

Advanced Installation **VERSA-FORM
Procedures and Technical Guide**

**VERSA-FORM
Insulated Concrete Forms**

FAST TRACK TECHNIQUES AND TIPS

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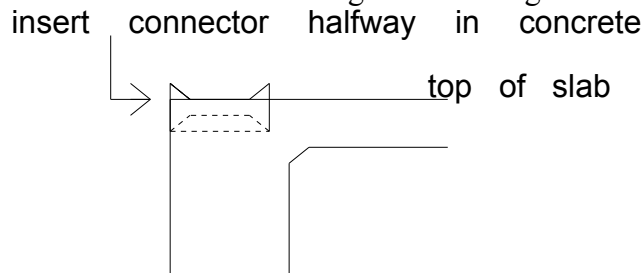
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Setting Forms without a Base Plate

It is possible to skip setting a base plate if you do a little pre planning at the time the footing or slab is poured. This is accomplished by wet setting full size connectors in the slab or footing wet concrete at 4ft. to 5ft. intervals. Set the connectors one half their height in the wet concrete leaving one half sticking out of the concrete. Make sure you have a good wall lines laid out while you position the connectors in the wet concrete. A good way to do this is to pull a string line from point to point and set the connectors on the edge of the string line.



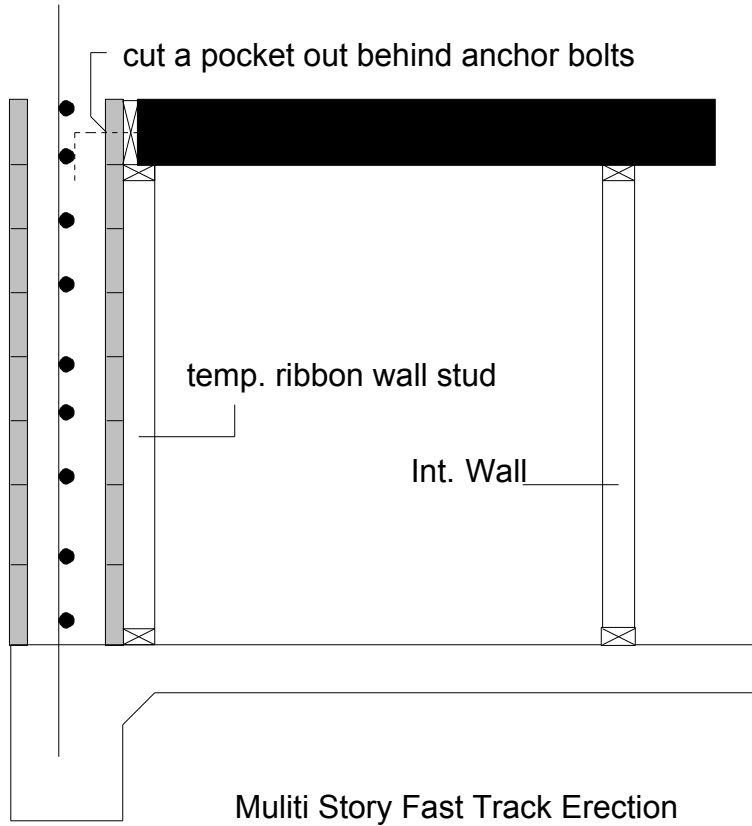
When you return to set the forms chalk a line the same as you would to set a base plate. Take the ICF planks and insert the bottom connectors in the bottom side of the planks omitting the slots where the full size connectors that are in the slab will fit. If the full size connectors don't exactly hit on a precut slot in the plank take a hot knife or saw and cut a slot in the plank to match the full size connector. Once you have your base form set all of the rest of the form setting is the same as if you had set a base plate. Except with this method the wet set connectors will hold the base of the form in place. If for any reason you did not get the connectors in the concrete properly aligned. Take a sharp flat edge scraper and scrap the connectors off flush with the slab and set a base plate.

FAST TRACKING A MULITI STORY BUILDING

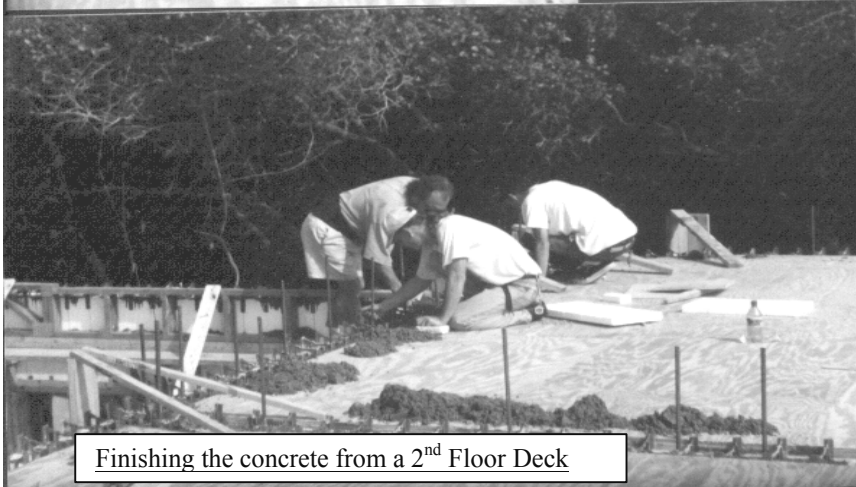
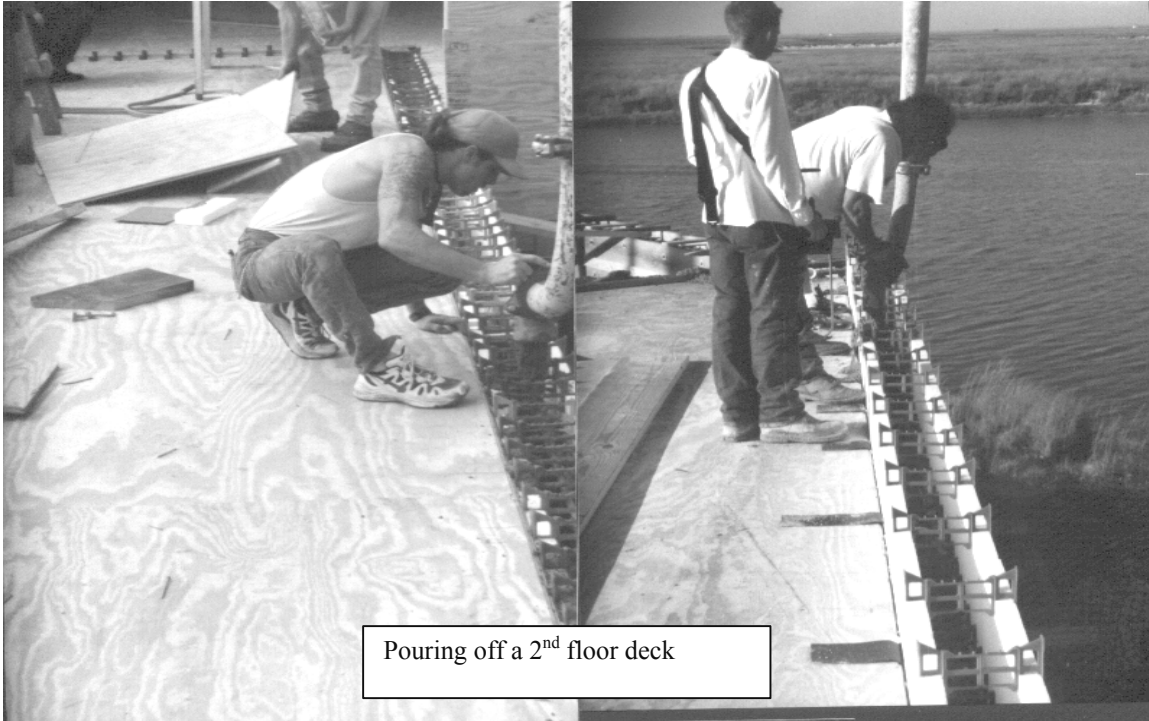
Whenever erecting ICF forms on a multi story building it is well worth the time saved if you combine the interior framing work with the ICF walls. The simplest way to do this is to setup a temporary ribbon-bracing wall around the perimeter just like you would for a one-story wall. Except that you will need to stop the height of this wall at the bottom of the joist ledger. Also you do not need to use any diagonal braces. The floor joist will act as a brace. Complete all the interior walls to their correct plate heights. Then set all floor joists above permanently securing them in place on top of the interior wall partitions and temporarily fastening them on top of the temporary exterior ribbon partition. Leave the floor joist back the thickness of the ledger. This will allow you room to set the ledger on top of the ribbon wall plate. Permanently attach the ledger to the ends of the joist. Use joist hangers if required by code. Drill holes in the ledger for the anchor bolt to hold the ledger after the concrete is poured. Once the ledger is secure deck out the floor with sub floor sheeting materials. Now you have your floor above framed in place. And you have accomplished two items to expedite your job. One being you had to frame out the

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interior walls and above floor anyway. And now you don't have to worry about scaffolding to pour the walls. The above floor deck will be your walkway to pour from. Also as soon as the ICF wall is poured you are immediately ready to start the next floor walls. Note: Temporary Tee shores could be used in lieu of ribbon wall studs.



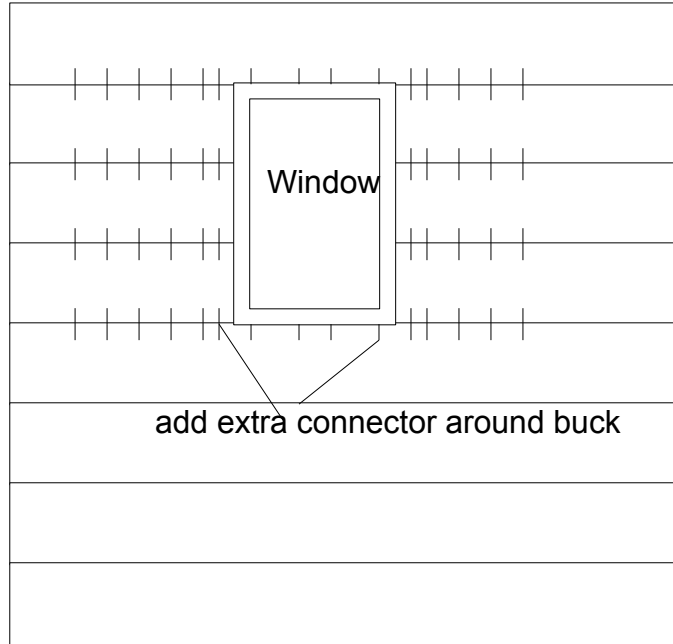
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OMMITTING DOOR AND WINDOW BUCK CASING

In lieu of casing wooden buck's frames you can add extra connectors around the perimeter of the buck. Cut a slot in the planks for an additional connector about 2 inches back from the sides of the buck frame and insert a connector. On the bottom and the top of the buck add additional half connectors flush with the edge of the buck. You may want to add a few small pieces of casing to keep the buck from slipping out of the forms.



Omitting The Casing

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PANELIZING AND GANG SETTING **VERSA-FORM ICF FORMS**

Prefabricating the ICF forms in modular sizes is an easy and fast way to set form whenever you have a large project or a repetitive forming sequence.

Some of the most common panel sizes are 4ft. x 8ft., 5ft. x 8ft., 8ft. x 8ft., and 8ft. x 12 ft..

This type of prefabrication can take place off site while the foundation is being prepared. This will allow you to get a head start on the project.

The forms are stacked in a stack bond pattern for panel lengths of 8 ft.

Panel lengths in excess of 8ft. are stacked in a running bond pattern.

Whatever panel size you are prefabricating the ends of the panel should all line up straight (see drawing below).

If wall openings are minimal it is also possible to pre-assemble the panels with the bucks preinstalled. The bucks should be permanently anchored and braced at the jobsite. If you are prefabricating long panels it is also possible to preinstall the horizontal rebar as the panels are built. The decision to preinstall the horizontal rebar should be made by someone who is familiar with the jobsite conditions. Sometimes it's easier to slide the horizontal rebar in the panels, as they are set.

It is also possible to pre-attach vertical braces to pickup the panel with a crane or some other hoisting equipment if you want to create a flying form. This is done on large commercial multi story buildings. A good vertical brace for this technique is 18-gauge metal stud material. Additional bracing should be considered when lifting panels with hoisting equipment.

When setting the prefabricated panels in place the joining of the panels is the only special consideration. All other aspects of anchoring, bracing, etc. are the same as for hand set ICF forms.

The joining of two prefabricated panels done as followed.

Set the first panel on the slab and secure it.

Take form connectors and place them on the ends of the panel you just set.

Secure the connectors in place by inserting a nail under the middle cross bar on the connector. Push the nail in the foam flush with the connector. Do this on both sides of the panel planks at each connector. This will hold the connectors in place when the concrete is poured

Now take the next prefabricated panel and set in down on the slab next to the panel that was just set. Guide the panel over the rebar dowels and slide the panel tight up against the other panel so that the connectors joint both panels.

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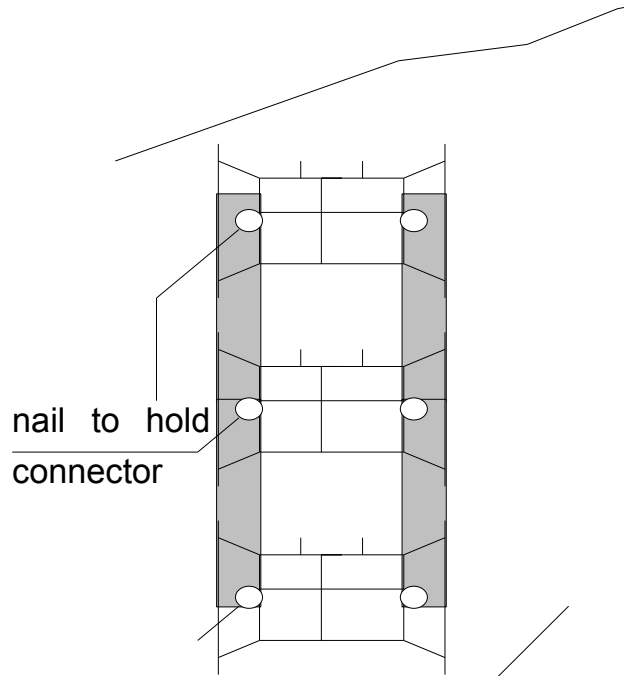
Continue this process as outlined until all the panels are set down a wall line. To turn a corner cut the inside planks off the panels to create a corner abutting the panels together at the corner. Brace and tie the corners the same as you would for hand setting planks.

The primary thing to remember here is to go back and complete tying the panel joints (seams) together. This is accomplished by what we call LACING THE JOINT. This is exactly like lacing a pair of shoe strings. Nylon baling twine is used for this. Take the twine and tie it to a connector head one connector past the joint in the panels. Then take the twine up at a diagonal to a connector one space past the joint in the panels and fasten it to the connector head (wrapping it around the head). Continue this zigzag pattern all the way up the panel and then reverse the pattern back down. Leave a small amount of slack in the twine between connector heads. Now you have created an X pattern over the panel joints. This should be repeated on the other side of the panel as well. Now take a 16 d nail and insert it between the twine where it makes an X. Begin rotating the nail to twist the twine tight at each row of connectors. This will pull the two panels together and keep them together during the pour. After the pour the twine can be cut off the connectors.

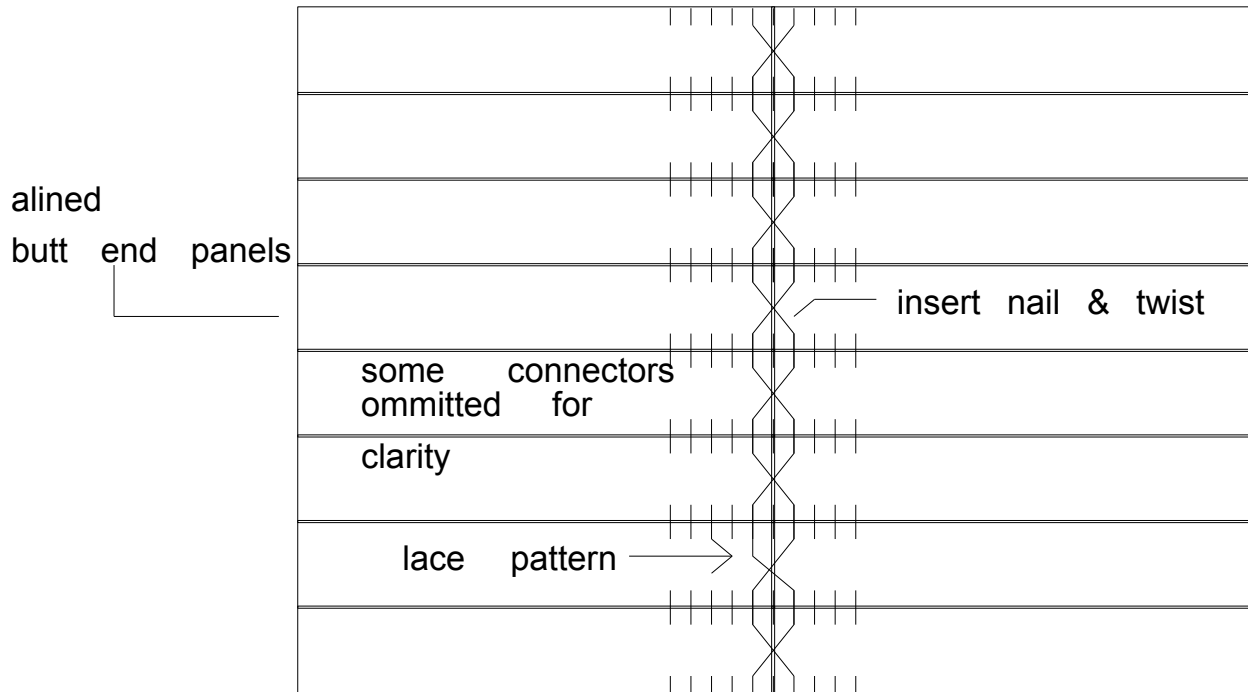
SEE PLAN DETAILS NEXT PAGE



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End View Gang Panel



Gang Panel Laced Joint @ Seams
opposite side the same

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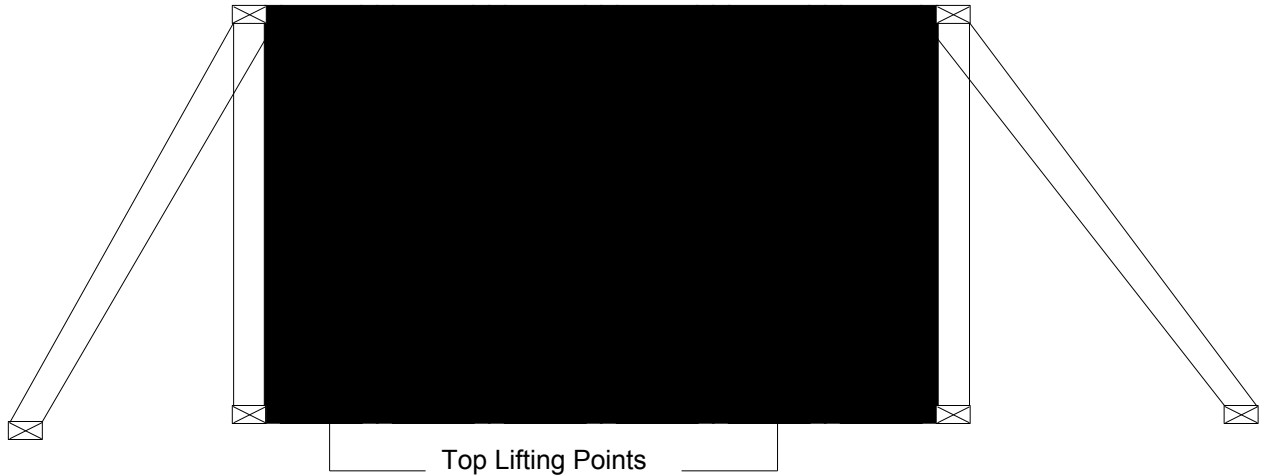
VERSA-FORM Precast- Panels

Precast panels can be formed on edge (horizontal) in various sizes. The panels can be set in multiple side-by-side quantities with all openings for windows and door installed. Install lifting point and pickup points as specified by a structural engineer. The panels are usually picked up from the top ends and at various side points. The rigging for hoisting should be by spreader bar and adjustable pulley wheels. The panel will have to be lifted and rotated into a vertical position for setting. Connect the base of the panel and the top of the panel with weld plates and mechanical connection the same as you would with any tilt up concrete panel.

All **VERSA-FORM** formwork is exactly the same as cast in place ICF walls.

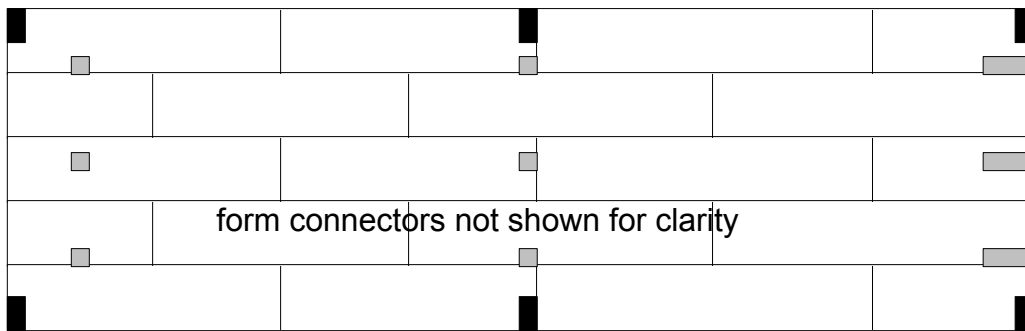
SEE PLAN DETAILS NEXT PAGE

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End View Precast Panels

Rotate Panel 90 deg.
upward when lifting



SIDE VIEW PRECAST PANEL

-  Typ. Weld Plates
-  Lifting Points
-  Top Lifting Pointd

All Weld Plates & Lifting Points Must Be
Designed by a Structual Engineer

PRECAST PANEL DETAIL

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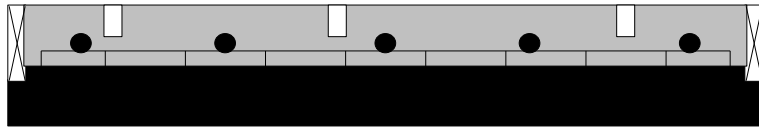
TILT UP PRECAST PANELS

A TILT UP PRECAST **VERSA-FORM** concrete panel is cast flat the same as traditional tilt up concrete panels. With the exception that one side of the panel is cast with the EPS polystyrene foam insulation in place. The other side is left without foam i.e. bare concrete.






Install lifting point and pickup points as specified by a structural engineer. The panels are picked up at various lifting points. The rigging for hoisting should be by spreader bar and adjustable pulley wheels. Connect the base of the panel and the top of the panel with weld plates and mechanical connection the same as you would with any tilt up concrete panel.

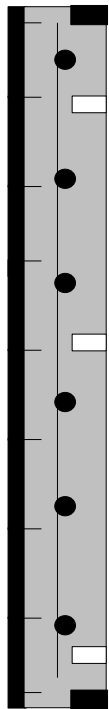
SEE PLAN DETAILS NEXT PAGE

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HORIZONTAL SIDE VIEW PRECAST ICF PANEL

-  ICF Planks
-  — Vertical & Horizontal Rebar
-  ICF Half Connectors
-  Panel Lifting Points
-  Weld Plate



VERTICAL SIDE VIEW

TILT UP PRECAST **VERSA-FORM PANEL
DETAIL**

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Fast Track Pouring and Aligning **VERSA-FORM** Wall

This technique is for the advanced installers of **VERSA-FORM** ICF forms. This method is useful when pouring short walls i.e.: retaining walls, etc.

Depending on the height of the wall vertical bracing can be spaced out more than 6ft. on center. For some walls with heights of less than 6ft in height vertical bracing can be eliminated. And just a top ladder brace can be installed with diagonal kicker braces attached and staked at the ground. As the concrete is poured have a string line pulled from end to end of the forms. While the concrete is still wet (right after placing) adjust the diagonal kicker brace in or out to plumb the wall to the dry line (string).

SEE DETAIL BELOW

