



# Installation Guide to Insulated Concrete Construction

Details for Builders and Designers



**2nd Edition, January, 2000**

# 1

## Footings or Pad Preparations

Footings or pad must be level, uniform, and wide enough for the form and cleats to rest on. (diagram 1-1)

Footings must be proper width and thickness for soil conditions. Check with local code officials for guidelines.

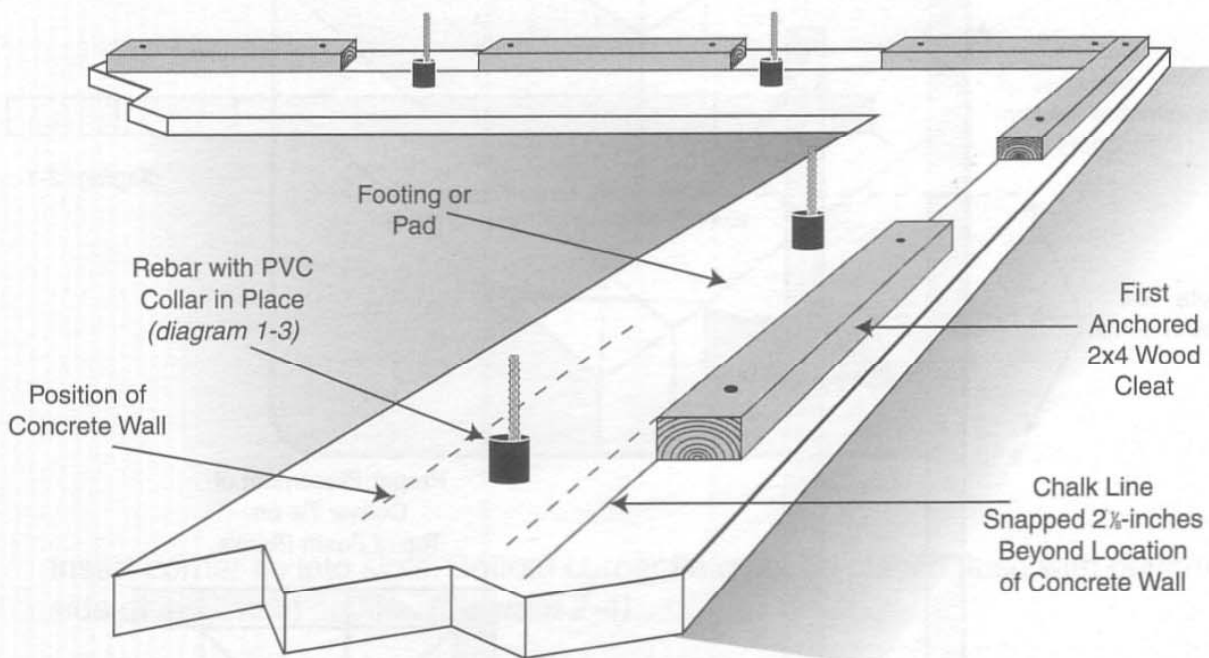


diagram 1-1

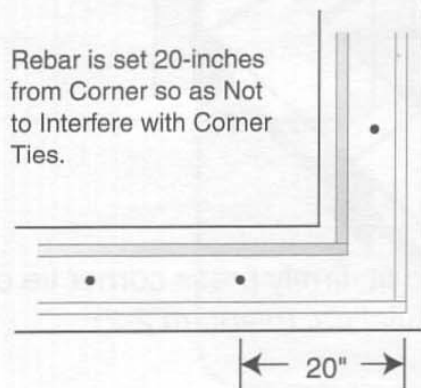


diagram 1-2

Inside Diameter of PVC Collar Should be  $2\frac{1}{4}$  times that of the Rebar. Rebar and PVC can be Purchased from a Building Materials Supplier.

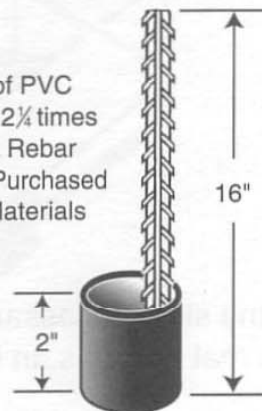
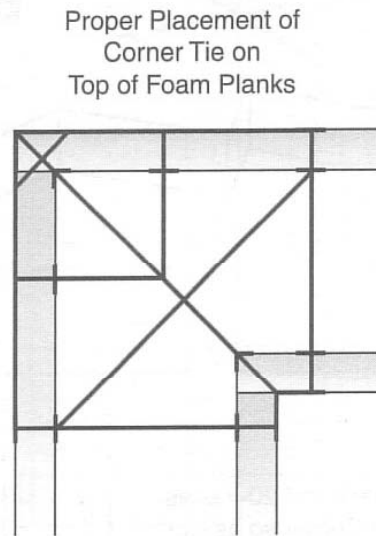
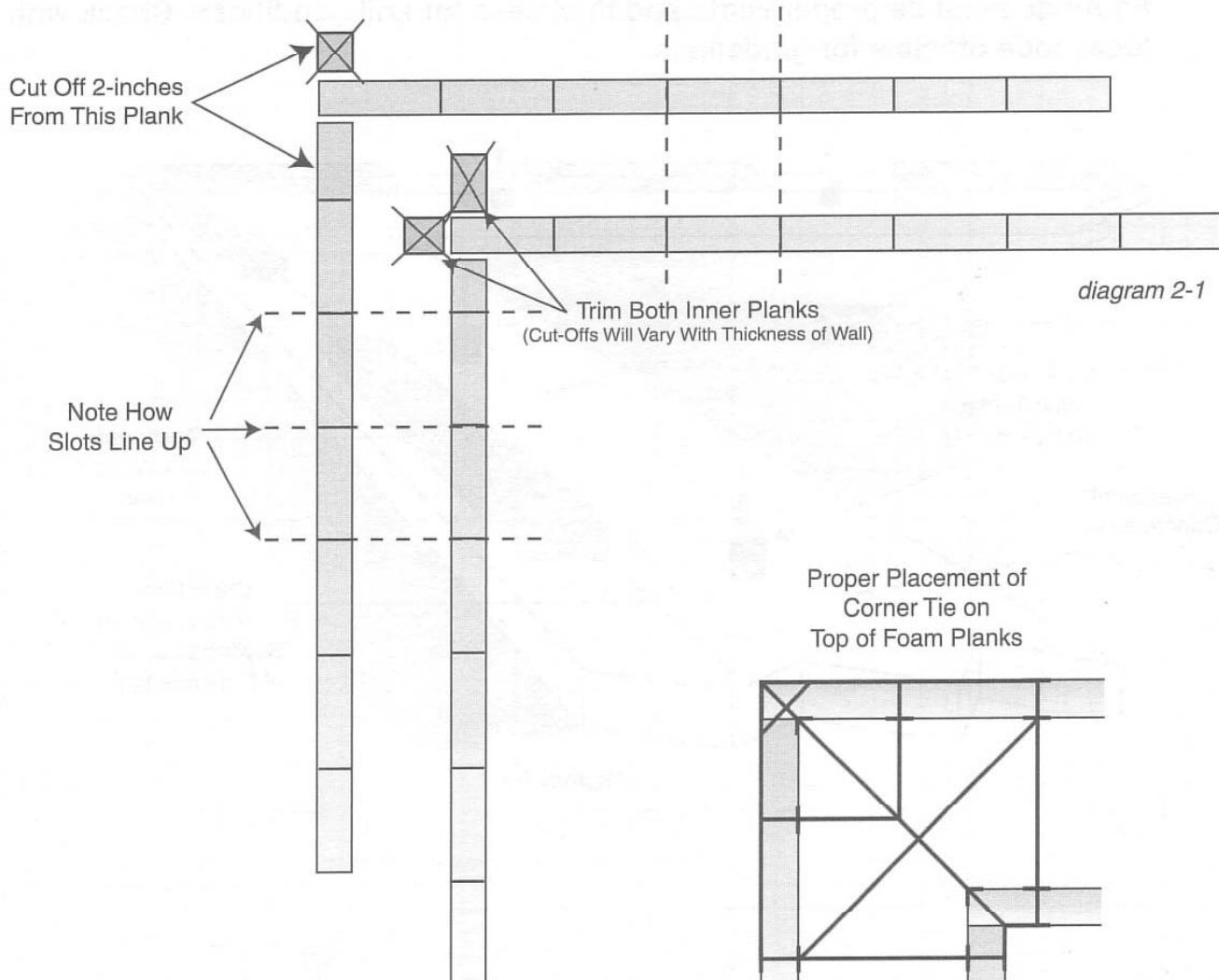


diagram 1-3

## 2

### 90° Corners

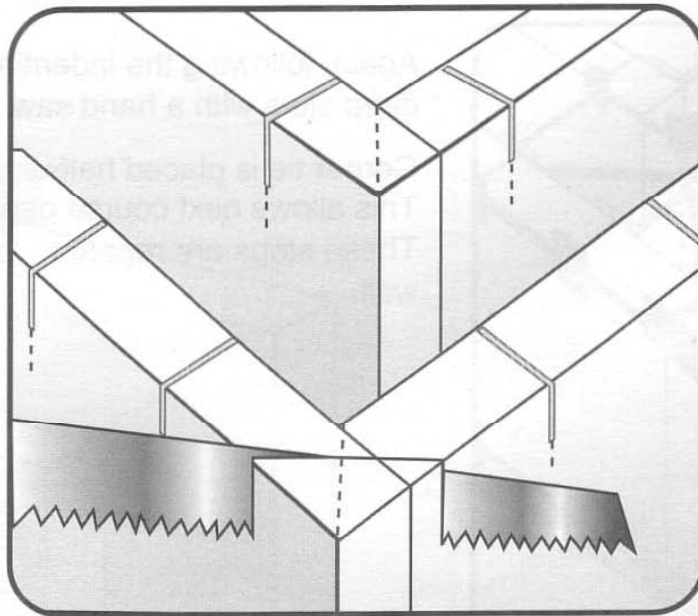
Foam planks used in corners must be trimmed so that pre-cut insulation slots line up. (*diagram 2-1*)



To make the slots necessary for the corner tie to fit, firmly press corner tie onto the panels so that it leaves an indentation in the insulation. (*diagram 2-2*)

## 90° Corners *continued*

Remove the tie and following the indentation lines, cut **2-inch** deep slots with a hand saw. Pre-cut slots on planks must be extended to 2-inches deep, also. (diagram 2-3)



Dotted Lines  
Indicate Indentions  
to be Handcut

diagram 2-3

Insert corner tie into slots. Bottom corner tie must be placed flush with bottom side of insulation planks. (diagram 2-4)

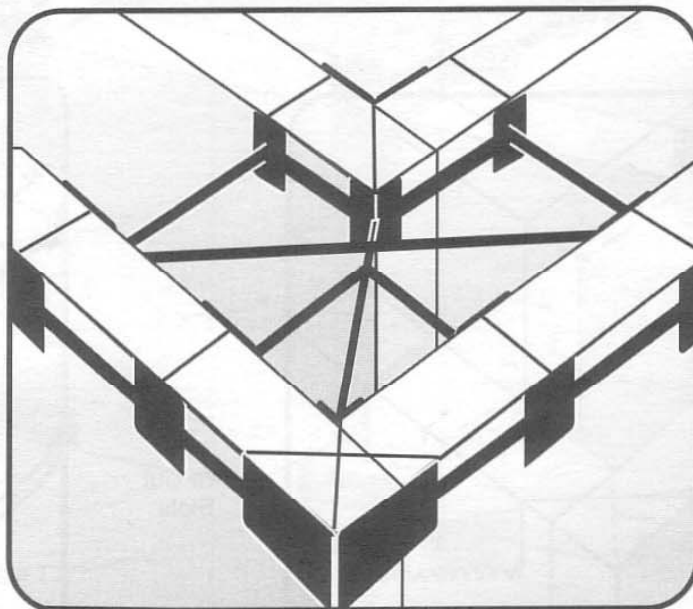


diagram 2-4

90° Corners *continued*

**TURN THE ASSEMBLED CORNER OVER**

& repeat the step of pressing corner tie firmly into the insulation.

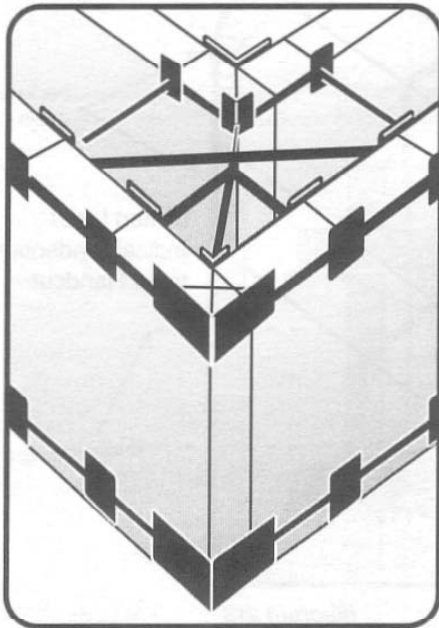


diagram 2-5

Again, following the indentation lines, cut **3/4-inch** deep slots with a hand saw. (diagram 2-5)

Corner tie is placed halfway into insulation planks. This allows next course of planks to be placed. These steps are repeated for each course, up the wall.

For some concrete wall thicknesses, pre-cut slots on planks will not match up to corner tie. In this case, they must be cut in with a hand saw. (diagram 2-6, 2-7)

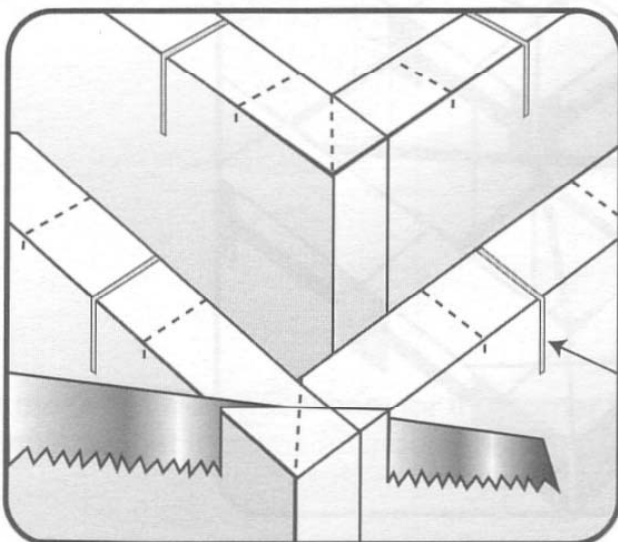


diagram 2-6

Dotted Lines Indicate Indentations  
to be Handcut

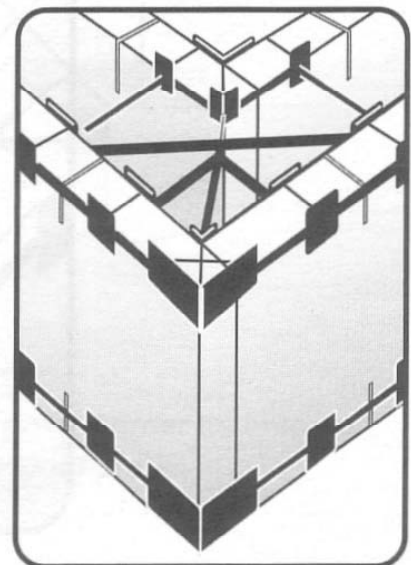


diagram 2-7

## 3

### Wall Form Assembly

Half ties are inserted in **every slot** along the **bottom** of form. Note that the half tie is flush with the plank. Full ties are inserted into top of planks. This allows next course of planks to be placed. (*diagram 3-1*)

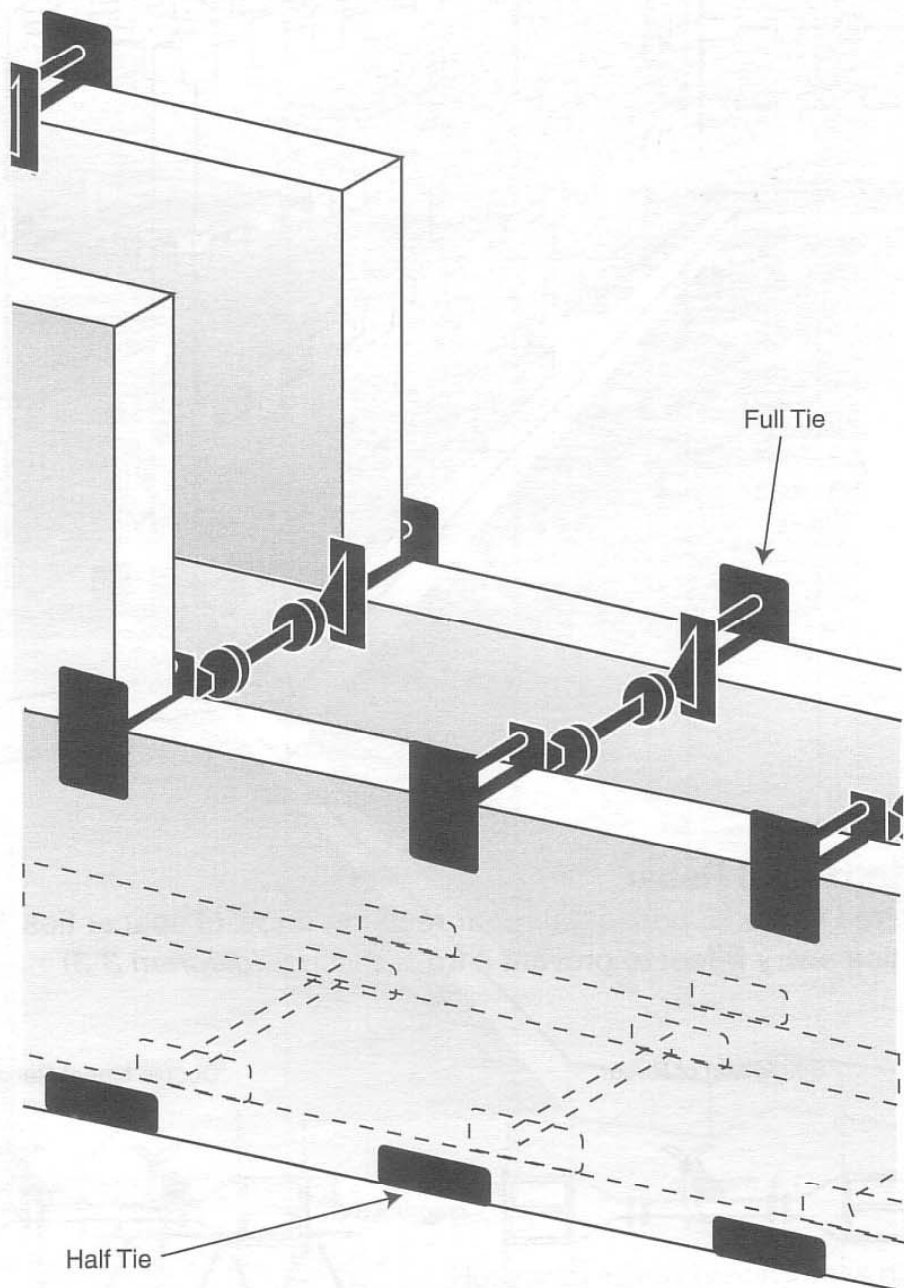
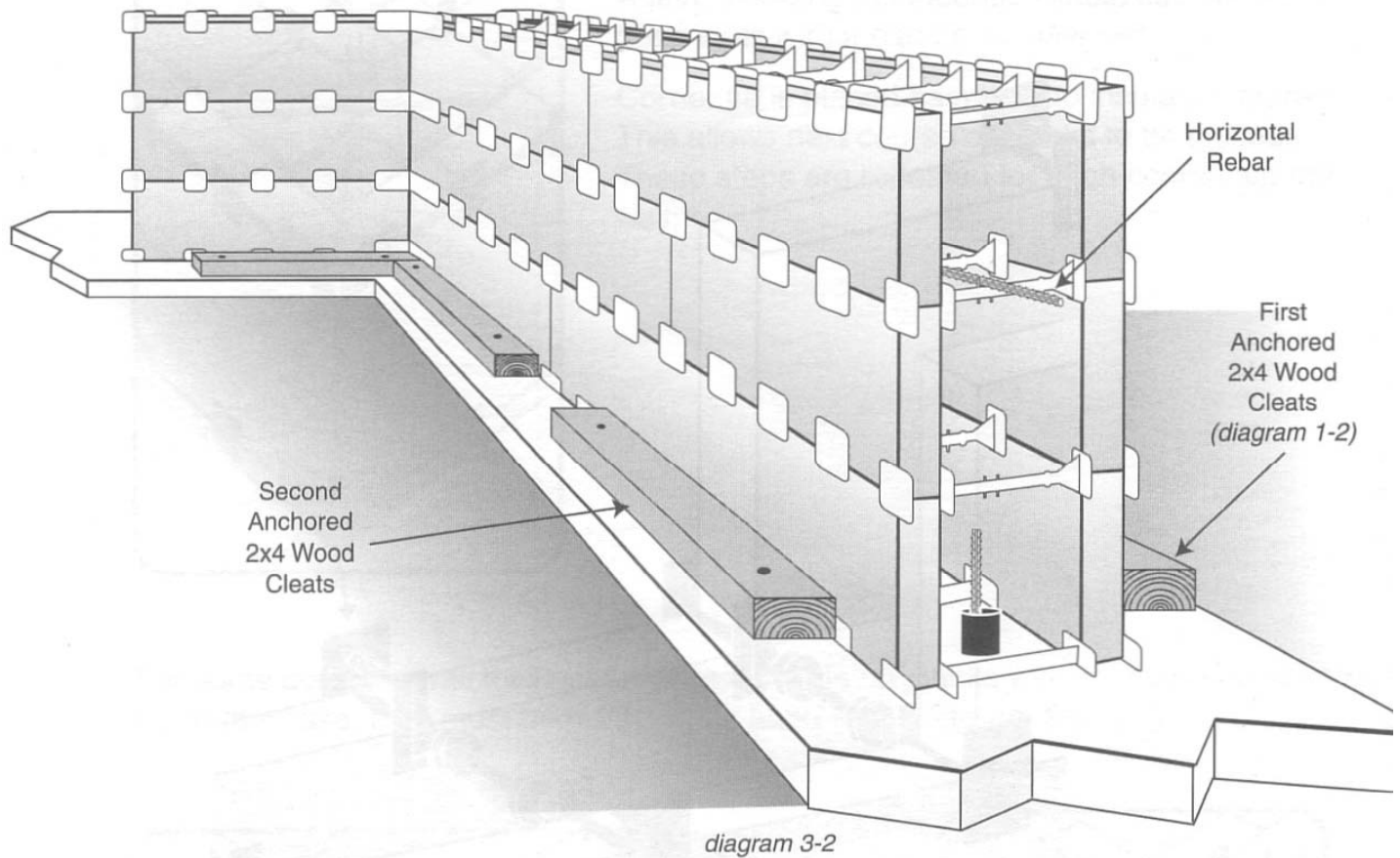


diagram 3-1



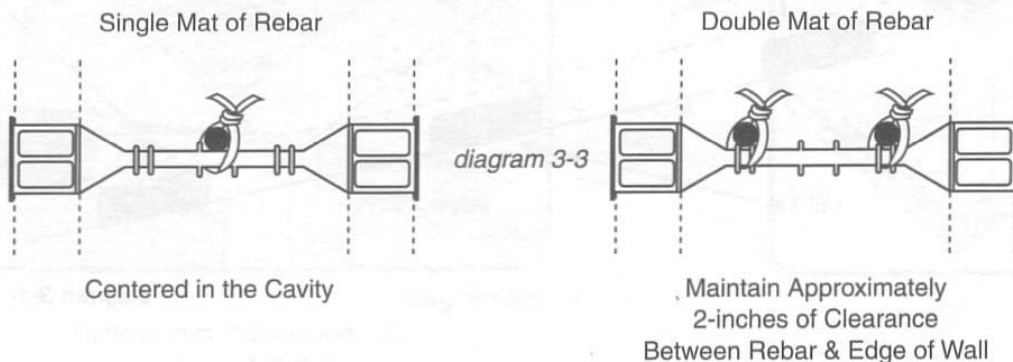
## Wall Form Assembly *continued*

When assembled wall reaches three courses high, secondary cleats are placed against the form and anchored to the footing or pad. Note that the ends of the insulation planks are arranged in a random pattern, up the wall. (*diagram 3-2*)



### Placing Horizontal Rebar

When required by code, horizontal rebar rests on a row of spacer ties. Bar should be wired-tied to the ties every 2-feet to prevent it from shifting. (*diagram 3-3*)



## 4 In-Wall Bracing

Horizontal in-wall bracing is inserted at the 4-foot height, corner-to-corner around full perimeter. (diagram 4-1)

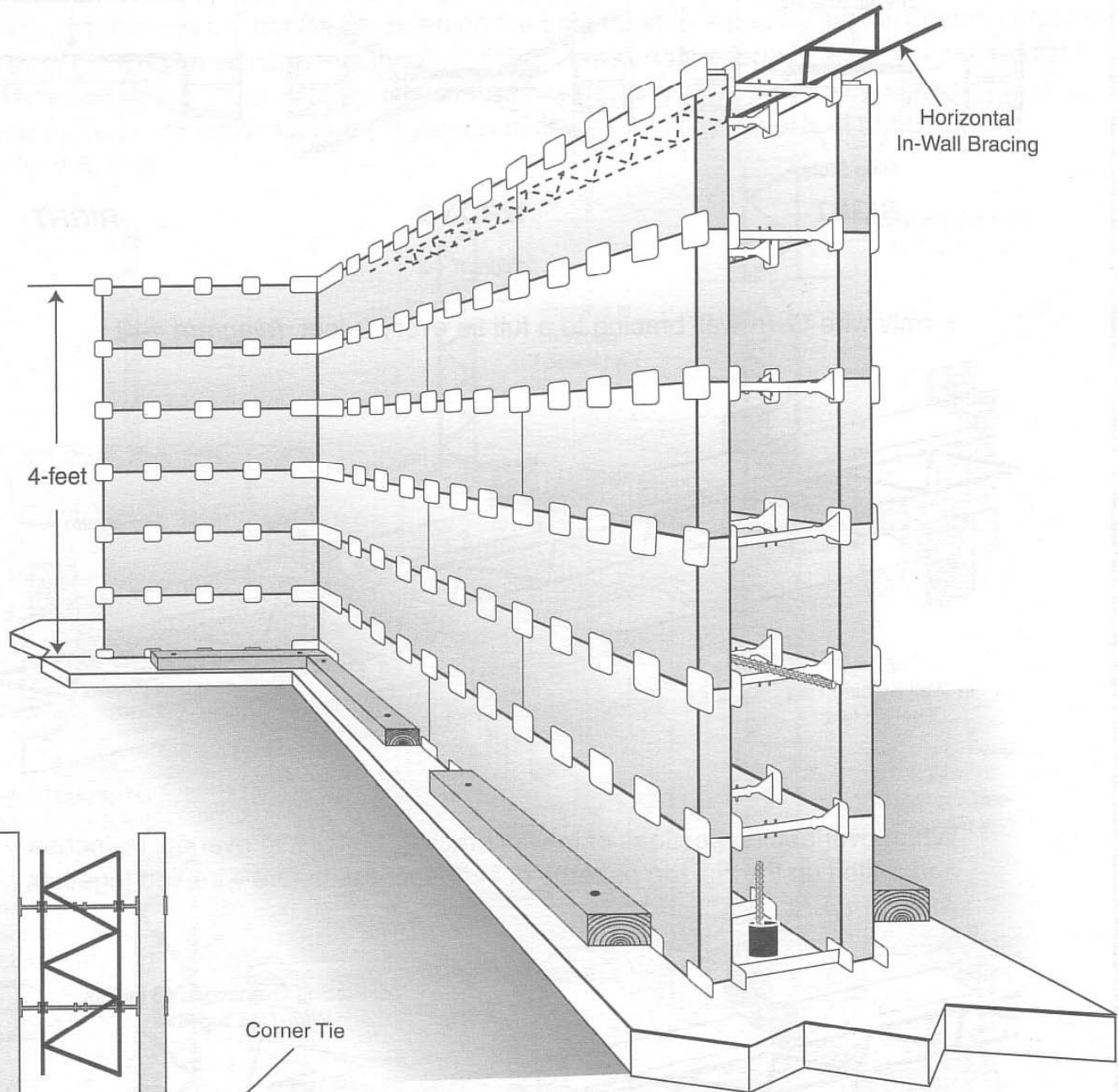


diagram 4-1

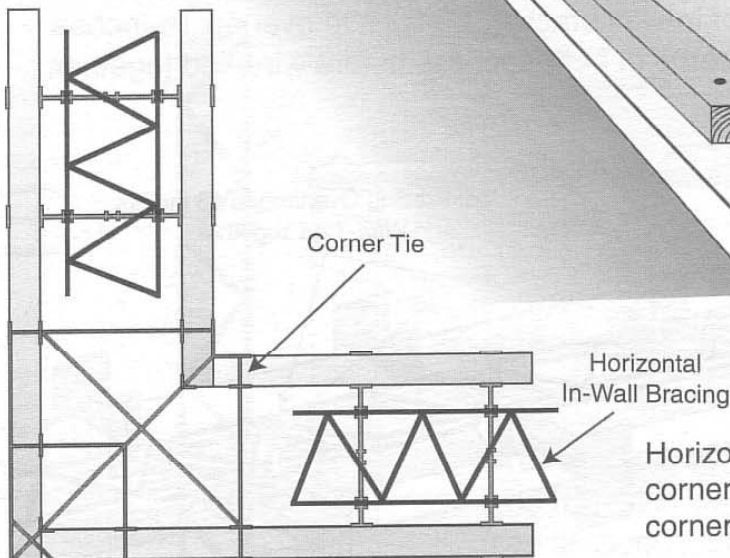


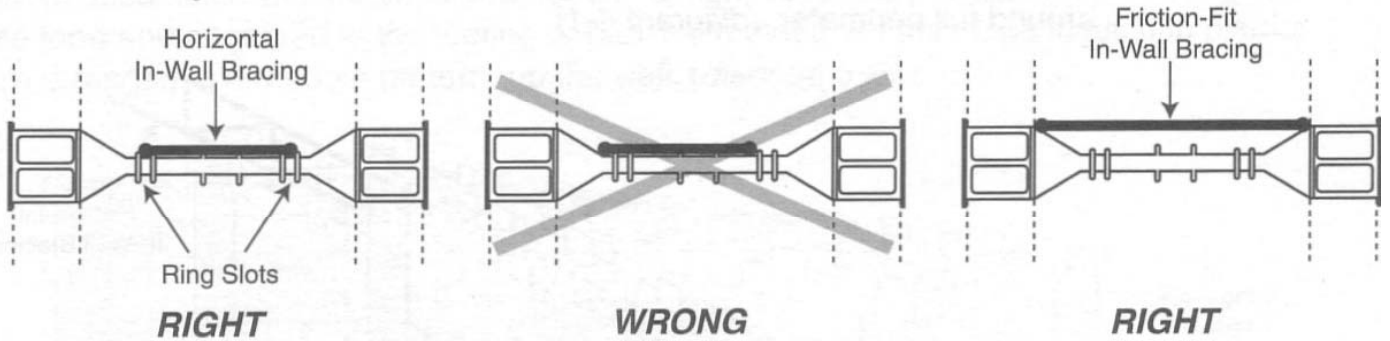
diagram 4-2

Horizontal in-wall bracing does not overlap corner ties. In-wall bracing stops just before corner tie. (diagram 4-2)



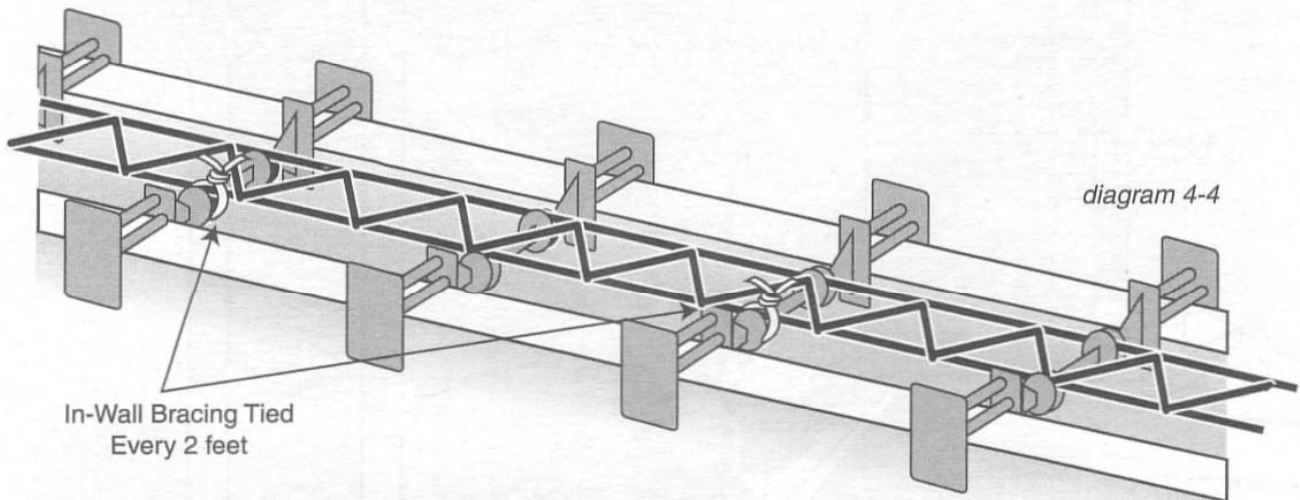
## In-Wall Bracing *continued*

Horizontal in-wall bracing must centered on the full ties. (*diagram 4-3*)

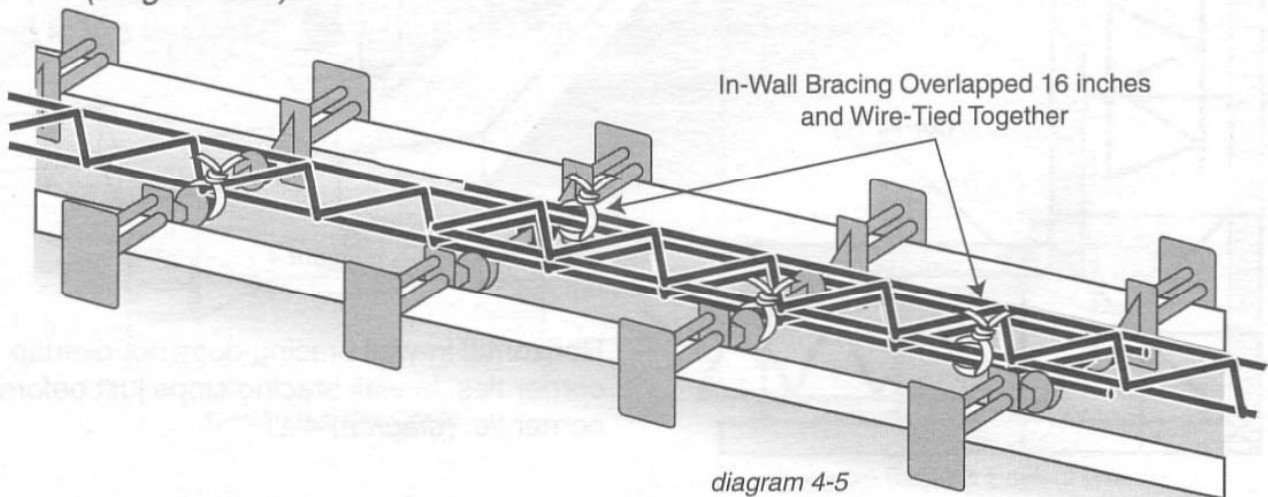


*diagram 4-2*

Firmly wire-tie in-wall bracing to a full tie every 2-feet. (*diagram 4-4*)



When overlapping sections of in-wall bracing, be sure to overlap 16-inches and match up the zig-zag patterns of both sections before wire-tied together. (*diagram 4-5*)

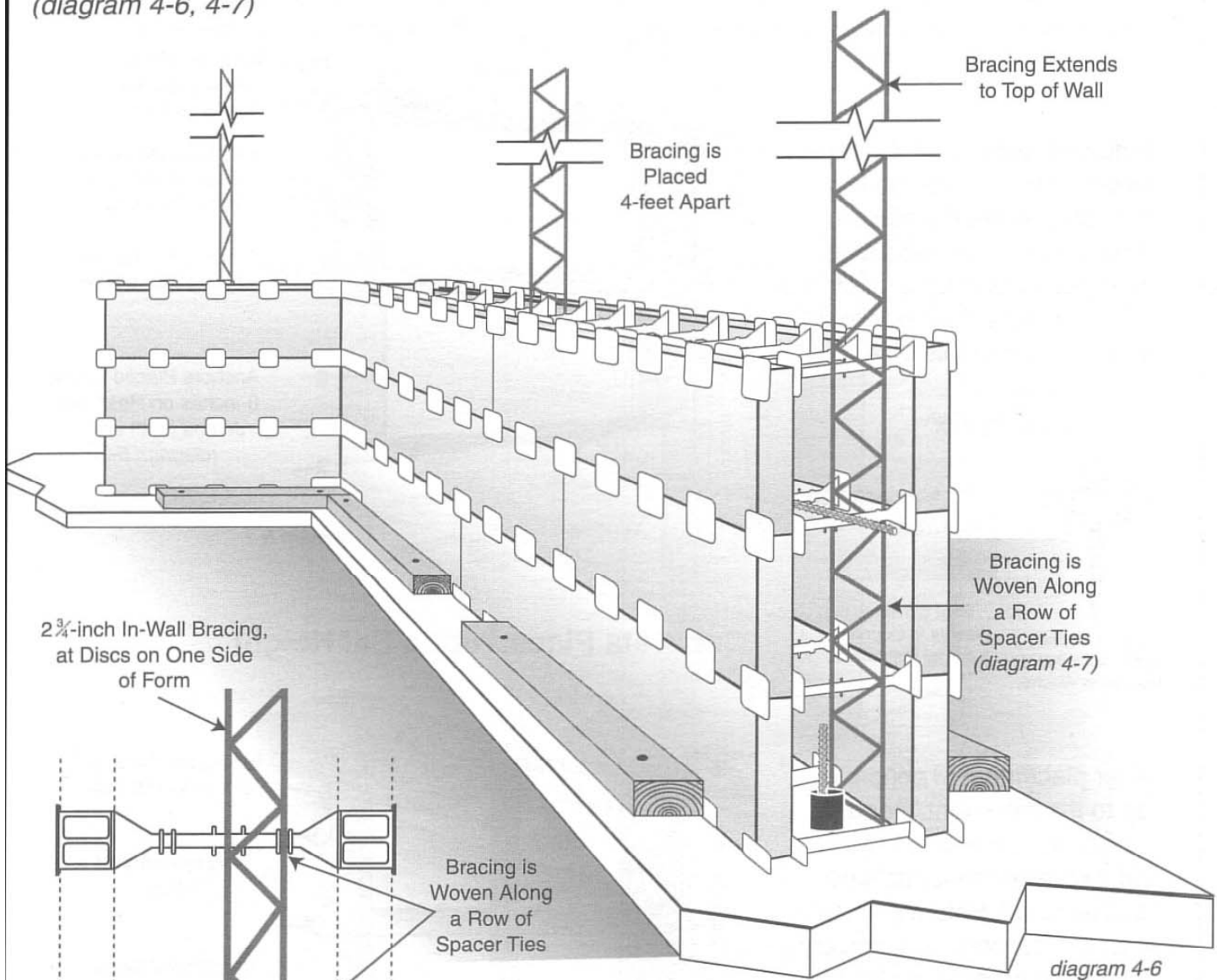


## In-Wall Bracing *continued*

### Optional Vertical Bracing

In-wall bracing can be placed vertically, to align the form walls. With the third course assembled, braces are inserted approximately 4-feet apart around entire perimeter in a "woven" pattern, along a row of ties. This is done by removing the top full tie, inserting the brace and re-inserting the tie. Bottom of brace starts at the footing and extends up to top of finished wall. As the form is assembled, it is kept in place by weaving it along the row of ties. In-wall bracing is NOT meant to replace vertical rebar required by code. Brace should not be placed in close proximity to vertical rebar.

(*diagram 4-6, 4-7*)



### Bracing Top of Form Wall

If horizontal in-wall bracing will be used at the top of the form (see section 7), the vertical brace should be trimmed (before installing) so that it will end approximately 6-inches short of top of finished wall.

*diagram 4-7*