Poured concrete foundations have been popular for a few generations, and for a good reason — they’re easy to build, durable, and cost-effective. On the other hand, ICF foundations offer some extra benefits to both the builder and the occupant but require additional elements, like waterproofing and an ignition barrier.

So, which one is suitable for your project?

**This post will review the pros and cons of both ICF and conventionally poured concrete foundations**, so you can make an informed decision before you build.

**What Is an ICF Foundation?**

ICF foundations are built with Insulated Concrete Forms — Expanded Polystyrene (EPS) panels that serve as permanent formwork and insulation for the concrete they enclose.

Here’s the construction process in a nutshell:
ICF vs. Poured Concrete Foundations — Which One Is Best For Your Project?

First, the crew erects and braces the interlocking ICF blocks. Next, they install the rebar and secure it in the cavity between the EPS panels. Finally, the concrete is poured and allowed to cure. The result is a reinforced concrete wall sandwiched between 2 layers of continuous insulation.

What Are the Advantages of ICF Foundations?

Thanks to their composition and ease of installation, ICF products like Logix ICF offer several advantages when used instead of conventional poured walls. Here are a few of the most prominent pros of using ICF to build foundation walls:

**No need to rent forms.** Unlike conventional formwork, which gets rented for the duration of the concrete pour, ICF themselves serve as the forms. And you don’t have to remove them once the concrete is cured — they stay in place and serve as insulation. This versatility lets you skip form rental and removes the formwork stripping step from your schedule.

**Framing subtrades can perform this scope.** You don’t need any specialty trades to erect ICF foundation walls — your framing crew can do it. That said, it’s always best to use a team that has some experience working with ICFs.

**It’s easy to achieve any height.** Logix ICF blocks come with a standard height of 16 inches
but are also available in 12 inches (Logix V-12 series). With these blocks, you can easily hit any wall height in 4-inch increments. You can also rip the blocks with a table saw to get any vertical measurement you need.

The concrete cures well in any weather. Since it’s insulated on both sides, the concrete you pour between the EPS form is far more protected from the elements than it would be in a regular poured wall. All you typically need is a insulated cap (like Halo Subterra) for the top of the wall (where the concrete would be exposed) and a tarp — no need for expensive heating during the winter months.

Steel-reinforced for added strength. Logix ICF blocks comprise 2 EPS panels that are separated by webs. These webs are designed to accommodate steel reinforcement, so rebar installation is a breeze. That said, you may need to tweak your rebar schedule — and possibly modify rebar placement — according to your local code’s wind and seismic requirements.

No additional trades are needed to finish the job. Logix ICF blocks conveniently combine these 6 construction steps into 1:

- Concrete
- Rebar
- Insulation
- Air barrier
- Vapor barrier
- Furring strips

Because all these steps are merged into 1, you won’t need additional trades apart from the framing crew and the concrete truck.
ICF foundation walls are dry and comfortable. Foundation walls are typically subject to large amounts of moisture and hydrostatic pressure. Because ICF walls protect the concrete wall with a layer of EPS on both sides, you can rest assured that ground moisture won’t find its way into the basement these walls enclose.

No thermal bridging. Because ICF walls comprise a monolithic concrete surface with 2 layers of continuous insulation, there’s simply no easy path for heat to take from inside the assembly to the outside.

Prevents condensation in cold climates. While conventional foundation walls are left exposed to the winter cold — which causes condensation on their interior face — ICF walls are insulated on both sides. With the added protection from low outdoor temperatures, these walls don’t accumulate condensation on their warm side. What’s more, their ability to stay dry means that your buyers won’t have to worry about mold growth.
What Are the Disadvantages of ICF Foundation Walls?

Despite their many benefits, ICF foundations do have some cons as well. Here are the most crucial ones you should keep in mind before committing to ICF construction:

**Ignition barrier required to meet occupancy requirements.** The interior face of the EPS panel must be covered by a suitable ignition barrier — such as drywall — to qualify for a Certificate of Occupancy in most jurisdictions across the US and Canada.

**Waterproofing required.** You’ll need to apply a layer of waterproofing to the exterior side of the ICF blocks. The simplest way to do this is to pre-cut the peel-and-stick membrane to the required dimensions, roll it back up, then stick its edge to the wall and slowly unroll it as you apply it. Following this method, waterproofing an ICF foundation can easily be a 1-man job.

**It can’t be done cheaper.** If you choose to go with an ICF foundation, know that you won’t have any corners to cut to get the job done cheaper.

What Is a Poured Foundation?

Popular since the 1980s, ‘conventionally poured’ foundations are simply concrete foundations that are poured in-situ (cast-in-place). They comprise 8-10-inch-thick concrete walls that sit on top of spread footings — all of which are reinforced and poured on site.

To build a conventionally poured concrete foundation, your crews will first erect large forms to hold the concrete once it’s poured. Then, they’ll set up the reinforcement and finally pour the concrete mix and allow it to cure. After the concrete is cured, the crew has to strip the formwork and carry on with other tasks, like dampproofing, insulation, and applying the vapor barrier.
What Are the Pros of Poured Foundations?

They are highly durable. Poured concrete foundations combine the compressive strength of concrete with the tensile strength of steel reinforcement to offer a durable product that can last for many decades.

Poured concrete foundations are fire-resistant. Since they don’t contain any flammable or organic matter, concrete foundations can resist the spread of flames.

These foundations can keep out termites. Termites can cause enormous damage to wood-framed homes, but concrete foundations are not susceptible to these pests. That’s because they don’t contain any organic matter through which the termites could burrow.

Poured foundations are great if you’re on a budget. You can leave them unfinished and uninsulated, which can trim a good chunk of change from your construction budget. Best of all, your buyers can finish their basements later if they choose.

No ignition barrier is needed for occupancy. Unlike ICF, a concrete foundation doesn’t require an ignition barrier on the interior. This means that you can get your certificate of
occupancy without having to put up drywall on the basement walls.

What Are the Cons of Poured Concrete Foundations?

**Poured foundations are not insulated or finished in any way.** If the basement is intended as a living space, you’ll have to insulate and finish the foundation walls per your local code.

**Poured, finished foundations can promote condensation in cold climates.** If the interior of the foundation is warm and the exterior is cold, the wall can become an unintended source of condensation.

**Concrete walls should not be poured in extreme weather.** Temperatures that are too hot or too cold can negatively impact the concrete’s ability to cure. That’s why scorching summer and chilly winter weather are not ideal for concrete pours.

**Formwork rental required.** You’ll have to rent, set up, and then strip away the forms that hold the concrete in place as it cures. What’s more, the height of the forms will affect your ability to hit some of the less common wall height measurements.

**Potential water ingress issues.** Concrete foundation walls are typically dampproofed — not waterproofed — which means that the walls are not adequately protected from groundwater. If the poured concrete cracks, water can easily get into the foundation, requiring the owner to undertake an expensive investigation and repairs.

Wrapping It Up

Both ICF and conventionally poured concrete offer a great way to build foundations, and you may choose one or the other depending on the circumstances. Here’s a brief recap to help you make this call:

**ICF foundations are preferred when:**

- The basement will be a living space.
- You want to use fewer trades during construction or are an owner-builder.
- You’re building in cold climates.
- You want long-term energy savings.

**On the other hand, a poured concrete foundation may be the better option if:**

- The basement is intended as storage rather than a living space.
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- You’re on a budget.
- The building site is located in a milder climate.

**Building School Safe Rooms With ICFs**

Discover the many advantages of building school safe rooms with ICFs and share some recent statistics about safe rooms built with insulated concrete forms for hard-hit regions of the US.

**One-Minute Engineer Is Now Available in Canada (US Version Coming Up)!**

Logix is the only ICF supplier to have developed an engineering app like the One-Minute Engineer and it will save you considerable time and money during the design phase!

**A Spa With a View**

This Logix ICF infinity pool was recently built high up in Utah’s Rocky Mountains ranges. Here, you’ll learn how the project team dealt with numerous challenges — from freezing temperatures and high altitudes, to a lack of bedrock on which to base the foundation.