



Teifs WEATHERTIGHT VNT (VERTICAL NOTCHED TROWEL) WALL SYSTEM

Application Guide

Warning

TEIFS offers a variety of wall systems that include weather barrier and drainage options, to better protect the wall assembly. TEIFS cannot be responsible for deterioration of the substrate, mold, mildew and wood rot due to water intrusion or entrapment from causes such as improperly installed windows; windows that leak at the miter joints, mullions, or through improperly installed glazing; improper flashing, lack of flashing or use of improper flashing materials; use of improper sealants; or inadequate specifications, details or installation of the TEIFS WALL SYSTEM. Sealants and flashing will also deteriorate over time if not maintained. Maintenance of the TEIFS WALL SYSTEM is required.

Teifs
Application Guide
for
TeifsWEATHERTIGHT VNT WALL SYSTEM

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This is a step-by step application manual for professional installation of TeifsWEATHERTIGHT VNT Exterior Insulation and Finish System. Teifs believes the applicator is the most important element in producing a quality and long lasting Finish System.

We have designed this manual to be highly informative, concise, and easy to follow. Teifs unsurpassed quality products, compiled with our licensed applicator program, provides owners with a combination unsurpassed in the Exterior Insulation and Finish System Industry.

Teifs Check List Prior to Installation

This section is intended as a checklist for the project manager, architect, and general contractor prior to the installation of the EIFS. Refer to TEIFS Installation Guidelines for examples of typical installations. It is not the responsibility of the EIFS installer to determine the proper installation for any materials other than the EIFS.

Job Conditions

- Ensure that the ambient temperature is above 4 °C (40 °F) until materials are dry.
- Teifs Finish Coat shall be protected from any type of contamination and from weather until it is dry.

Substrates

- Substrates should be clean, dry, structurally sound, unpainted, true to plane within 6.44 mm (1/4 in.) over a 1.22-m (4-ft.) radius and free of loose materials, voids, projections, etc. Teifs materials should not be applied to any surface that will hold water or is frozen.
- Sheathing should be securely fastened in accordance to the building codes and the manufacturer's instructions.
- TeifsWEATHERTIGHT VNTWall System shall be applied to the following substrates:
 1. Dens-Glass Gold Sheathing.
 2. Exterior Grade Gypsum Sheathing with regular or Type X core.
 3. Exterior Fiber Reinforced Cement Board.
 4. Unglazed Brick.
 5. Unit Masonry.
 6. Concrete which has been cured for at least 28 days.
 7. Portland Cement Plaster which contains no more than 10% lime.
 8. Minimum 1/2 inch 4-ply, APA Exposure 1, Grade C-D or better plywood with the C side or better facing the exterior. The plywood shall be installed according to APA guidelines and shall be plane to within a 1/4 inch over a 4-ft radius.
 9. Minimum 7/16 inch thick APA ratio exposure 1 Sheathing with 24/16 span rating installed according to APA Guidelines.

Flashing/Drainage

- Roofing
 1. Check roof to make sure it has proper drainage that runs away from the structure.
 2. Check that the metal roof flashing has been installed as set forth by the Asphalt Roofing Manufacturers Association (ARMA).
 3. Where required, be sure that run-off diverters have been installed. Examples are kick-outs, crickets and saddles. Pay close attention to eaves/chimney intersections, as well as sloped roof/wall intersections.
- Windows/Openings
 1. Flashing shall be installed as required by the architect/designer.
 2. Make sure all heads of openings have continuous flashing. If windows or doors do not have integral flashing, you must install a field-applied flashing.
 3. If you have windows that are ganged to make multiple units, make sure the heads are continuously flashed and the joints between the units are fully sealed.
- Decks
 1. Make sure wood decks are properly flashed.
 2. Ensure the system terminates above poured decks, patios, landings, etc. and make sure they are sloped to drain water away from the walls.

Utilities

- Make sure the system terminates properly at all light fixtures, outlets, hose bibs, etc.

Sealant

- Apply sealant at system perimeter and prepared joints to requirements of Section 07900 and manufacturer's written instructions, allowing Base Coat to cure at least 2 days before applying sealant.

Materials Needed for Teifs Weathertight VNT Installation

- Window Flashing: Flashing Tape/Primer
- Sheathing Joint reinforcement: Minimum 4" strips of reinforcing fabric
- Air/Weather Barrier: TeifsWEATHERSEAL
- Drainage Track: Extruded plastic trim with perforation on the bottom horizontal surface (combustible construction) or aluminum angle and metal lath (non combustible construction)
- Insulation Adhesive: TeifsBASE, TeifsBASE FR, TeifsBASE DB, TeifsADHEEZ
- Insulation Board: TeifsBOARD
- Basecoat: TeifsBASE, TeifsBASE FR, TeifsBASE DB, TeifsSTRUCTURE
- Reinforcing Mesh: TeifsMESH, TeifsMESH 6, TeifsMESH 12, TeifsMAT 15, TeifsMAT 20, TeifsBAKRAP, TeifsKORNERAP
- Waterproof Basecoat for Parapets and Sills: TeifsBASE STAYDRY
- Finish Coat: TeifsFLEX Cuarzo, Freedom, Tejas, Tejas Fine, Piedra Grande, Tuffstone, Earthstone
- Portland Cement, gray or white, fresh and lump free: Type I - II
- Clean, potable water
- Airseal: Optional per designer

Flashing/Drainage Track Installation

COMBUSTIBLE CONSTRUCTION

1. Starter Track:
 - a. Strike a level line at the base of the wall (foundations, sidewalks, roofs, soffits, opening heads) for either the top or bottom of the attachment flange of the track according to the project details and specifications.
 - b. Attach the PVC starter track into the structure a minimum of 300 mm (12 inches) on center with the proper fastener, depending on the framing or screwable sheathing.
 - c. Butt sections of starter track together. Miter cut outside corners and abut.
2. Flashing - Install flashing tape and flashing according to the project details and specifications.

NON COMBUSTIBLE CONSTRUCTION

1. Starter Track - PVC Starter Track may be applied at the base of the wall at the foundation ONLY as described above.
2. Openings: (See Detail VNT.203)

Option 1:

 - a. Install Flashing tape around openings according to the project details or TeifsWEATHERTIGHT VNT Installation Guidelines.
 - b. Install a 6" piece of aluminum angle with screws above openings. The angle should be 3 inches tall and deep enough to hold the thickness of the insulation board horizontally at a 90 degree angle. The horizontal length will depend on the thickness of the insulation board.
 - c. After the lamina is installed and allowed to thoroughly dry, drainage holes will be drilled through the lamina and into the aluminum angle creating a means of drainage.
 - d. Flashing - After the drainage holes are installed, additional flashing under the drainage holes may be installed.

Option 2:

See Page 3 for Non Combustible Option 2.

Secondary Weather Barrier Application Instructions

1. Apply Airseals (if applicable) per designer/architects instructions.
2. TeifsWEATHERSEAL:
 - a. Apply 4-inch strips of reinforcing fabric to all sheathing joints, inside and outside corners, and all exposed edges at terminations.
 - b. Embed 4-inch strips of minimum 4-oz Reinforcing mesh by applying TeifsWEATHERSEAL per application instructions to 4-inch of each side of the joints and embed the reinforcing mesh with a stainless steel trowel so that the color of the mesh is not visible.

- c. Apply TeifsWEATHERSEAL to the entire surface of the substrate with a stainless steel trowel to a minimum thickness of 1.6-mm (1/16-inch).
3. Ensure that the TeifsWEATHERSEAL laps onto all tracks and flashing to allow for any water to be drained into the tracks/flashing and out of the wall.

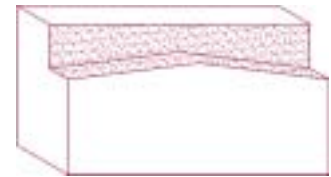
Teifs Insulation Board Installation Instructions

1. Apply TeifsBAKRAP at all terminations (windows, doors, etc.) that do not terminate with drainage or starter tracks.
2. Mixing:
 - a. TeifsBASE and TeifsBASE FR: Mix with Type I - II Portland Cement 1:1 ratio by weight.
A small amount of potable water may be added.
 - b. After mixing set aside for 10 minutes and re-mix adding a small amount of water to improve workability.
This step is critical in obtaining pot life.
- OR -
 - a. TeifsBASE DB: Place 5 quarts of clean, cool water into a clean mixing container. Slowly add the 50-pound bag of TeifsBASE DB to the water while mixing to a creamy consistency.
 - b. After mixing, set aside for 10 minutes and re-mix adding a small amount of water to improve workability.
This step is critical in obtaining pot life.
- OR -
 - a. TeifsADHEEZ: A small amount of potable water may be added.
3. Apply Teifs Base Coat to the backside of the Insulation Board using a 3/8-inch notched trowel. Apply the base coat in vertical notches on the back side of the insulation board.
4. Immediately install TeifsBOARD on the substrate.
 - a. Do not allow the Teifs Base Coat mixture to form a skin on the Insulation Board before installation.
 - b. Immediately apply the insulation board to the surface. DO NOT slide it across the surface so as to maintain the notches of adhesive. Apply firm pressure over the entire board surface to ensure uniform contact.
 - c. Install in a running bond pattern beginning at the base of the wall and make sure the corners are straight and plumb and all inside and outside corners shall be interlocked.
 - d. "L" shaped pieces of Insulation Board shall be used at corners of openings.
5. Joints between Insulation Board shall be tight with no gaps. If gaps occur at intersections of Insulation Board, slivers of insulation shall be used to fill gaps. DO NOT USE BASE COAT TO FILL GAPS IN THE INSULATION BOARD. THE SURFACE WILL CRACK.
6. Allow the adhesively applied Insulation Board to dry at least 12 hours before proceeding.
7. Once Insulation Board is in place and adhesive has cured, the surface shall be rasped smooth so that all planer irregularities are removed.
8. Install aesthetic joints at this time ensuring that 3/4 inch of flat insulation Board is left at the base of the joint.

Teifs Insulation Board Installation

NON COMBUSTIBLE CONSTRUCTION

1. Back wrap or Edge-wrap reinforcing mesh at the opening head.
2. Cut a solid piece of insulation board at a width, wider than the opening head.
3. Route/Cut the back top of the board at an angle as shown, (right).
4. Coat this section with TeifsWEATHERSEAL
5. Allow to dry and then adhesively install at the heads of openings and base of walls other than foundation (at soffits, roofs).
6. Install the applicable insulation board above and around the solid opening head piece, as specified above.



NOTE: The insulation board must be a minimum of 1" thick for a minimum 1/4" groove cut into the back allowing for 3/4" of flat insulation board. A thicker groove will require thicker EPS.

Teifs Base Coat / Reinforcing Mesh Application Instructions

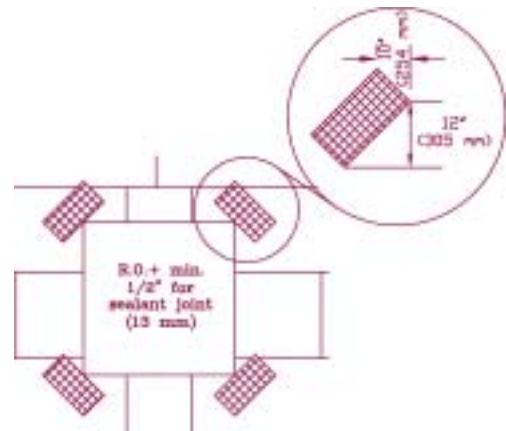
1. Mixing:
 - a. TeifsBASE, TeifsBASE FR, TeifsBASE DB : As described for Insulation board installation.
- OR -
 - a. TeifsSTRUCTURE: Mix to a smooth, homogeneous consistency. A small amount of potable water may be added.
2. Increased impact resistance: Use TeifsMAT 15 or 20 which shall be applied prior to TeifsMESH
 - a. Apply Base Coat to areas specified to receive TeifsMAT 15 or 20 and embed mesh using a "T" stroke.
 - b. The TeifsMAT shall be butted together and not overlapped, as this will result in a ridge in the lamina.
 - c. Allow the TeifsMAT/Base Coat lamina to cure a minimum of 24-hours.
 - d. Apply TeifsMESH to the entire wall surface overlapping any joints 2-1/2 inches and 4-inches at inside/outside corners according to instructions below and in TeifsWEATHERTIGHT Application Guide. All outside corners shall have two layers of TeifsMESH or TeifsKORNERRAP.
3. TeifsMesh
 - a. Apply Base Coat to the Insulation Board using a stainless steel trowel to a uniform thickness of approximately 1.6-mm (1/16 inch).
 - b. Embed TeifsMESH for standard impact resistance. The reinforcing mesh shall be embedded such that the color of the reinforcing mesh is not visible. Take care to avoid cutting or creating wrinkles in the mesh.
 - c. The edges of the Insulation Board shall be edge wrapped with Teifs Base Coat and TeifsBAKRAP.
 - d. Once the reinforcing mesh is installed, there should be no area where Insulation Board is visible.
 - e. A damp brush may be used to flatten the areas where trowel marks are difficult to smooth out over the embedded mesh in the wet TeifsBASE.
 - f. Smooth any rough edges and apply more TeifsBASE to ensure that the mesh color is not visible.
 - g. Allow the reinforced Base Coat to cure for a minimum of 12 hours.
4. Non-Combustible Construction
 - Option 1:*
 - a. At the heads of openings and bases of walls other than the foundation (at soffits, roofs) where the aluminum angle has been installed, the base coat and mesh should be wrapped under the angle and fully encapsulate it.
 - b. The finish will then be installed.
 - c. After the Finish has dried to the touch, 1/8" diameter holes are drilled as shown on the installation guidelines every 12" o.c.

Option 2:

Install according to typical application.

NOTE:

Corners of openings (i.e. windows, doors) shall be strengthened with diagonal patches of TeifsBAKRAP Mesh embedded on surface of foam.



Teifs Finish Coat Application Instructions

1. Mix Teifs Finish Coat thoroughly until a workable consistency is achieved. Do not overmix as this may cause air entrapment. A small amount of water may be added to improve workability. Always add the same amount of water to each pail to ensure consistent color and texture.
2. Apply the Teifs Finish Coat over the Reinforced Base Coat using a stainless steel trowel. Cuarzo and Piedra Grande finish shall be installed and leveled to a uniform thickness no greater than the largest aggregate. Tejas and Tejas Fine shall be applied at a thickness of 1 to 1-1/2 times the aggregate size.
3. Avoid applying finish in direct sunlight.
4. Texture is achieved by a uniform trowel motion to match the approved sample. All finishes should be installed continuously, maintaining a wet edge to prevent cold joints.
5. Do not introduce water to the wall before finish coat is dry, as this may affect color consistency. Each mechanic must use the same tools and motion to ensure a consistent texture. Remember, texture is color and color is texture.

NOTES:

Do not apply Teifs Finish into any moving joint to receive sealant. Certain static joint applications utilizing fillet bead caulking may be applied to the finish coat. See the TeifsWEATHERTIGHT VNT Installation Guidelines for examples.

TeifsFLEX Finishes may also be installed over concrete, masonry, or unpainted stucco. Contact Texas Wall System for application details.

Teifs Repair Procedures

Should the TeifsWEATHERTIGHT VNT Wall System be damaged, it may be repaired easily by following these steps:

1. Remove all damaged areas of the TeifsWEATHERTIGHT VNT Wall System exposing the substrate.
2. Take off an additional area, approximately 3 inches of the TeifsFLEX Finish, around the area to be repaired. This is accomplished by using a disk grinder or belt sander to remove the finish.
3. Cut a piece of TeifsBOARD to fit snugly into the hole and attach it to the substrate using TeifsBASE.
4. Rasp the Insulation Board to ensure it is flush with the surrounding insulation.
5. Cut Reinforcing Mesh to cover the repair. Extend the Mesh to cover a minimum of 2 inches onto existing Reinforced Base Coat.
6. Embed Reinforcing Mesh in TeifsBASE. Surface should be as flat and smooth as possible.
7. Allow Base Coat to cure a minimum of 12 hours. Sand off any irregularities.
8. Apply TeifsFLEX Finish being sure to feather edges of patched area to blend into existing finish.
9. A slight color variation will be noticeable between the patched area and the original wall. Over time, this difference should diminish.

FOR ADDITIONAL INFORMATION, CONTACT YOUR TEIFS DISTRIBUTOR.

WARNING:

This product is a component part of a complete TEIFS WALL SYSTEM. Specifications require that only approved, trained or otherwise knowledgeable applicators install such systems. TEIFS cannot be responsible for deterioration of the substrate, mold, mildew and wood rot due to water intrusion or entrapment from causes such as improperly installed windows; windows that leak at the miter joints, mullions, or through improperly installed glazing; improper flashing, lack of flashing or use of improper flashing materials; use of improper sealants; or inadequate specifications, details or installation of the TEIFS WALL SYSTEM. Sealants and flashing will also deteriorate over time if not maintained. Maintenance of the TEIFS WALL SYSTEM is required. No exterior insulation finish system should be installed on a residential project, (or any other projects as required by the applicable model code), without providing for a secondary weather resistant barrier.



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