Technical Data Sheet

Wall**GUARD**® Perimeter Installation Procedures

Concrete Faced Insulated Perimeter Wall Panels

WallGUARD® Concrete Faced Insulated Perimeter Wall Panels are prefinished, one-step exterior insulating panels intended for use below and above grade in residential, commercial, industrial and institutional new and retrofit applications.

WallGUARD panels consist of Styrofoam® brand extruded polystyrene insulation with a factory applied 5/16" (8mm) thick latex-modified concrete facing. The finished panel surface is 24"x48" (610mm x 1220mm) with a tongue and groove along the 48" (1200mm) edge.

WallGUARD panels are available in standard insulation thicknesses of 2" (50mm) R-10 and 3" (75mm) R-15.

WallGUARD panels are installed using specially designed galvanized steel mounting clips.

WallGUARD panels provide superior insulation and a durable finish in one-step installation. They can be installed in any weather, without the need for highly skilled labor.

Design Considerations

WallGUARD panels should be installed vertically whenever possible in perimeter applications. If the panels must be installed horizontally, additional clips will be required (see page 3).

WallGUARD panels are not suited for irregularly shaped buildings with many corners or curved surfaces, or for masonry foundations with many surface irregularities. As with any cement based product, color variation, efflorescence and/or hairline cracking of the cementitious facing may occur. These phenomenon will not affect the performance of the WallGUARD panels. If uniform or matching coloring is required, a quality latex masonry coating must be applied.

Handling and Storage Recommendations

WallGUARD panels are shipped in shrink-wrapped pallets of (38) panels for both 2" and 3". Securement clips and fasteners are included in the following quantities:

- (76) galvanized steel securement clips
- (160) 1-3/4" (33mm) concrete screws
- (40) 3-3/4" concrete screws
- (2) 3/16" masonry drill bits

A forklift is recommended to unload the pallets and to move them around the job site. The shrink-wrapped pallet cover should not be considered a long-term weather protection. Pallets should be stored on flat ground. Dry indoor storage or weather tarping is necessary until the panels are installed.

Panels can be cut using a masonry saw or circular saw with diamond blade. Whether panels are wet cut or dry cut, cuttings should be rinsed or blown with compressed air off the surface of the panels. Cut panels should be individually handled until dry or installed.

WallGUARD panels are durable, however, the finished concrete surface may be jeopardized if handled roughly. Delivery and installation scheduling are important factors to achieve quality results when using WallGUARD wall panels.

Material Checklist

To install WallGUARD panels you will need the following:

- Scraper, to remove wall surface irregularities
- Measuring tape
- Transit or builders level
- 48" (1200mm) level
- Chalk line
- Rotary hammer drill
- 3/16" concrete drill bit(s)
- Flashing, where required
- Masonry saw or circular saw with diamond blade
- Hand ratchet with 3/8" hex head nut driver
- Polystyrene-compatible caulking or sealant (optional)
- Backer rods (optional)

Vertical Installation

1. Prepare foundation wall surface.
   A. Remove any masonry irregularities or jagged surfaces on the foundation wall before installing any panels.
   B. Ensure the wall is properly damp-proofed below grade: allow damp-proofing to cure completely before installing panels.
   C. Determine and mark the lowest installation point on the foundation wall. A level ledger plate can be installed or make a level line on the wall where the bottom of the panel will be.

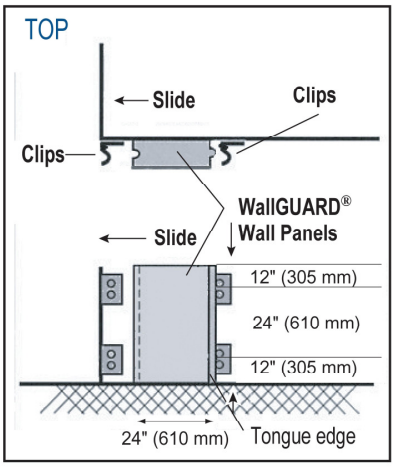
2. Install first vertical row of WallGUARD wall panels (Note: If a mitered outside corner is preferred see bottom page 4).
   A. Fasten first set of clips to wall corner, flush with wall face.
   B. Slide panel along level line or ledger onto mounted clips until flush with corner.
   C. Fasten tongue side clips to wall.
   D. For the next panel and each subsequent panel, slide panel along wall on the ledger or flush with level line. Mate panels snugly before fastening tongue side clips to wall.
   E. Cut WallGUARD panels to fit snugly around protrusions. Caulk or flash to seal. Fill voids with backer rods.
   F. Repeat above until the row of panels is one full or partial panel from completion.
   G. Complete the row with the following recommended details for outside or inside corners.

Note: Minimum recommended board width is 6" (150mm). Partial boards, if required, should be located at corners to avoid having to secure with surface fasteners.

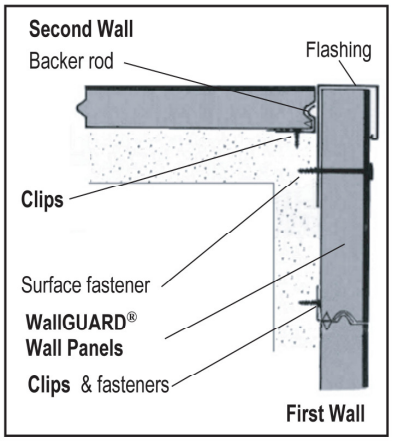
3. Outside Corner Detail
   A. Fasten clips to the second foundation wall, flush with the corner.
   B. Install the first panel on the second wall as described in 2(B) through 2(G).
   C. Install last panel on the first wall, ensuring it extends flush to the mortar surface on the panel mounted on the second wall.
   D. Drill hole through surface of first wall last panel at approximately 12" (305mm) down from the top and 3.5" (89mm) from cut edge of the panel. Install appropriately sized surface fasteners. Avoid over tightening the fastener.
   E. Slide flashing along corner after cutting flashing to slide past the fastener installed in 3(D). Install remaining surface fasteners through panel and flashing as needed.

4. Inside Corner Detail
   A. Cut groove side off last panel (as needed), slide into place and fasten tongue side clips, tight to inside corner.
   B. Fasten inside corner clips on the next wall, tight to mortar face of the corner panel installed in 4(A).
   C. Slide grooved edge of the panel onto mounted clips, tight to the panel on the inside corner.
   D. Fasten tongue edge clips to the wall.

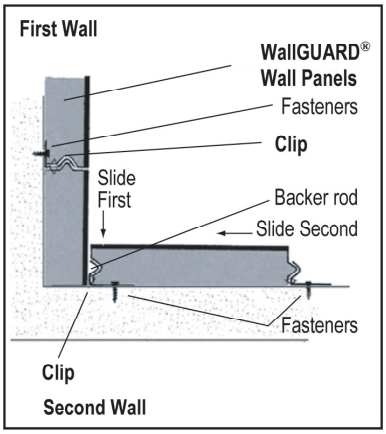
5. Top of Foundation Detail
   A. Where suitable, WallGUARD panels may be extended above the top of the foundation wall to provide an uninterrupted thermal barrier at the box joist.
   B. Flash as required to provide adequate protection against water infiltration.



Vertical Installation - First Row of WallGUARD® Insualted Wall Panels



Vertical Installation - Outside Corner Detail Top View

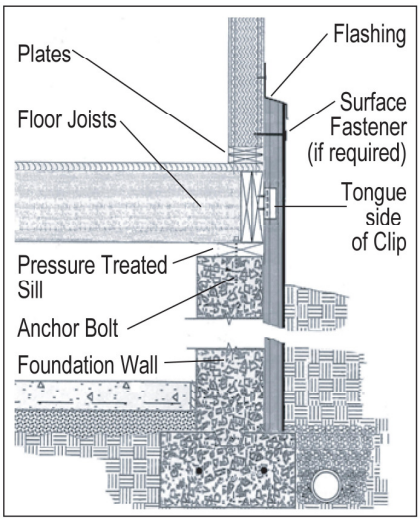


Vertical Installation - Inside Corner Detail Top View

Replacing Damage Boards

1. If a WallGUARD panel is damaged, the following steps are required to replace it.
   A. Cut along the 48” (1220mm) edge to remove panel tongue.
   B. Pry the panel out.
   C. Remove the tongue from the replacement panel.
   D. Slide the new panel into place and surface fasten with appropriately sized fasteners.

Note: In most cases of impact damage, a latex modified patching compound can be used to refinish the mortar surface without having to replace the panel. It is most effective if the panels are painted with a acrylic latex coating and the color can be matched to hide the repair. Small impact cracks can be repaired with a suitable latex caulk.



Top of Foundation Detail - Vertical

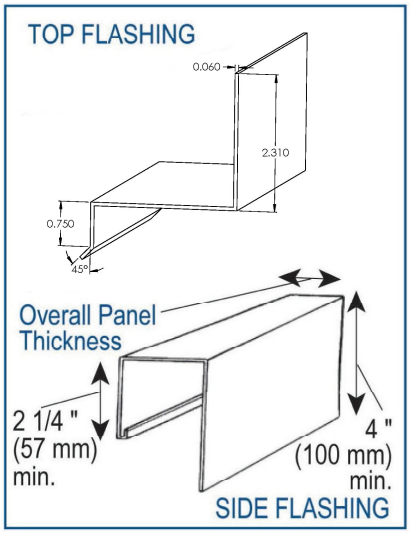
Horizontal Installation

If a horizontal installation is required, you will need to order additional clips from T. Clear as the installation will require (4) clips per panel instead of (2) for the bottom row.

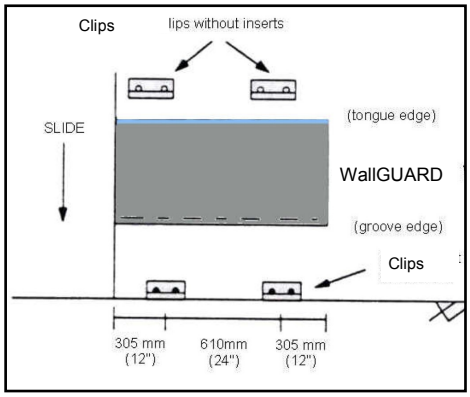
1. Prepare the foundation wall surface (see Vertical Installation 1(A) - 1(C).

2. Install first horizontal row of WallGUARD wall panels. 48” tongue edge will be at the top of the panel (Note: If a mitered outside corner is preferred see bottom page 4).
   A. Fasten the clips to the ledger or level line with the first clip being 12” (305mm) from the corner and the remaining clips spaced 24” (610mm) apart. The panel will be installed groove side down, so ensure the clip is installed with the holes on the top.
   B. Install the first panel, groove edged down on the two mounted clips. Ensure the panel is flush with the corner of the wall.
   C. Position top clips on the tongue edge of the panel, same spacing as the clips on the bottom, and fasten to the wall.
   D. Repeat until the first row of panels is one full or partial panel from completion.
   E. Complete the row with the following recommended details for outside and inside corners.
   F. Additional rows of full or partial panels can be installed in the same manner. Partial panels if required at the top of the installation should be fastened with appropriately sized surface fasteners, a minimum of 2”-3” (50-75mm) down from top edge of the panels.

3. Outside Corner Detail
   A. Fasten the bottom clips to the second foundation wall as described in 2(A).
   B. Install the first panel on the second wall as described in 2(B) through 2(D).
   C. Install the last panel on the first wall ensuring it extends flush to the mortar surface of the panel mounted on the second wall.
   D. Drill hole through the surface of the first wall last panel at approximately 6” (150mm) down from the top and 3.5” (89mm) from right edge of panel. Install appropriately sized fasteners. Avoid overtightening fastener.



(Optional). A minimum 4" (100 mm) return is recommended to secure J-channel flashing at corners; fill board grooves at corners with backer rods.



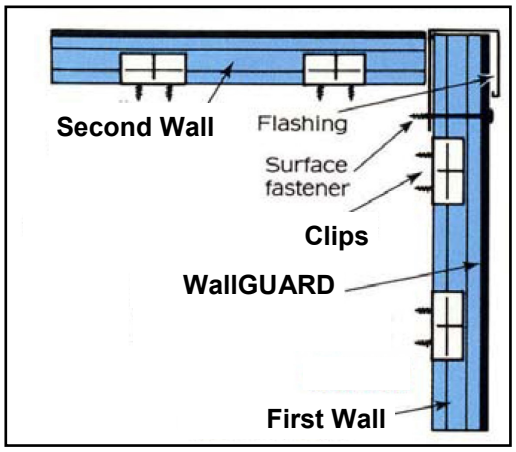
Horizontal Installation - First Row of WallGUARD Insulated Wall Panels

E. Slide flashing along the corner after cutting flashing to slide past the fastener installed in 3(D). Install remaining surface fasteners through panel and flashing as needed.

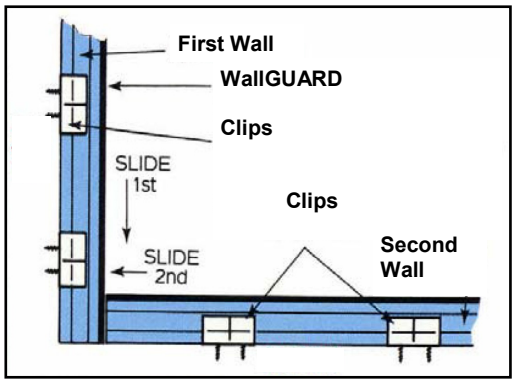
4. Inside Corner Detail
   A. Cut last panel (as needed) and slide into place.
   B. Position clips (as needed) on the tongue edge of the panels and fasten to the foundation wall.
   C. Fasten all base clips on the second wall. Position first clip 12” (305mm) out from the inside corner panel and the remaining clips 24” (610mm) apart.
   D. Install first panel, grooved edge down, on two mounted clips, ensure the panel is tight to the panel on the inside corner.
   E. Position clips on the tongue edge of the panel and fasten to the foundation wall.

5. Top of Foundation Detail
   A. Where suitable, WallGUARD panels may be extended above the top of the foundation to provide an uninterrupted thermal barrier at the box joist.
   B. Flash as required to provide adequate protection against water infiltration.

Note: T. Clear makes a rigid PVC Cap Flashing designed specifically for WallGUARD panels. The Side Flashing can be sourced through you local building supply distributors.



Horizontal Installation - Outside Corner Detail Top View

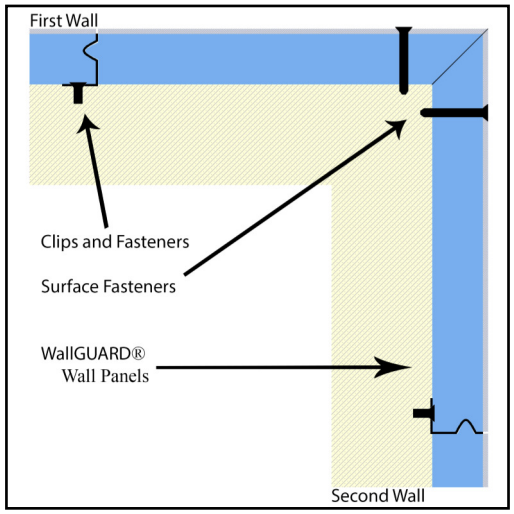


Horizontal Installation - Inside Corner Detail Top View

Optional Mitered Corners

On both Vertical and Horizontal Installations it is acceptable to utilize mitered outside corners in place of the standard butt corners described above. With a mitered outside corner side flashing is not required as no insulation will be exposed.

If a mitered outside corner is desired start your first panel on a Vertical Installation by cutting a mitered corner on the groove side of the first wall board or on the left side of the panel in a Horizontal Installation. Measure or place board against foundation to ensure start of mitered corner is positioned correctly at the foundation corner to match a mating mitered corner board. Once first panel is in correct position mark holes and install foundation clips on tongue side of the first panel. Then proceed with the installation as described in Vertical Installation 2(A)-(G) or Horizontal Installation 2(A)-(F). The last panel on the first wall will be mitered cut as well, so it can be cut and installed before proceeding to the second wall, first panel. When installing mitered corners drill hole through surface of first and last wall panels at approximately 12” (305mm) down from the top, 12” (305mm) up from the bottom and 3.5” (89mm) from cut edge of panel for a Vertical Installation and 6” (150mm) down from the top, 6” (150mm) up from the bottom and 3.5” (89mm) from cut edge of panel for a Horizontal Installation. Install appropriately sized surface fasteners. Avoid over tightening the fasteners.



Mitered Corner Installation Detail Top View

NOTICE: Extruded polystyrene will burn and should be stored, handled and installed properly. For proper use consult applicable building code requirements, for regulations, and specific instructions available from your supplier or the T. Clear Corp., 3255 Symmes Road,
Hamilton, OH 45015 (1-800-544-7398).

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T CLEAR CORPORATION

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