansion of 6.5 times that of concrete. With stronger foam plastic such as XPS, this will add to the thermal movement stresses accumulated in the system.

The bottom line is that use of XPS instead of EPS in a traditional Soft Coat PB System will usually result in cracking and system failure. TOTAL WALL does not recognize or warrant the substitution of XPS for EPS in our standard Soft Coat System.

We would like to point out that hybrid hard coat systems have been developed that permit the use of XPS in a type of application that does not require trims or control joints. These are special systems that are designed to compensate for properties of XPS foam board. This is a very different practice than simply substituting XPS for EPS foam board. TOTAL WALL does have a hybrid system available called the Total SL Gold PM System.

The *TOTAL WALL* Technical Department

ISSUE # 1005

EIFS RE-COAT WITH TOTAL LASTIC ELASTOMERIC COATING

What can we do when the synthetic finish surface is stained, blemished, or simply the wrong color? Of course, we can apply new layers of Base Coat and Finish texture coat. This would provide a good result, but it is costly in time, labor and materials. An alternative approach is to put on a single, roller-applied coat of TOTAL LASTIC.

TOTAL LASTIC can be adjusted to preserve an existing texture or, if desired, it can be made to modify an existing texture. In addition, the TOTAL LASTIC can be color matched and flattened so that color and sheen are duplicated to job requirements. How is this done? TOTAL LASTIC texturing agents, colorants and flattening agents are proportioned to match the field needs for a particular situation. A test panel is always done to insure that the desired result is achieved. All formulation adjustments must be made before application begins.

TOTAL LASTIC is a 100% acrylic high quality elastomeric coating specifically designed for EIFS and masonry surfaces. Here are the benefits of coating EIFS with TOTAL LASTIC:

- Improved water resistance
- Improved mildew resistance
- Improved crack resistance
- Improved fade resistance

An EIFS coated with even one application of TOTAL LASTIC will produce a better system. A TOTAL WALL Warranty on EIFS will remain in force if the TOTAL WALL EIFS is coated with TOTAL LASTIC.

An additional use of TOTAL LASTIC relates to caulk joints. If a paintable caulk joint needs to be coated and colored for job esthetics, it is advisable to do this with tinted TOTAL LASTIC rather than the finish used on the job. The TOTAL LASTIC has many times more elongation than any finish material and will more readily expand and contract with the caulk material. This will help to prevent coating cracks over the caulk joint.

Finally, TOTAL LASTIC can be an alternative way to make an EIFS color accent band on a building. Here's how it works. Rather than do an accent band in the different color finish material, do the entire job using the one base finish color. After the finish has cured, tape off the accent band area and roller apply tinted TOTAL LASTIC. Depending on the job situation, this approach can sometimes be a labor saving method.

The **TOTAL WALL** Technical Department

ISSUE # 1006

TOTAL WALL AND THE ENVIRONMENT

We at TOTAL WALL provide a valuable service to homeowners, builders, and architects. That service is to safely and economically beautify and insulate a home or building. Our philosophy requires that we provide this service without harm to the environment while using the best available technology. A partial listing of our environmental policy with regard to product manufacture and product offering follows:

- We do not manufacture or sell solvent-based materials. This is because of the hazards in handling solvents and the damage to the environment caused by solvents.
- We do not use heavy metals such as mercury, lead, cadmium, or zinc for any process or purpose.
- We use the safest raw materials available, even when these materials are priced at a premium over other materials. One example of this is our use of non-toxic propylene glycol vs. ethylene glycol. Ethylene glycol is much cheaper than propylene glycol but it is also toxic. Most raw material groups have a low toxicity option. In every case, TOTAL WALL will choose that option, regardless of price.
- We use the lowest toxicity preservatives available on the market, even when alternative materials are much cheaper.
- Use of biodegradable packaging is now emphasized in our marketing and product development programs.
- We minimize waste water in production by using rinse water as start-up water for the next batch of product.

We will continue to employ these other proactive policies to safeguard our fragile environment.

We believe in making products that are safe for our workers, safe for our homes and businesses and safe for our planet. That is simply the way we do business.

The **TOTAL WALL** Technical Department

WHEN TO PRIME THE BASE COAT BEFORE APPLYING FINISH ON EIFS

Some EIFS manufacturers recommend that a primer coat be used over their base coat on nearly every job. Other EIFS manufacturers do not require a primer coat on every job. They only recommend a primer for special circumstances. Why the difference? Here is one explanation:

A Primer can serve several functions -

1. increase bond of the finish;
2. reduce efflorescence from the base coat;
3. compensate for poor water resistance in the base coat;
4. compensate for low or high levels of lime and limestone in the base coat;
5. compensate for poor hiding power in the finish.

TOTAL WALL has internal bond promoters in our finishes, highly water resistant and efflorescence resistant base coats, and high hiding power in our finishes. Therefore, the TOTAL WALL system does not routinely require a primer to perform. TOTAL WALL employs a primer to compensate for special job conditions, not to compensate for products in the system.

Consider a primer as an upgrade to an already good system. Therefore, the option for priming is always available. Occasionally, it is very desirable to prime the base coat before applying the finish coat. Here are a few instances when a primer coat is recommended:

1. When spray applying any finish;
2. When severe exposure conditions are anticipated, such as a section of sloped EIFS;
3. When potential read-through of fasteners or other system attachments due to thermal shorts may be a consideration;
4. When any read through of a contrasting base coat tone in a swirl texture is undesirable.

The use of the primer coat can serve several purposes. First, a primer can alter the base coat color to better approximate the color of the finish. Any very thin spots in the finish from a swirl texture will not be visible because the primer has altered the gray base coat color. Second, a primer will be a slightly softer surface than raw base coat. This usually produces less bounce-back when spraying a finish. Third, the prime coat will tend to even out the suction of the base coat. If variations in suction exist due to thermal shorts in the system, such as from fastener heads, the primer will work to minimize these variations.

What to use as a primer? TOTAL WALL recommends that non-textured standard TOTAL LASTIC be used when a prime coat is indicated. A single coat of TOTAL LASTIC at approximately 8 - 12 wet mils thickness will do an excellent job as a primer. TOTAL LASTIC may be applied by roller, airless spray, or brush. Estimate coverage to be between 700 - 800 sq. ft. per 5-gallon pail. Be sure the base coat is completely dry before applying TOTAL LASTIC. Allow the TOTAL LASTIC to dry before applying the finish coat.

The **TOTAL WALL** Technical Department

Issue Date 12-20-2011

RE-SKIMMING AN EIFS WALL

An EIFS wall may have additional layers of lamina added to the existing wall. The additional lamina may be any of the following options:

Option 1 - a layer of Finish Coat,

Option 2 - a layer of Base Coat with mesh followed by a layer of Finish Coat,

Option 3 - a layer of high impact mesh and Base Coat followed by standard mesh and Base Coat followed by a layer of Finish Coat.

Option 1 - a layer of Finish Coat may be used where a change in color or texture, or a correction of blemishes is desired. However, the success of this approach is highly dependent on the condition and type of texture of the existing wall and the chosen new texture.

Option 2 - a layer of Base Coat with mesh followed by a layer of Finish Coat may be used where an exact and predictable change in texture and correction of blemishes is required. In addition, an increase in impact strength is obtained from the added layer of Base Coat and mesh. Acceptable mesh options are: 4 ounce Standard, 6 ounce Standard Plus, and 11 ounce Intermediate mesh. All three meshes are lapped a minimum of 2-1/2". The heavier 6-ounce mesh will increase impact resistance by approximately 33% vs. the 4 ounce mesh, and the 11 ounce mesh will increase impact resistance by approximately 160% vs. the 4 ounce mesh.

Option 3 - a layer of high impact mesh and Base Coat followed by standard mesh and Base Coat followed by a layer of Finish Coat may be used where a major increase in impact resistance is required. Acceptable mesh options are 15-ounce High Impact and 20 ounce Ultra High Impact meshes. The High Impact mesh is embedded in Base Coat and the edges are butted. Another layer of Base Coat with Standard 4 ounce mesh is then applied over the High Impact layer. Impact resistance for the High and Ultra High mesh will increase by more than 500% vs. the 4-ounce mesh.

All three listed options require a layer of TOTAL WALL Finish in the specified color and texture. Proper use of any of the above options will not alter or interfere with your existing TOTAL WALL Warranty. Give us a call to discuss your situation and answer any questions that you may have.

The *TOTAL WALL* Technical Department

ISSUE # 1009

**TOTAL WALL EIFS
STANDARD SYSTEM vs. DRAINAGE SYSTEM**

Standard EIFS installations involve adhering and/or fastening the rigid insulation board directly to a substrate. Recently, EIFS with drainage systems (water management systems) have been designed and made available by EIFS manufacturers. Although the drainage systems differ somewhat in design from manufacturer to manufacturer, the principal of this system is to allow water that may infiltrate behind the EIFS to channel safely out of the system. The sheathing is protected by a water resistant material (in many cases this is 15# felt paper) and the channel is created by grooves in the foam or more typically, use of Tyvek Stucco Wrap. Because of the channel design, the drainage system often uses mechanical fasteners in lieu of adhesive.

There is a lot of controversy about whether to use a drainage system or a standard barrier system. Our position on this matter is as follows:

1. If the code requirements or specifications call for a drainage system, then definitely install it that way.
2. A drainage system will give added protection against water damage, however, it is not a "fail-safe" system and there is added cost in labor and materials.
3. If a standard barrier EIFS is installed and maintained properly it will not leak.

Our position on this issue certainly doesn't solve the controversy. We stand behind our products and our approved and certified applicators. If you need an EIFS with a drainage system, we have an excellent system. If you need barrier class PB EIFS, direct applied class DA EIFS or a hard coat class PM EIFS, we continue to have the best products and systems available there too.

The **TOTAL WALL** Technical Department

ISSUE # 1010

**APPLICATION OVER ICF (INSULATED CONCRETE FORM)
FOAM BLOCK SYSTEMS**

The foam block systems are growing dramatically across the USA. They are an excellent application for our TOTAL WALL EIFS systems. All applications over the foam block systems are fully warranted by TOTAL WALL when installed according to TOTAL WALL specifications.

There are three basic types of blocks on the market, which we will talk about. One type has metal or plastic strips/tabs on the surface of the block wall and is made from EPS. The second type has no tabs or the tabs are set back 1/4" to 1/2" below the surface of the block and are made from EPS. The third type has tabs and is made from extruded polystyrene.

There are a few options regarding how these systems can be coated with TOTAL WALL products.

The approved system over the EPS Blocks and Extruded Polystyrene blocks with tabs is the One Coat or Two Coat class TOTAL BARRIER PB System. The approved system over EPS Blocks with no tabs is also our TOTAL BARRIER PB System.

For specific application instructions call to our customer service department at 1-888-702-9915 and request a short form specification and detail packet.

The **TOTAL WALL** Technical Department

ISSUE # 1011

USING TOTAL WALL EIFS FINISH OVER HARD COAT STUCCO

Can TOTAL WALL Finish be used over Hard Coat Stucco?

Yes. Finishes are designed to coat Portland cement based surfaces. The Finishes are engineered to handle the high alkalinity, the vapor permeability, the thermal movement and bond characteristics of a wide variety of Portland cement mix designs. The Finishes offer excellent texture, color and weatherproofing properties. In addition, the extra flexibility of the Finish layer can serve to bridge hairline cracks that usually occur in hard coat stucco. Finally, the Finishes are designed to resist dirt pickup and resist microbiological growth.

What special considerations should I be aware of?

1. Fresh stucco should be dry and at least have taken an initial cure. If the Finish is applied too soon, excessive moisture vapor combined with the very high alkalinity can weaken the bond.
2. A flat and smooth stucco surface will require less Finish and produce a more consistent texture.
3. If the stucco has been previously painted or sealed with a water repellent, a 4' x 4' test area is recommended to test for bond.
4. Any large cracks or spalled areas should be repaired prior to application of TOTAL WALL Finish.
5. All TOTAL WALL Finishes have some Elastomeric properties, which will help to bridge hairline cracks. The TOTAL WALL Premier Finishes have the highest ability to bridge cracks. This ability comes from the acrylic polymer backbone and not from artificial plasticizers or additives whose plasticizing effect will be lost over time.
6. The wall system should be properly sealed and flashed to prevent water intrusion.

What length of Warranty is available?

The TOTAL WALL Finish is warranted to perform for a period of 5 years. The Warranty covers fading, delamination and blistering of the finish. The Warranty requires proper installation procedures as outlined in the above section and in the product literature. In addition, a Warranty Application must be filled out for each job requesting a Warranty.

The **TOTAL WALL** Technical Department

CHANGING THE TEXTURE ON AN EXISTING EIFS

A minor change in texture can sometimes be made with a simple application of an acrylic coating. The coating may be a textured elastomeric (TOTAL LASTIC) or it may be a synthetic Finish Material. The governing factors are:

1. What texture are we going over? and
2. What texture are we trying to produce?

For example, a textured elastomeric can be used over a fine sand texture to either increase texture, decrease texture, or even out irregular texture. But an elastomeric coating cannot produce a Swirl or Bark texture. Another example is changing a Swirl texture to a Freestyle texture. Simply apply the Freestyle finish directly over a Swirl starting with a skim coat, just as you would over Base Coat. The rule is that the existing texture must not prevent you from getting the new texture that you want.

What if the existing texture does prevent you from getting the texture you want? For example, if you have a rough sprayed existing texture you now want a Swirl texture over it. What do you do? Applying Swirl finish directly over such a rough surface won't work. Why? The existing texture will prevent the Swirl aggregate from rolling during floating and the texture will not properly develop. What do you do? It is common practice in the EIFS industry to skim out an existing wall with Soft Coat Base Coat (non-reinforced) and then apply the desired finish (in this example, Swirl) over the Base Coat once it has cured for 12-18 hours.

How will this affect any Warranty?

It won't affect your Warranty. Simply notify TOTAL WALL with what you intend to do regarding your texture change and applying an additional layer or layers to the existing lamina. We will help advise you on your texture change to help you get the results you desire. Then we will approve your re-coat of the lamina.

The **TOTAL WALL** Technical Department

ISSUE # 1013**TOTAL WALL COLOR MATCHING TIPS AND TECHNIQUES**

Color matching is both an art and a science. Although experience is the best teacher, we can provide you a few tips that will help you along your learning curve to be an expert color matcher.

1. Use percentages to make adjustments. Determine the amount of colorant you will add in the adjustment hit as a percentage of what you already added. A very slight color adjustment would be a 10% hit. A more visible adjustment would be a 20% hit. To move a color 1/2 to 1 full shade would take about a 50% hit.
2. Be conservative. Make small colorant hits. It is easier to make adjustments from the light side than after you have over added colorant and are too dark.
3. When possible, try to make any adjustments using the colorants already in the formula. Using too many different colorants to make a correction often complicates the situation.
4. TOTAL WALL Finish Base 3 is 1/2 the strength of Finish Base 1. If you are in a pinch, you can make a Base 1 color using Base 3 by adding 1/2 the colorant called for in the formula. Conversely, you can make a Base 3 color using Base 1 by adding twice the colorant called for in the formula. The color produced by switching bases will be very close. Remember, if you need to tint more Finish for the same job in the future, you **must use the same Base** that you used the first time if you want an exact match. Keep enough inventories so that you won't need to play the Base switching game too often. These conversions work for TOTAL WALL Finish but not TOTAL LASTIC.
5. Some colorants are very strong and will make large jumps in color by adding a small amount. The strongest colorant is F, Red Oxide. Other strong colorants are B and I. The mildest colorant is L, Raw Umber.
6. If you have the right color but need to "muddy it up" or "dirty it up", add some colorant L, Raw Umber.
7. If you have the right color shade but you are too light, add a percentage of all of the colorants, for example, you can add 20% more of each colorant in the formula. This will make a darker shade color.
8. If you are too red or pink, a small amount of E, Blue, will kill the red. Adding Yellow, C, will change a pink or red toward a beige or brown tone.
9. Adding Black will darken the tone and add a gray cast, killing the red and yellow tones at the same time.
10. Texture affects the "apparent color" because it controls light reflectance and shadowing. Be sure that you control the texture when making your samples. Very often, reported color problems are due to texture variations.
11. Remember, adding red to a white Base doesn't make a light red, it makes pink.
12. Adding brown to a white base also makes pink. To get brown you must also add yellow and maybe a little black.
13. Adding Blue to Yellow makes green.
14. Adding Umber to white makes a gray with a slight yellow cast.

TECHNICAL BULLETIN888.702.9915
www.totalwall.com

15. Adding yellow also lightens and brightens the color.
16. If you are too dark, you can add white, Kx, to lighten the color. However, be prepared to add a lot of Kx. As a rule, expect to add 5Y to lighten the color 1/2 shade (about 50%). (per five gallon pail)
17. Keep good records. You must record your color formulas and your adjustments for future reference. Record all pertinent information about the customer and job as well. We recommend that you keep a small dry color swab of each pail produced after mixing to accompany the written formulas.
18. If you are having difficulties, just give us a call. We can often help you right over the phone.
19. Mix the Finish thoroughly after adding the colorant. If you are using a shaker, we recommend that you shake the pail a few seconds BEFORE adding the colorant. This coats the pail lid and seam with Finish so that the colorant will not collect in these areas when shaking after the colorant is added. If you are using a drill mixer, **do not** shake or invert the pails before opening and adding colorant.
20. If you have a request for a competitive color, such as Sherwin Williams, we have a data base of numerous competitive colors. Give us a call and we may be able to help.

Color matching is a challenging and rewarding task. We know you are up to the challenge and we will support you every step of the way.

The **TOTAL WALL** Technical Department

EIFS FINISHES FOR INDOOR SWIMMING AREAS

A room or enclosure containing a swimming pool or hot tub would look great with an EIFS Finish on the wall, giving it a rich masonry look and feel. Is this a viable application and what are the potential problems?

EIFS Finishes have been very successful performers as interior wall coatings for rooms containing swimming pools and hot tubs. However, due to the presence of heated and chemically treated water, there are a few conditions to watch out for.

1. Any EIFS Finish will not perform well against ponded (standing water) for an extended period of time. Therefore, there should not be horizontal coated surfaces where moisture could accumulate and stand. Also, there should be no areas at the floor line where standing water will be exposed to the Finish for any length of time.
2. The chlorine and bromine used to treat swimming pools and hot tubs are strong oxidizing chemicals. These chemicals tend to cause a gradual bleaching effect. Therefore, a choice of light colors formulated with metal oxide pigments will out-perform any colors formulated with organic colorants. Also, a finish that is rich in acrylic polymer will likely outperform a finish that is low in acrylic content or one that substitutes styrenated or other polymers that are more susceptible to oxidation.
3. Vapor drive is another thing to pay close attention to. Although the room or enclosure is likely to be kept very warm, the presence of constant high humidity from the heated water will usually keep the vapor drive positive, i.e., from the interior toward the exterior. This will typically prevent problems of blistering and delamination of the coating due to vapor coming from the backside (negative drive). However, it is possible to create conditions where water is condensed or trapped behind the finish or lamina, which will cause performance problems of the finish, or lamina. These conditions can be avoided with planning and proper wall construction.

The *TOTAL WALL* Technical Department

DIRECT APPLIED OVER CEMENT BOARD

Cement board, such as Durock, is a tough and highly weatherproof material. As such, it is an acceptable substrate for a Direct Applied application of EIFS lamina.

Point 1. Reinforcing Mesh.

Although it is acceptable to only tape the cement board joints, full meshing is recommended because the mesh gauges the Base Coat thickness and creates a more even application of Base Coat. This produces a more uniform appearance and depth in lamina. If meshing only the cement board joints is elected, we recommend the use of 9-1/2" wide 4-ounce standard, polymer coated fiberglass reinforcing mesh. If full meshing is elected, we recommend 38" wide rolls of 4-ounce standard, polymer-coated fiberglass reinforcing mesh. Runs of reinforcing mesh should be lapped at least 2.5".

Point 2. Control joints, isolation joints and expansion joints in the cement board.

When attaching the cement board, the control joints should be spaced in accordance with standard lath and plastering practicing, i.e., every 150 sq. ft., and be approximately 1/2" wide, or as noted in the job drawings. As a general guide, place vertical control joints at least every 16' and horizontally at floor lines. Control joints should be trimmed with UV rated PVC accessories, such as a V-joint from Plastic Components. Filing the plastic V-joint with sealant after the installation is optional. Isolation joints function as gaskets around penetrations such as windows and doors. The cement board should be trimmed with a UV rated PVC trim, such as a J-stop, and the 1/2" opening between a clad window and the PVC trim should be filled with a non-absorbing backer rod and low modulus sealant (and primer as required).

Expansion joints will likely be through-wall joints designed into the structure to compensate for large wall stresses due to movement. These joints will be a minimum of 3/4" wide and the cement board will be terminated with a PVC stop trim at each side of the joint. The joint will be filled with a backer rod and sealant as described above.

Point 3. Sealant recommendations.

The backer rod should be a closed cell non-absorbing type. TOTAL WALL recommends Pecora, Sika, Sonneborn, Dow and Tremco as primary approved sealant manufacturers. TOTAL WALL further recommends use of either a 2-part urethane such as Dynatroll II by Pecora, Dymeric by Tremco, or single component ultra-low modulus silicone such as Dow 790 series silicones or Pecora 890 silicone. As a minimum requirement, the sealant must meet ASTM C920, Type M and S, Grade NS, Class 25 specifications. TOTAL WALL feels that the single component ultra-low modulus silicone sealant and primer as recommended by either Dow or Pecora may have some application and performance advantages. For a list of approved sealants, please refer to the TOTAL WALL literature

The **TOTAL WALL** Technical Department

Issue Date 12-20-2011

ISSUE # 1016

TEXTURING FINISH COATS

Our Finish Coats are made with 100% Acrylic Elastomeric Low Dirt Pick Up Technology.

We use only the finest raw materials available. Our Finish Coats incorporate a smooth round aggregate, which in the Swirl Textures, is often floated with a roughened plastic float, a neoprene float, or a Styrofoam float. The rough and soft face floats pick up the larger aggregate and swirls it to a nice worm type texture.

The Sand Pebble, Sand Finish and Shot Blast texture are typically floated with a plastic float or stainless steel trowel.

If you have any questions on floating our Finish Coats or on any of our Quality TOTAL WALL products feel free to give us a call at 1-888-702-9915.

The *TOTAL WALL* Technical Department

ARCHITECTURAL JOINTS IN EIFS

Architectural joints are made by cutting straight grooves cut part way into the rigid foam insulation board of an Exterior Insulation and Finish System (EIFS). When the insulation boards are covered with lamina (base coat and finish), the grooves then simulate the appearance of expansion joints for the purpose of stress relief or thermal movement. Although architectural joints are esthetic in nature, they do provide an additional advantage of being natural stops for application of base and finish materials.

Here are some things to remember about architectural joints:

1. Horizontal joints must have the lower surface beveled downward so that water can flow out of the joint.
2. They should not line up with board joints, sheathing joints, or natural stress lines in the structure such as window corners.
3. A 3/4-inch insulation board minimum thickness must be maintained in all EIFS. Therefore, a 3/4-inch insulation board can not receive architectural joints, and a 1 inch thick board can only have a 1/4 inch deep architectural joint, and so on.
4. Higher density insulation boards, such as polyiso board (Quick-R) or 1.5 to 2 pound density polystyrene are higher modulus materials than standard 1 pound density EPS. That means that the higher density (stronger) boards will tend to transfer more of the stresses to the lamina. This translates to more tendencies for cracks to develop in the architectural joints. The bottom line is to be more careful when using higher density insulation board to avoid architectural joints in those systems when possible.
5. Repair of cracks in architectural joints should be done with low modulus (easily stretchable) repair materials. These materials will include low modulus sealants, elastomeric coatings, and joint repair strips such as Sil-Span from Pecora or System 1-2-3 from Dow-Corning. The type of repair procedure and materials selected will be determined by the system being repaired and severity of the crack problem.

The *TOTAL WALL* Technical Department

ISSUE # 1018

WOODPECKERS IN EIFS

Woodpeckers will sometimes choose to make EIFS a home. Woodpeckers will try to keep their home in a specific location. If a tree is cut down where a woodpecker had its home and a house is built where the tree was, the woodpecker will usually try to rebuild its home in the same spot. In this case, it will try to build its home in the exterior wall or trim of a new house. Obviously, the woodpeckers are not trying to damage property. They are merely following their natural instincts. Once the woodpecker penetrates the EIFS Lamina, it can easily carve out a small area of the EPS foam and make a nesting area for itself.

Woodpeckers can be discouraged from nesting in a house or other structure by two environmentally friendly means:

1. Use of a chemical treatment called Ropel. Ropel can be purchased from farm supply houses. It contains Thymol and Benzyl diethyl ammonium saccharide as active ingredients. It is sprayed on full strength in two light applications. Coverage rate is about 2000 square feet per gallon per application. The treatment works by using odor as the repellent mechanism.
2. Use of stuffed or inflatable predators. Owls and snakes and birds of prey placed on the upper elevations on every wall are an effective deterrent to woodpeckers. These artificial predators are also available at farm supply outlets.

Experience has shown that a combination of the spray and stuffed predators work best.

TOTAL WALL does not support shooting or use of poisons or other deadly control means. These deadly control methods are potentially harmful to humans and other creatures and will invariably cause more problems than they solve.

The **TOTAL WALL** Technical Department

EXTERIOR COATING TERMINATIONS AT GRADE ON INSULATED CONCRETE FOAM BLOCK CONSTRUCTION (ICF)

TOTAL WALL has several exterior coating systems that can be used directly over Foam Block construction. One example is the TOTAL BARRIER PB Class lamina, which incorporates T2000 base coat and fiberglass mesh. Another popular approach uses TOTAL WALL TUFF II trowel on coating and TOTAL WALL Fiberglass mesh. These coating systems, along with a few others from TOTAL WALL, perform very well as a protective and attractive exterior layer when applied directly over Foam Block. Typically, the TOTAL WALL Coating Systems are used above grade and a waterproofing membrane or damp proofing coating is used below grade. A question has been raised about how to terminate the TOTAL WALL Coating system near the grade line when a damp proofing coating or waterproofing membrane is present at the grade line.

Frequently, the below grade treatment of Foam Block construction is either a self sticking membrane such as Carlisle 701 for waterproofing or a fibrated emulsion such as Karnak 220 AF for damp-proofing purposes. In either case, the TOTAL WALL Coating System can be carried several inches over the top of the treatment to allow for a proper termination of the TOTAL WALL Coating System. If a fibrated emulsion coating is used, it should be allowed to dry at least 24 hours before receiving any TOTAL WALL coating. The polymer-modified nature of the TOTAL WALL Coatings along with the fiberglass reinforcing mesh will provide good bond and performance over the several inches of membrane sheeting or damp-proofing coating.

The *TOTAL WALL* Technical Department

ISSUE # 1020

USING TOTAL LASTIC AND TEXTURED TOTAL LASTIC

TOTAL LASTIC is a premium acrylic elastomeric coating that can be applied to an exterior or interior wall surface by brush, roller or sprayer. TOTAL LASTIC is available in two grades called Standard and Premier. The basic difference in the two grades is the Premier grade has more elongation (more stretchable) and can bridge slightly larger cracks. Both grades are excellent coatings, but consider the Premier grade if the substrate has significant cracking.

TOTAL LASTIC is also available in three textures. They are:

1. Smooth (non-textured)
2. Sand Texture
3. Repair Texture

How do I know what texture to use?

Use TOTAL LASTIC Smooth when you are interested in re-coating or recoloring without altering the existing texture to any large degree. The TOTAL LASTIC Smooth will provide excellent coverage (average 600 Sq. Ft. per 5 gallon pail) and excellent crack bridging protection. The TOTAL LASTIC Smooth may increase the sheen to an eggshell luster.

Use TOTAL LASTIC Sand Texture when you are interested in re-coating and wish to maintain a flat and very slightly textured surface appearance. The TOTAL LASTIC Sand Texture can be used to even out slight variations and restore an even flat reflectance to the surface. (Average coverage 500 Sq. Ft. per 5-gallon pail).

Use the TOTAL LASTIC Repair texture in all instances where you wish to generate or preserve an even sand-like finish with a natural masonry "floated" look. The TOTAL LASTIC Repair texture can eliminate existing imperfections in the texture, and correct color or sheen variations of the wall surface. The result will be even texture, color and flat light reflectance similar to natural masonry or EIFS Finish in appearance. (Average coverage 450 Sq. Ft. per 5-gallon pail).

Roller, sprayer or brush can apply any of the three textures. Contact us at our Technical Department if you have any questions or if you would like more information.

The **TOTAL WALL** Technical Department

EIFS VS TRADITIONAL STUCCO

EIFS (Exterior Insulation and Finish Systems) are a non-bearing exterior wall cladding made from a layer of rigid foam insulation board covered with a reinforced surface lamina. Traditional hard coat stucco is a non-bearing exterior wall cladding typically made from a Portland cement based material that is applied in layers over a metal reinforcement such as galvanized lath or galvanized stucco netting.

EIFS**Hard Coat Stucco****Attachment**

EIFS can be attached using an adhesive, mechanical fasteners, or both.

Hard Coat Stucco uses mechanical attachment through the metal reinforcement over most substrates. If the substrate is clean, bare masonry the hard coat stucco can be applied directly without the use of metal reinforcement or fasteners.

Insulation

EIFS can provide a minimum of R3 up to a maximum of R20.

Hard Coat Stucco will provide up to a maximum of R1.

Color Availability and Uniformity

EIFS is available in any color with a high degree of uniformity and reproducibility.

Hard Coat Stucco is available in limited colors and is subject to color variability due to the varying effect of cement hydration on color development.

Textures

EIFS is available in more than six different textures plus freestyle textures.

Hard Coat Stucco is available in a limited variety of sand and freestyle textures and fully dependent upon by the skill technique of the applicator.

Joints

EIFS (PB) requires sealant joints at penetrations, at changes in substrate and at floor lines in wood frame construction.

Hard Coat Stucco requires sealant joints around penetrations, at changes in substrate at floor lines in wood frame construction, and control joints every 144 square feet, at natural stress points, and any panel areas where length to width exceeds a ratio of 2.5:1.

Cracking

EIFS is highly crack resistant and resilient and is accommodate building movement.

Hard Coat Stucco is typically brittle and can crack if not properly jointed or cured.

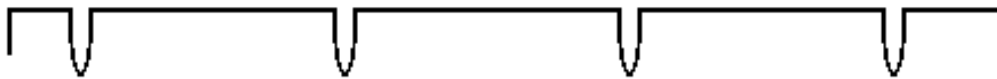
The **TOTAL WALL** Technical Department

Notched Trowel Selection For Applying Total Wall Blue Mastic Adhesive

Using the proper notched trowel will improve both the performance and coverage of Total Wall Blue Mastic Adhesive. Experience tells us that excessive use of adhesive wastes material and slows drying. It also tells us that the adhesive must be applied thick enough to make full contact with the substrate. The idea is to apply properly spaced thin ribbons of adhesive from a notched trowel. The ribbons must be tall enough to compensate for minor dips in the substrate or rigid insulation board. The ribbons must also be spaced properly to have enough adhesive while at the same time provide air channels for faster drying. The result of proper application is to achieve the excellent bond that is the trade mark of Blue Mastic and optimum coverage.

Substrate

Smooth and level sheathing.

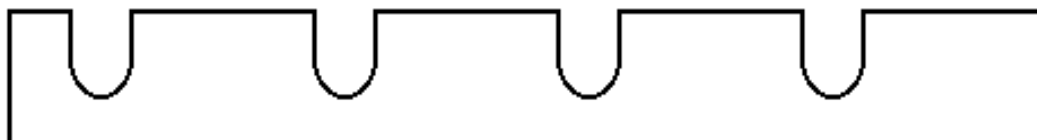


Trowel Selection

Rounded 3/16" by 3/8" by 1-3/4".
WindLock item TN 316D or
Demand item TRNT 5.

Substrate

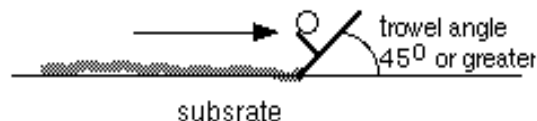
Rough and irregular, such as raw
concrete block



Trowel Selection

Rounded 3/8" by 1/2" by 1-1/2".
WindLock item TN 3815 or
Demand item TRNT 3.

Here's another tip: When applying the adhesive do not allow the trowel angle to drop below 45 degrees.



USING TOTAL WALL FINISH OVER URETHANE BASE COAT

Total Wall Synthetic Finish Coats are approved for use over urethane base coats. Total Wall Synthetic Finish Coats all use 100% acrylic resins, which contain special internal bond promoters. The special bond promoters give improved adhesion to a variety of surfaces including urethane base coats. Total Wall Synthetic Finish Coats have historically performed very well, over urethane coatings, in all areas of performance, including bond, fade resistance and weather resistance.

Urethane base coat materials offer some performance advantages in hardness and strength properties over conventional EIFS base coat materials. In addition, urethane base coats may offer an application advantage over a conventional EIFS base coat in certain instances. For these reasons, urethane base coats are specified in some applications.

Urethane chemistries have a few areas to watch out for. They are typically two part systems with part A being an isocyanate reactant and part B being a polyol. An improper mix ratio will result in a urethane that has reduced performance and is difficult to bond to. In addition, temperature and humidity affect the urethane reaction. The part A isocyanate will react with water and release carbon dioxide gas which will alter the characteristics of the urethane base coat. If there is any doubt about the cure or condition of the urethane base coat, simply apply a test patch of Total Wall Synthetic Finish to a small area before proceeding with the entire job. Wait 24 hours or more and check the Finish for bond integrity. If the bond is good, proceed with job. If you have any questions, please call Total Wall and the urethane base coat manufacturer.

The **TOTAL WALL** Technical Department

TOTAL WALL FINISH COAT ACCELERATOR

The 100% acrylic TOTAL WALL Synthetic Finishes cure on the wall surface by air-drying. The rate of drying is influenced by environmental conditions such as humidity and temperature. Naturally, lower temperatures combined with a high humidity greatly prolong the dry time.

To accelerate drying, manufacturers have employed one of two approaches: 1) a field added accelerator, or 2) a winter product formula. There are advantages and disadvantages to each approach. The field added accelerator offers more control to the field applicator by allowing a varied addition rate as weather conditions vary. The drawback of field added accelerator is the necessity to inventory and handle an additional material that is flammable. The winter product formula is already adjusted to dry faster and so it avoids the necessity of handling and adding another component to the finish. The drawback of this approach is that requires segregation of Finish inventories and the formula adjustment is only a general seasonal adjustment. A few of the larger manufacturers, have chosen to use the winter / summer formula approach. For them, the advantage of maintaining product control as it leaves their plant out weighs the dual inventory and averaged adjustment drawbacks. This may be the approach that TOTAL WALL and Columbia Paint eventually chooses after field-testing both approaches.

TOTAL WALL and Columbia Paint have chosen to test market the field added accelerator first. This product is called TOTAL WALL Finish Coat Accelerator. The product is a thin milky liquid that has an organic odor. It will be packaged in F-style one-gallon metal cans. The product contains an alcohol to accelerate drying, an evaporative coalescent to accelerate film formation, and two rheology modifiers to balance workability. This product is flammable and will display special labels and handling instructions.

Bench studies show that addition of 10 ounces of TOTAL WALL Finish Coat Accelerator to a five-gallon pail of Finish reduces the dry time by one half at 60° F and 60% humidity and only a slight wind. As the temperature drops from 60° F toward 40° F with humidity at 60% or above, the effect of the accelerator is diminished because the energy available in the surrounding air is so much lower. The following chart is based upon a few bench data points and can be used to observe the overall effect of the TOTAL WALL Finish Coat Accelerator:

	A	B	C
1	Weather Condition	Estimated Drying Time	Established Dry time with 10 ounces of Accelerator
2	60° F and 60% humidity	4 hours	2 hours
3	50° F and 60% humidity	9 hours	6 hours
4	40° F and 60% humidity	20 hours	16 hours

The TOTAL WALL Finish Coat Accelerator can be added to the TOTAL WALL Finish anytime before use, even a day or two prior to use. It may also be added when the colorant is added, or immediately prior to application in the field by the applicator. The addition rate is typically between 6 ounces and 12 ounces per five-gallon pail of Finish. Workability of the Finish may be altered slightly. We view this as a test program and look forward to feedback from the field.

The **TOTAL WALL** Technical Department

SAVE TIME USING TOTAL NCB

The biggest single cost factor on an EIFS job is not the materials cost. It's time. Time translates into several costs all at once. For example, the costs associated with equipment use, such as scaffolding, are time based. Costs associated with labor are time based, and costs of tarping and heating are also time based. Finally, there are often costs in the form of penalties for late completion of work. The profit on an EIFS job lies in the job production. The yardstick of how profitable a job is usually comes down to square footage per day. Once again, we're talking about time on the job. Increasing the job production is where TOTAL NCB can often be an asset.

TOTAL NCB is a broad performance ready-to-use product. It is an all-acrylic coating that is used right out of the pail. Therefore, there is no need for Portland cement, no need for mortar mixers, and the labor normally dedicated to mixing base coat can now be used for other work. That's a savings in time. Another benefit is there is no waste of material due to pot-life. That's because TOTAL NCB will not setup until after it is applied on the wall.

HOW MANY WAYS CAN TOTAL NCB BE USED ON AN EIFS JOB?

1. TOTAL NCB can be used as the Base Coating to embed the reinforcing mesh. This saves time in mixing.
2. TOTAL NCB can be used as the Adhesive to bond the EPS foam boards to many substrates. This saves time in handling additional products.
3. TOTAL NCB can be used as the Finish coat. This saves time in waiting for a base coat to cure and also saves time in handling additional products.

Here's how it works as a finish: TOTAL NCB can be tinted to meet the desired color for the job just like finish. First the TOTAL NCB is applied as the base coat directly over the EPS and the reinforcing mesh is embedded. Then after this base layer of TOTAL NCB has had time to stiffen (30 minutes to 2 hours depending on weather conditions) a second pass of TOTAL NCB is applied as the finish and texture coat. Textures are limited to freestyle, brush, spray or sand. The use of TOTAL NCB as the base coat and finish coat as described above can save time amounting to days on some jobs.

Consider TOTAL NCB as an option on your next EIFS job bid to get the production edge.

Note- to use TOTAL NCB as a finish coat requires a job review and pre-approval by Total Wall before job startup.

The **TOTAL WALL** Technical Department

ISSUE # 1026**DO I NEED TO BE CONCERNED ABOUT RUST FROM THE FINISH?**

The concern about rust on EIFS finishes was spotlighted by Dryvit's rust problems that began shortly before Mr. Frank Marcelli sold Dryvit to RPM. Reportedly, Dryvit had acquired a new aggregate (sand) source at that time for either price or availability reasons. The new sand source contained an iron pyrite component that was not effectively removed by the magnetic process. Once the finish that contained this aggregate was exposed to moisture and oxygen on a wall an oxidation or rusting process started. The Dryvit rust stains started as orange rust but quickly turned to a whitish stain. The actual process was the oxidation of the sulfur component in the pyrite to sulfurous and sulfuric acids. These acids essentially oxidized the finish. The rusting problem was most visible on darker colors rather than lighter colors. Dryvit has since eliminated the problem and paid to correct most of the rust problems.

Since Dryvit's unfortunate bout with rust, more sophisticated test methods have been added to determine the presence of harmful contaminants in raw materials. Test methods such as ICP (Inductively Coupled Plasma) and AA (Atomic Absorption) are used to test for dozens of elements at one time and measure them accurately regardless of what form they are in. The odds of a raw material contamination resulting in a rust problem have been drastically reduced due to better quality control.

A few manufacturers who use exclusively all marble or limestone aggregate have pounced on the opportunity to claim that their aggregates are inherently rust free. The fact is that each type of aggregate has various advantages and disadvantages. To claim that one type of aggregate is better than another in every aspect is unfounded. All mined or quarried materials contain some types of impurities and all must be processed and tested before they can be used in finishes.

Total Wall uses both marble and quartz aggregates in our Finishes. Our aggregates are all carefully sized, washed, processed and tested on a routine basis before they are used in production. Total Wall has millions of square feet of Finish applied to walls from Alaska to Florida that have been exposed for years. Total Wall is proud to say that we have not had one single raw material related rust problem, nor do we anticipate any rust problems. So to answer our opening question: "Do you need to be concerned about rust problems?" If you are using Total Wall, the answer is simply "No."

The **TOTAL WALL** Technical Department

UPGRADING TOTAL WALL EIFS WITH A MOISTURE BARRIER

If you are thinking about installing a moisture barrier over the wall system before you apply an EIFS (Exterior Insulated and Finish System), which moisture barrier should you use?

TOTAL WALL currently approves the following moisture barriers:

1. DuPont Tyvek
2. DuPont Tyvek Stucco Wrap
3. Grade D Building Paper or 15# Felt Paper

The moisture barrier is installed directly over the exterior sheathing, for example Oriented Strand Board (OSB), using a staple gun. The runs of moisture barrier are lapped so that any moisture running down the wall will not get behind the moisture barrier. When possible, all window and door openings should get the moisture barrier back wrapped into openings before the window or door units are installed. Any window and door head flashing should be installed to work with the moisture barrier in keeping moisture away from the sheathing. It is also a good practice to run a thin bead of Silicone Sealant on the surface of the window-nailing flange before it is mounted into the opening. This will seal the nailing flange to the moisture barrier. The moisture barrier should be carried down an extra 1/2 inch or more over bottom of the wall sheathing and onto the masonry foundation to prevent moisture from contacting the lower edge of the sheathing or lower part of the framing. Remember that the use of a moisture barrier often requires that the EIFS be mechanically attached and not adhered to the substrate.

A moisture barrier may be installed with any class of EIFS. That includes a typical class PB Soft Coat system or Class PM Hard Coat System. However, please keep in mind that it takes more than just a moisture barrier to make a Moisture Drainage EIFS. Refer to TOTAL WALL Moisture Drainage details and instructions for information on designing and installing a Moisture Drainage System.

We would like to make one additional comment about the selection of a moisture barrier. DuPont Tyvek Stucco Wrap appears to have an advantage in its ability to channel water out of a system due to its corrugations. Therefore, we feel this moisture barrier should be given extra consideration for use when there is no designed drainage plane present. In other words, a soft coat barrier PB system installed over DuPont Tyvek Stucco Wrap is actually a hybrid system. It is a barrier system with some moisture drainage abilities. We consider this system to be a significant upgrade over a standard PB barrier system. The more actual moisture drainage (MD) system details that are used in the hybrid system, the better it will perform in terms of water drainage abilities.

The **TOTAL WALL** Technical Department

DIRECT APPLIED OVER CONCRETE MASONRY

The TOTAL DIRECT DA (DA or DEFS) coating system over concrete masonry consists of two layers, which are applied directly over any concrete masonry. Concrete masonry consists of either concrete block, precast concrete, or poured in place concrete.

Products

1. The first layer, TOTAL ONE HS, is a 3/16" to 3/8" thickness polymer modified and fiber reinforced Portland cement base coat. TOTAL PFS (Premium Fibered Stucco) may be used in place of TOTAL ONE HS.
2. The outer layer, TOTAL WALL Finish, is an all-acrylic, pre-textured and pre-colored finish coat at approximately 1/32" to 1/8" thickness depending on the desired texture.

Accessories

1. Direct Applied applications over concrete masonry may use a 1/4" ground-casing bead (stop bead) at terminations. The casing bead can serve to create a clean crisp stopping point for the coatings, a means of gauging the thickness of the coatings, and a suitable surface to receive sealant at critical terminations. The casing bead may be either galvanized steel, solid zinc or PVC plastic.
2. Outside corners may use either PVC or zinc corner bead or galvanized corner aid as trim accessories.
3. Control joints are sometimes placed at regular intervals in the coating system to absorb stresses that could cause cracking. Using accessories called "surface mounted V joint" makes control joints. The surface mounted V joint may be either galvanized steel, solid zinc or PVC plastic. It should be noted that expansion joints are produced using two casing beads and not with V joint.

Reinforcement

1. Diamond lath may be used for reinforcement in some situations. The diamond lath must be 2.5 galvanized self-ferring diamond metal or PVC Ultra Lath and is mechanically fastened to the substrate with corrosion resistant masonry fasteners.
2. TOTAL WALL hard coat, polymer coated, 4.5-ounce fiberglass reinforcing mesh, which may be used as an alternative reinforcement to diamond lath in some situations. The reinforcing mesh is mechanically fastened to the substrate with corrosion resistant masonry fasteners.

Raw Concrete Masonry Unit (CMU) Construction

1. Raw CMU walls are any concrete block wall that has not been previously painted, coated or sealed. The TOTAL DIRECT DA system applied over raw CMU walls does not require reinforcement, nor does the system typically require use of trim accessories. The TOTAL ONE HS is applied directly to the substrate. It is advisable to skim coat the mortar joints first and allow that to dry before coating the entire wall. This practice will prevent joint read-through. Once the TOTAL ONE HS base coat has dried (approximately 18-24 hours), the TOTAL WALL Finish is applied.

TECHNICAL BULLETIN888.702.9915
www.totalwall.com

2. CMU and mortar walls accumulate stresses from shrinkage of the CMU and mortar, movement due to thermal changes, settling of the structure, differences in movement characteristics of adjoining structures, and environmental forces. The accumulation of stresses can lead to cracking. Cracks (other than hairline) that develop in the CMU wall will transmit through the TOTAL DIRECT DA system.
3. The chances of cracking in the TOTAL DIRECT DA system can be reduced by the use of lath reinforcement and trim accessories including control joints. Control joints are recommended to every 150 square feet and to prevent any wall panel area from exceeding a 2.5 to 1 length to width ratio.

Raw Precast or Poured in Place Concrete Masonry

1. Raw Precast or Poured in Place Concrete walls are any concrete wall that has not been previously painted, coated or sealed. The TOTAL DIRECT DA system applied over raw concrete walls does not require reinforcement, nor does the system typically require use of trim accessories. The substrate must be cleaned of any form release oils or resins. A TOTAL WALL bonding agent (roller or spray applied) is recommended for smooth or dense concrete surfaces prior to application of the TOTAL HARD COAT. The TOTAL HARD COAT is applied directly to the substrate. Once the TOTAL HARD COAT has dried (approx. 18-24 hours), the TOTAL WALL Finish is applied.
2. Cracks (other than hairline) that develop in the Precast or Poured in Place Concrete wall will transmit through the TOTAL DIRECT DA system.
3. The chances of cracking in the TOTAL DIRECT DA system can be reduced by the use of lath reinforcement and trim accessories including control joints. Control joints are recommended to every 150 square feet or to prevent any wall panel area from exceeding a 2.5 to 1 length to width ratio.

Painted, Sealed or Coated Concrete Masonry

1. Painted, sealed or coated concrete walls are any concrete wall that has been previously painted, coated or sealed. The TOTAL DIRECT DA system applied over coated concrete walls does require reinforcement in the form of lath or mesh, and the application does require use of trim accessories.
2. The TOTAL HARD COAT is applied directly over the mechanically attached reinforcement. Once the TOTAL HARD COAT has dried (approximately 18-24 hours), the TOTAL WALL Elastomeric Finish is applied.

Product Mixing and Application

1. Mixing of the TOTAL HARD COAT and Finish should be done in accordance with instructions listed on TOTAL WALL product data or specification data literature.
2. Application of TOTAL HARD COAT must be done in at least two passes in order to produce a level and smooth base coat result. Work should proceed to a natural stop or break in the wall. The surface should be smoothed with a pumice stone after it has dried.
3. Application of the TOTAL WALL Finish should proceed to a natural stop in the wall system. Adequate skilled labor should be available for troweling and floating of the product to achieve the desired result.

The **TOTAL WALL** Technical Department

ISSUE # 1029**TOTAL WALL REINFORCING MESH**

The Reinforcing Mesh is a very important component of any EIFS application. It contributes most of the strength in the form of impact resistance to the system. The reinforcing mesh is also responsible for transferring stresses in the system that would otherwise result in cracking. TOTAL WALL reinforcing meshes have the following assets:

1. They are soft and workable for uniform application in the field;
2. They have a high degree of tensile strength in both directions;
3. They are polymer coated for alkali resistance and durability;
4. They are manufactured to the highest quality control standards for consistency of performance.

TOTAL WALL Reinforcing Meshes are woven from high quality bundled fiberglass strands, which are coated with a protective layer of PVC polymer. TOTAL WALL Reinforcing Meshes are designed to add strength, impact resistance, flexibility, and crack resistance to all Exterior Insulated and Finish Systems (EIFS) and Direct Applied coating systems. TOTAL WALL Reinforcing Meshes are also made for exceptional workability and ease of use. TOTAL WALL Reinforcing Meshes are a coated EC Fiberglass Mesh with a Leno weave and meet EIMA Std.105.01 for Alkali Resistance.

Type PB Soft Coat EIFS Reinforcing Meshes

1. Standard Mesh - this mesh is used on a majority of applications. This weight mesh is available in different width rolls for walls and in narrow width rolls for detail work. It is also available in a self-sticking version for special situations. This mesh has a weight of ~ 4.3 ounces per yard, a thickness of 10.7 mils, tensile strength of 150 lbs per inch warp and 200 lbs per inch weft, and a relative impact resistance of 25-35 in-lbs.
2. Enhanced Mesh - this mesh used to provide about 25% higher impact resistance relative to Standard Mesh. This mesh has a weight of ~ 6 ounces per yard, a thickness of 11.0 mils, tensile strength of 165 pounds per inch warp and 225 pounds per inch weft, and a relative impact resistance of 35-45 in-lbs.
3. Intermediate Mesh - used to provide more than 200% impact resistance relative to Standard Mesh. This mesh has a weight of ~ 11 ounces per yard, a thickness of 19.0 mils, tensile strength of 330 lbs per inch warp and 495 lbs per inch weft, and a relative impact resistance of 75-95 in-lbs.
4. High Impact Mesh - used to provide more than 600% higher impact resistance relative to Standard Mesh. This mesh has a weight of ~ 15 ounces per yard, a thickness of 26.0 mils and a relative impact resistance of 180-220 in-lbs.
5. Ultra High Impact Mesh - used to provide about 800% higher impact resistance relative to Standard Mesh. This mesh has a weight of ~ 20 ounces per yard, a thickness of 30.0 mils and a relative impact resistance of 230-240 in-lbs.

Coverage**Standard Mesh** (Also Available in self-stick version)

Available Widths	38"	48"	76"	114"
Detail Widths	6"	7"	9.5"	12"
Roll Length	150 feet (all rolls of Standard)			

Enhanced Mesh 38" wide X 150'**Intermediate Mesh** 38" wide X 75'**High Impact Mesh** 38" wide X 75'**Ultra High Mesh** 38" wide X 75'The **TOTAL WALL** Technical Department

ISSUE # 1030**APPLICATOR PROGRAM****TOTAL WALL APPLICATORS**

TOTAL WALL recognizes two levels of EIFS applicator.

The first level is the Approved Applicator. To become an Approved Applicator, a contractor must complete a form with outlines his experience and training in installing EIFS. Attending a TOTAL WALL Training Seminar is recommended but not mandatory. If the contractor is accepted as an Approved Applicator, the contractor will receive a Letter of Acceptance from TOTAL WALL, which lists the systems the contractor is approved to install. The Approved Applicator installations are eligible for a 5-year material Warranty.

The second applicator level is the Certified Applicator. To become a Certified Applicator the contractor must attend a TOTAL WALL Training Seminar, pass a written test, satisfactorily perform at least one inspected job with TOTAL WALL materials, and complete a form requesting Certified Applicator status. If the contractor is accepted as a Certified Applicator, the contractor will receive a photo ID or certificate from TOTAL WALL, which lists the systems the contractor is approved to install. The Certified Applicator installations are eligible for a 10-year material and labor single source performance Warranty.

ABOUT THE DIFFERENT EIFS SYSTEMS

TOTAL WALL currently recognizes 5 types of EIFS. These systems are as follows: 1) PB Soft Coat; 2) PM Hard Coat; 3) MD Moisture Drainage; 4) DA Direct Applied; and 5) PI Polyiso system. The applicator will have one or more of these systems listed on his badge or acceptance letter. In addition to the 5 EIF Systems listed above, there are two new modified systems. These modified systems are: 1) TOTAL WALL SL Gold; and 2) TOTAL WALL Hybrid Moisture Drainage System. The SL Gold System can be installed by an applicator holding a PM Hard Coat approval and the Hybrid MD System can be installed by an applicator holding an MD Moisture Drainage approval. ICF applications may be done by an applicator holding PB, MD, DA or PI acceptance.

HOW TO BE APPROVED OR CERTIFIED ON ADDITIONAL EIFS SYSTEMS

An Approved Applicator need only demonstrate that he has experience in a particular system or that he has attended a training seminar on that system. If accepted, the additional system approvals will be added to his Letter of Acceptance.

What if a Certified Applicator wishes to add additional EIF System approvals to his certification? For example, how would a Certified Applicator with only a PB Soft Coat approval go about adding an MD Moisture Drainage approval to certification? The Certified Applicator would need to attend either the full TOTAL WALL MD Moisture Drainage Training Seminar or the Abridged MD Moisture Drainage Seminar For Experienced Applicators. The Abridged MD Moisture Drainage Seminar is only 2 hours and teaches the differences between the PB and MD systems to applicators that already know the PB system. The Certified Applicator must pass the MD written test for either seminar format.

TECHNICAL BULLETIN

888.702.9915
www.totalwall.com**WHEN AND WHERE ARE THE TOTAL WALL SEMINARS**

TOTAL WALL TRAINING SEMINARS are scheduled based on need. The type of seminar and seminar format are governed by the needs of those attending. Occasionally, Training Seminars are dual system certification, however they are usually single system certifications. To request a Training Seminar or to find the date and location of the next seminar closest to you, please contact your local TOTAL WALL Distributor or call us directly at 888-702-9915.

TOTAL WALL will honor individuals holding valid approvals or certifications from Retro Tek.

The *TOTAL WALL* Technical Department

MAINTENANCE AND REPAIRS OF TOTAL WALL EIFS

EIFS is designed to be a low maintenance system. TOTAL WALL Finishes are equipped with a patented dirt resistance to maintain a clean surface for many years. TOTAL WALL Finishes are also protected with agents that prevent growth of mold, mildew, algae and bacterial on the wall. Finally, TOTAL WALL Finishes use materials that are stable against all weather and exposure conditions. However, any surface may become dirty, stained or damaged over time. Here are some suggestions for routine maintenance and repairs.

Cleaning - Should the surface need to be cleaned, exterior cleaning can be done with a low pressure washer and a small amount of mild (non-phosphate) cleaner, followed by a clear water rinse. The best cleaner to use is a dilute solution of Borax in warm water. If necessary, light scrubbing can be done with a soft brush. Do not use high-pressure spray equipment as it may damage the finish. Mold and mildew growth is very rare on TOTAL WALL Finishes. Should you ever encounter mold or mildew on a wall, clean the wall with a solution of MP 2106 from WindLock (800-USA-LOCK).

Changing the Color - Occasionally, re-coating may be desired for a fresh look or color change. In this instance, re-coating is done with one or two coats of TOTAL LASTIC available from TOTAL WALL. TOTAL LASTIC will provide a fresh color coat and additional weather resistance while maintaining the stucco look and texture of the existing system. Using TOTAL LASTIC will also maintain the existing TOTAL WALL Warranty.

Repairing Damage - TOTAL WALL recommends that damage be repaired by an approved EIFS professional. If a section of EIFS becomes damaged, torn or punctured, repairs can be made by the following procedure:

- Cut out the damaged section (including the foam insulation board) in the shape of a rectangle. If this is a Moisture Drainage System, do not cut through the moisture barrier.
- Next, grind off an additional 2" of finish in a perimeter around the rectangle shaped hole you made in step 1.
- Cut a piece of foam insulation board to fit snugly into the rectangle hole. The insulation board must be the same thickness as the foam board that was removed.
- If this is a "Barrier EIFS" System, apply a small amount of TOTAL Mastic adhesive onto the substrate and gently press the piece of foam board into the rectangular hole. If this is a Moisture Drainage System or Hard Coat System, use a proper mechanical fastener to attach the piece of foam to the substrate.
- Cut a piece of reinforcing mesh in a rectangular shape, 3" wider and 3" longer than the rectangular hole. This will allow a 1.5-inch overlap of mesh onto the sanded border on all sides of the rectangular hole.

TECHNICAL BULLETIN888.702.9915
www.totalwall.com

- Embed the reinforcing mesh with TOTAL WALL Soft coat basecoat and remove the excess so that the mesh pattern is barely visible.
- Allow the TOTAL WALL Basecoat to cure for 24 hours.
- Tape off repair area with Masking tape and apply original TOTAL WALL finish in the same color and texture. Feather and float the repair to match the original finish as close as possible. Remove masking and touch up texture.
- Allow the repair to cure (protected from precipitation) for 24 hours.

Inspections - In general, it is good maintenance practice to have the building inspected every two years. The purpose of the inspections is to identify and correct any problem areas before they have a chance to allow damage to occur. In some instances, the TOTAL WALL warranty program may require regularly scheduled inspections to keep the warranty in force.

In addition to professional inspections, the homeowner or building owner can also perform routine visual inspections. Routine visual inspections are recommended every six months. Here is a suggested list of items for routine visual inspections:

- check sealant joints for condition of sealant and that sealant is bonded to both sides.
- check surface of finish for cracks, delamination, efflorescence or blisters.
- press on the surface of the system with palms of hands to find and spongy or soft areas
- make sure all flashings are properly installed and functioning. Examples of some flashings are: kickout diverter flashing, deck ledger board flashing, and window and door head flashing.
- inspect all exposed utility penetrations for proper sealant or gasket condition.
- inspect the lower termination for condition and proper attachment.
- check all roof terminations, chimney caps and roof flashing for condition.

For both the routine and professional inspections, the date of the inspection and results of the inspection should be recorded. If possible, a set of photographs can be taken to accompany the inspection write-up. Any questionable areas that are discovered during an inspection should be addressed as soon as possible. For additional technical assistance, you may call your local TOTAL WALL Distributor or you may call TOTAL WALL.

The **TOTAL WALL** Technical Department

USE OF TOTAL MASTIC 11# TO ADHERE PANELS

Blue Mastic is an excellent adhesive to augment mechanical attachment of EIFS panels. This is true for attachment of lightweight TOTAL WALL T-2000 panels, Foundation Insulation Panels, and Hard Coat EIFS panels. The Total Mastic is available in quart tubes and in five gallon pails. It may be applied in ribbons or in evenly spaced dabs. The use of the Total Mastic in addition to standard mechanical attachment will insure better bond and wind load resistance than by using mechanical attachment alone.

In weather conditions that are cool or damp, Total Mastic will take longer to dry behind the panels. If the structure is heated the drying process will be faster than for a non-heated structure. Regardless of drying time, the mechanical attachment will secure the panels until the Total Mastic dries and picks up bond strength. Total Mastic should not be applied if prior to application the substrate surface is frosted or the substrate temperature is below freezing. Finally, if panel installation in sub-freezing temperatures is necessary and heated tenting cannot be provided, contract TOTAL WALL Technical services for a recommendation regarding an alternative adhesive.

The *TOTAL WALL* Technical Department

ISSUE # 1033

HIGH IMPACT MESH ALTERNATIVES WITH TOTAL WALL EIFS

There are five conventional mesh options available for PB and MD classes EIFS. Those conventional mesh options are as follows:

1. 4-ounce standard
2. 6-ounce enhanced
3. 11-ounce intermediate
4. 15-ounce hi-impact plus 4 ounce standard
5. 20-ounce ultra hi-impact plus 4 ounce standard

The heavier mesh translates to higher impact resistance performance. Higher impact resistance is desirable in high traffic areas, when vandalism is a concern, or for other environments with greater risks of impact damage.

The 15-ounce and 20-ounce meshes are too thick to be lapped; therefore, they are butted and then covered with a layer of 4-ounce, which can be lapped. These heavier meshes work well on flat walls but can be a real problem when architectural detail is specified on the job. The heavier meshes do not conform well to shapes and can be problematic in this situation.

One possible alternative to using hi-impact mesh plus 4-ounce standard mesh is to use 11-ounce intermediate mesh plus a layer of 6-ounce enhanced mesh. This alternative may be used for some or all of the high impact specified areas on a job, which exhibits architectural detail. Both the 11-ounce and 6-ounce meshes are conformable and can be lapped making detail work less problematic. As in the case of the hi-impact mesh plus standard mesh, the 11-ounce intermediate mesh plus a layer of 6-ounce enhanced mesh exceeds the maximum value of the current EIMA test (150 in-lbs) and will provide excellent impact resistance.

For additional technical assistance, you may call you local TOTAL WALL Distributor or you may call TOTAL WALL.

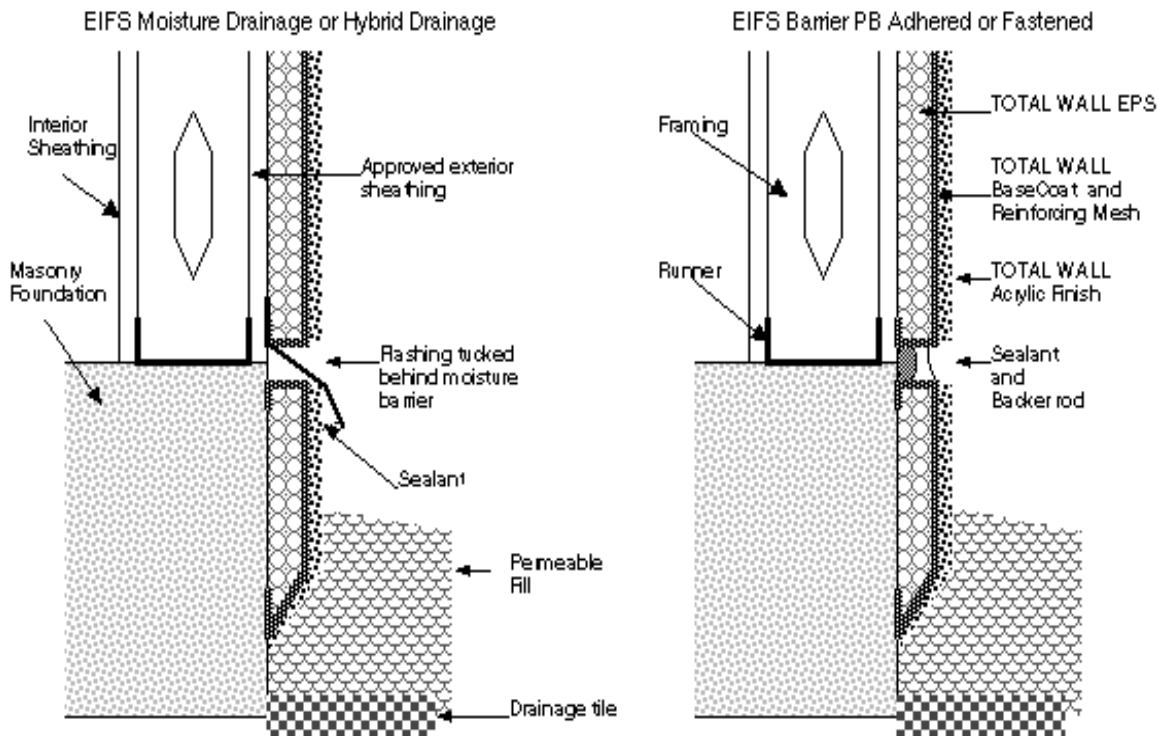
The **TOTAL WALL** Technical Department

Extending EIFS Below Grade

Currently, TOTAL WALL follows EIFS industry installation protocols which generally recommend that the EIF System be terminated 6 - 8 inches above grade. The reasons for terminating the system above grade include: enabling proper pest control inspection, eliminating compression cracking from frost heaves, and eliminating moisture migration from capillary action. This reasoning for terminating the system above grade is applicable to a majority of field conditions. Therefore, the standard practice remains to hold the system 6 - 8 inches above grade.

In some instances it is permitted to extend the EIFS to grade or extend it below grade. However, several conditions must be met as follows:

1. The foundation must be sound masonry and the substrate in the proximity of the grade must be sound masonry or cement board with steel framing;
2. The grade area must be constructed with proper drainage and permeable fill;
3. It must be acceptable that exterior pest control inspection at the grade line will be hampered by presence of the EIFS;
4. The lower terminating edge of the EIFS must be beveled to reduce compression pressure from frost heaves;
5. A horizontal expansion joint is recommended at the first floor line, especially if the EIFS extends more than 8 inches onto the foundation wall and if there is a change in substrate from the foundation wall to the first floor wall area;
6. Any EIFS extension to the grade line or below grade must be approved by TOTAL WALL before installation of EIFS on the job begins.



The **TOTAL WALL** Technical Department

Issue Date 12-20-2011

SPECIAL INSPECTIONS

Total Wall requires special inspections on all EIFS applications as a condition of Warranty. Additionally, in accordance with Section 1704.12 of the International Building Code 2000 edition and Section 1705.1.2 of the National Building Code 1 edition, special inspections are required on the following systems regardless of Warranty or other considerations: DA (Defs) Direct Applied, PB Soft Coat, PM Hard Coat, and Panelization. The inspections are required on any size application. The special inspector satisfying the code requirements must furnish inspection records to the code official and the registered design professional in charge of the job. Also, at a minimum, the special inspector shall address the following installation items:

Substrate

- 1. The substrate is flat (no deflections >1/4" in 10 feet)
- 2. The substrate is sound (clean, dry, sound, face material attached to core)
- 3. Flashing is properly installed (roof lines, chimneys, dormers, Kick-outs, etc.)
- 4. The substrate is properly attached to framing.
- 5. A 3/4" gap in sheathing at each floor line (wood construction)
- 6. Windows code compliant. (Manufacturer and type _____.)
- 7. Windows properly installed and flashed.
- 8. Balconies, decks, utility penetrations are properly prepared.

Adhesive (for adhesive systems only)

- 1. Correct brand and type.
- 2. Cleanliness.
- 3. Proper storage of adhesive.
- 4. Proper mixing and preparation.
- 5. Ambient air and surface temp 40°F minimum.
- 6. Applied thickness (3/16" minimum).
- 7. Cure / dry temp 40°F 24 hour minimum.
- 8. Attachment of EPS while adhesive is tacky.
- 9. Full contact of EPS with adhesive and substrate.
- 10. Proper (full) coverage of EPS with adhesive.

Foam Plastic material (not for DA systems)

- 1. Labeled IAW section 1704.3 of the National code.
- 2. Manufactured IAW with requirements of the Total Wall NES Research Report and Total Wall.
- 3. Board joints offset from sheathing joints (3" min).
- 4. Board joints drywall cut at window corners.
- 5. Board joints running bond pattern.
- 6. Board corners interlocked.
- 7. Properly rasped.
- 8. Held back from penetrations to allow for sealant joint.

Base Coat

- 1. Correct mixing and proportions.
- 2. Application temp 40 F minimum.
- 3. Cure / dry temp 40 F 24 hr minimum.
- 4. Minimum thickness 1/16" or 1.5 X mesh thickness, whichever is greater.

Reinforcing Mesh

- 1. Correct brand and type.
- 2. Mechanically fastened (Hard Coat PM only).
- 3. Fully embedded in Base Coat.
- 4. Terminations properly backwrapped.
- 5. Mesh runs overlapped 2.5" minimum.
- 6. High Impact mesh runs butted (if applicable).
- 7. Inside and outside corners double meshed.
- 8. Butterflies of mesh at window / door corners.

Penetration Details and Application of Sealant

- 1. All penetrations detailed IAW with requirements of the Total Wall NES Research Report and the latest Total Wall published literature.
- 2. All system terminations detailed IAW with requirements of the Total Wall NES Research Report and the latest Total Wall Research Report and the latest Total Wall published literature.
- 3. Proper sealant, backer and primer used.
- 4. Shelf life not exceeded for sealant.
- 5. Proper joint configurations.
- 6. Proper sealant and primer application temperature and cure temperature IAW sealant manufacturer specifications.
- 7. Inside and outside corners double meshed.
- 8. Butterflies of mesh at window / door corners.

Finish Coat

- 1. Correct type, storage, mixing and preparation.
- 2. Application temp 40 F minimum.
- 3. Cure / dry temp 40°F 24 hr minimum protected from precipitation.

Please note that in code jurisdictions complying with the 2000 International Residential Code, IAW Section R703.9, all EIFS must provide a means of drainage using a weather resistive barrier and drainage channel, with the exception of masonry substrates.

The **TOTAL WALL** Technical Department

TOTAL WALL

AMERICA'S EIFS AND STUCCO COMPANY!

TECHNICAL BULLETIN

888.702.9917
www.totalwall.com

SYNTHETIC FINISH RETARDER

TOTAL WALL Synthetic Finish Retarder is a liquid additive containing special rheology agents and film formulation retarders. **TOTAL WALL** Synthetic Finish Retarder is designed to be added to Synthetic Finish to delay drying and to help compensate for warm or dry weather conditions. **TOTAL WALL** Synthetic Finish Retarder is NOT intended to compensate for lack of manpower on a job.

Precautions:

TOTAL WALL Synthetic Finish Retarder is a blend of propylene glycol and polyacrylamide rheology agents. Do not ingest. Avoid Contact with eyes. For contact with eyes, flush with water for 15 minutes and immediately contact a physician. For more information, please review the Material Safety Data Sheet or contact our Technical Department toll free at 1-888-702-9917.

Directions:

Slowly pour **TOTAL WALL** Synthetic Finish Retarder into a clean plastic or metal measuring cup. Measure between 4 and 12 ounces of Retarder for each 5 gallon pail of finish to be treated. Use 4 ounces of Retarder to achieve a mild decrease in drying rate. Using 9 or 10 ounces of Retarder to achieve a moderate decrease in drying rate. Do not use more than 12 ounces of Retarder per 5 gallons of finish. Add the Retarder to the finish while mixing with a low speed jiffy mixer or replace the lid and use a bucket shaker to mix in the Retarder as desired. The Retarder may be added along with any colorant addition. The Retarder should also replace a portion of the water that is normally used to adjust the proper viscosity. Apply the finish as you would normally.

Usage example chart. "Open time" refers to the time period between when the product is troweled on the wall until it is floated.

	A	B	C
1	Weather Condition	Open time without Retarder	Estimated Open time using 8 oz. Of Retarder
2	80 F and 20% humidity	4 Minutes	9 minutes
3	100 F and 20% humidity	1 minute	3 minutes

Handling & Storage:

Use normal chemical handling procedures. Store indoors w/ lid on. Keep away from children and pets.

Limitations:

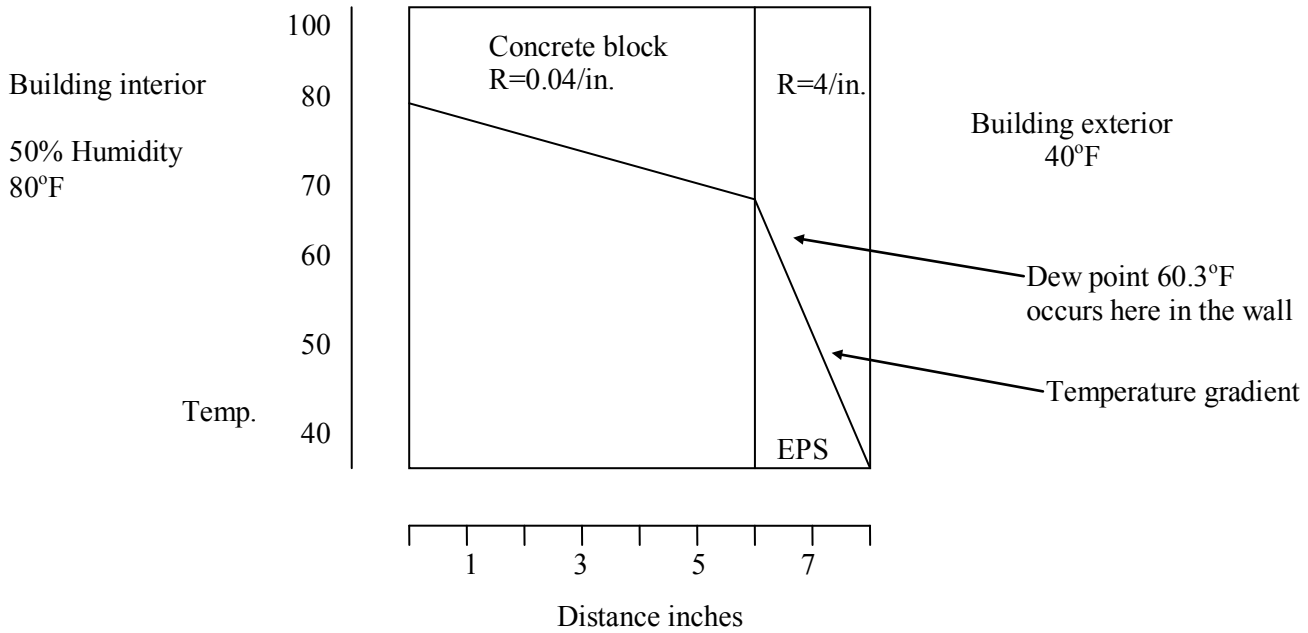
This product will not fully compensate for excessively hot and dry conditions or for working in direct sunlight. Minor changes in product workability should be anticipated.

Warranty:

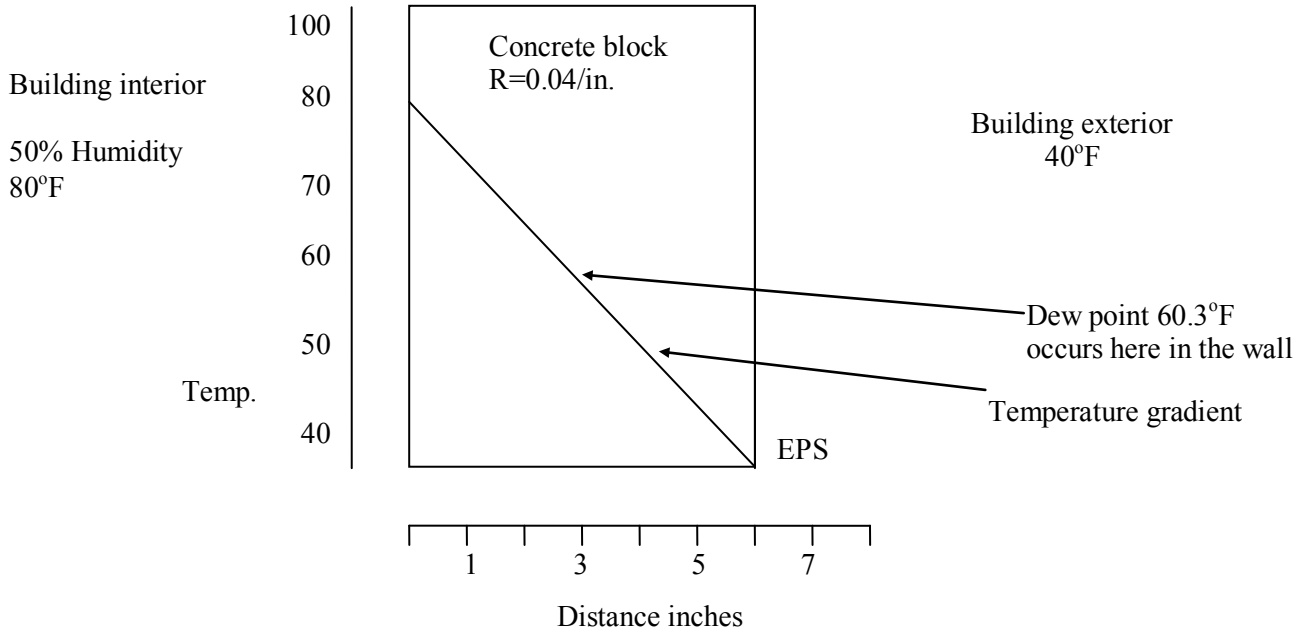
This product is manufactured with the finest raw materials and to the highest production standards. This product is warranted to perform as outlined in **TOTAL WALL** product literature when used as directed by a licensed applicator. Should the product fail to perform as outlined and as determined by **TOTAL WALL**, either the original purchase price or replacement material, at **TOTAL WALL's** option, shall be full compensation for the warranty. At no time shall the value of the warranty exceed the original purchase price of the product.

The **TOTAL WALL** Technical Department

Temperature gradient - dew point example



Temperature gradient - dew point example 2 with concrete only



WALL SYSTEM DEW POINT INFORMATION

Dew point is defined as the temperature at which air with a given moisture content will begin to condense water. For example, 80°F air with a relative humidity of 50% will have a dew point of approximately 60.3°F.

The dew point in a wall system is determined by two factors as follows:

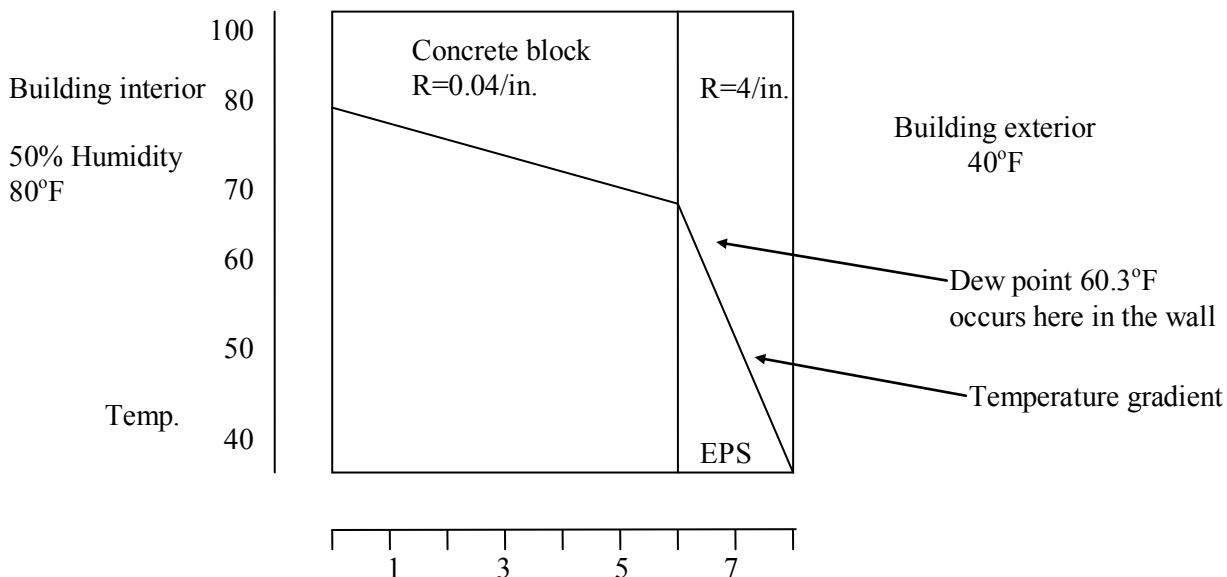
1. The temperature gradient through the wall and,
2. The moisture content combined with the permeability of the wall materials.

The R-value of the building materials, their thickness', and the interior and exterior temperatures determines the temperature gradient through the wall.

The system's permeability and the moisture content of surrounding air on the interior and exterior determine the moisture content of air in the wall system.

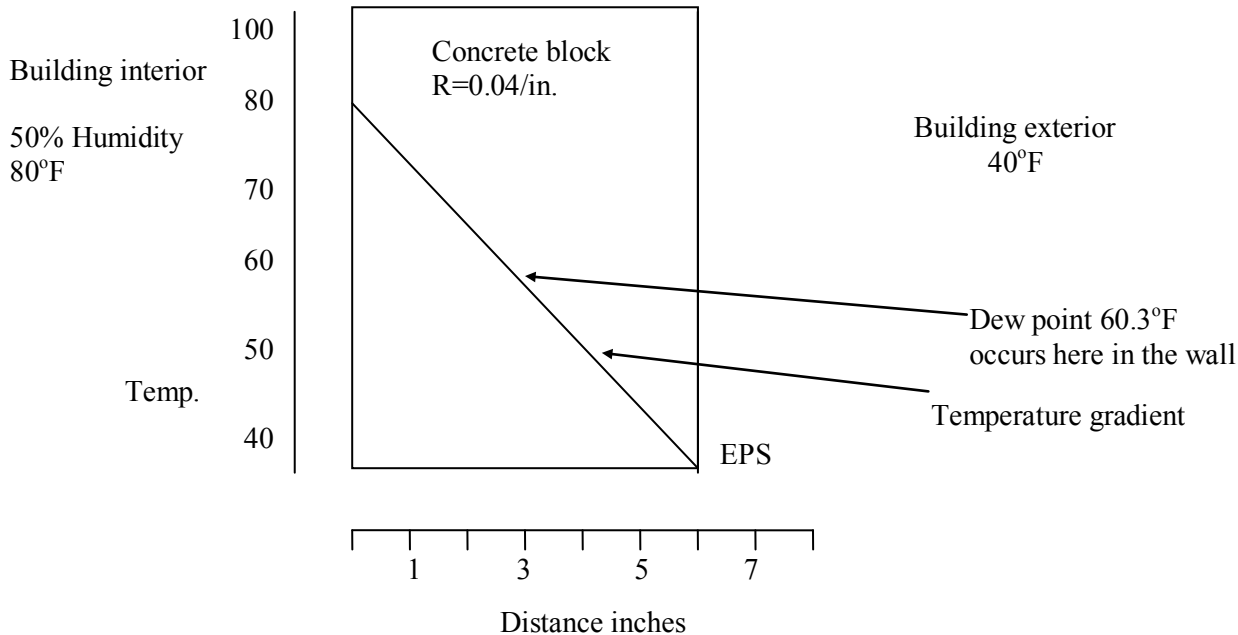
A vapor barrier placed in a wall system will prohibit moisture from moving past that point in either direction, thus making it desirable in some situations and not others. A moisture barrier should not be confused with a vapor barrier. A moisture barrier is breathable and will permit some water vapor to pass.

Temperature gradient - dew point example



As you can see, using exterior insulation moves the dew point toward the outside of the wall. To illustrate this further, below is a temperature gradient for concrete block only, which illustrates that dew point, occurs in the block when the exterior insulation is removed.

Temperature gradient - dew point example 2 with concrete only



The more exterior insulation is used, the more the dew point will be moved out of the wall and into the EIFS where it can do little harm. If an interior vapor barrier is used, the exterior insulation is beneficial because once again, under most conditions it will keep the dew point in the EPS in summer conditions as well. This is important, since a vapor barrier reduces a wall's ability to dry when water does get into the cavity.

For additional technical assistance, you may call your local **TOTAL WALL** Distributor or you may call **TOTAL WALL**.

The **TOTAL WALL** Technical Department

SEALANT LISTING UPDATE

Currently **TOTAL WALL** recognizes Pecora, Dow, Tremco, Sika, **TOTAL WALL** and Sonneborn as primary approved sealant manufacturers. **TOTAL WALL** further recommends use either of a 2-part urethane such as Dynatrol II by Pecora, Dymeric by Tremco, NP 2 by Sonneborn, or single component ultra-low modulus silicone such as Dow 790, 791 or 795 silicones or Pecora 890 silicone. Experience has shown that the approved sealants perform satisfactorily for the **TOTAL WALL** Exterior Finish and Insulation Systems. As a minimum requirement, the sealant must meet ASTM C920, Type M and S, Grade NS, Class 25 specifications.

Caulk Sealants Currently Approved for All Applications:

- 1. Dow 790 ultra-low modulus single component Silicone Sealant.
- 2. Dow 791 ultra-low modulus single component Silicone Sealant.
- 3. Dow 795 ultra-low modulus single component Silicone Sealant.
- 4. Pecora 890 ultra-low modulus single component Silicone Sealant.
- 5. Pecora Dynatrol II two component urethane Sealant.
- 6. Tremco Dymeric and Dymeric 511 two component urethane Sealants.
- 7. Sonneborn NP 2 two component urethane Sealant.
- 8. Sonneborn Sonolastic 150 tint base two-component urethane Sealant.
- 9. Sika Flex LMIS low modulus single component urethane.
- 10. **TOTAL WALL** Mastic #11 single component tintable acrylic sealant.

Caulk Sealants Conditionally Approved for Selected and Pre-approved Applications Only:

- 1. Sonneborn NP1 single component urethane Sealant.
- 2. Pro-Seal 34 single component polycarbonate Sealant.
- 3. Sikaflex-2c, NS/SL two component urethane Sealant.
- 4. Bostik Chem-Caulk 500 two component urethane Sealant.

It is worth noting that the ultra-low modulus silicones have demonstrated the broadest range of performance. This equates to statistically fewer service problems and an anticipated longer service life, especially in harsh climates. Therefore, in our opinion, the ultra-low modulus silicones should be given extra consideration if all other factors are equal.

The **TOTAL WALL** Technical Department

SHEATHINGS FOR DIRECT APPLIED EXTERIOR FINISH (DEFS)

Cement boards are typically tough and highly weatherproof materials. As such, Durock is acceptable as a substrate for a Direct Applied application of EIFS lamina. The Total Direct DA system means that no rigid polystyrene foam is used. The **TOTAL WALL** Base Coat layer and Finish Coat layer are bonded directly to the exterior sheathing. Other acceptable exterior sheathings are: Fiberock Brand Sheathing from USG and Gold Bond PermaBase Cement Board from National Gypsum Company. Please call **TOTAL WALL** if you have any questions regarding the suitability of other sheathing materials.

Dens-Glass Gold sheathing is approved as a substrate for Total Direct DA only in protected areas such as soffits or covered entrance ways.

Please refer to our instructions and specifications on Total Direct DA for additional information. Also, you can always call **TOTAL WALL** Technical Support at 888-702-9917 if you have specific questions about an application.

The **TOTAL WALL** Technical Department

ISSUE # 1040

**TIPS ON TOTAL WALL #11 SINGLE COMPONENT
TINTABLE CAULK SEALANT**

TOTAL WALL #11 Single Component Caulk Sealant affords several advantages to the sealant applicator. *TOTAL WALL #11 Sealant* is tintable which offers a wide color selection as well as color matching availability at the point of distribution. *TOTAL WALL #11 Sealant* is also paintable which eliminates problems associated with color changes or touch up work. Since it is a water based single component sealant, there are no flammability or solvent odor issues, and no pot-life to contend with which can lead to wasted material. There is also no multi-component proportioning and mixing. The only mixing is for colorant addition or the addition of a few ounces of water to adjust workability.

TOTAL WALL will produce and stock the following standard colors in two-gallon pails:

❖ Bright White	#2020A	❖ Stove Crop	#2390A
❖ Steel Grey	#2190A	❖ Minimal White	#2310A
❖ Beach Sand	#2240A	❖ Putty Grey	#2230A
❖ Sand Stone	#2220A		

General Guidelines for tinting two-gallon pails starting from neutral (clear) base:

1. For Base 1 Colors: Add 4 ounces of Kx (white) and one-fourth the colorant for a five-gallon pail of finish.
2. For Base 3 Colors: Add 4 ounces of Kx (white) and one-half the colorant for a five-gallon pail of finish.
3. For Base 4 Colors: Add one-fourth the colorant for a five-gallon pail of finish.
4. Mix *TOTAL WALL #11 Sealant* with a caulk paddle and ½" variable speed drill.

Examples of equipment for installing *TOTAL WALL #11 Sealant* from two-gallon pails:

1. Albion Bulk 30 oz. Caulk Gun with T-Handle Trigger – Approx. \$45.00
2. Albion Follow Plate with neoprene seal – Approx. \$30.00
3. Albion Replacement ring cap – Approx. \$3.00
4. Albion Caulk Gun Cones – set of six – Approx. \$4.00
5. Example Source -> Tools for Trade – 800-582-8665

TOTAL WALL #11 Sealant is also available in 28 oz .tubes in neutral base only. A variety of selected colors for availability in 28 oz. tubes are anticipated in the near future. For additional information call *TOTAL WALL* at 888-702-9915.

The *TOTAL WALL* Technical Department

Issue # 1041

BASE COATS AND HOT WEATHER

It is no secret that hot summer weather will shorten the pot life and open time of any base coat containing Portland cement. T-2000 Base Coat and Total Foam N' Base Coat Adhesive products are no exception to this rule. Here are tips and product options that will give you more open time while applying Total Wall Base Coats.

Tips

1. Mix the product slightly looser and wetter than you normally would prepare it. Also, always remember to allow the mix to stand for 3-5 minutes and then re-mix to break the false set.
2. When possible, use cool water and a clean mix container. Water in a hose that is lying in the sunlight can get quite hot, therefore let the water run until cool water is flowing. Also, leftover mix from a previous batch can act as a catalyst; therefore try to keep the mix vessel clean, especially in hot weather.
3. Schedule work to take advantage of any shade and cooler morning or late afternoon hours when applying base coat.

Product Options

This is to remind you that there are two product options that are available to extend pot-life and open time of T-2000 Base Coat and Foam N' Base Coat Adhesive.

1. The first option is to purchase the "Slow Set" version of the T-2000 Base Coat, or the "Slow Set" version of Foam N' Base Coat. Slow Set versions afford a bit more open time. For example, at 80°F you may expect about 20 minutes additional open time when using the Slow Set versions. At 90°F you may obtain about 12 minutes additional open time.
2. The second option is to have Total Wall Base Coat Retarder on hand at the job site. A small amount of Retarder is added during mixing to slow the set of the base coat. Follow the directions carefully and do not over add Retarder.

** Note - do not add Retarder to Slow Set products.

The **TOTAL WALL** Technical Department

TINT VIAL PROGRAM

Since applicators mix TOTAL WALL Finish before use (possibly adding some water to adjust workability), they may prefer to tint the finish by adding a vial of pre-measured colorant during mixing. One advantage for adding the colorant to the Finish-base at the job site is the applicator will tint exactly the number of pails required to do the job. That means there will be no extra pails of colored Finish left over. Also, an applicator may carry extra tint vials and extra pails of Finish-base to the job because he can either use the leftover pails of Finish-base on the next job, or return unopened pails to the TOTAL WALL distributor for credit or refund. Therefore, the applicator need never too much or too little Finish on a job.

Tips for the Applicator

1. Order a few extra pails of Finish-base and colorant vials for the job than you think you will need. You always can return unopened pails of Finish-base or save them for another job.
2. Do not tint pails of Finish ahead of time unless you are sure you are going to use them. Tint the pails as follows:
 1. There are three different Finish-base strengths. They are numbered either 1, 3 or 4. Be sure the Finish-base number on the pail of Finish matches the Base number on the colorant vial. In other words, if the vial reads Base 1, then the pail must read Base 1.
 2. Be sure the colorant vial has the right color name and number.
 3. Open a new pail of TOTAL WALL Finish-base.
 4. Using a clean paint stick or scoop, make an indent in the top of the Finish (as if you were going to put gravy on mashed potatoes).
 5. Open the colorant vial and carefully pour the colorant into the Finish.
 6. Fill the vial half way with water or up to 4 ounces, whichever is least. Replace the cap and shake the vial. Open the vial and carefully add the rinse water to the Finish. Save the vials, you can return them to the distributor. Use the paint stick or scoop to loosely blend the surface colorant with some of the Finish. Wipe your stick or scoop clean into the pails. Be sure the colorant stays in the pail.
 7. Insert your jiffy mixer blade deep into the pail and begin mix on slow speed or with intermittent mixing to avoid any loss of colorant. Gradually increase mix speed, scraping the sides and bottom of the pail to insure complete mix. As always, you may add additional water to adjust workability.
3. If you are using both factory tinted and field tinted Finish on the same job, be sure to box two pails of each source of TOTAL WALL Finish to guarantee a uniform transition on the wall.

Tips for the Distributor

1. Use straight wall wide-mouth plastic jars to hold colorant. You can order them from Consolidated Plastics • 800-362-1000 • or a number of other supply houses. We recommend the clear polystyrene jars, although the natural polypropylene, and PVC will work well too. Most colorant formulas will fit into the 4 oz jars, however, some of the darker colors will require more colorant. Therefore, we recommend that you have several 8 oz and a few 16 oz jars on hand.
2. Label each colorant vial with the color name, the color number, the Finish-base number, and the date.
3. Eyeball the colorant vials after filling. They should all have the same level and colors.
4. Record in your colorant journal the color name, the color number, the Finish-base number and texture, the date, the formula, the applicator, the job, and number of vials (jars) tinted.
5. Put the caps on fairly tight and pack them so they are handled and stored upright.
6. If you are reusing colorant vials, remove old labels and markings then clean them and inspect them before use.

Contact TOTAL WALL Technical Support if you have any questions.

ISSUE # 1043**DOES THE FINISH SMELL LIKE AMMONIA?**

All synthetic finishes are typically applied over Portland cement based substrates. Portland cement substrates are highly alkaline (high pH). For a synthetic finish to be compatible with an alkaline substrate, it must be alkaline (high pH) as well. That means the pH of the synthetic finish should be well above 7.0.

To make the pH of a synthetic finish alkaline, manufacturers must add one or more chemicals to raise the pH. Some of the chemicals remain in the coating as the coating dries. An example of one such chemical is Sodium Hydroxide. The presence of these chemicals in the finish coat will harm water resistance and weather resistance properties.

Total Wall uses ammonia to raise the pH of our synthetic finishes. We use ammonia because it is migratory, which means it leaves the coating as it dries. This is why there is a faint smell of ammonia. Since the ammonia leaves the coating, Total Wall synthetic finishes develop superior weather resistance and water resistance.

When you open a pail of Total Wall finish and detect the slight odor of ammonia, remember, that is a good sign. It is the smell of quality and superior performance.

For additional technical assistance, you may call your local TOTAL WALL Distributor, Total Wall Applicator or you may call TOTAL WALL at 888-702-9917 or visit our website at www.TotalWall.com.

The *TOTAL WALL* Technical Department

Open Pore Textures

Synthetic Finishes are formulated to produce a wide range of textures. The finish texture is influenced by three main factors:

1. The aggregate (size, shape and loading);
2. The rheology (viscosity, thixotropy, and flow and leveling properties);
3. The finish preparation and application technique.

Higher quality, resin-rich finishes, such as Total Wall Finishes, have more fluid resin available. The fluid resin component surrounds each aggregate to hold the coating together. It also wets out the substrate surface to facilitate adhesion. A higher percentage of the expensive premium resin component compares favorably with a better performing finish.

A higher level of fluid resin component is available to trap air during mixing or floating of the finish. As the finish dries, an air bubble may pop and leave a small opening between the aggregate. In deep, coarse textures, this effect may become more visible and appear as an open pore. This open pore effect is random and mirrors the natural appearance of carved limestone. The open pores are sometimes mistakenly referred to as pinholes.

The open pore appearance that may develop with some textures and application techniques is a natural part of the random hand-applied finish esthetics. The Total Wall finish system is designed for maximum performance for the entire range of texture variations and appearances.

For additional technical assistance, you may call you local TOTAL WALL Distributor, Total Wall Applicator or you may call TOTAL WALL at 888-702-9917 or visit our website at www.TotalWall.com

The **TOTAL WALL** Technical Department

ISSUE # 1045**PERM RATING**

The Perm Rating of a material describes how well water vapor will pass through it. A higher Perm Rate number means water vapor passing through at a higher rate. The Perm Rate has nothing to do with the flow of air or the flow of liquid phase water through a material; it is a measure of the flow of water vapor. By definition, a material that allows 1 grain of water to pass through one square foot of surface area in one hour with a pressure differential of 1 mm of Hg has a Perm Rate of 1. One grain of water is approximately two-thousandths (0.002) of an ounce.

Several terms and definitions regarding Perm Rate are used in industry. The term Permeance refers to Perm Rate while also factoring material thickness. Typically, a Permeance value relates to a 1" thickness of material unless otherwise specified. The Indoor Air Quality Association (IAQA) defines a material with a Perm Rating of less than 1 as a vapor barrier, a material with a Perm Rating between 1 and 10 Perms as a vapor retarder, and a material with greater than 10 Perms as breathable. The National Association of Home Builders (NAHB) and the current ASTM standard define any material with a Perm Rating equal to or less than 1 as a vapor retarder. Under this NAHB definition, there is no distinction between a vapor retarder and a vapor barrier. However, there are currently motions in the ASTM committee to move toward a three-tier definition similar to the IAQA definitions mentioned above.

ASTM E96 is one of the primary standards used for measurement of Perm Rate. This standard employs two test methods: a wet cup and a dry cup. Some materials have a higher Perm Rate when they become damp or wet. These materials are referred to as Smart Vapor Retarders. For example, 15-lb asphalt felt has a dry cup Perm Rate of 1 and a wet cup Perm Rate of 5. Similarly, 15-lb tar felt has a dry cup rating of 4 and a wet cup rating of 18.

The individual Perm Rate of each layer or building component in a wall system influences the Perm Rate. In many instances, it is desirable to have a wall with a relatively high Perm Rate so that it would allow migration of water vapor. In other instances, depending on climate, codes, and building function, it may be desirable to block or retard water vapor migration at one or more layers in the wall system. Building materials have a wide range in Perm Rate values. EIFS Cladding (1" system) has a typical Perm Rate of between 1 and 3. EIFS greater than 1" thickness have even lower Perm Rates. Tyvek and Tyvek Stucco Wrap have a Perm Rate of 20. DensGlass sheathing 1/2" has a Perm Rate of 23. Hard coat stucco 3/4" (unpainted) has an average Perm Rate of 15. Gypsum sheathing 1/2" has a

TECHNICAL BULLETIN

888.702.9915
www.totalwall.com

Perm Rate of 20. Air has a Perm Rate of 120 per inch. Sheet polyethylene 6-mil thickness has a Perm Rate of 0.06 and aluminum foil has a Perm Rate of 0.

Coatings and finishes have a wide range of permeability characteristics. The four main factors that affect permeability are: resin (polymer type), PVC (volume of pigment), texture, and thickness. RESINS: Silicones have the highest Perm Rating, followed by vinyls, acrylics, styrenated acrylics, SBRs, urethanes, and epoxies have the lowest permeance. PVC: Higher PVC values (more extender and filler and less resin) will increase the Perm Rate. TEXTURE: More texture will create capillaries and pores, and increase Perm Rate. THICKNESS: A thicker layer of any coating will reduce its Perm Rate. EIFS textured synthetic finishes, as a class, have a high Perm Rate (approximately 15-25). This is because EIFS finishes typically employ a breathable acrylic resin, high PVC loading (70 - 80), and moderate to heavy texture. Some EIFS finishes come in elastomeric grade. The elastomeric grade EIFS finish has slightly lower PVC, which reduces its Perm Rating by only a few Perms. For example, if an EIFS Finish has a Perm Rating of 20, an elastomeric version of the same texture constructed with the same class resin, may have a Perm Rating of 17.

Paints are typically 2-3 mils thick while elastomeric coating maybe 12-20 mils thickness. Paints generally have higher PVC than elastomeric coatings. For these reasons and as a general rule, elastomeric coatings have a lower Perm Rate than paints. There are exceptions to this rule. Dow Allguard, an industrial grade elastomeric coating, has a reported permeance of >40 due to its silicone backbone. Although one EIFS manufacturer purports its acrylic elastomeric coating to have a Perm Rate of 30, a more believable and expected Perm Rate for an acrylic elastomeric coating would be in the 2-12 range. One large paint company, for example, reports a Perm Rate of 10 for their acrylic elastomeric coating with 53% volume solids. Typical vinyl-acrylic house paint applied at 2-3 mils thickness will have a Perm Rate of approximately 8.

Key points to remember:

1. Upgrading from a standard EIFS synthetic textured finish to the elastomeric grade synthetic textured finish in the same product line will not impact the Perm Rate of the system.
2. Use of an elastomeric coating over an EIFS will reduce the Perm Rate of the system somewhat. However, considering that the Perm Rate of the EIFS initially is very low, application of a quality elastomeric coating over the EIFS will not produce a major reduction in Perm Rate. The advantages of the elastomeric coating will usually very much outweigh the small reduction in Perm Rate.

For additional technical assistance, you may call your local TOTAL WALL Distributor, Total Wall Applicator or you may call TOTAL WALL at 888-702-9917 or visit our website at www.TotalWall.com.
The **TOTAL WALL** Technical Department

ISSUE # 1046

**STORAGE OF PARTIAL PAILS OF FINISH
TO BE LATER USED FOR TOUCH-UP**

To increase the shelf life of touch-up samples or retainers, mist a little water on the surface of the material and around the inner sides and lid of the container before replacing the lid. Do not mix the water into the material, but allow it to rest in a very thin layer on the surface. This will prevent skinning and coagulation and keep the material alive for touch-up purposes for two years or even more. Keep the container in a cool (not freezing) storage area. Avoid high temperatures in storage if possible. If the material is needed for a repair, mix in the water then repeat the storage process.

For additional technical assistance, you may call you local **TOTAL WALL** Distributor, Total Wall Applicator or you may call the **TOTAL WALL** technical department at 888-702-9917 or visit us on the web at www.TotalWall.com.

The **TOTAL WALL** Technical Department

TIPS ABOUT THE TEXTURE AND COVERAGE OF A SYNTHETIC FINISH OVER HARD COAT STUCCO

A Hard Coat Stucco brown coat, ready to receive finish, is typically more rough and more irregular when compared to an EIFS (exterior insulated and finish system) base coat. The Hard Coat Stucco surface may have exposed fibers, trowel flashes and several minor deflections. The differences between an EIFS Base Coat and Hard Coat Stucco must be considered when selecting the finish texture and in estimating the finish coverage.

Fine texture finishes are usually not the best performers over for Hard Coat Stucco. Fine textured finishes do not self-gauge heavily enough to accommodate the natural surface irregularities in an average Hard Coat Stucco brown coat. Unless the applicator is prepared to gauge the fine textured finish at about double the thickness of the largest aggregate, or apply the fine finish in two coats, the floated appearance of a fine textured finish will usually not be uniform.

Medium textures, coarse textures, and freestyle textures perform very well over Hard Coat Stucco. The medium, coarse and freestyle textures gauge thick enough to accommodate the surface irregularities and minor deflections with standard application and floating techniques. The results of the finish application are uniform and attractive, which effectively hide all minor imperfections in the stucco base coat.

Coverage figure estimates for finishing over Hard Coat Stucco must be made more conservative. The surface roughness and deflections will automatically consume more finish material relative to an EIFS base coat. Coverage figure estimates for synthetic finish over Hard Coat Stucco should be lowered 5% to 15%, depending on the surface condition of the stucco and whether the stucco is being primed.

Priming the Hard Coat Stucco prior to application of a synthetic textured finish will improve coverage, improve texture uniformity and color uniformity. A single coat of a compatible smooth elastomeric coating is usually sufficient to do the job of priming. Total Wall T-Wall Lastic Smooth is an ideal product for priming Hard Coat Stucco ahead of finish application. An additional benefit of priming the stucco with T-Wall Lastic Smooth is a reduction in crack read-through. This is because the T-Wall Lastic will fill and effectively bridge most of the minor hairline cracks that may appear in the stucco base coat. Another feature of priming is a modest reduction in the perm rate of the stucco system.

For additional technical assistance, you may call you local **TOTAL WALL** Distributor, Total Wall Applicator or you may call the **TOTAL WALL** technical department at 888-702-9917 or visit our website at www.TotalWall.com. The **TOTAL WALL** Technical Department

ISSUE # 1048

INDIVIDUAL PRODUCT (NON-SYSTEM) WARRANTY COVERAGE

TOTAL WALL offers standard Warranty packages on all *TOTAL WALL* Systems. However, not all product applications are part of a formal system. Frequently, one or more *TOTAL WALL* products are used on a project that does not fall under the classification of a standard system. Nevertheless, a materials Warranty (3-year or 5-year term) is available from *TOTAL WALL* for approved non-system applications.

For example, a *TOTAL WALL* Synthetic Finish may be used alone directly over an approved masonry substrate. Such an application is eligible for a *TOTAL WALL* standard materials Warranty. The Warranty covers the *TOTAL WALL* product (or products), which were applied on the project.

If you are planning on using *TOTAL WALL* products and are interested in obtaining a warranty, please call your local *TOTAL WALL* Distributor for more details about the *TOTAL WALL* Warranty program.

For additional technical assistance, you may call *TOTAL WALL* at 888-702-9917 or visit our website at www.TotalWall.com.

The *TOTAL WALL* Technical Department

Starter Track Considerations

Several types of PVC Starter Track are available for use with most classes of EIFS, DEFS and Hard Coat Stucco. All four styles below are approved for appropriate use with Total Wall systems and will not void Total Wall system warranties when properly installed, even if purchased through a source other than Total Wall. Please note: all materials purchased through Total Wall, including starter track, are covered in any Total Wall warranty as a material component of the system. Materials and items not purchased through Total Wall are considered "supplied by others" and are not covered as a component of the system in a Total Wall warranty. It is also important to note that moisture drainage systems require starter tracks having weep holes to accommodate drainage from the drainage plane. The weep holes permit moisture to exit the system. Starter track may be of the following configurations:



Type A is an "L" starter. This track is often used in Class PB face sealed or barrier EIFS. Starter mesh is typically wrapped back behind the rigid insulation board. This type of track without weeps can be used as head flashing in barrier and drainage systems.

Type B is a "J" starter and may have optional weep holes for moisture drainage systems. This track is very common and is used in DEFS, EIFS and hard coat stucco. Typically, starter mesh is wrapped back behind the rigid insulation board unless the face has striations designed to accept base coat and mesh.

Type C is specifically a moisture drainage track for class MD EIFS. It has weeps holes, a downward-pitched lower leg, and a drip flange on the front edge. The reinforcing mesh and base coat is carried over the front of the drip flange, rather than being back-wrapped behind the rigid insulation board. It is important that the track be wide enough to accommodate moisture drainage systems using vertical ribbons of adhesive to make the drainage plane. Otherwise the ribbons will be squashed and the plane will be blocked. If the EPS board fit seems snug, rasp 1/4" off the lower back side of the EPS board to make room for the adhesive ribbons.

Type D is a universal starter track for MD EIFS. It is called a universal track because it works with all widths of board. Using this type track, the mesh and base coat is wrapped back under the first upper leg of the track only. The lower channel of the track contains weep holes for moisture drainage and is kept open. An alternative detailing approach is to wrap the starter mesh back behind the insulation board. For additional technical assistance, you may call TOTAL WALL at 888-702-9917 or visit our website at www.TotalWall.com.

Subject: Coating Color Stability

All coatings manufacturers obtain universal colorants from the same sources. For exterior coatings, Total Wall uses the highest level UV resistant colorants available. In other words, the best available technology in colorants is being used. Nevertheless, several of the best exterior grade organic-based colorants have UV sensitivity. That means they will break down and fade in sunlight. Examples of several UV sensitive organic-based colorants are colorant T, Colorant S or SS, and Colorants AX, AXX or AXN, M and V to name a few. Why are these colorants used if they can fade? These colorants are used because they are necessary to produce certain colors.

Normally, minor percentages of UV sensitive colorants do not pose a severe fading problem when they are supported by other stable colorants and when they are protected by pigments, such as titanium dioxide, which reflect UV light. In other words, pastels and tint bases with minor percentages of these colorants have less of a fading problem.

Severe and rapid fading of color occurs in exterior exposure when UV sensitive organic colorants are the dominant or primary colorants being used. Moreover, the fading problem is extreme in deep to dark accent colors with high dominant levels of UV sensitive organic colorants. This is because deep and accent base colors offer little pigment protection from the sun's UV rays. Therefore, these dark colors are inherently prone to fade quickly with UV exposure. This is a fact of physics that applies to all manufacturers and their tinted coatings, not just Total Wall.

There is good news. Colors made with inorganic-based (metal oxide) colorants or carbon black or lamp black will be very colorfast and UV resistant. Examples of these colorants are B, C, I and F. We frequently recommend that designers or architects select colors formulated with these more UV stable colorants whenever possible. We also recommend that distributors and manufacturers educate customers and users about the rapid fading issue associated with some colorants. What do we do when a color prone to fading is selected? First, we can attempt to have the customer or architect select a similar color made with UV stable colorants. However, if no alternate color is acceptable, we request a waiver be signed by the customer acknowledging that colors requiring UV sensitive colorants were selected and are prone to fading in exterior exposure.

For additional technical assistance, you may call **TOTAL WALL** at 888-702-9917 or visit our website at www.TotalWall.com.

ISSUE # 1051**Interior Wall Application for Swimming Pool Rooms and Other High Moisture Environments**

A custom Direct-Applied system installation designed for a high moisture environment is the best approach for swimming pool rooms and other high moisture environments. Application of the Direct-Applied system is over approved sheathing, including DensShield, Dens-Glass, GlasRoc, Durock, Permabase, or other sheathing approved by Total Wall. Cement board sheathing, such as Pemabase or Durock, is preferred.

An outline of the recommended installation steps follows:

1. Install sheathing over framing and fasten with the appropriate corrosion resistant screws spaced at 8" on the studs.
2. Apply Total Stop RA to the sheathing joints and embed a minimum 4-1/2" wide strip of Total Wall Standard Reinforcing mesh in the wet Total Stop RA. Allow to dry. For listed sheathings other than cement board, add 24 ounces of water per 5-gallon unit of Total Stop RA to adjust for roller application and then roller apply one coat of Total Stop RA at 8-12 mils wet to the entire sheathing. Allow to dry.
3. Apply Total Guard BWB to the entire sheathing surface and embed Total Wall Standard Reinforcing Mesh in the wet Total Guard BWB. Overlap runs of mesh approximately 2-1/2". Total Guard BWB thickness should be approximately 1/16". Allow to dry.
4. We recommend you specify one or two rows of ceramic tile be installed along the bottom of the wall at the floor interface.
5. Apply Total Wall Synthetic Finish in the color and texture selected over the Total Guard BWB. Allow to dry.
6. Apply one thin coat of Total Glaze 2000 (now also known as Total Glaze 6000) clear sealer over the Total Wall Finish Coat (approx 800-1000 sf per 5-gal unit coverage).

For additional technical assistance, you may call **TOTAL WALL** at 888-702-9917 or visit our website at www.TotalWall.com.

The **TOTAL WALL** Technical Department

Total Wall Distributor Assistance **Recapturing Profits and Efficiencies**

In this challenging economic environment, Total Wall is finding ways for our distributors to recapture profit margin.

Introducing the Base 3 Inventory and Tint Program

Several Total Wall Distributors have successfully switched from carrying two tint bases, Base 1 and Base 3, to carrying only one tint base, Base 3. What are the benefits of stocking and selling only Base 3?

The benefits are:

- 1) Reduced colorant consumption;
- 2) Simplified and reduced inventory requirements;

This saves money and increases profit margin and customer service capability. Total Wall is now making this program available to all our distributors.

How It Works

Base 3 is approximately 1/2 the tint strength of Base 1. All Base 3 colors receive the same color formula and colorant amount. All Base 1 colors use 1/2 the colorant going into Base 3. In essence, Total Wall Base 3 Finish will cover the full range of colors from white and pastels through mid-tone and into deep base colors. However, Base 3 cannot be used for ultra-deep or clear base accent colors. Those colors will require Base 4, or alternatively, the accent trim color Finish can be taped-off and painted with a water-based exterior acrylic flat paint in the accent color.

Special Notes and Comments

White and light colors in Base 3 will have less hiding power than the same colors using Base 1, especially with fine textures. Therefore, consider recommending a primer over the base coat in these instances or a few ounces of Kx per 5-gallon pail to gain more tint strength and whiteness.

Projects that were tinted to a specific color with Base 1 must not be switched to Base 3 in the middle of the project. Records should be kept so that repairs or additions will be receive the same Base and color formula for that project.

A separate color formula book from Total Wall with formulas for colors using Base 3 only, will be available. Tinting a Base 1 color in Base 3 by using 1/2 the colorant will product approximately the same color. However, remember, it is not an exact match.

Always have customers receive and approve a color sample panel before proceeding. Have the customer keep one and you keep a second sample panel.