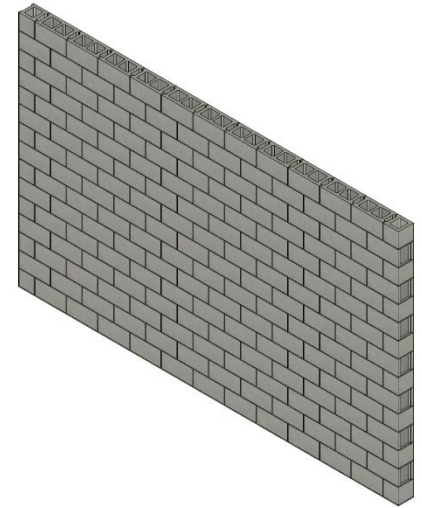


ProGUARD DP® Installation Guide (CMU or Concrete Substrate)

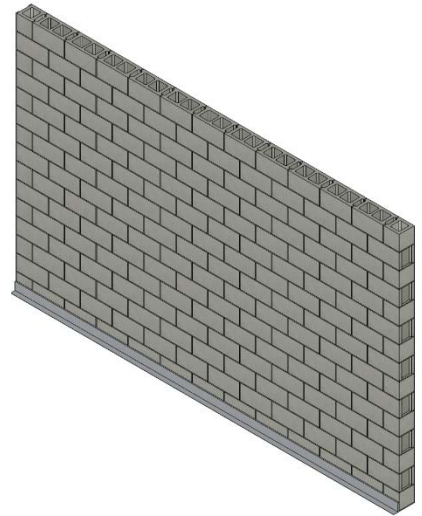
Step 1: Inspect Concrete Walls

The substrate can be comprised of poured-in place concrete or concrete block (CMU). Ensure these walls are plumb prior to installation. Ensure these substrates are free of dust and debris. Deflection criteria for substrate should be L/600 (L/720 preferred).



Step 2: Base Wall Flashing/Panel Support

Install 16-gauge steel flashing/panel support (ideally prefinished or with a G-90 coating) at the base of walls, above wall openings, and at deflection joints in the concrete wall assembly. Attach the steel flashing at 16" O.C. back to the solid substrate behind, using the same screws used to attach the ProGUARD DP® insulated concrete panels (shorter versions of the same screws). The steel flashing should extend 4" up the wall and the horizontal leg should project approximately ½" beyond the face of the ProGUARD DP® insulated concrete panel face (i.e. depth of the horizontal leg is based on the thickness of the ProGUARD DP® insulated concrete panels plus ½"). If the panels are resting on the foundation ledge or 16-gauge steel flashing/panel support is used, then this would be a ProGUARD DP® **"supported panel application"** (i.e. base of ProGUARD DP® is supported from underneath in addition to the support provided by the screws)

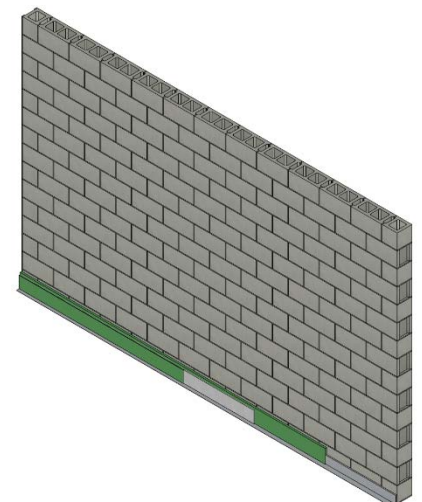


16-gauge steel flashing/panel support does not have to be utilized. If not used, then this would be a ProGUARD DP® **"unsupported panel application"**. In this case, more screws with a tighter screw spacing may be required to fasten the ProGUARD DP® insulated concrete panels to the substrate. In either case, the engineer of record should provide this information by referring to NTA Report TRIG030116-28.

Step 3: Base Wall Flashing

Apply a liberal coat of Laticrete Air & Water Barrier (Vapor Retarder Material) up the vertical leg of the steel flashing/panel support and up the wall a few inches and then embed the Laticrete Waterproofing/Anti-Fracture Fabric into it ensuring to cover the top edge of the steel flashing/panel support. Once the Anti-Fracture Fabric is applied, apply another liberal coat of Laticrete Air & Water Barrier over the Anti-Fracture Fabric and steel flashing/panel support and allow it all to cure per Laticrete's recommendations.

Alternatively, apply a liberal coat of ProGUARD DP® Water Armor Air and Water Barrier (Air Barrier Material that is vapor permeable) or Water Armor VB (Vapor Barrier Material) up the vertical leg of the steel flashing/panel support and up the wall a few inches and then embed the ProGUARD DP® Water Armor Flashing Tape into it ensuring to cover the top edge of the steel flashing/panel support. Once the tape is applied, apply another liberal coat of ProGUARD DP® Water Armor Air and Water Barrier or Water Armor VB over the flashing tape and steel flashing/panel support and allow it all to cure per T-Clear's recommendations.



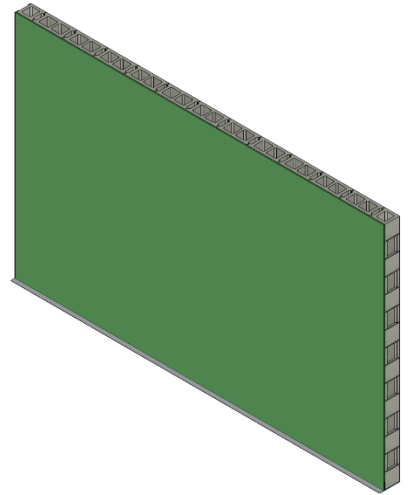
In either case, properly seal around any penetrations or openings such as recesses, chases, pipes, door and window openings etc... Refer to the respective waterproofing membrane instructions for methods to achieve proper seals.

ProGUARD DP® Installation Guide (CMU or Concrete Substrate)

Step 4: Install Air & Water Barrier

Apply two coats of Laticrete Air and Water Barrier (Vapor Retarder Material) over the entire surface of the wall and steel flashing/panel support. Follow manufacturer’s instructions for proper application.

Alternatively, if using ProGUARD DP® Water Armor Air and Water Barrier (Air Barrier Material that is Vapor Permeable) or Water Armor VB (Vapor Barrier Material) apply two coats of the Water Armor Air and Water Barrier or Water Armor VB over the entire surface of the wall and steel flashing/panel support. Follow manufacturer’s instructions for proper application.



Step 5: Install First ProGUARD DP® Insulated Concrete Base Weep Panel

Install first ProGUARD DP® Base Weep Panel onto the foundation wall or steel flashing/panel support. Panels are typically set with the 8’-0” dimension in the horizontal direction on the wall, although in certain instances it may be prudent to stand the panels up vertically (pilasters, columns etc...). ProGUARD DP® panels can be installed horizontally or vertically, as the drainage planes will function in either direction.

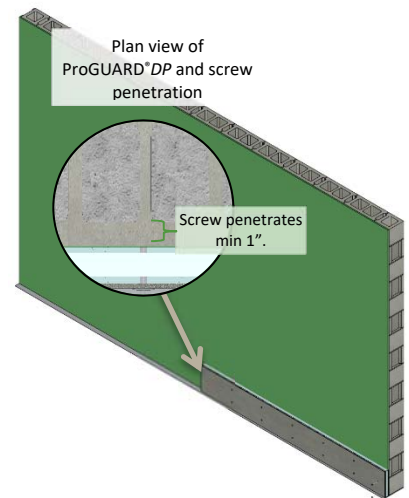
Engineer of record should select ProGUARD DP® Silver C screws and screw spacing using NTA Report TRIG030116-28. Screw spacing will be dependent on supported or unsupported panel applications, weight of the thin adhered masonry veneer or stucco application, insulation thickness, wind pressure, and wind speed. When fastening the ProGUARD DP® panels, the screw heads should not break the outer embedded mesh of the concrete board.

Ensure screw length selected allows for a minimum of 1” penetration into the concrete structural back-up. Calculation for minimum screw length:

$$\text{ProGUARD DP® Panel Thickness} + 1''$$

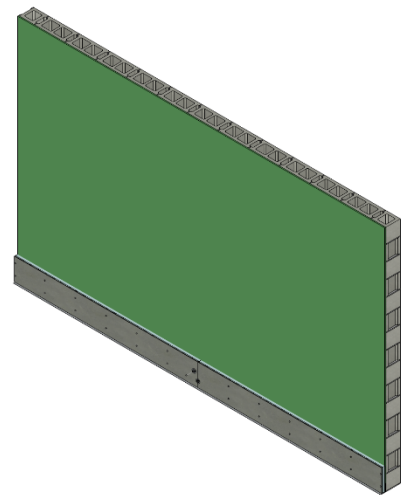
(select next longest standard fixed screw length)

Please call Arriscraft Technical Services if there are any questions about the screws or screw spacing. Only use approved ProGUARD DP® Silver C screws and do not substitute with any other screw as this will void the warranty.



Step 6: Install Remaining ProGUARD DP® Base Weep Panels

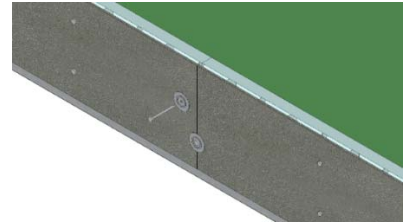
Install second ProGUARD DP® Base Weep Panel (following similar procedures to the first). Continue in the same fashion along the base of the wall until all Base Weep Panels are installed.



ProGUARD DP® Installation Guide (CMU or Concrete Substrate)

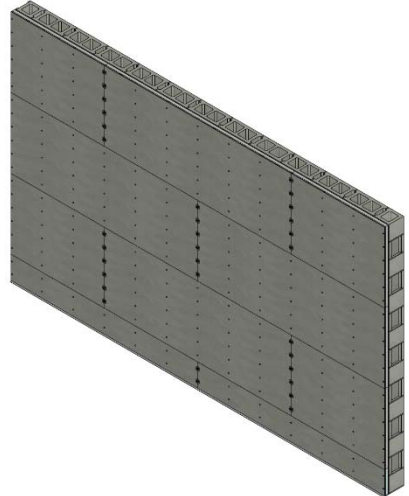
Step 7: Screws at Panel Joints

ProGUARD DP® Silver C screws and Silver C Non-Barb Plate Washers should be utilized at the vertical panel joints. When fastening the ProGUARD DP® panels, the screw heads and washers should not break the outer embedded mesh of the concrete board.



Step 8: Install Remaining ProGUARD DP® Panels

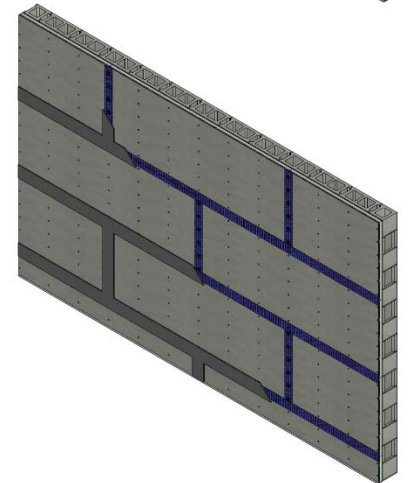
Once the ProGUARD DP® Base Weep Panels are installed the first row of ProGUARD DP® panels can be installed above, offsetting the vertical panel joints in increments of at least 16" minimum (i.e. 16", 32", 48" etc...). The drainage grooves do not need to be aligned.



Step 11: Concrete Board Panel Joint Treatment

Once all ProGUARD DP® panels are installed, treat all joints between panels with the self-adhering 4" wide alkali-resistant mesh tape. Apply tape across all joints (2" on either side of joint), pressing firmly to ensure adhesion to substrate. Spread a thin coat of Laticrete Bonding Mortar over the alkali resistant mesh tape. Allow Laticrete Bonding Mortar to fully cure.

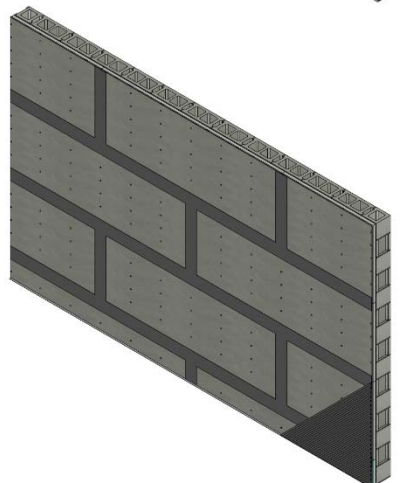
Continue this process until all the joints between all ProGUARD DP® panels have been treated, including at corners, opening jambs, sills, and headers etc... Allow Laticrete Bonding Mortar to fully cure.



Step 12: Adhered Veneer Substrate Preparation

Ensure installed ProGUARD DP® insulated concrete panels are free of dust and debris. Using a notched trowel, spread Laticrete Bonding Mortar across ProGUARD DP® panels and ensuring to burn the mortar into the concrete board surface. Pull notched side of the trowel across mortar to create a grooved surface and to gauge the mortar thickness. Notched trowel selection is dependent on the material being installed and the tolerances on the substrate. Apply only a workable area of mortar that will allow stone to be properly set before surface drying occurs. This area will vary depending on site environmental conditions.

NOTE: Do not substitute Laticrete Bonding Mortars with any other product or material unless Arriscraft Technical Services has been consulted.

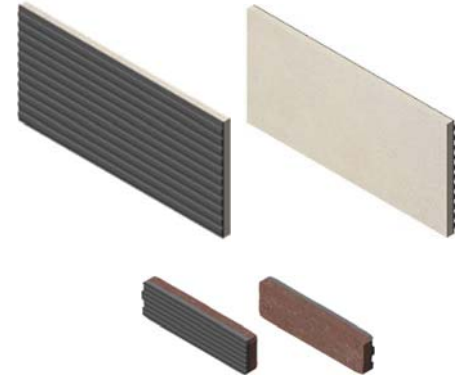


ProGUARD DP® Installation Guide (CMU or Concrete Substrate)

Step 13: Prepare Thin Adhered Masonry Veneer

Clean unit backs of any dust, laitance, loose material and any excess film that could impede bond. With the point trowel “back-butter” the thin-adhered units with Laticrete Bonding Mortar (select appropriate bonding mortar for the application, refer to checklists below), ensuring to burn the mortar into the back of the units and filling any surface irregularities. Pull notched side of the trowel across mortar to create a grooved surface and to gauge the mortar thickness. Notched trowel selection is dependent on the material being installed and the tolerances of the substrate. Be sure to achieve 100% coverage with the mortar.

NOTE: Do not substitute Laticrete Bonding Mortars with any other product or material unless Arriscraft Technical Services has been consulted.

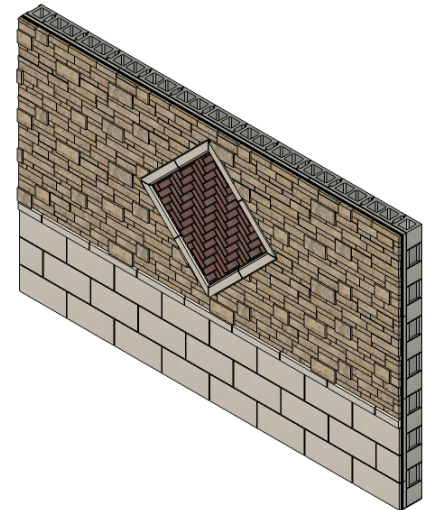


Step 14: Install Thin Adhered Masonry Veneer

Begin with the corner pieces and bring the two still wet mortar surfaces together (back buttered units and mortar on the wall as this is in part what creates the incredible bond strengths). Press the corner piece onto the wall, rotating back and forth slightly. This process should force some of the mortar to “squeeze out” and work out any air gaps in the mortar. Remove any excess mortar with a square flat trowel and use the excess on the next piece of thin-adhered masonry.

After the corner pieces are installed, apply flat stretcher pieces starting at an outside corner unit and working your way in. Set the stretcher units by placing it on the ledger, steel flashing/panel support, or the units that were installed below. Once set on the wall push the unit into the mortar and up and at an angle and then return it back to the desired position. This process should force some of the mortar to “squeeze out” and work out any air gaps in the mortar. Remove any excess mortar with a square flat trowel and use the excess on the next unit. Remove excess mortar droppings from the veneer face with a clean wet sponge and a stiff fibre brush. Check for 100% mortar coverage by removing ten brick units, 4 ARRIS-tile, natural stone, or porcelain tile units, 8 manufactured stone units from the wall per bag of mortar used to check that no voids exist. Reinstall removed units.

Once the Laticrete Bonding Mortar has cured then use the Laticrete Pointing Mortar to point the joints between the individual units as required. Place pointing mortar into a grout bag or grout gun and squeeze the grout into the joints between the thin-adhered masonry units. Once the mortar is thumbprint hard, tool the joints to a concave or raked finish depending on the desired joint finish ensuring to push the mortar into the joint during this process to force the mortar against the adhered veneer units. Allow the wall to cure.



ProGUARD DP® Installation Guide (CMU or Concrete Substrate)

Checklist for Placing a Supported ProGUARD DP® Panel Order		
Materials Required	Approximate Coverage/Size (if applicable)	Notes
<input type="checkbox"/> Laticrete Waterproofing Anti-Fracture Fabric <u>or</u> ProGUARD DP® Water Armor Flashing Tape	Laticrete - 6" x 75'-0" (can be used as flashing in combination with Laticrete Air and Water Barrier) Water Armor - 4", 6", or 9" x 180'-0" (can be used as flashing in combination with Water Armor Air and Water Barrier or Water Armor VB)	
<input type="checkbox"/> Laticrete Air and Water Barrier (an Air and Water Barrier that is a Vapor Retarder with a perm rating of 0.157) <u>or</u> Water Armor Air and Water Barrier (an Air and Water Barrier that is Vapor Permeable with a perm rating of 30) <u>or</u> Water Armor VB (a Vapor Barrier with a perm rating of 0.07)	250 sq. ft. with 2 coats for any option	
<input type="checkbox"/> 16 Gauge Steel Flashing/Panel Support (supplied by others)	N/A	
<input type="checkbox"/> ProGUARD DP® Base Weep Panels (for base of walls, at deflection joints, over openings etc...)	8 sq. ft. (or 8'-0" lineal feet)	
<input type="checkbox"/> ProGUARD DP® Panels	24 sq. ft.	
<input type="checkbox"/> ProGUARD DP® Silver C Screws – remember to order screws for attaching the ProGUARD DP® panels as well as the shorter versions of the screws for attaching the 16 Gauge Steel Flashing/Panel Support if they are being incorporated into the design.	Dependent on required spacing and determined by the engineer of record. Sold in full box quantities Screw length should ensure a minimum 1" embedment into concrete (i.e. ProGUARD DP® thickness plus 1" – select next longest standard fixed screw length)	Assume 50 screws per ProGUARD DP® panel and 20 screws per Base Weep Panel (BWP)
<input type="checkbox"/> ProGUARD DP® Silver C Non-Barb Plate Washers (Galvanized)	100 or 1000 Count boxes (dependent on required spacing of screws)	Assume 7 washers per ProGUARD DP® panel and 2 washers per Base Weep Panel (BWP)
<input type="checkbox"/> Alkali Resistant Mesh Tape Rolls	4" x 150'-0" (covers the joints of approximately 13 full 3'-0" x 8'-0" ProGUARD DP® panels)	Does not account for windows, ProGUARD DP® panels that have been cut etc... Double quantities
<input type="checkbox"/> Thin Masonry Veneer Material (stretchers, corners, custom profiles)	Dependent on selected material	
<input type="checkbox"/> Laticrete Bonding Mortar (select appropriate one): 1) Laticrete Hi-Bond Masonry Veneer Mortar for ARRIS-tile, Porcelain tile, ceramic tile natural stone tile, <u>or</u> 2) Laticrete Masonry Veneer Mortar for manufactured stone and thin natural building stone, <u>or</u> 3) Laticrete Thin-Brick Mortar for thin brick, Midtown, Coastal and Stack	25 sq. ft. 25 sq. ft. 25 sq. ft.	
<input type="checkbox"/> Shims (to help with proper install and keep stone and joints level as material is installed and to maintain joint spacing): 1) 1/16" (100 per bag) 2) 1/8" (100 per bag) 3) 1/4" (100 per bag) 4) 3/8" (30 per bag)	Order shim thickness that is appropriate for the joint widths for the masonry material being installed. Exception to that rule, we recommend 1/16" and 1/8" shims be used with Stack and Midtown when installing them with tight joints.	
<input type="checkbox"/> Laticrete Pointing Mortar to point the joints (if required)	Dependent on selected material	
<input type="checkbox"/> Laticrete Latasil Silicone Sealant for sealing movement joints and joints around openings such as windows and doors, as well as penetrations like pipes and fittings etc... (don't forget the backer rod in the joint prior to installing the silicone)	Dependent on Joint width to be sealed	

ProGUARD DP® Installation Guide (CMU or Concrete Substrate)

Checklist for Placing an Unsupported ProGUARD DP® Panel Order		
Materials Required	Approximate Coverage/Size (if applicable)	Notes
<input type="checkbox"/> Laticrete Waterproofing Anti-Fracture Fabric <u>or</u> ProGUARD DP® Water Armor Flashing Tape	Laticrete - 6" x 75'-0" (can be used as flashing in combination with Laticrete Air and Water Barrier) Water Armor - 4", 6", or 9" x 180'-0" (can be used as flashing in combination with Water Armor Air and Water Barrier or Water Armor VB)	
<input type="checkbox"/> Laticrete Air and Water Barrier (an Air and Water Barrier that is a Vapor Retarder with a perm rating of 0.157) <u>or</u> Water Armor Air and Water Barrier (an Air and Water Barrier that is Vapor Permeable with a perm rating of 30) <u>or</u> Water Armor VB (a Vapor Barrier with a perm rating of 0.07)	250 sq. ft. with 2 coats for any option	
<input type="checkbox"/> ProGUARD DP® Base Weep Panels (for base of walls, at deflection joints, over openings etc...)	8 sq. ft. (or 8'-0" lineal feet)	
<input type="checkbox"/> ProGUARD DP® Panels	24 sq. ft.	
<input type="checkbox"/> ProGUARD DP® Silver C Screws	Dependent on required spacing and determined by the engineer of record. Sold in full box quantities Screw length should ensure a minimum 1" embedment into concrete (i.e. ProGUARD DP® thickness plus 1" – select next longest standard fixed screw length)	Assume 50 screws per ProGUARD DP® panel and 20 screws per Base Weep Panel (BWP)
<input type="checkbox"/> ProGUARD DP® Silver C Non-Barb Plate Washers (Galvanized)	100 or 1000 Count boxes (dependent on required spacing of screws)	Assume 7 washers per ProGUARD DP® panel and 2 washers per Base Weep Panel (BWP)
<input type="checkbox"/> Alkali Resistant Mesh Tape Rolls	4" x 150'-0" (covers the joints of approximately 13 full 3'-0" x 8'-0" ProGUARD DP® panels)	Does not account for windows, ProGUARD DP® panels that have been cut etc... Double quantities
<input type="checkbox"/> Thin Masonry Veneer Material (stretchers, corners, custom profiles)	Dependent on selected material	
<input type="checkbox"/> Laticrete Bonding Mortar (select appropriate one): 5) Laticrete Hi-Bond Masonry Veneer Mortar for ARRIS-tile, Porcelain tile, ceramic tile natural stone tile, <u>or</u> 6) Laticrete Masonry Veneer Mortar for manufactured stone and thin natural building stone, <u>or</u> 7) Laticrete Thin-Brick Mortar for thin brick, Midtown, Coastal and Stack	25 sq. ft. 25 sq. ft. 25 sq. ft.	
<input type="checkbox"/> Shims (to help with proper install and keep stone and joints level as material is installed and to maintain joint spacing): 4) 1/16" (100 per bag) 5) 1/8" (100 per bag) 6) 1/4" (100 per bag) 8) 3/8" (30 per bag)	Order shim thickness that is appropriate for the joint widths for the masonry material being installed. Exception to that rule, we recommend 1/16" and 1/8" shims be used with Stack and Midtown when installing them with tight joints.	
<input type="checkbox"/> Laticrete Pointing Mortar to point the joints (if required)	Dependent on selected material	
<input type="checkbox"/> Laticrete Latasil Silicone Sealant for sealing movement joints and joints around openings such as windows and doors, as well as penetrations like pipes and fittings etc... (don't forget the backer rod in the joint prior to installing the silicone)	Dependent on Joint width to be sealed	