

10 Step Pool Construction Guide

This document is a condensed installation guide designed to provide the main steps in installing an Amvic ICF pool.

ICF blocks are easy to handle and no heavy equipment is required for lifting or cutting. ICF can be adapted to curved, radius and standard rectangular walls easier than most other pool systems. An ICF pool follows similar construction practices as an ICF concrete retaining wall.

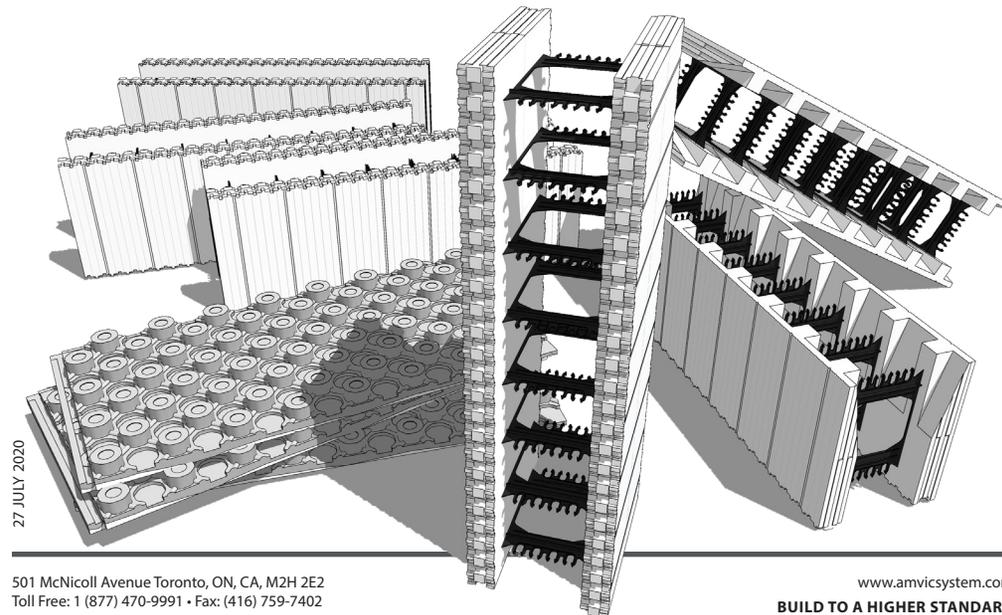
Why Amvic ICF Swimming Pool?

As is the case with ICF buildings, an ICF swimming pool provides structural longevity and reduced energy costs. It is estimated that up to 80% of a pool's heat lost is through the sides and bottom of the pool, since the ground conducts heat far more efficiently than air does. Considering the surface areas of a pool, continuous insulation is the best choice, and an ICF wall with an insulated slab are ideal products for modern day swimming pools.

In addition to the energy efficiency and longevity of an ICF pool the speed of construction is typically faster than other poured in place systems. The lightweight

Within the Amvic ICF product line, straight, 90° and 45° forms are available as well as various brick ledge, double taper top and radius forms.

In order to ensure the success of your ICF installation, Amvic offers a unique training program which covers the basics of ICF construction from footing to rafters including floor and roof connections, consolidation, proper rebar placement and much more. Classroom presentations and discussions as well as hands on wall building make for educational and engaging event.



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Step 7 - Slab

Most pool installers recommend that the pool bottom slab also be poured along with the ICF walls. This step will save in concrete pumping and delivery however more pre-planning will be required.

Step 8 - Interior and Exterior Finishes

Once the concrete has been placed in the ICF walls and pool slab, it is recommended that the interior of the pool be parged using fiberglass mesh and an ICF parge base coat. This will ensure a smooth rigid surface for the pool liner installation, or a base for a concrete faced pool.

On the exterior of the ICF wall, at the bottom place a drainage tile system with gravel around the footer and then install an ICF compatible self adhering waterproofing membrane on the walls.

Step 9

At this stage all the ICF installation requirements have been completed. Follow the pool manufacturer's installation instructions for skimmer basket, drains, circulation jets, lights, coping, pool liner, etc.

Step 10 - Backfill

Once the concrete cures, the pool filling can begin, as the water level in the pool rises the backfilling on the exterior of the ICF wall can also begin. The wall is backfilled with approximately a one foot width, of free draining fill (crushed/clear stone) against the outside face of the wall up to the landscaping in order to facilitate surface drainage into the drainage tile, and prevent accumulation of water against the wall which may lead to excessive hydrostatic pressure or lateral frost heave during the winter.

Note: Do not backfill the pool without water in the pool to balance the pressure on both sides.

Complete pool edge and decking as per landscape design, Enjoy many years of your energy efficient Amvic ICF pool.

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Step 4 - Second ICF Course

Install the second course of blocks by reversing the corner blocks, so that the second course is offset from the first (creating a running bond pattern). At this point check for level across all the block. If the course is not level, use shims or trim the blocks as required. After the second course of Amvic ICF blocks are installed and level, spray foam the blocks to the footers.

Step 5 - Pool Mechanical Check

Prior to installing the next ICF courses, identify the location of the pool mechanical features such as skimmer basket, jets, electrical, hydronic requirements and drain location, these will need to be cut out from the forms and detailed with buck or sleeve block outs (similar to openings in an ICF wall). See Amvic ICF Installation manual for more information. Continue to stack the ICF blocks to the top of the pool wall, inserting horizontal rebar and zip ties as required.

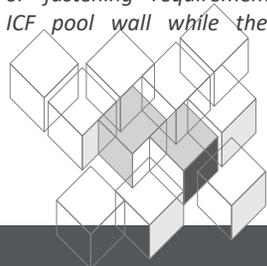
Note: If your pool plans include a prefabricated stair, cut and remove the Amvic forms at the desired location to allow the stairs to be cast in place when pouring the concrete.

Install the required ICF bracing at a recommended distance of 6' (1.8m) for straight sections and as required for radius and curved sections.

Step 6 - Pre-Pour Checklist

Install the vertical rebar as per the local building code and structural design. Perform a pre-pour inspection to ensure all items have been installed properly. When ready to place concrete in the walls following the Amvic ICF Installation Manual. The prefabricated stairs are also to be installed level and fastened as per the manufacturer's specifications at this time.

Note: Remember to place any anchor bolts or fastening requirements at the top of the ICF pool wall while the concrete is still wet.



Step 1 - Footing

After excavation, form the footings according to local building codes and structural design requirements. Pour the footings and place the vertical dowels as per structural design.

Note: Pool walls are usually designed as a cantilever retaining walls, in which case the outside face of the footer should be extended out under the fill (the weight of the fill will keep the wall from overturning and caving in).

Note: S-shaped bent dowels might be required to be placed in the inner side of the footer (matching slab reinforcement) to tie the wall and the slab together.

Step 2 - Pool Base

There are two main options for the pool base, usually the bottom starts with non-frost susceptible compacted granular fill followed by (typically) R10 (RSI 1.76) rigid board insulation, vapor barrier and concrete slab.

Note: When taped, high Density SilveRboard can act as the vapor barrier. More recently many pool owners opt to use a hydronic heating system for the pool base. Ampex insulated panel for radiant heating replaces the vapor barrier and rigid insulation. After PEX piping and the rebar (or welded wire mesh) are installed, concrete is placed to encase everything in a monolithic slab.

Step 3 - First ICF Course

Place the first course of blocks starting at each corner or ends of a radius. Complete the rest of the first course of blocks, cutting the blocks as required to form a continuous insulated wall and ensure that the cuts will provide the interlock for the full height of the wall. Zip tie the blocks together pulling them snug. Following this, install the horizontal rebar by placing it in the rebar holders at the top of the internal webs. The rebar is held securely and eliminates the need for wire tying.

