



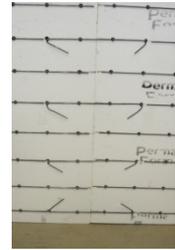
Installation Instructions

Start with a normal spread footing based on your soil conditions and load requirements. Check with local code officials for guidelines. Footings or pad must be level, uniform and wide enough for the forms to be properly centered on them. Form settling may occur during concrete placement. An 8' wall may settle from ¼" to ½". If minor deviations in height and accuracy are critical, allowances should be made prior to pouring the project.

1. Chalk a line on the footing **as a reference where the outside of the form is to be placed** as a reference for the setting of the forms.
2. Reference the forms Blueprint Installment Sheet that came with your forms. Identify the starting corner marked as corner "A". The starting corner should have the wire tie hooks pointing up on both sides of the corner. Set the corner on the chalk line. Drill a hole in the footing next to the corner panel to insert a vertical rebar. This will be continued as each panel is set.
3. **Alternative rebar method (refer to figure A & B) Rebar will need to be layed out accurately as to not interfere with wires while setting form.**
4. Following the blueprint, set the panels. As each panel is set, check the following:
 - A. Make sure the Perma Form name is not upside down and the batten strips are on the proper side of the form.
 - B. Set the panels by hooking the built-in interlocking fingers on the new panel to the fingers on the previously set panel.
 - C. Visually inspect each panel to make sure all the hooks are properly latched. If you notice that some of the hooks did not latch, remove the panel and set the panel again.
 - D. Make sure the panels are keeping aligned by referencing you previously chalked line.
5. Place a set of the bracing system waler brackets every 4', between the 2nd and 3rd wire from the top and 2 rows in from the joint of the panels. Place a horizontal 2x4 in the bracket and latch the bracket. Attach a temporary brace to the 2x4 to stabilize the forms. **For more detailed instructions on waler bracket installation see the Bracing System Installation Sheet.**
6. After 4 panels are set, begin fully bracing the wall. **For instructions on wall bracing see the Bracing System Installation Sheet.**
7. Once the first wall of panels is set, find corner "B" and set that corner. Make sure that the panels are following your chalk line.
8. Continue to set panels and corners around the footprint of your structure as shown by the blueprint, bracing the walls as you go. The last panel, which is marked, will have the hooks on both sides of the panel pointing down. To insert it into wall, you will have to slide the first corner out slightly to get the panel set into the space. Lift the last panel, move the corner back into place and slide the



panel down to lock it into place. Check the panel on both side to make sure all the fingers are properly hooked.



9. Should it be necessary to field cut a panel, which would remove the interlocking fingers, the joint must be tied together. On the two forms you need to connect, every other wire on the bottom 3' and every 3rd wire on the top 5' will need to be slid back at least 2 eyelets. Put the forms together and using extra wire that is provided, slide the wire through the eyelets, connecting the forms together. Put a 120 degree bend on both ends of the wire so the forms are secured.

10. To cut window and door openings:

- A. With a marker, layout any windows and doors that need to be cut.
- B. Slide the exterior wires on both sides of the form out of the way.
- C. Cut and remove the insulation.
- D. Cut the internal wire structure out of the opening.

11. To insert door and window bucks:

- A. Using a 2x12 for an 8" core wall, cut boards to frame out each side of your opening.
- B. To secure the boards in place, on both sides of the form, slide the exterior wires on each side of your opening so that 2 eyelets are empty.
- C. On one side of the form, take an extra wire and insert it into the empty eyelets and make a 120 degree bend on the end of the wire to secure it.
- D. Pull the remainder of the wire around the 2x12 and insert the wire into the 2 empty eyelets on the other side of the form. Pull it tight and make another 120 degree bend, securing the board.
- E. Do this on every other horizontal wire.
- F. For window openings, frame out the sides and top of the opening, leaving the bottom board off until you fill the form to the bottom of the window. If you have an opening over 3', we recommend putting in temporary bracing to keep the opening square.



12. To insert our PVC Electrical Boxes:

- A. Cut an opening the size of the electrical box between two of the horizontal wires and in between the vertical wires on the panel.
- B. Glue a 1/2" PVC conduit to the electrical box which is long enough to stick out of the top of the wall.
- C. Using the conduit, lower the box in from the top of the form to the opening you cut.
- D. Pull the front edge of the box through the insulation. **Tip: A screw can be spun slightly into one of the screw holes on the box to assist you in inserting the box into the hole.**



13. To secure the electrical boxes in the form:

- A. Take a two foot long piece of 2x4 and cut two 1/2" deep slots into the 2" side to fit around the vertical edges of the electrical box. **Important: The depth of the slots will set the distance that the box pushes through the form in order to be flush with the drywall.**

- B. Place the 2x4 over the box and secure it in place with a waler bracket on each side of the box.
 - C. Cover the open end of the conduit which is sticking out of the top of the wall with a piece of tape to prevent concrete from filling the opening.
 - D. Wire-tie the conduit to the top wire on the inside of the form to secure it in place.
14. The following is a checklist to help ensure installation has been completed properly prior to pouring the concrete.
- Is all rebar inserted?
 - Have all panel joints been checked to make sure the interlocking fingers are properly hooked?
 - If a panel was field cut, has the joint been tied on both sides of the wall?
 - Are electric boxes inserted and braced?
 - Are door and window openings reinforced and installed properly?
 - Have utility and plumbing holes been cut and blocked out?
 - Are horizontal and vertical braces in place?
 - Are bracing brackets properly latched?
 - Are wedges in tight against the vertical 2x4?
 - Is scaffolding in place and securely fastened?
 - Are corners and walls plumb and final alignment checked?

A 3500# concrete mix should be adequate for most applications. Check with your engineer or local code to be sure the mix you order will meet the recommended specs. We recommend a 6 to 6 ½ slump mix to prevent honeycombing and to allow concrete to flow through the internal wire structure during pouring. With this mix, no further vibrating is required as the wire structure provides adequate vibration for consolidation as long as there is a steady flow of concrete through the entire pour. **SPECIAL NOTE- It is recommended that a concrete pump be used for walls over 4' high to help prevent side pressure on the forms which may cause deflection in the wall.**

15. Start to fill the forms approximately 4' from a corner. Move the hose of the pump back and forth over a 3-4' area of the form and fill the form clear to the top in 1 lift. If the wall is over 10' tall, it is recommended to do it in 2 lifts.
16. For window openings, fill the lower part of the opening first then up both sides of the opening. This will give the concrete time to set up so when you finish pouring the walls the concrete will not boil up out of the opening. The buck for the lower side of the window opening can now be installed.
17. When the forms are filled, the concrete can be leveled and anchor bolts inserted per code.
18. Check that the walls are plumb and straight.
19. After the concrete is poured and set, bracing can be removed and conduit can be cut flush with the concrete.

****Please note these instructions may not be comprehensive for all building situations. Make sure to follow your local codes and proper safety procedures at every construction site. ****