

10 Step Pool Construction Guide

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

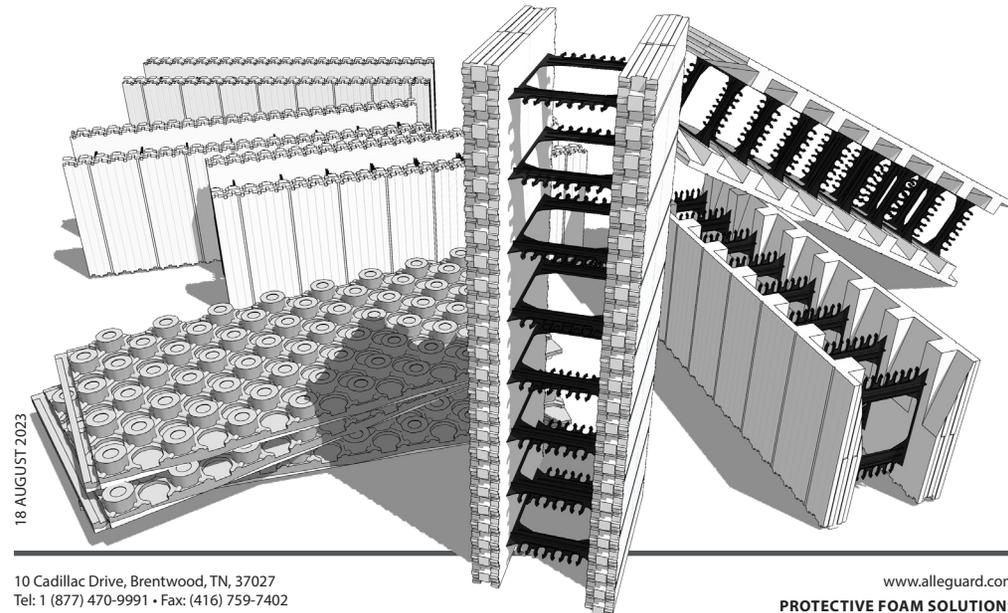
Why Amvic™ ICF Swimming Pool?

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 solutions 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

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. 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, Alleguard 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. Training is available through live and on demand webinars along with on-site training for specific projects.



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10 Cadillac Drive, Brentwood, TN, 37027
Tel: 1 (877) 470-9991 • Fax: (416) 759-7402

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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 7 - Exterior Finishing

On the exterior of the ICF wall, at the bottom, place a drainage tile system with gravel around the footer to ensure proper drainage away from the pool. Ensure that the drainage system is connected to a sump pump or sloped to drain away as per typical below grade foundation requirements. Install an ICF compatible, full height, self adhering waterproofing membrane on the walls.

Step 8 - Interior Finishing

Once the concrete has been poured, it is recommend 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.

Step 9 - Pool Finishing

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

Step 10 - Backfill

Once the concrete cures, the ICF wall is backfilled with approximately one foot in width, of free draining fill (crushed/clear stone) against the outside face of the wall up to the landscaping level 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.

Complete pool edge and decking as per landscape design. Once the water is filled, and the pool is tested You can enjoy many years of your durable and comfortable 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 ICF blocks are installed and level, spray foam the blocks to the footer/slab.

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 Alleguard's 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.

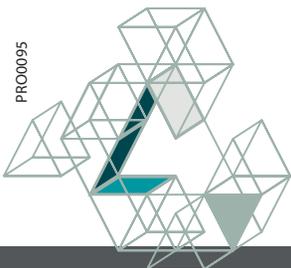
Note: If your pool plans include a prefabricated stair, cut and remove the forms at the desired location to allow the stairs to be cast in place when pouring the concrete.

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

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Step 1 - Footing

After excavation, form the footing or slab according to structural design requirements. Pour the footing/slab 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, insulated or uninsulated. For an insulated slab, 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. Some pool owners opt to use a hydronic system for the pool base. Ampex insulated panel for radiant panels replace 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.

