

Part 7 – Preparing Footings & Slab on Grade (SOG)

7.0 – Introduction

An Amvic ICF wall can be started from either a footing or a slab depending on the design and engineering/architectural requirements. There are benefits and drawbacks to both methods, with no clear advantage one way or the other.

First Course of Block Set on Slab

The benefit to starting an Amvic wall on a slab is that there is a hard, level surface to work on and to anchor bracing on. A sturdy working surface can increase job site efficiency.

First Course of Block Set on a Footing

The primary advantage to starting from a footing is that the ICF provides slab edge insulation. The edge of a slab, where the floor is located is where the greatest amount of heat loss occurs in the winter. By insulating this area, heat loss is minimized and homeowners experience cost savings. This method is also preferable when a radiant floor heating system will be used, or if the final floor finish will be stained and sealed concrete. (Fig 7.1 Below)

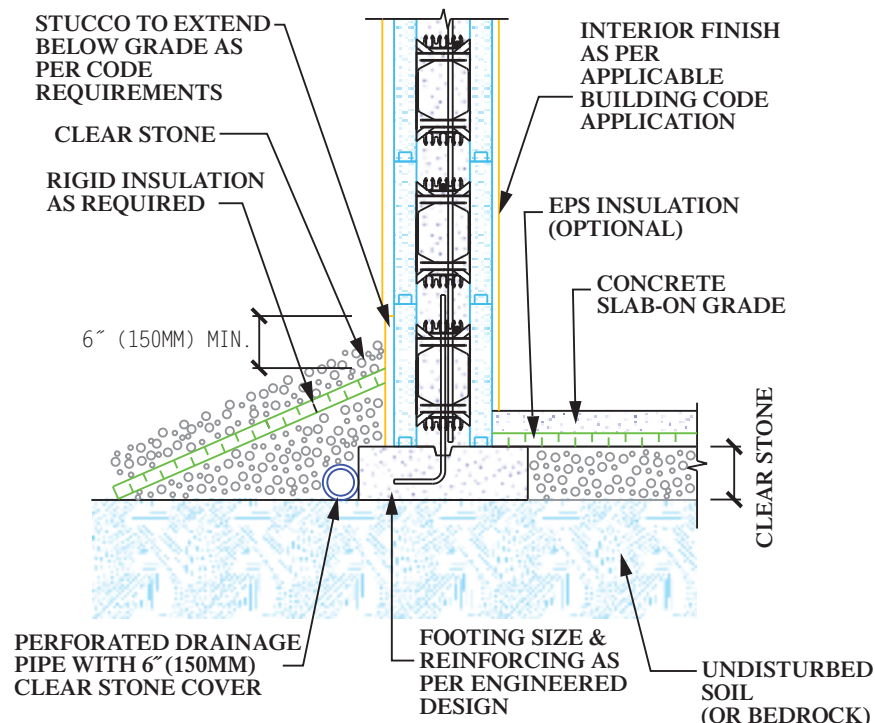


Figure 7.1 – Typical wall section on footing



Footings and Walls for a Raised Floor

If the first floor will be a raised floor, then the wall must be started off of a footing. In some cases, builders will elect to pour 2-3 courses of block initially, and then install their floor system. Once the floor has been installed, continue stacking block.

7.1 - Dowel Placement in Footings/SOG (Slab On Grade)

Loads from the Amvic ICF walls need to be transferred to the footing/SOG. For that purpose reinforcing steel dowels, a keyway or a combination of both need to be present in the foundations. Check with your local design engineer or the local building code requirements for the method that is most suitable for the application at hand.

When pouring footings or slab on grade, place reinforcing dowels as per engineer and/or local building code requirements. On 90 degree corners, start the first dowel 8 1/2 inches in from the outside edge of the Amvic form, then space subsequent dowels in increments of 6 inches to avoid hitting webs (Figure 7.2 below).

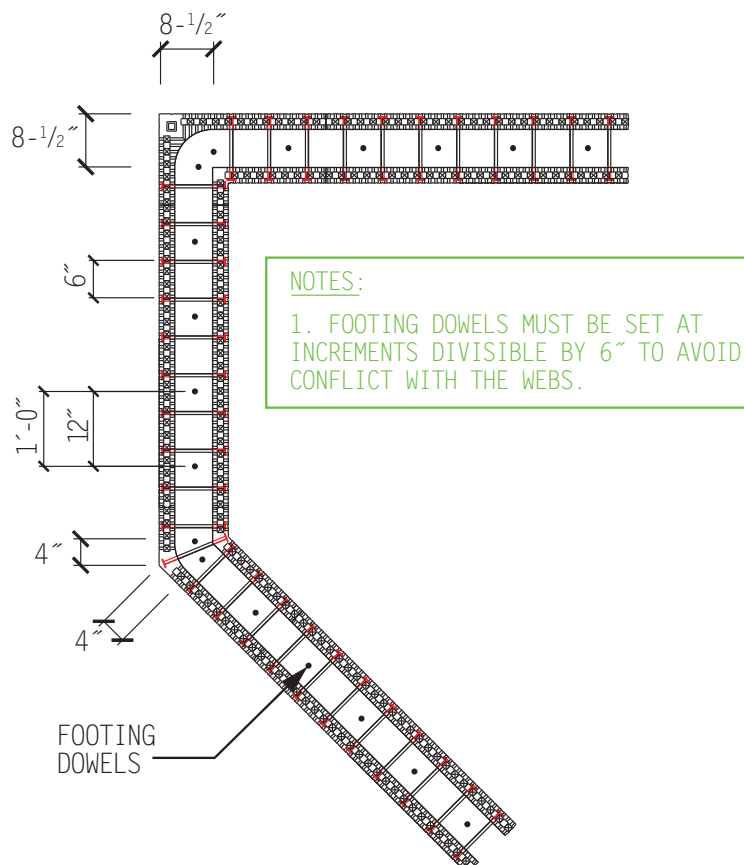


Figure 7.2 – Plan of typical dowels placement





Tip

On most walls, you will end up going off layout, the block will have to be cut and you will have one location in the wall where the webs are not 6 inches apart because of the cut joint. In this case, start dowel placement in the corners and work towards the cut joint. (It is not a major issue if you have the rebar coming up directly on a web location. If this occurs, you can bend the bar in a slight S-curve and that will clear the web.)

7.2 – Level Foundations

After pouring the footings and or slab on grade, make sure the top finished surface is level to within $\frac{1}{4}$ inch (5mm). (Commonly this is the local building code requirement). A proper level footing will make installing the first two courses of block significantly easier.

Level can be checked using a laser, transit or water level. If you find you are within $\frac{1}{4}$ inch (5mm) all the way around, proceed with stacking. If not, mark the variance of each corner on the footing or slab and adjust the ICF in later stages of installation.



Figure 7.3 – Level Top Surface of your Footing and SOG

7.3 – Outlining Your Project

There are several steps in outlining your project which are necessary and should be marked on your foundations before you begin installing Amvic ICF. This increases jobsite efficiency and reduces complications.



7.3.1- Outlining Wall Layout

Using Chalk Line

Before you begin outlining the wall layout, check your building/project plans carefully to determine the proper foundation wall layout and dimensions. Use a chalk line or string and mark the wall layout on your footings/SOG. You can either mark the outside or the inside face of your walls. Most installers tend to mark the outside face simply because the building/project plans will readily indicate this information. Make sure that all 90 degree corners are properly squared. This can be done by measuring diagonals or 3-4-5 right angle triangle. A surveyor may be hired to establish the correct angles on the jobsite including variable angles and special radius walls.



Figure 7.4 – Snap a chalk line to mark your wall Layout



Using Metal Angle/ C-Channel Section

An alternative to using a chalk line is to use a light gauge metal angle or c-channel section to mark your wall layout. The angle should be fastened to your footings/SOG with proper concrete screws or foam adhesive. When installing the first course, the angle/C-channel will serve as a guide against which you can place the blocks as per figures 7.5, 7.6 below.

However, should you need to make minor modifications to the wall placement after a few courses of block are placed, it becomes difficult to remove the metal angle after it has been screwed or adhered to the concrete footings/SOG.



Figure 7.5 – Using a C-Channel to mark your wall layout



Figure 7.6 – C-Channel section acting as a guide for the first course placement

7.3.2 - Outlining Windows / Doors

From your plans measure and mark the center of each door and window location on the footing/slab. It is also useful to mark the rough size of the opening.

7.3.3 - Outline Rough Size Openings

From your plans, carefully calculate the height intended for the bottom of each rough opening. From this rough opening height, subtract the amount that is the thickness of the buck (1½ inches if using 2x stock lumber or V-Buck). This line is the “cut line” for the block. Write this on the slab/SOG beside the rough opening size of the window. This is the height at which you will cut the block and install the buck.



**Tip**

If Amvic ICF installation will take more than one day to complete, protect the chalk line to avoid it being erased or washed away.

**Tip**

Consider snapping the chalk line at a 1/2 inch offset from the actual wall outline. Later on if you need to adjust the wall placement for any reason, then you can still see your marked outline.

