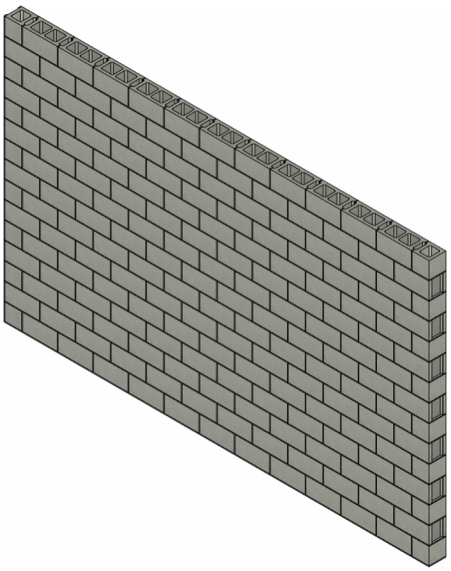
Arriscraft®

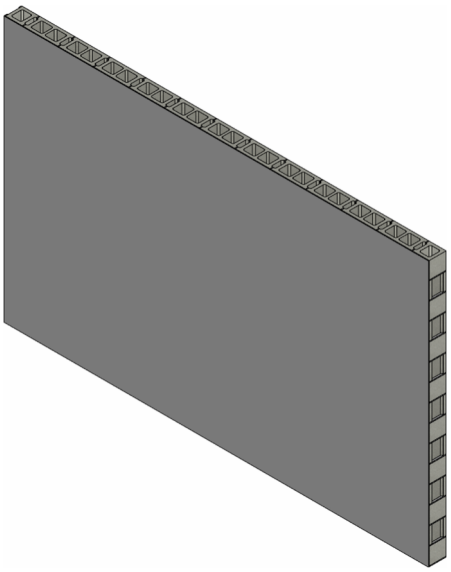
ProGUARD *DP*® Installation Guide (CMU or Concrete Substrate)

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: Install Air & Water Barrier

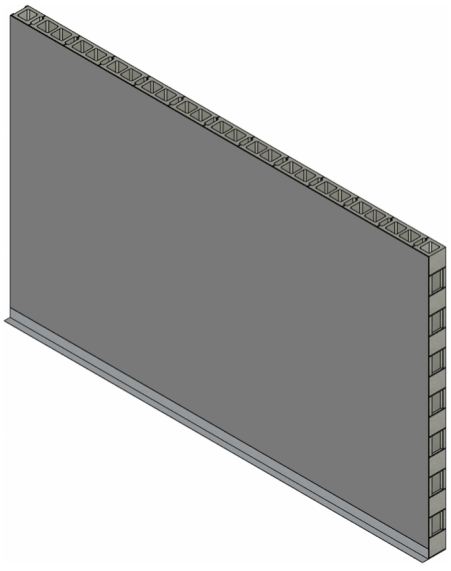


Apply the required number of coats of ProGUARD *DP*® Water Armor Air and Water Barrier (Vapor Permeable) or Water Armor VB (Vapor Retarder/Barrier) over the entire surface of the concrete substrate. Follow T.Clear's instructions for proper application and number of coats.

or

Apply the required number of coats of Laticrete Air and Water Barrier (Vapor Retarder) or Laticrete Air Barrier C3 (Vapor Permeable) over the entire surface of the concrete substrate. Follow Laticrete's instructions for proper application and number of coats.

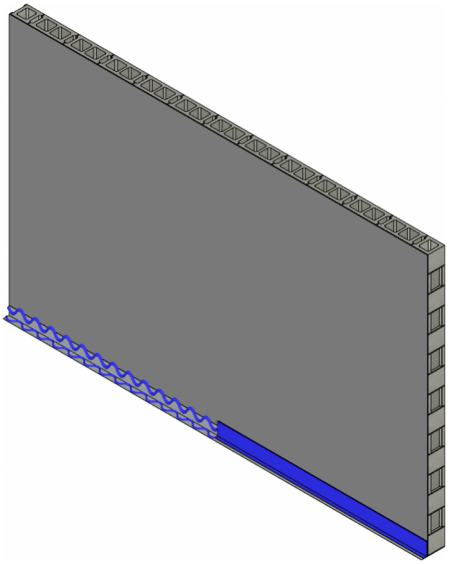
Step 3: Base Wall Flashing/Panel Support



Install 16-gauge steel flashing/panel support **(supplied by others)**, ideally prefinished or with a G-90 coating at the base of walls, above wall openings, and at deflection joints in the 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 ProGUARD *DP*® Silver C 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 4: Base Wall Flashing



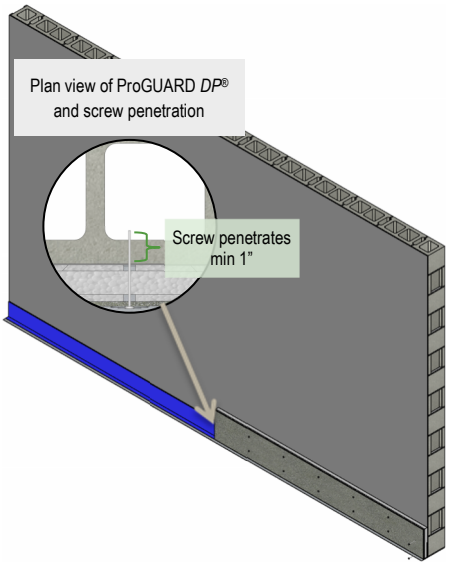
Apply T.Clear Water Armor LF using a sausage gun and squeeze a generous amount of the flashing material on to the horizontal and vertical legs of the steel flashing/panel support and up the wall a few inches and then spread/flatten over the surface with a plastic putty knife ensuring proper coverage and all elements are completely sealed. Alternatively, apply a liberal coat of ProGUARD *DP*® Water Armor Air and Water Barrier (Vapor Permeable) or Water Armor VB (Vapor Retarder/Barrier) 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.

or

Apply Laticrete Flashing Sealant using a sausage gun and squeeze a generous amount of the flashing material on to the horizontal and vertical legs of the steel flashing/panel support and up the wall a few inches and then spread/flatten over the surface with a plastic putty knife ensuring proper coverage and all elements are completely sealed. Alternatively, apply a liberal coat of Laticrete Air & Water Barrier (Vapor Retarder) or Laticrete Air Barrier C3 (Vapor Permeable) 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 or Laticrete Air Barrier C3 over the Anti-Fracture Fabric and steel flashing/ panel support and allow it all to cure per Laticrete's recommendations.

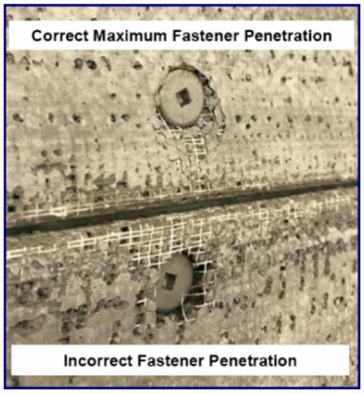
Regardless of the method being used, properly seal around any penetrations or openings such as recesses, chases, pipes, door and window openings etc… Refer to the respective waterproofing membrane instructions for methods to achieve proper seals.

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. Predrilling pilot holes through the ProGUARD *DP*® panels into the concrete substrate is required prior to installing the screw. 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:

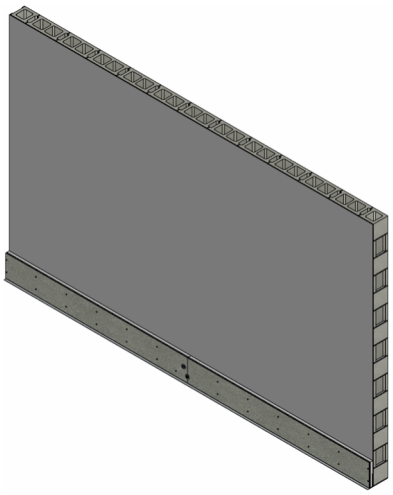
ProGUARD DP® Panel Thickness + 1"
(select next longest standard fixed screw length)

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

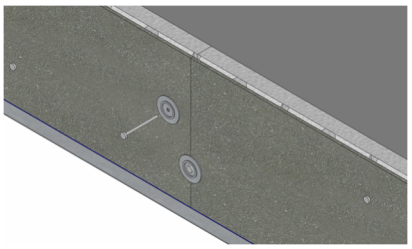
Install second ProGUARD *DP*® Base Weep Panel (following similar procedures to the first). Continue in the same fashion along the base of the wall, above openings, and floor deflection spaces (i.e. base of wall conditions) until all Base Weep Panels are installed.



Step 7: Screws at Panel Joints

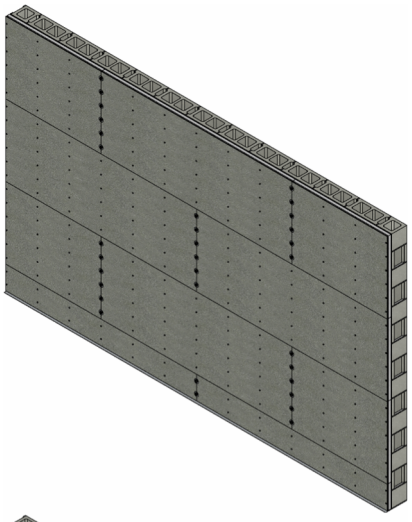
ProGUARD *DP*® Silver C screws in combination with Silver C Non-Barb Plate Washers should be utilized at the vertical panel joints only. When fastening the ProGUARD *DP*® panels, the screw heads and washers should not break the outer embedded mesh of the concrete board.

NOTE: WASHERS ARE ONLY TO BE USED IN COMBINATION WITH THE SCREWS IN THE VERTICAL JOINTS BETWEEN PANELS. WASHERS USED IN ANY OTHER LOCATION WITHIN THE ASSEMBLY WILL VOID THE PRODUCT SPECIFIC MATERIAL AND SYSTEM WARRANTIES.



Step 8: Install Remaining ProGUARD *DP*® Panels

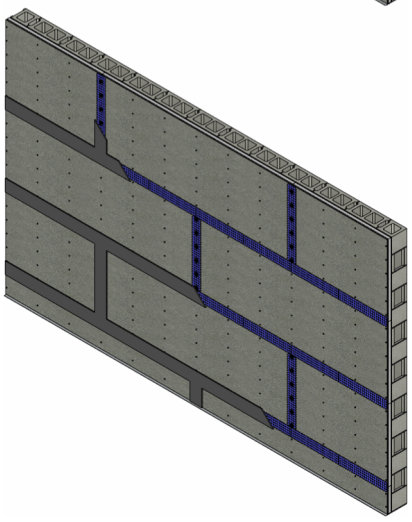
Once the ProGUARD *DP*® Base Weep Panels are installed the first row of ProGUARD *DP*® panels can be installed above, offsetting the vertical panel joints in increments of at least 16” minimum (i.e. 16”, 32”, 48”, etc…). The drainage grooves do not need to be aligned.



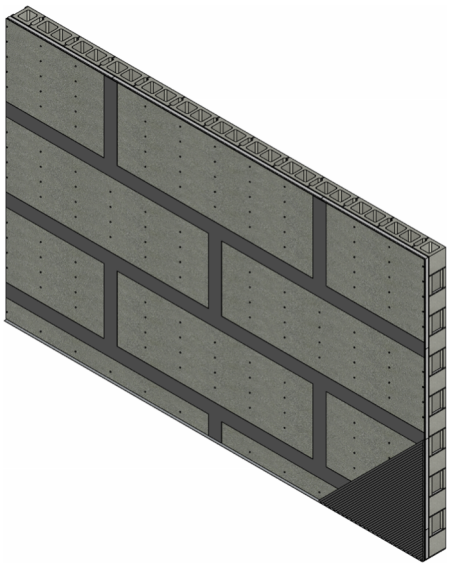
Step 9: Concrete Board Panel Joint Treatment

Once all ProGUARD *DP*® panels are installed, treat all joints between panels with the **BLUE** 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 T.Clear Total Bond or Laticrete Bonding Mortar (select appropriate bonding mortar for the application, refer to checklists below) over the alkali resistant mesh tape. Allow 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 bonding mortar to fully cure.



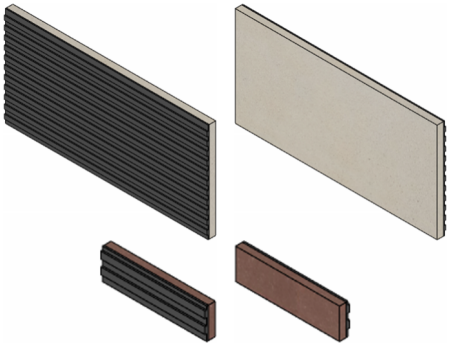
Step 10: Adhered Veneer Substrate Preparation



Ensure installed ProGUARD *DP*® insulated concrete panels are free of dust and debris. Using a notched trowel, spread T.Clear Total Bond or Laticrete Bonding Mortar across ProGUARD *DP*® panels and ensuring to burn the mortar into the concrete board surface. Pull the 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 substrate tolerances. Apply only a workable area of mortar that will allow stone/brick/ masonry to be properly set before surface drying occurs. This area will vary depending on site environmental conditions.

NOTE: Do not substitute T.Clear Total Bond or Laticrete Bonding Mortars with any other products or materials unless Arriscraft Technical Services has been consulted.

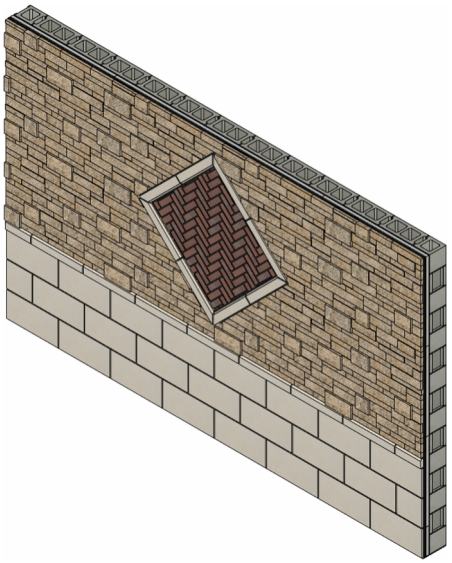
Step 11: Prepare Thin Adhered Masonry Veneer



Clean unit backs of any dust, laitance, loose material and any excess film that could impede bond. "Back-butter" the thin-adhered units with T.Clear Total Bond or Laticrete Bonding Mortar, 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 T.Clear Total Bond or Laticrete Bonding Mortars with any other products or materials unless Arriscraft Technical Services has been consulted.

Step 12: 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 re-turn 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. Rein-stall removed units.

Once the bonding mortar has cured then use Laticrete Pointing Mortar or a Type "N" 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.

Checklist for Placing a Supported or Unsupported ProGUARD *DP*® Panel Order

	Materials Required	Approximate Coverage/Size (if applicable)	Notes
☐	Water Armor LF **or** ProGUARD *DP*® Water Armor Flashing Tape **or** Laticrete Flashing Sealant **or** Laticrete Waterproofing Anti-Fracture Fabric	16 lin. ft. 180 lin. ft. 16 lin. ft. 75 lin. ft.	Can be used as flashing in combination with Water Armor waterproofing. Can be used as flashing in combination with Laticrete waterproofing.
☐	Water Armor Air and Water Barrier (Air and Water Barrier that is Vapor Permeable with a perm rating of 30) **or** Water Armor VB (Vapor Barrier with a perm rating of 0.07) **or** Laticrete Air and Water Barrier (Air and Water Barrier that is a Vapor Retarder with a perm rating of 0.157) **or** Laticrete Air Barrier C3 (Air and Water Barrier that is Vapor Permeable with a perm rating of 3.0)	500 sq. ft. with 1 coat required 250 sq. ft. with 2 coats required 250 sq. ft. with 2 coats required 500 sq. ft. with 1 coat required	
☐	16 Gauge Steel Flashing/Panel Support (supplied by others) **Eliminate these for an Unsupported Assembly**	Match lineal footage of Base Weep Panels if required for a Supported Assembly	
☐	ProGUARD *DP*® Base Weep Panels (for base of walls, at deflection joints, over openings etc…)	8 sq. ft. (or 8'-0" lineal feet)	
☐	ProGUARD *DP*® Panels (3'-0" x 8'-0" with EPS/XPS insulation)	24 sq. ft.	
☐	ProGUARD *DP*® Silver C Screws Remember to order screws for attaching the ProGUARD *DP*® panels as well as the shorter versions (1-1/2" or 2") 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
☐	ProGUARD *DP*® Silver C Non-Barb Plate Washers (Galvanized) **NOTE: WASHERS ARE ONLY TO BE USED IN COMBINATION WITH THE SCREWS IN THE VERTICAL JOINST BETWEEN PANELS. WASHERS USED IN ANY OTHER LOCATION WITHIN THE ASSEMBLY WILL VOID THE PRODUCT SPECIFIC MATERIAL AND SYSTEM WARRANTIES.**	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
☐	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.
☐	Thin Masonry Veneer Material (stretchers, corners, custom profiles)	Dependent on selected material	
☐	T.Clear Total Bond for all masonry options **or** Laticrete Bonding Mortar (select appropriate one): 1) Laticrete Hi-Bond Veneer Mortar for ARRIS-tile, Porcelain tile, ceramic tile, natural stone tile, **or** 2) Laticrete Masonry Veneer Mortar for manufactured stone and thin natural building stone, **or** 3) Laticrete Thin Brick Mortar for thin brick, Midtown, Coastal and stack	25 sq. ft. 25 sq. ft. 25 sq. ft. 25 sq. ft.	
☐	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" (20 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.	
☐	Laticrete Pointing Mortar **or** Type N mortar to point the joints (if required)	Dependent on selected material	
☐	Laticrete Latasil **or** Dowsil Silicone Sealant for sealing movement joints and joints around openings such as windows and doors, as well as penetrations like pipes and fittings etc…	Dependent on Joint width to be sealed	Don't forget backer rod in the joint prior to installing the silicone