

HOW TO BUY A FIBERGLASS POOL IN 2024

River Pools®
CATCH THE WAVE

ABOUT THIS EBOOK

This guide was originally written by Jason Hughes and was updated on May 6, 2024, with current information. River Pools is a brand of inground fiberglass pools produced via the River Pools division of the manufacturing facility in Fortville, IN. While our expertise is in manufacturing fiberglass pools, we are part of an extensive network relating to all things inground pools. Our own collective experience from over the years spans manufacturing, project design, installation, and pool service. We often tap into this knowledge base and share information freely with homeowners, just like you, who are considering having a swimming pool installed in your backyard.



So you're thinking about buying a pool . . .

We're honored to provide these resources to help you in your journey. We know you have many options for your future pool, and we want to help you make the best decision... even if it means sending you to another pool brand.

We know reputations are hard to build and easy to lose. That's why our business is built around two simple promises:

Honesty and transparency.

We want each step of your journey — from the very first Google search to the last day of construction with the independent installer — to be a positive one.

Of course we want your business... but first, we need to earn your trust.

We are River Pools, a brand of inground fiberglass pools produced in Fortville, IN. Our reputation has given us the opportunity to expand across North America, with the help of a network of independent installers.

We wouldn't be here without the trust of discerning pool buyers like you... and we look forward to the opportunity to provide a quality pool for you and your family.

We mentioned a journey on the previous page. We were of course referring to the research journey we imagine you are on at this very moment (or if not, you may be soon!) The beginning of that journey will likely be focused on discovering what kind of pool you want: there's concrete, vinyl liner, and, of course, fiberglass. Remember, we pride ourselves on honesty and transparency. Each pool type has its pros and cons, and we want you to make the best and most informed decision for you and your family.

Tools such as our new interactive Pool Type Selector can hopefully aid in that decision. Plus, it's free! Get your personalized results in a few clicks through the link below:

TAKE THE POOL TYPE QUIZ!

Want to skip the reading (can't blame you!) and get a quick-and-easy comparison of the three types? This chart covers the pros and cons of fiberglass, vinyl liner, and concrete pools:

INGROUND POOL COMPARISON	FIBERGLASS	GUNITE	VINYL
SPEED OF INSTALLATION	★ ★ ★	★	★ ★
SURFACE COMFORT	★ ★ ★	★	★ ★ ★
SURFACE DURABILITY	★ ★ ★	★ ★	★
UPFRONT COST	★ ★	★	★ ★ ★
MAINTENANCE TIME & COST	★ ★ ★	★	★ ★
CUSTOMIZABLE	★	★ ★ ★	★ ★
HIGH-END FEATURES	★ ★	★ ★ ★	★
COMPETITIVE WARRANTY	★ ★ ★	★ ★	★
ENVIRONMENTALLY-FRIENDLY	★ ★ ★	★ ★	★
OVERALL INVESTMENT	★ ★ ★	★ ★	★

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CHAPTER 1: WHAT DOES A FIBERGLASS POOL COST IN 2024?

This chapter will help you calculate a ballpark price for your overall pool project.

Prefer to get answers through video? Here's our video guide to inground fiberglass pool prices:



Buying a pool is a lot like buying a house. Your price or cost will depend on many factors, including your location, the size of your yard and the size of your desired pool, and the materials needed to create the pool you want.

A few key considerations:

- **Turnkey installations for a River Pools fiberglass design tends to range from \$70,000 to \$135,000. The lower end of this range represents a smaller pool (10x20ish) with minimal patio or decking; and the upper end represents a larger pool with a few options and accessories. It is unlikely that a project will cost much less than \$70K, but an inground pool project with an elaborate outdoor living space could certainly go beyond \$135K.**
- **Prices can vary greatly based on climate, regional availability, and other factors.**

How to plan your pool budget

Most customers want a team of professionals installing their pools. In fact, we strongly recommend you do the same. Working with an installer you've thoroughly vetted and feel comfortable with will help you understand all costs associated with your project.

In preparation for meeting with installers to discuss pricing, we recommend you understand costs that will be essential for a functional swimming pool. For now, we're going to exclude options & accessories and focus on project elements that ensure the pool is installed:

- The base package
- The patio
- Other requirements

1. How much does the base package cost?

Every contractor's base package is unique.

Base packages can vary from builder to builder, but they'll all typically include the pool shell, installation, plumbing and filtration, and enough water to fill your pool for the first time. You can expect to see base package costs range anywhere from \$55,000 - \$100,000 depending on the size pool you choose. You're going to want to understand the differences between base package costs and full project, or turn-key, costs.

Be sure to **get detailed information on every bit of labor and materials**, and **get EVERYTHING in writing!** We encourage you to use the following checklist as your guide to be sure you have details for all the project planning essentials:



Here's a checklist of common costs and expenses on a fiberglass pool installation project:

- ☐ Building permit
- ☐ Fiberglass pool shell
- ☐ Delivery of pool shell
- ☐ Crane fee (if required)
- ☐ Hitting rock during excavation (if applicable)
- ☐ Dirt hauling fee
- ☐ Yard drainage
- ☐ Stone backfill for installation
- ☐ Water to fill pool
- ☐ Cost of retaining wall (if required)
- ☐ Electrical hook-up cost
- ☐ Final grading/landscaping of yard
- ☐ Pool fence or other required safety barrier
- ☐ Pump and filter system
- ☐ Pool vacuuming/cleaning equipment
- ☐ Patio cost

Will the shape of my pool affect its price?

When talking about fiberglass pool prices, keep in mind that size (not so much shape) matters... at least when it comes to calculating your pool costs. Typically, the more total space your pool will occupy, the more it'll cost.

BUDGETING TIP: To calculate a ballpark cost for your base package in most of the U.S., you can try using our [Design + Pricing Calculator](#). You may go through and select the options that best suit your pool needs and get an idea of what it may cost. Again, this is only a ballpark estimate — contact your prospective pool builders to get an accurate quote.

2. How should I set my patio budget?

The cost of your pool patio is based on two things:

- *Patio square footage*
- *Construction materials*

How big should your patio be?

The average pool patio is between 600 and 1,000 square feet, which provides enough space for several lounge chairs, an outdoor dining set (table and chairs), and walkable areas around the entire pool.

Many homeowners will focus patio construction on no more than one or two areas around the pool. This approach can provide you with more deck space on two sides of the pool where your family and guests are most likely to gather when not swimming, while keeping this part of your project within budget.

How much do patio materials cost?

These are the most common patio materials in 2024. Your costs may differ:

Poured concrete	\$15-20 per square foot
Concrete pavers	\$25-40 per square foot
Natural stone	\$60-80 per square foot

3. Other Potential Requirements

If necessary, retaining walls (or other safety barriers) — can get very expensive. Depending on the size, they can obviously vary a huge degree. Most walls cost between \$7,500 and \$20,000, but larger and more elaborate retaining walls sometimes cost upwards of \$35,000+.

If you don't have a fence that meets any pool-related building codes for your area, you'll also need to shift some of your budget into fencing.

PRO TIP: If any portion of your pool will be above the ground by 30" or more, a retaining wall will be necessary to hold backfill material in place. Your builder should be able to assess the need for a retaining wall after the desired level of your pool deck is determined.

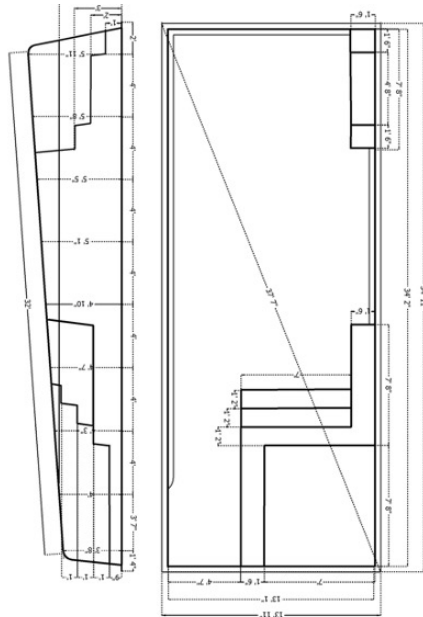
Ready to price your pool project?

[CLICK HERE TO REQUEST A QUOTE TODAY](#)

Other Pool Pricing Resources:

- [5 Ways to Make Your Swimming Pool Project More Affordable](#)
- [Seasonal Savings and Inground Pools: Is Spring or Fall/Winter a Better Time to Install?](#)
- [Cheap Concrete Pools, the Economy, and Common Pool Buying Mistakes](#)
- [Inground Pool Cost of Ownership: Fiberglass vs. Concrete vs. Vinyl](#)
- [How Much Swimming Pool Patio Do I Need?](#)
- [Top 7 Hidden Costs of an Inground Pool Project](#)

CHAPTER 2: WHAT'S THE RIGHT SIZE FOR YOUR FIBERGLASS POOL?



Fiberglass pools come in many sizes. Here's what you need to know...

Manufacturer measurements are taken at the widest and longest points of the pool.

All River Pools fiberglass pool dimensions include a 6-inch wide structural beam around the top of the pool. This means the true "water's edge" measurement of a 16' x 40' fiberglass pool is closer to 15' x 39'. Reduce length and width by one foot each to get the true interior dimensions of any fiberglass pool.

Common fiberglass pool sizes

Fiberglass pools can be broadly categorized into three sizes, based on the length of the pool.

- *Small fiberglass pools can be up to 26' long.*
- *Medium fiberglass pools will range from 27' to 34' long.*
- *Large fiberglass pools are typically 35' to 41' long.*

POOL SIZE NOTES: Fiberglass pools are generally no more than 16' wide due to highway transport regulations. Small fiberglass pools are usually between 10' and 12' wide. Medium pools range from 13' to 14' wide. Most large pools are 15' to 16' wide. There are, of course, many exceptions.

After all these years in the pool business, I can't recall a single homeowner telling me their fiberglass pool wasn't big enough.

POOL SIZE TIPS:

- Most adults spend more time around the pool than they will inside it. When it comes to entertaining, patio space can be as important as the size of your pool.
- Kids are always happier with a small pool when the alternative is no pool at all.
- The average size of an inground pool in America is 15' x 30'.

You can also check out these articles and videos:

- [Are Fiberglass Pools Too Skinny? Does Width Really Matter?](#)
- [How to Choose the Right Swimming Pool Size for You and Your Family](#)
- [How Do I Choose the Right Fiberglass Pool?](#)
- [What Is the Best Small Pool for a Small Yard?](#)

CHAPTER 3: WHICH FIBERGLASS POOL DESIGN IS RIGHT FOR YOU?

Let's start with two basic questions:

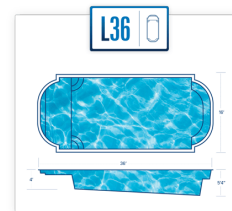
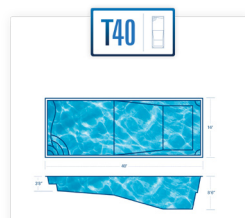
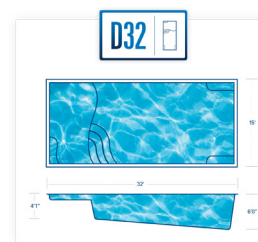
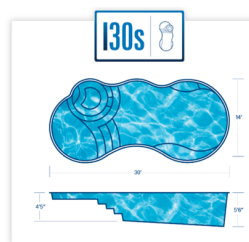
- *What features do you want in your pool?*
- *What shape do you want?*



1. What features do you want in your pool?

These features are popular with pool buyers:

- Tanning ledges
- Open swim lane
- Non-skid textures
- Bench seating
- Open play/swim area
- 8' deep end
- Automatic cover compatible
- Integrated steps





Tanning ledges

Tanning ledges have become quite popular with pool buyers because they give you another way to enjoy your swimming pool experience.

Adults love relaxing in a partially submerged chaise lounge while enjoying a book and/or a tasty beverage. The ledge's shallow water provides more comfort than a hot concrete patio.

Kids can play and splash around in the ledge or use it as a platform from which to enter the pool. Shallow tanning ledges can also help younger children acclimate to the water and learn to swim.



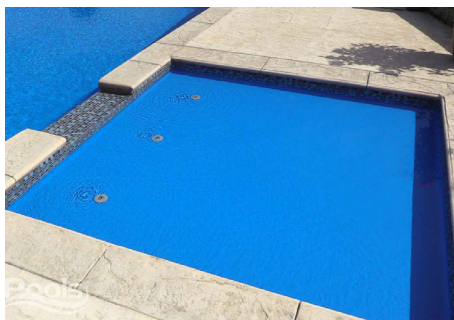
Our L36 tanning ledge.



A tanning ledge on a D Series model



Our D Series tanning ledge.



A custom-built 9' by 9' tanning ledge.

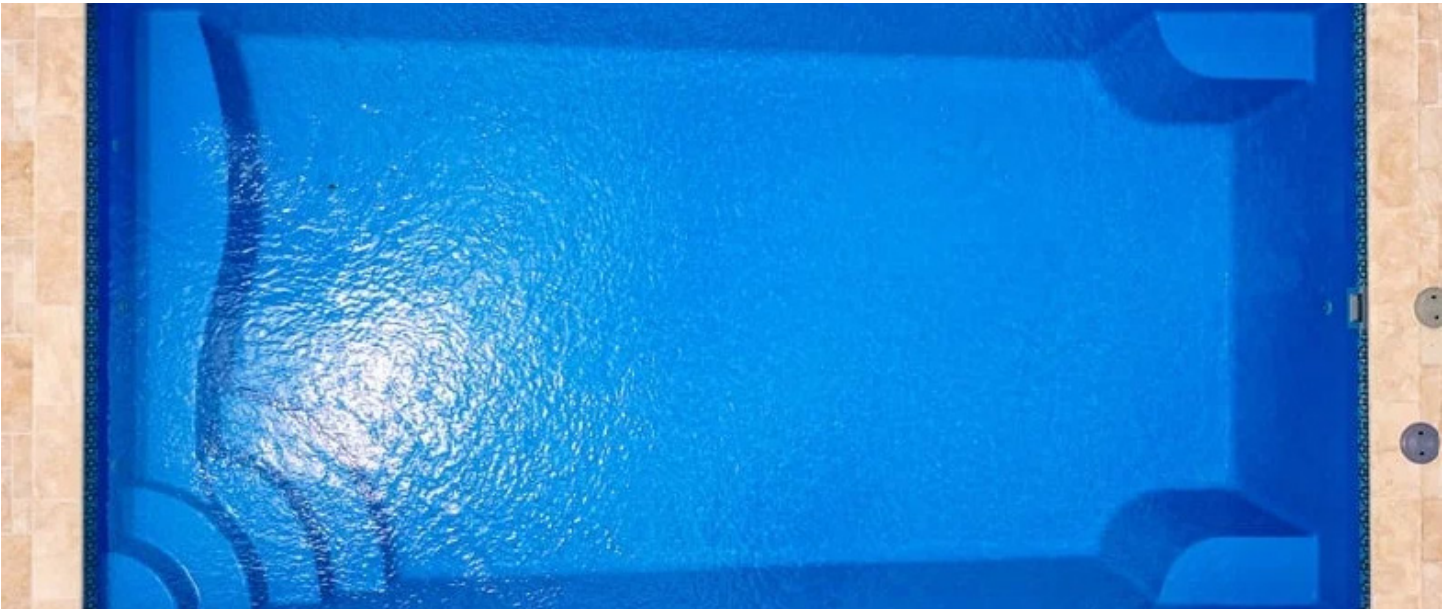


A tanning ledge on our C Series.

Bench seating

Bench seats, which are typically integrated into the design of a fiberglass pool shell, provide another space to enjoy quiet moments or hang out with friends and family.

Therapy jets can be built into bench seating areas. Many pool owners enjoy the soothing sensation of therapy jets in their bench seating.



Automatic cover compatible

Automatic pool covers can roll across the top of a pool with the flip of a switch to protect the pool's water, walls, and interior features from the elements.

Automatic pool covers tend to work best with straight-edged pools, which allow the cover's tracks to be concealed under the coping edge. Ask the builder completing your project if your chosen pool can use an "under-track" system, or would otherwise be considered auto-cover compatible.

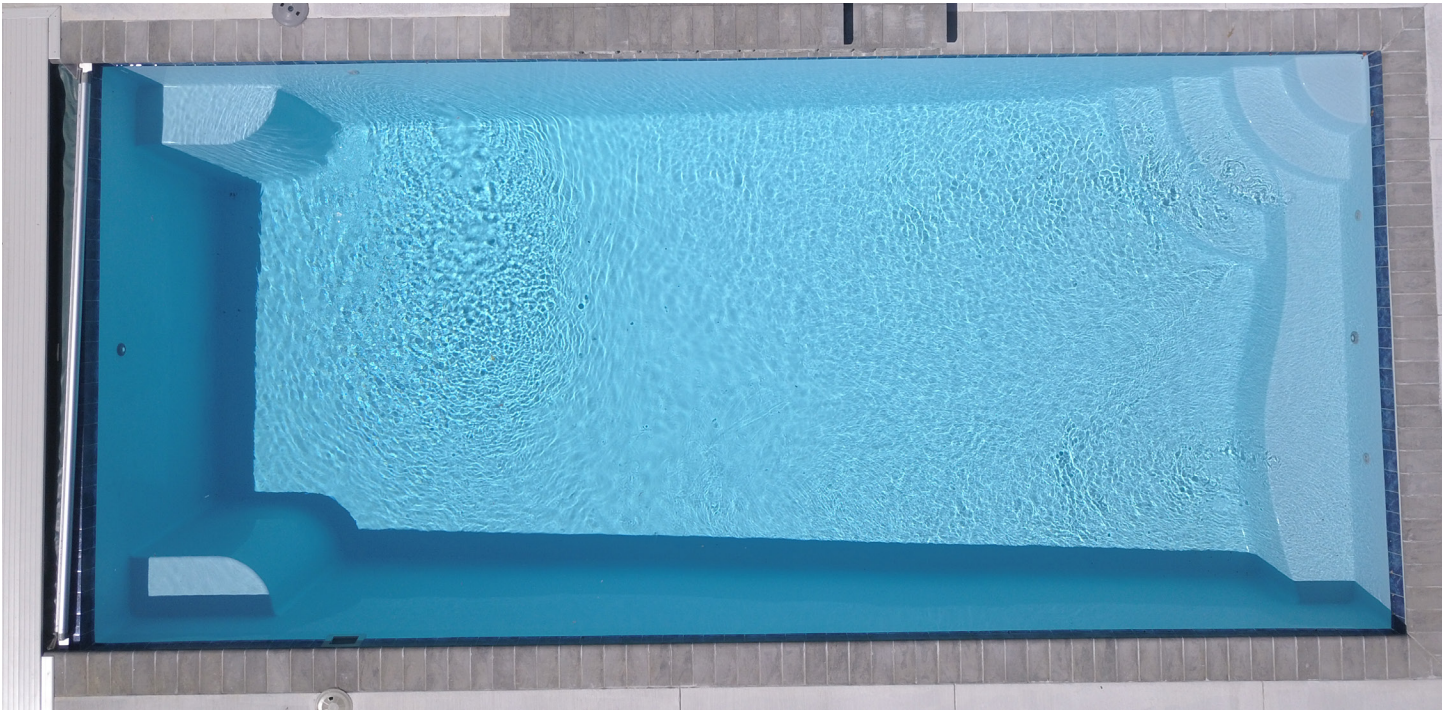




Open play/swim area

If you just want to get the most bang for your buck, pools designed to offer the largest open “play space” will probably provide what you need.

Rectangular pools typically have the most open interiors. However, some freeform pool designs (like our C Series) can provide ample swimming space on top of their curb appeal.



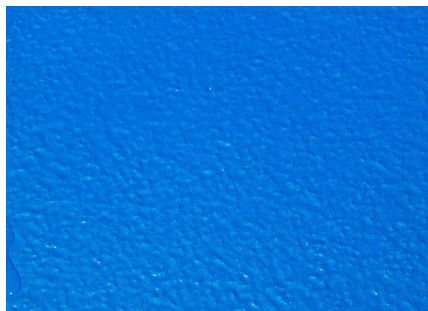
Integrated steps

Pools with steps built into their designs provide certain benefits, and our fiberglass pools include seamless entry and exit points in their designs.

Other pool types often require the addition of plastic steps protruding from the natural footprint of the pool.



Non-skid texture



“All River Pools models use textured surfaces on steps, tanning ledges, and floors.”

2. What shape do you want?

Most pools are classified by one of two shapes:

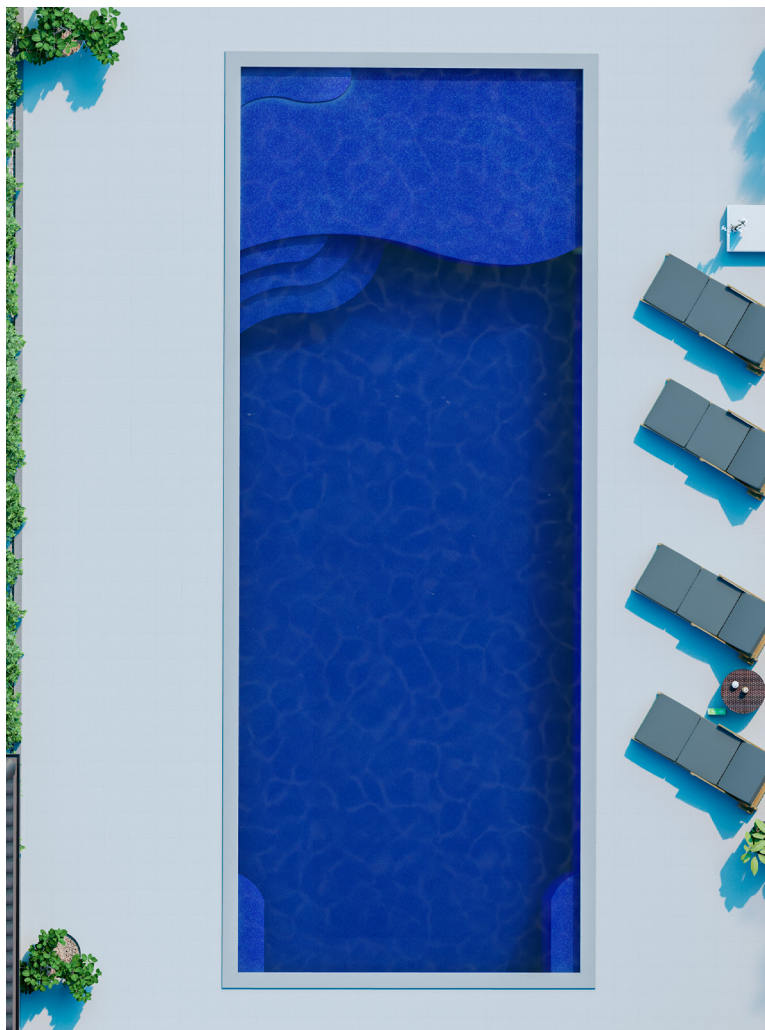
- Linear
- Freeform

Linear pools tend to have either rectangular or “Roman end” configurations.

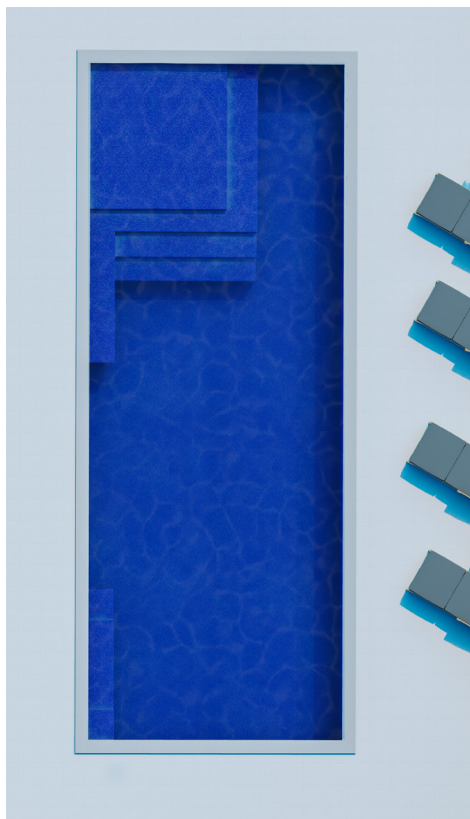
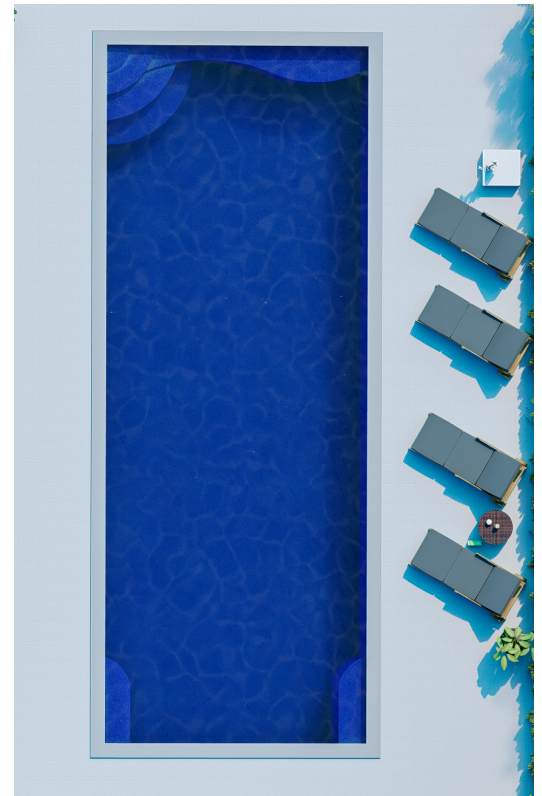
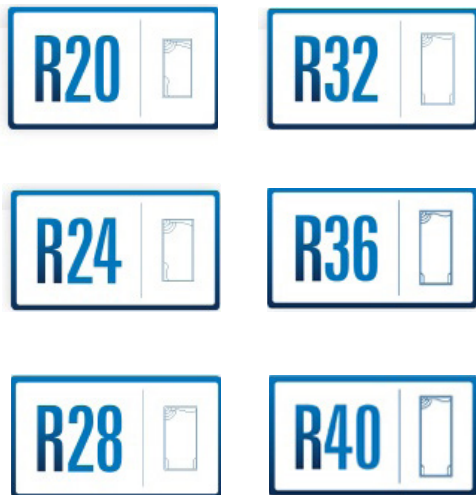
Roman end pools have a distinctive arch at one or both ends. Both types of linear pools are compatible with automatic covers -- you can use an “under-track” system beneath the pool’s coping.

Check out our linear pool designs:

The D Series



The R Series



The M Series



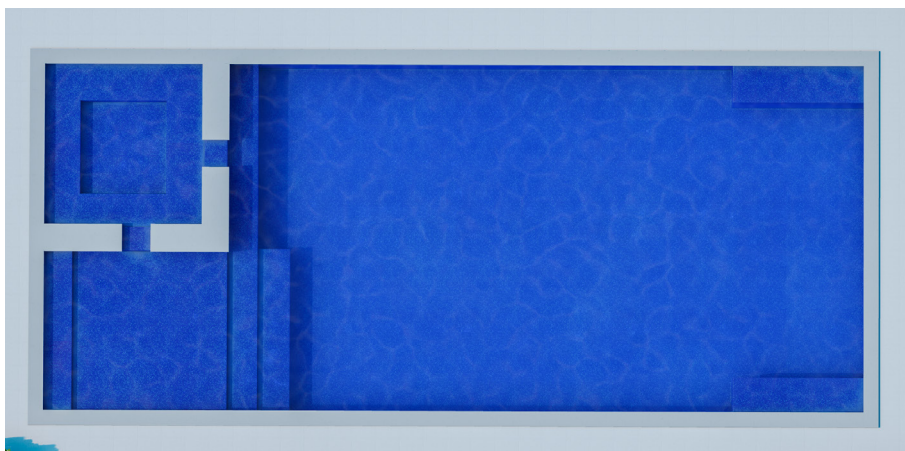
The T series (T40)



The L Series (L36)



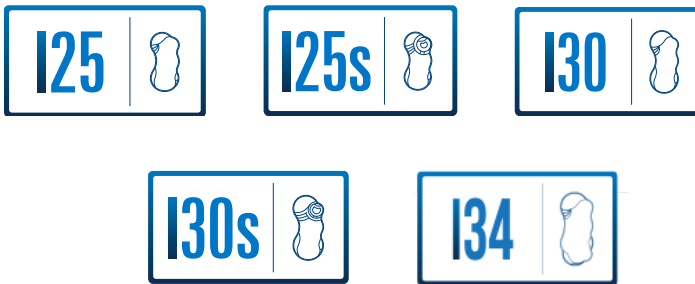
The X Series (X36)



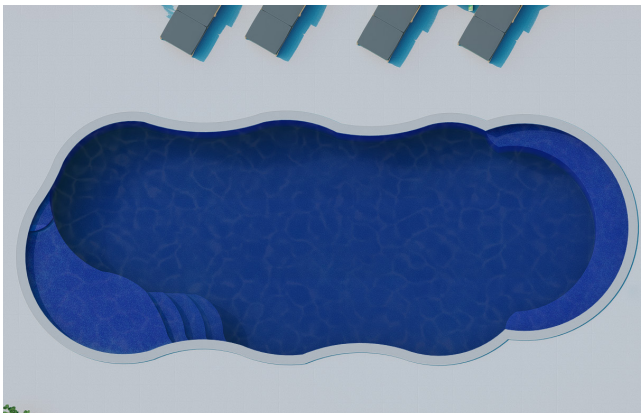
Freeform pool designs

Smaller freeform pools provide curb appeal, often at the expense of total usable swim space. However, some designs do offer an optimized swim space.

The I Series design is a “balanced” freeform pool shell. It gives you more open swim space than many other small freeform pool in its class, without sacrificing popular built-in features.



The C Series design is a larger freeform design - it offers more swim space than similarly sized freeform pools, and it also includes a tanning ledge and generous bench seating.



Not sure what design you want in your backyard? Take our Pool Shape Quiz!

FIND YOUR PERFECT POOL SHAPE!

CHAPTER 4: WILL YOUR YARD WORK WITH AN INGROUND FIBERGLASS POOL?

There are a few things a builder will look for when surveying backyards for an inground pool installation. Here are two they often look for right away:

1. The usable area
2. The slope of the yard

Lack of space is an obvious deal breaker. They also look at the slope or grade of the yard, which determines whether or not a pool will need retaining walls, which can have a dramatic impact on the cost and design of the overall project.

BACKYARD TIP: Measuring your yard for a pool? Contact your local building and zoning office to determine the setbacks from the property and the house itself. Ask about easements or other restrictions on your property that might affect your pool or patio placement. You should also get any underground utilities marked (typically by the utility company) so they won't be damaged or get in the way during pool installation.

There are several other factors that can make your backyard a good (or bad) fit for a pool:

Access

An inground pool is often the largest project in any backyard. You're usually hauling tons of dirt out and bringing multiple truckloads of materials in...not to mention the pool shell itself, which needs to get to the yard from the nearest accessible pathway.

Experienced pool installers can move a fiberglass shell through extremely tight pathways. Don't give up on your pool dreams before talking to installers!

PRO TIP: A typical excavator will need an access point that is at least 16' wide to access your backyard. Smaller machines may be used if necessary, but may add cost to your project.

Trees

We're often asked: "How close can trees be to my pool?"

Our general understanding is this: the underground parts of most trees are often mirror images of the parts you can see above ground. A tree with widespread branches usually has a more widespread root system.

An installer may try to preserve as much root system as they can, but sometimes a larger, older tree will have extended its roots throughout your yard. You ideally want your pool and patio to sit outside a tree's "drip line" -- just beyond the reach of its furthest branches. This isn't always possible, so you may need to remove some trees to safely and securely install an inground pool.

BACKYARD TIP: If trees need to be removed, make sure you remove any stumps that might sit within or near your pool and/or patio area instead of grinding it down. An installer may ask their customers to cover the cost to haul away and dispose of said stumps, but the end result is a safer and more stable installation, with no risk of damage to the sides of your pool from dead and decaying root systems.

Privacy

There are many ways to guard your pool area from prying eyes.

Privacy fences and landscaping can usually create a screen around your pool. However, keep in mind that although trees and other plants can create an effective visual barrier, they don't do a great job at blocking or muffling noise.

Want a pool professional to evaluate your yard?

[CLICK HERE TO GET CONNECTED!](#)

Other backyard guidelines:

- [What Is the Best Small Pool for a Small Yard?](#)
- [Inground Pool Elevation: How High Should I Set My Pool?](#)
- [Fiberglass Pool Retaining Wall Video: Solutions for a Sloped Yard](#)
- [Inexpensive Retaining Walls for Inground Pools \(Video\)](#)

CHAPTER 5: FIBERGLASS POOL OPTIONS AND ACCESSORIES

Ready for a crash course in pool options?

We'll cover these popular options:

- *Pool colors*
- *Salt chlorine generators*
- *Pool lighting*
- *Pool covers (automatic, safety, standard winter, solar)*
- *Pool heaters*
- *Waterline tiles*
- *Automatic vacuum cleaners*
- *Cascades and water features*
- *Pool fencing*

Pool colors

Most fiberglass pools in America had white finishes in the 20th century.

However, today's pool buyers can choose from a range of attractive and aesthetic fiberglass pool finishes -- including white, which has made a comeback thanks to buyers seeking a mid-century modern look.

Here is our range of pool colors:



Homeowners looking to get a pool by River Pools may choose the Arctic Shimmer, Caribbean Sparkle, and Diamond gelcoat colors at no extra cost -- our other colors are considered upgrades and may cost more.



Arctic Shimmer



Caribbean Sparkle



Diamond



California



Maya



Sandstone

Salt vs Chlorine Sanitation Systems

A chlorine system is likely what is typically thought of when someone thinks about a swimming pool sanitation system. It is generally considered a cheaper option. These systems use a pump (to circulate the water in your pool and keep it clean) as well as cleaning equipment. They also tend to use less electricity than a salt system, but the chlorine products needed may be more expensive than salt.

Believe it or not, salt water pools are chlorine pools. That may sound strange, but it's true - salt chlorinators convert salt dissolved in your pool water into pure chlorine. People often gravitate towards this option due to the soft, silky water it produces.



The maintenance and exceptional water feel make salt water chlorinators tough to beat. However, because salt water pools seem so easy to maintain, people tend to neglect them. You won't smell any chlorine, but chlorine levels can still rise to damaging levels and erode surfaces and equipment.

Any sanitation system will need close observation and careful attention in order to ensure your pool stays in the best shape possible.

Testing often is essential to monitor chlorine, and other key chemistry elements like pH and alkalinity. But, monitoring the ranges with a simple test kit or at the local pool won't be enough to maintain your pool. Balancing your pool water using the Langelier Saturation Index (LSI) will help maintain your pool shell and daily chemistry.

FREE Tool: Use [this free online calculator](#) to help achieve perfect water balance for your pool!

Pool lighting

We're often asked...

1. Are pool lights safe?

As long as they're installed correctly, pool lights are completely safe. Most modern pool lights are low voltage (12 volts), compared to older pool lighting, which typically used 120 volts.

2. What color are they?

Most pool lights you might install in 2024 can be controlled by switches, remotes, or even mobile apps, and can be customized to shine any way you want.

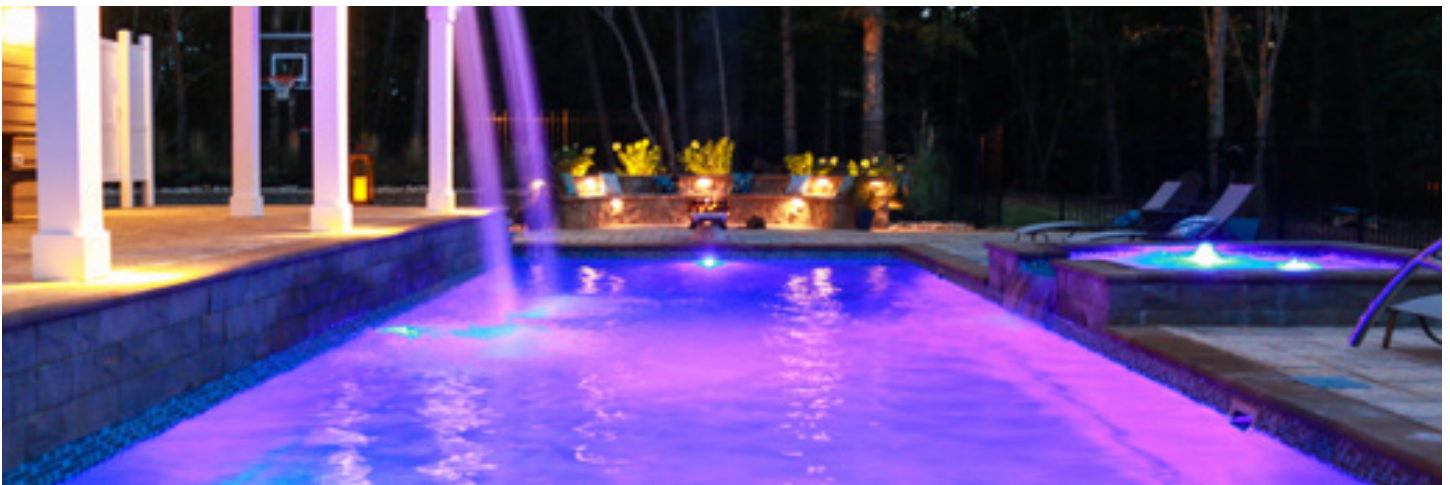
By default, LED pool lights may cycle through colors when turned on, similarly to some Christmas lights and other modern decorative lighting.

3. How many lights will you need?

Based on our knowledge, we recommend two lights for pools at least 30' long. Your pool's surface color can impact lighting effectiveness, as darker surface colors will absorb more light. If your pool is longer than 35' and you really want it to pop at night, you might want three to four lights.

4. How much will they cost?

One LED light tends to cost around \$900 and up when fully installed in a fiberglass pool.



Pool covers (automatic, safety, standard winter, solar)

Most of the United States gets pretty cold in the winter months, and pool owners often prefer to use pool covers to protect pool surfaces from the elements. There are four main types of pool covers:

Standard winter cover

\$121 and up

Standard covers are made of tarp-like material and are held down with weighted bags.

Standard covers may only last 1 or 2 seasons before you'll need to replace them.



This is NOT a safety or security cover. Most standard covers hold very little weight. It's simply an inexpensive way to keep sunlight and debris out of your pool -- as long as the cover stays in place.

Standard covers also require a pump, and you'll have to keep an eye on the cover during the off-season, to keep anything from accumulating on top and potentially pushing the cover into the pool. Standard covers aren't known for stability. It's common to see standard covers come loose in the offseason.

Security/Safety Cover

\$3,100 and up (installed)

Many pool owners we're familiar with get security or safety covers. Security covers often look like a trampoline, with spring-loaded straps anchored to the concrete surrounding your pool. There are two kinds of safety covers: mesh and solid safety covers.

Mesh covers allow water to fall through, eliminating the need for a cover pump. On the other hand, they also allow sunlight through, which can result in algae blooms. Fiberglass pools are virtually nonporous and as such, it's easier to get rid of algae -- it's usually gone within a day or so after the season's first cleaning.

Mesh covers typically last between 10 and 15 years (several years longer than solid covers), cost less than solid covers, and are virtually maintenance-free, which makes them the preferred choice for many fiberglass pool owners.

Solid covers will fully block light and debris when properly secured. This can keep your pool cleaner during the offseason. However, because water can't get through, solid covers require cover pumps and watchful eyes over the offseason. Solid covers typically last 6 to 10 years. A cover pump will typically last 2-3 years, with a replacement cost of \$200-\$350.



Automatic covers

\$14,150 and up (installed)

Automatic pool covers can be costly, but they have certain advantages:

- *Reduce maintenance (easier to keep out debris)*
- *Helps keep pets and small children out of the pool when properly utilized*
- *Trap heat at night (warmer water during the day)*
- *Block unwanted guests and/or critters*
- *Eliminate the need for pool fencing (in some areas)*
- *Minimize or eliminate pool water evaporation*



How long do automatic covers last?

An automatic cover typically lasts between 4 to 8 years depending on where you live and the amount of UV exposure. You can replace the fabric for an average cost of \$4,000 to \$6,000. This does not factor in things like replacing the motor, pulleys or ropes in the cover's webbing.

Are there disadvantages to automatic covers?

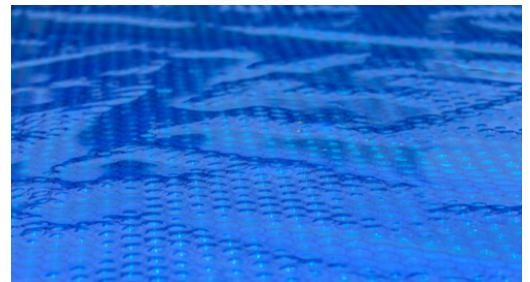
Automatic covers can be so effective at retaining heat that many customers open the cover some nights to allow their water to cool off. Pools with auto covers can easily reach water temperatures in the mid to high 90s during midsummer if you don't cool them off. This can be counteracted by heat pumps with a "cool" setting. Keep in mind that pools with automatic covers need to be opened frequently to allow trapped gases to escape, as they will likely hold chlorine in and prevent it from evaporating as needed. Check with the manufacturer of your cover for guidance on proper care and maintenance.

Solar covers

\$385 and up

Solar covers work exceptionally well for one thing: extending the swim season by retaining heat overnight.

On average, the use of a solar cover will extend your swimming season by four to six weeks, with half that time extended from the normal start and end of the season.



Why doesn't everyone use solar covers?

They can be quite cumbersome. We believe reel systems are the best way to remove and reinstall the cover, but they span the width of the pool and take up a lot of space.

One common misconception about solar covers is that they're effective at keeping debris out of the pool. Unfortunately, they don't. Debris that collects on the cover still needs to be removed, or it'll end up in the pool anyway. It's just as fast to vacuum your pool.

Swimming pool heaters

There are two common types of pool heaters: natural gas (or propane) heaters and electric heat pumps. Pool heaters are generally only used at the start and end of the swim season. These types of heaters typically cost \$4,200 and up, not including any ongoing costs of gas, costs to connect your heater to a fuel source, and the cost of an electrical hookup.

Natural gas or propane

Fuel-powered pool heaters can burn liquid propane (LP) or natural gas (NG) to heat pool water. You'll need a source of fuel, as well as an electrical hookup, to operate a LP or NG pool heater. Please keep in mind that building codes may dictate where a pool heater can be located.

These types of heaters typically cost \$4,180 and up, not including any ongoing costs of gas, costs to connect your heater to a fuel source, and the cost of an electrical hookup.

Pros:

- *Heats pools fast*
- *Works in any ambient temperature*
- *Somewhat less expensive up front than a heat pump*

Cons:

- *Quite inefficient*
- *Expensive to operate (generally \$300 to \$800 a month)*



Swimming pool heat pumps



Pool heat pumps are similar to heat pumps used in the home. They operate by condensing heat from outside air to heat the water.

A heat pump will need an electrical hookup. Because these pumps use electricity to generate heat, their hookups are more expensive than electrical hookups for a liquid fuel heater.

On the other hand, you'll only need to pay for electricity use, and you'll never need to deal with fuel refills or other related issues. Heat pumps typically cost between \$6,500 and \$8,000.

Pros:

- *75% more efficient than gas heaters*
- *Lower operating costs (usually between \$50 and \$250 a month)*
- *Some heat pumps have a built-in chiller feature*

Cons:

- *Higher upfront cost to install*
- *Only works above 55°F*
- *Heats slowly (can take several days to reach desired temperature)*

Most pool owners we know choose heat pumps for their reliability and cost-effectiveness in operation.

If you want a wider range of control over your pool's temperature all year round, and you don't mind a hefty fuel bill, get a liquid fuel (LP/NG) heater. If you want a longer swim season for the most reasonable long-term cost, get an electric heat pump. There are other variables that play into whether or not you can achieve the temp you want at various times of year.

Waterline tile

\$2,860 and up



Waterline or perimeter tile is ceramic or glass tile fixed to the surface of a fiberglass pool with waterproof silicone adhesive. The adhesive and its accompanying silicon-based waterproof grout will allow waterline tile to flex and move with the pool shell.

Is waterline tile required on fiberglass pools?

Fiberglass pools don't *need* waterline tile to prevent staining, as other inground pools might. However, many pool buyers like waterline tiles for the added aesthetics.

Pros:

- *Aesthetics*
- *Minimizes or reduces age-related surface dulling*

Cons:

- *Lifespan of 7 to 10 years*
- *Replacement tile tends to cost several thousand dollars*

Automated controls and tools

\$1,100 and up



It's possible to control every feature and function in your pool from your phone or tablet. Many pool automation tools also come with their own proprietary touchscreen control devices. Depending on the accessories you've installed, you can control your pool's temperature, lighting, and water features, and even make it "party ready" with a click or two.

Automatic vacuum cleaners

\$1,265 and up

Last we checked, there were at least 50 different automatic pool vacuums on the market. There are a lot of options, so if you want one of these machines, you may want to do a bit more research.

There are three main types of automatic vacuums:

- **Suction-side**
- **Pressure-side**
- **Robotic**



We see more homeowners purchase robotic cleaners because they keep getting better and better every year. They don't require any extra plumbing or booster pumps, which can fail over time. You don't need a robotic cleaner, and you can always vacuum your pool with standard cleaning equipment, or hire a cleaning service, until you decide to upgrade to a pool robot.

Water features can make a pool pop... and they don't (always) need to cost a fortune. Here are some popular features pool owners often add to their pool projects:

Cascade waterfalls

\$1,320 and up



Cascades are beautiful and affordable, don't take up any patio space, and add the calming sound of falling water to your pool experience. Waterfalls are controlled through your pool's filter system and can be installed in a range of lengths.

Bubblers

\$450 and up



Bubblers are basically inverted waterfalls. Water flows upwards instead of downwards.

Deck Jets

\$660 and up



Deck jets are a cool visual water feature. They can be placed at various locations throughout the perimeter of the pool. They are typically able to be adjusted to control how high the water goes and what direction its going in.

Custom poolside water features

Poolside water features, such as decorative walls for example, can elevate your pool and make your backyard the envy of the whole neighborhood.



Fire bowls and fire pits

\$900 to \$16,500+



Combining fire and water with a well-balanced design is another great way to elevate your aesthetics.

Quality fire pits often start in the \$2,500 range and can quickly get much more expensive as they become more complex.

Spas, wet decks, and wading pools

Prices vary

Poolside spas, wet decks, and wading pools can be fully integrated into your design to create spillways or waterfall features that drop into the main pool. You can also install them separately in a different part of your yard or patio.

These types of functional water features can vary greatly depending on who manufactures these features as well as installation. The cost of the feature can rise quickly if you want it installed at a higher elevation and/or with premium materials. Consult with an installer for a more accurate price range.



Pool fencing

Aluminum

\$30 to \$75+ per linear foot

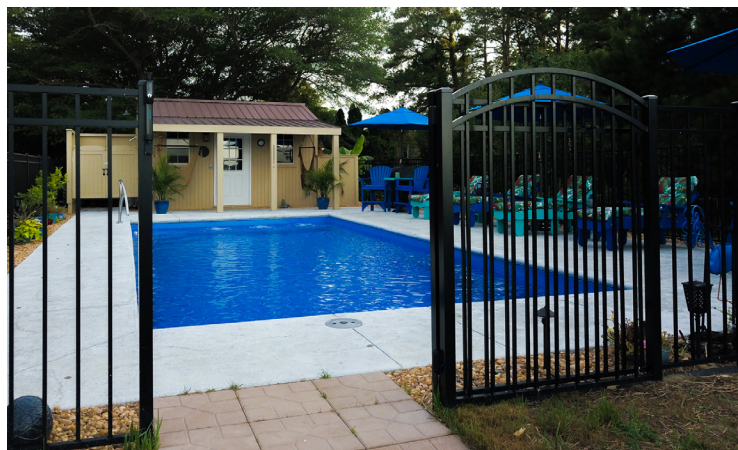
The most popular pool fencing is made of powder-coated aluminum. This sleek low maintenance product is perfect for pool projects that don't require privacy fencing.

Most aluminum fencing is black, but you can also get them installed in white, green, and copper colorways.

PVC

\$25 to \$60+ per linear foot

PVC fencing can also be a viable option, especially if you need a fence that's at least 6 feet tall. PVC is durable and relatively low maintenance.



Wooden and Chain Link

\$20 to \$100+ per linear foot (depending on material)

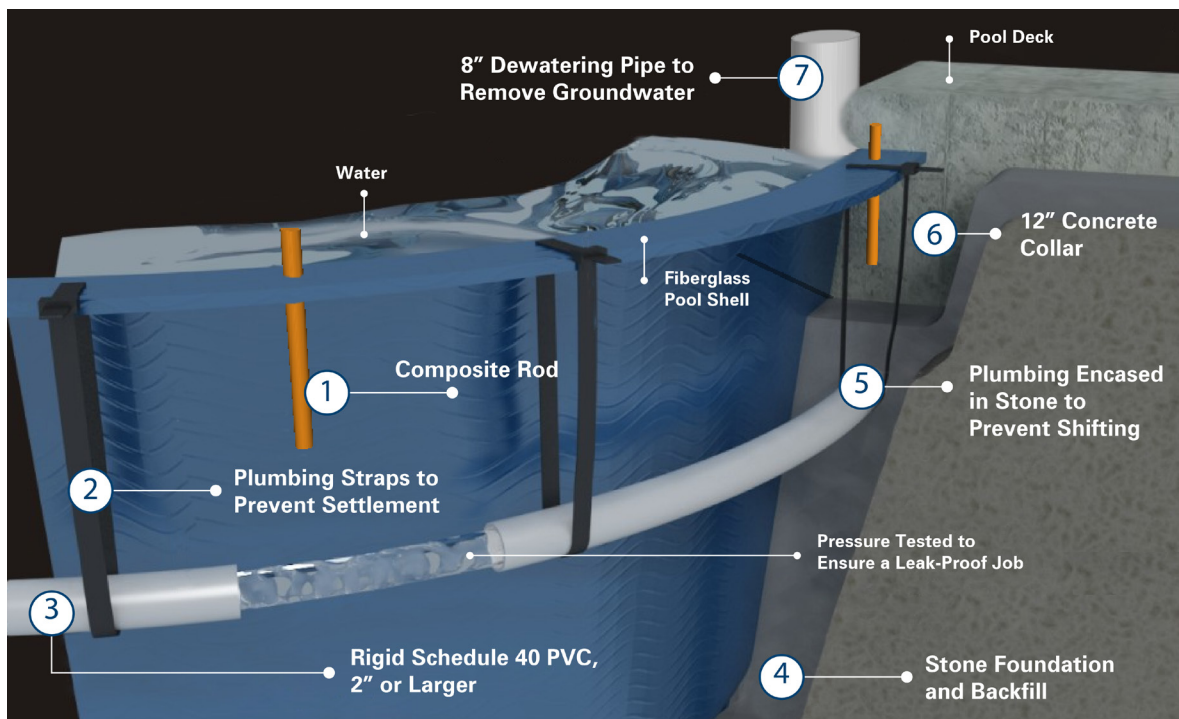
Wooden and chain link fencing are your most budget-friendly options. However, wood fencing requires much more maintenance than aluminum or PVC. If you want chain link fencing, check your local fence codes -- standard-sized diamond openings won't meet the code for most areas.

CHAPTER 6: PROPER FIBERGLASS POOL INSTALLATION

This chapter draws upon the expertise of Jason Hughes, President of River Pools Franchising, LLC. In his role, he offers guidance to a network of independently owned and operated installers. Additionally, he contributes to the industry as a Genesis course instructor for fiberglass pool installation through the Pool & Hot Tub Alliance.

The information presented here is integral to the course he teaches and can provide essential insights for homeowners contemplating the purchase of a fiberglass pool.

*This section of the eBook contains an abundance of information that has been created over the last decade. Some of the linked content in this eBook may reflect prices, perspectives, entities, and names that were relevant at the time but may not be as relevant today.



How to Minimize Potential Issues with Fiberglass Pool Installations

There are a few pieces of advice and guidance we can give to virtually eliminate the biggest issues with fiberglass pool installations:

- Pool shell settling or shifting
- Plumbing leaks in lines and around jets or other pool fittings
- Separation between pool and patio
- Bulges in side walls

Here's what we suggest for installers:

1. Composite rods fuse the pool shell and patio

Composite rods can fuse pool shells and patios together. This helps prevent shifting, settlement, or any other kind of movement that might weaken the structure and eventually cause it to fail.

This may be a 12-inch-long composite rod installed into the top of every pool shell.

At the end of the installation, the rod would be encased in concrete poured around the pool.

You can see how composite rods work in the video below:



Note: This video was originally produced in 2016. While information about composite rods is still relevant today, the representation of entities may no longer be relevant at the time of viewing this information.

2. Plumbing straps secure plumbing to pool shell

Movement is a major cause of leaks in a pool's plumbing.

When pipes shift, they can start a chain reaction that stresses the pipes, plumbing connections, and any components the plumbing's attached to, like jets, skimmers, or drains. An installer may secure pipes to the pool shell with a strap system to minimize stresses on any part of the plumbing system. [Read our article on perfect fiberglass pool plumbing](#) (click the link) for more details.

You can also watch our video on plumbing straps by clicking the image below:



Note: This video was originally produced in 2016. While information about plumbing and plumbing installation is still relevant today, the representation of entities may no longer be relevant at the time of viewing this information.

3. Schedule 40 PVC hard pipe

There are two types of plumbing pipe used in pool installations: hard pipe or flexible pipe ([click here to read a detailed breakdown on the two types](#)). Based on our collective experience, we recommend hard pipes. This type of pipe requires a bit more effort to install ([click here to see how it's done](#)), but hard pipe is the only type rated for underground use.

4. Crushed or chipped stone backfill material

Backfill is the term we use for material spread underneath and around the outside of the pool shells after they've been set into the ground. Clean backfill stone can be critical for a fiberglass pool's long-term integrity.

Many pool installers use sand as backfill. The problem with sand is it tends to liquefy when it's saturated with water. Sand backfill can create some major issues over time:

- [Settlement of the pool shell](#)
- [Plumbing leaks](#)
- [Bulges in side walls](#)

It turns out that these problems don't seem to occur as often when using only clean crushed stone for backfill material. Stone drains better, doesn't move, and doesn't change its physical properties when wet.

More detail on backfill:

- [7 Deadly Sins of Fiberglass Pool Installations](#)
- [How Much and What Type of Stone Is Needed for a Fiberglass Pool Installation?](#)
- [Installing a Fiberglass Pool Properly: Sand vs. Stone, Which Is Better?](#)

5. Plumbing encased in stone to prevent settling

Good stone backfill doesn't move or settle. Your pipes should stay safe! ([Click here to read more.](#))

6. 12-inch-thick concrete bond beam around perimeter of pool

All inground fiberglass pools need some concrete around their perimeters for stability.

Installers pour this concrete bond beam so it's thick enough to flow underneath the lip of the shell and encase the composite rod. This helps keeps your pool and patio structurally secure for a long time.

7. Sump pipe for monitoring and removing ground water

A fiberglass pool may need to be drained at some point down the road, and one will need to be able to get rid of any groundwater around the outside of the pool shell before draining to prevent damage. Sump pipes allow for this to be done easily. We recommend working with a professional to drain your pool safely -- [click here to find out why](#).

Prevention Is the key!

Pool problems tend to be connected -- one issue typically creates more problems

A settling pool can cause leaks. Unwanted water from these leaks can cause more shifting and movement, starting a chain reaction that might wreck your pool if the root problem isn't quickly addressed.

These tips may help installers anticipate and prevent these "cascade failures." It's a better outcome for you, and it's a better outcome for them.

TALK TO AN INDEPENDENT INSTALLER TODAY

Fiberglass pool installation process

1. Excavation
2. Setting and leveling
3. Plumbing (pool and filter system)
4. Backfilling the shell
5. Coping and patio

Phase 1: Excavation



An installer will “paint” the pool on the ground and use a laser level to establish how high to set the pool in the yard. This tells them how deep to dig. A dump truck may be moved close to the hole if needed before excavation begins. The hole will then be dug, and the pump and filter system will be set up. Excavation can take anywhere from three hours to a day and a half, depending on the hole’s size and how long it takes to dispose of the dirt. The excavated hole will be about a foot longer and wider than the pool, and 2-4 inches deeper than the depth of the shell.

When will the pool shell arrive?



The shell will usually get to your house some time on the first workday - we have often seen it around midday - but it can vary based on your location (how far your home is from the facility the pools are produced in or the installer's location).

When the shell arrives, the installer unloads it with a crane or excavator and may begin installing fittings and plumbing around the pool.

More detail on the installation process:

- [7 Deadly Sins of Fiberglass Pool Installations](#)
- [Swimming Pool Excavation: 4 Questions You May Not Think to Ask](#)
- [Inground Pool Elevation: How High Should I Set My Pool?](#)
- [Can Fiberglass Pools Be Built on Fill Dirt?](#)

Phase 2: Placing the gravel foundation

After excavation, two to four inches of gravel is then added into the hole on which the pool will sit. This gravel base determines the pool's height -- installers will likely use a laser level for perfect elevation. This usually happens by the end of the first day of construction, or near the start of the second day.

As we touched on earlier in this section, because sand liquefies when saturated with water, pools filled with literal tons of water tend to be somewhat less than ideally stable when their surroundings turn into a liquid bed.



It's also nearly impossible to completely compact sand during installation so it becomes as dense as possible. Sand backfill can take up to 18 months to fully settle and compact, which puts pressure on the side walls of the pool and any encased plumbing. The weight of saturated sand on sidewalls can cause them to bulge inward, and can also put pressure on plumbing until it begins to leak.

Hopefully this helps you understand why we recommend gravel backfill.

Once stone gravel is added to the excavated hole, the installer will prepare to set the pool.

An excavator or crane is typically used to unload and set the pool shell. We know of fiberglass pools being delivered by floating pool shells down rivers, pushing them through narrow alleys, or even flying them into someone's yard with a helicopter! But no matter how the pool gets into your backyard, it has to be properly set in the hole and leveled.

Why is properly setting and leveling the pool so important?



The entire pool floor must rest on a solid foundation to keep it structurally sound and prevent shifting and settling over time. Based on our experience, crews aim to get your pool to within half an inch (or less) of level, while ensuring its entire floor is firmly on its foundation.

It's important for all prospective pool buyers to understand that fiberglass pools are never perfectly level. Industry standards often aim to get the pool within an inch of complete level. Unfortunately, we have seen some installers leave projects more out of level than this "standard". Half an inch or less appears to be more precise.

The installation crew may lift and re-set your pool shell as many times as needed to ensure best possible leveling - this is normal. Improper leveling

can be connected to many other issues we have discussed in this eBook. This leveling process is typically completed by the end of the first or second day of the project, but some backyards can require more attempts than others.

- [Sand vs. Gravel: Which Is Better for a Fiberglass Pool Installation?](#)
- [How Level Should a Fiberglass Pool Be?](#)
- [How to Unload, Lift, and Set a Fiberglass Pool \(Video\)](#)

A pool's filter system has two major components: the pump and the filter. The pump circulates water, while the filter removes debris and small particles from the water.

Where is the filter system typically located?



More about pool filter systems and equipment:

[5 Keys to Perfect Fiberglass Pool Plumbing](#) [How to Install Skimmers, Returns, and Main Drains](#) [Where Should I Locate My Pool's Pump and Filter System?](#)

Phase 4: Backfilling the pool shell



Once plumbing is done, and the pool shell is set and leveled, it's time to fill the pool with water and backfill the perimeter with gravel.

Gravel and water must be added together to equalize pressure inside and outside the shell.

An installer will also often install a drain pipe during this phase. The drain pipe is an 8-inch PVC pipe extending from the top of the patio to the bottom of the excavated hole. This pipe gives pool professionals access to any ground water around the pool, if (or when) your pool requires draining in the future.

Electricians will typically have started wiring pool equipment by the time the backfill process begins. Based on our experiences, we think pump and filter systems should be wired before backfilling, so water can circulate as soon as possible. This isn't always possible, however.

During a typical fiberglass pool installation, crews should have your pool shell installed, full of water, and connected to completed plumbing work, by the end of the second or third day of construction.

The next step, coping and patio work, needs to start with an inspection. Waterline tile may also be installed at this point, if you want it -- unless it's already been installed prior to delivery.

Related articles:

- [How Much and What Type of Gravel is Needed with a Fiberglass Pool Installation?](#)
- [How Not to Backfill and Install a Fiberglass Pool... Scary Pictures!](#)



Once the pool's completely backfilled and inspected, coping can be installed around the rim of the pool shell and the pool patio. The patio crew may start work anywhere from a few days to two weeks after backfilling, depending on weather and inspection schedules. Patio construction usually takes between two and five days, depending on its size and the materials used.

Cantilevered concrete coping basics

It's important to have an experienced contractor pour your cantilevered concrete coping.

Check out some of our coping guides, which will show both good and bad outcomes, so you can better understand why we believe a contractor's experience is so valuable for this phase of the work:

- [How to Form and Pour Cantilevered Concrete Coping \(Video\)](#)
- [Why Is Pouring Concrete Cantilever Coping Around a Fiberglass Pool So Difficult?](#)
- [How NOT to Install Paver Coping on a Fiberglass Pool \(Video\)](#)

In a nutshell...

If you take nothing else away from this section, please keep the following five takeaways in mind if you're considering or starting a fiberglass pool installation:

1. Installation usually takes three to six weeks for most fiberglass pool projects, from beginning to end.
2. The material used to backfill the pool is critical. We believe in using clean, crushed stone.
3. Proper setting and leveling of the pool shell is critical if you want your pool to look and work great for a long time.
4. Connections between the pool and patio are vital. We recommend using composite rods to fuse the pool and patio together.

Want more fiberglass pool installation info? Check out this article in Aqua magazine:

[Top 5 Fiberglass Pool Installation Problems and Solutions](#)

CHAPTER 7: FINANCING A POOL PROJECT

Most pool buyers finance their pool projects. This tends to work similarly to financing other major home improvement projects, but if you'd like all the details, or are new to this type of project financing, we've got you covered in this chapter.

Most pool projects are financed through one of the following ways:

- *Home equity loan/line of credit*
- *Second mortgage*
- *Credit card*
- *Unsecured loan*

You can also pay for the project out of pocket if you have enough available cash, but if there super-low interest rates at the time, it might make financing a more appealing option.



POOL FINANCING TIP: Planning to finance the bulk of your project? Get pre-approved before asking pool builders for estimates. Many prospective pool buyers find out they can't secure the financing they need after they've already spent a ton of time planning their projects.

Home equity loans & second mortgages

The most popular forms of pool project financing are second mortgages and home equity loans or lines of credit, which allow homeowners to borrow against the equity in their properties. These loans are relatively easy to obtain and tend to offer competitive rates.

Unsecured loans

If second mortgages or home equity loans aren't an option, you may be able to get an unsecured loan. This type of loan isn't secured by your home equity (or anything else), so lenders will want to see a strong credit score.

The details of pool loans -- such as interest rates, available amounts, required credit scores, and other specific considerations -- change all the time. The best way to get up-to-date information would be to check out our [Pool Loans 101 resource \(click the link\)](#).

CHAPTER 8: COMMON MISTAKES TO AVOID WHEN BUYING A POOL



Mistake #1: Not getting everything in writing

Let's say the builder completing your project just started excavating the hole for your pool. Later that day, they knock on the door to ask how you'd like to pay the dirt hauling fees. This happens all the time, especially if your contract only includes the basics, and other costs aren't discussed before the project starts.

Common hidden costs:

- *Dirt hauling*
- *Electrical hook-up for pool equipment*
- *Fencing*
- *Landscaping*
- *Patio*
- *Drainage for yard or pool deck*
- *Retaining walls*
- *Tree removal*
- *Hitting ground water or rock during excavation*

How to avoid hidden costs

The quote sheet you receive should disclose all potential costs and clearly specify everything that is and is not included in the builder's scope of work. Make sure you get *everything* in writing.

Mistake #2: Starting the project with unknown costs

This is different than surprise costs popping up during a project.

Unknown costs are those you know will arise without knowing their precise amounts.

Some pool builders will only give you square footage prices for patios or retaining walls, knowing full well you won't actually know the final cost for those options. These builders are more interested in closing the sale than keeping to their customer's budget.

For example, if your backyard will need a three-foot-tall retaining wall, one can calculate it'll cost you around \$12,000. However, another builder might tell you you'll need a wall at a price of \$35 per square face foot, which will cost "a few thousand dollars." This makes your cost look lower up front. But after your pool's installed, you get a \$12,000 bill for that wall. It happens all the time.

Get your walls, patios, fences, electrical hook-ups, and everything else you might need in writing before construction begins.

Mistake #3: Not properly vetting your pool builder

This is a big mistake first-time pool buyers can make. If you'd like more tips on how to find a reputable pool builder, please see the next chapter which focuses on that very topic!

Mistake #4: Making decision solely based on price

It always baffles us when we hear homeowners say they want super-low prices, great quality *and* great service. The reality is that there are three switches you can flip for any purchase: good, fast, and cheap. However, you can only ever flip two of these three switches at any time. Fast and cheap won't be good. Good and cheap won't be fast. And fast and good won't be cheap.

There will always be companies ready to install your pool for a lower price. Many of these companies competing primarily on price will go out of business. Price will always be an important part of your decision, but if price is your first priority, you may very well sacrifice years of quality and durability to save a little money today.

Mistake #5: Focusing on the short term

Make your decisions based on how long you think you'll live in your home, not just on your circumstances today. The wrong material and/or the wrong builder may well cost you more than you think you'll save.

Let's say you get a vinyl liner pool, even though fiberglass may better suit your needs. A vinyl liner pool might cost \$6,000 less to install than a fiberglass pool of the same size. But over 25 years you'll spend about \$8,000 more on liner replacements than it would've cost you to install a fiberglass pool in the first place.

Mistake #6: Buying based on installation time frame

Many pool shoppers will discover their preferred builders can't start their project right away because the builder's already booked many other projects for the year. This problem became more widespread than we had ever seen during the COVID-19 lockdowns, and many reputable builders are booked solid for months, if not for the entire year.

Don't trust your backyard to a company that promises rapid installation. A backlog is often a sign that the builder may have good experience and is reputable. Pool builders in high demand tend to be quality contractors -- that's why they have so much work! But this observation should be one of many qualities to look for in a builder.

Mistake #7: Not trusting your gut

You might be nearly ready to hire a pool builder after reading this eBook.

The more research you do, the more accurately you'll be able to identify the right builder, manufacturer, dealer, and so forth. But sometimes, you just have to trust your gut.

This might not be the most scientific approach, but we have seen people regret choosing against their gut instinct far too often to ignore its impact on your outcomes.

If your project runs into problems, you're ultimately dependent on the integrity of the people you've trusted to put a pool in your backyard. Make sure they're worthy of your trust!

CHAPTER 9: FINDING A REPUTABLE POOL CONTRACTOR

This might be the most important chapter you'll read. You're going to entrust your backyard (and quite a bit of money) to a contractor who'll ultimately make or break the whole project.

We've spoken with thousands of fiberglass pool customers around the world, so we've seen the good, the bad, and the ugly of our industry. Everything we've seen and experienced regarding installation contractors can be summed up simply:

Nothing makes up for a poorly installed pool.



There are great contractors, terrible contractors, and all types of contractors in between. Review sites are full of horror stories about shady pool contractors.

Understanding the installation process will help you know what to ask your prospective contractors and how to find high-quality, reputable installation companies that won't cut corners, rush your project, or skip critical steps that would shore up your pool for long term quality and durability.

There are usually two key reasons people hire the wrong contractors: price and installation time.

Cheaper and faster isn't always better. In fact, the cheapest, fastest quote is rarely going to create the best outcome. Cheaper quotes often mean corners have been cut. Shorter project timeline estimates are similar red flags. Lower upfront costs often hide unexpected fees and expenses. A speedy installation could saddle you with repair after repair over the years, all because your contractor wanted to wrap everything up a few days earlier.

A two-step process for finding a reputable pool builder

Hopefully these guidelines will help you separate the wheat from the chaff, so to speak.

Step one: the interview

It's a good idea to have a conversation directly with prospective contractors, either on the phone, over Zoom, or in person. We recommend in-person or Zoom chats, so you can read body language and pick up on any discrepancies between the contractor's words and their movements.

Here's a good list of questions to help you vet your contractors:

Q: How many fiberglass pools have you installed?

An installer who has completed more projects may be more likely to execute your project to the highest standards. However, we don't want to downplay those installers who are new to the industry - every great installer started somewhere!

Q: How many pools did you install last year?

You may use this question to set up the next one...

Q: Can I have a list of your references from last year?

If someone tells you they installed 12 pools last year, but their list of references only has six names on it, it may mean you've only got a 50% chance of success with that contractor.

Q: Have you ever made a mistake?

If they say no, the conversation should be over. Everyone screws up from time to time. You want to know how they've handled mistakes when they've happened.

Q: What was the biggest mistake you've made?

This question gives your contractor an opportunity to be open and honest. No one's perfect, but the best professionals (in any field) are those who can acknowledge and overcome their biggest mistakes.

Q: How did you handle that mistake, and can I call that customer?

If they dodge this one, they might not have been fully honest with their previous answers.

Q: Can you highlight three references for whom you made mistakes and fixed them?

Contact these people and ask them about their experiences.

Step two: calling references

Checking references can be time-consuming, but you might spend upwards of \$100,000 or more on your pool project. The best way to ensure success is to make sure your contractor has been successful in the past -- and the best way to see if your contractor is the real deal is to talk to previous customers.

- *Ask old and new references about their current level of service.*
- *Ask how their pool's held up over time.*
- *Contact references from jobs close to and far away from the contractor's place of business to see if (and/or how) distance and geography might affect their project outcomes.*
- *Contact references whose projects most closely resemble yours. If you want a paver patio, for example, call someone who had a paver patio installed.*
- *Contact any "problem" customers the contractor mentioned.*
- *Ask references what they most and least liked about the contractor's work.*
- *Ask references if they'd change anything if they could do it all over again.*

This screening process should give you a fairly good sense -- either good or bad -- of the contractors you're considering. Your budget, however, might pull against your instincts.

Our advice, after all of our collective experience, is pretty simple: following your pocketbook is a roll of the dice on a huge long-term property investment. Far too many people have lost that gamble.

We recommend listening to your instincts when selecting your pool contractor.

Waiting a bit longer and paying a bit more up front can be well worth it over the long run, if the end result is a beautiful pool that stands the test of time without costly and unexpected repairs.

Want to speak to an independent installer? They'd love to help answer your questions.

[Click here to request a pricing quote and we'll get this process started!](#)

CHAPTER 10: HOW ARE FIBERGLASS POOLS MADE?

This section might give you more information about the fiberglass pools manufacturing process than you'll need.

We'll show you, step by step, exactly how our pools are manufactured. We take pride in how our fiberglass pools are manufactured, and we want you to be completely informed. You'll get real scientific data, which we hope will empower you to make the best decision for your project.



What separates the way our pools are manufactured?

1. The quality control standards

Our pools go through rigorous quality control processes, and are inspected under various lighting conditions to check for imperfections.

2. Our consciousness regarding the environmental impact of fiberglass pool production

The manufacturing facility our pools are crafted in utilizes thermal oxidizer technology. This is a voluntary investment that helps to eliminate 98% of the VOCs created during the manufacturing process. We have chosen to exceed the environmental standards we are held to, as we strive to be strong environmental stewards. Our pools are manufactured in an ISO 14001-certified facility which means the facility meets an international standard for an effective environmental management system.

3. The materials that go into our fiberglass pools

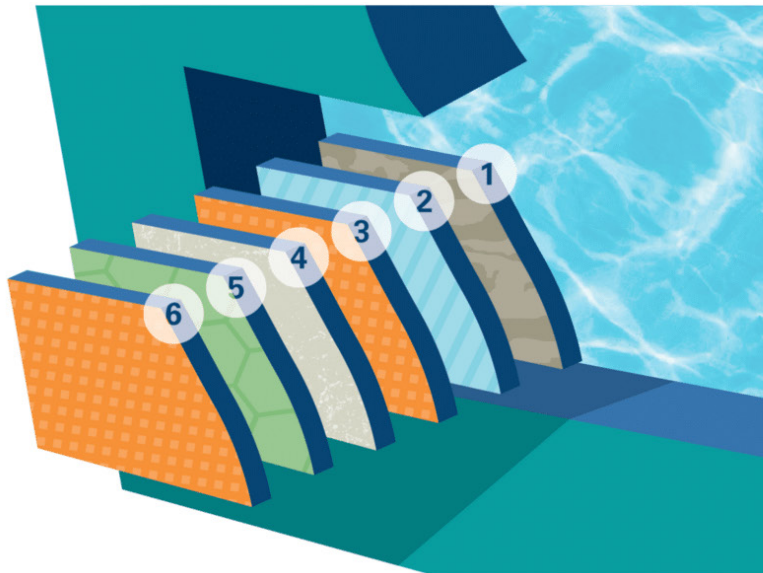
Our pools are crafted with a combination of materials rather than just one. While this does cost more to produce, we believe in this process from the bottom of our hearts in order to create a pool that is both durable and flexible.

The following is what you can expect from the manufacturing facility our pools are produced in and, if you decide to purchase a pool from River Pools, how your pool will be made.

The fiberglass pool shell is the foundation of a fiberglass pool project. All River Pools fiberglass shells are sold with a limited 35-year structural warranty and limited 15-year finish warranty.

There are 6 materials used in various combinations to create our pools:

1. Gel Coat Surface Layer
2. Vinyl Ester Resin
Prevents Gelcoat Blistering
3. Stitch Mat at Stress Points
4. Hand Laid Woven
Roving at Stress Points
5. Structural Honeycomb
6. Chopped Fiberglass
For Strength



Our fiberglass pools are manufactured in a state-of-the-art facility that uses innovations and best practices to deliver the best product we possibly can.

The manufacturing plant and manufacturing spaces are designed to promote a chemical reaction called polymerization, which binds materials together at the molecular level, creating a “web” of tightly connected materials. As molecules develop more connections, they create a stronger and more corrosion-resistant web of material throughout the shell.

Great lengths are taken to achieve polymerization across all layers of our pool shells. If as many polymer chains as possible are cross-linked, the shell will fully cure at its true maximum strength and durability. *Temperature* drives the cross-linking process. Cross-linking is maximized in the gelcoat.

The manufacturing process fuses all six layers together into one incredibly strong and durable composite structure.

Fiberglass Pool Molds

Every inground fiberglass pool is built from a base - aka a "mold". We'll use a baking analogy to explain how important these molds are: a cake is baked in a cake pan, and the cake will only come out as good as the pan its being baked in (so if your pan has dents, bumps, or any imperfections, you will see those things come out on your cake). Fiberglass pools are very much the same in that way - a fiberglass pool is only as good as the mold it is built on.

The molds our fiberglass pools are crafted from are treated like gold for this reason. The manufacturing facility does everything they can to ensure molds are taken care of and well maintained.

What Makes Our Molds Different

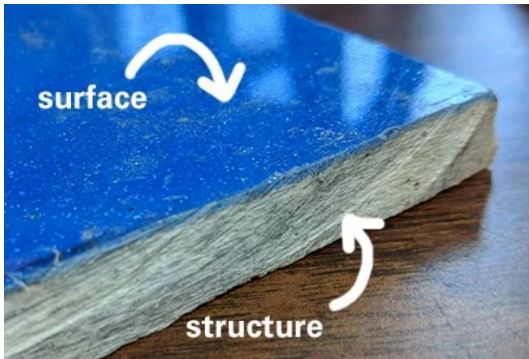
1. Mold Storage. The molds for our fiberglass pools never see the light of day, meaning they are kept indoors for the manufacturing and maintenance processes. They are also kept in a state-of-the-art, climate controlled mold storage area within the facility. This consistent temperature helps preserve the molds, as well as protects them from the elements and UV light.

2. Quality of Molds. Fiberglass pool molds serve as the backbone of every manufacturing facility, enduring drastic temperature fluctuations during the resin curing process and frequent movement. The quality of the pool's finish and structural integrity are continually tested with each use of the mold. To ensure optimal performance, our molds are meticulously designed and maintained. Each mold is reinforced with steel to prevent twisting or warping during handling. Additionally, a custom lamination is used in their construction, aiding in heat dissipation during the curing process following the creation of a fiberglass pool.

3. Dedicated Mold Maintenance Area. The cornerstone of crafting top-tier fiberglass pools lies in the quality of the molds used. To ensure this quality, we've allocated a considerable amount of space specifically for mold maintenance. Within this space, one area is dedicated to mold design and renovations, while another is reserved for routine maintenance and preparation. This strategic allocation of space underscores our commitment to consistency in the products we deliver.

Layers in a River Pools shell

1. Gelcoat surface layer



Each River Pools fiberglass pool shell features a thin gelcoat surface. This is the finish that you'll see each time you look at your pool.

Fiberglass pools are actually built from the inside out and consist of multiple layers, so this gelcoat is the first layer applied during the manufacturing process. Skilled technicians spray the gelcoat evenly to provide a beautiful finish and optimum coverage.

A fiberglass shell's gelcoat surface is relatively non-porous, meaning it is algae-resistant which often makes maintenance easier compared to other inground pool types.

There are practices in place to ensure the gelcoat of every River Pools fiberglass pool is properly cured, which ensures its durability and consistency for each pool produced on a mold.

The most notable is that molds never see the light of day. They are always kept indoors. This helps with quality by:

1. **Maintaining Consistent Temperature:** Maintaining molds at a constant temperature ensures consistent and predictable curing processes for each pool produced.
2. **Protecting from UV Light:** Indoor storage protects molds from UV light, preventing degradation of the mold's finish and ensuring longer lifespans.
3. **Requiring Minimal Movement of the Mold** - By minimizing mold movement and ensuring smooth travel paths, the risk of jostling and surface cracks is eliminated, resulting in consistently high-quality pools.

All of this helps produce the best surface finish possible each time a pool shell is produced.

Specially blended catalyst

Gelcoats and other resins in the composites of our pools are blended with a catalyst, which kick-starts that polymerization reaction we mentioned earlier. Special catalyst blends are used and carefully ensure precise amounts of catalyst are mixed with the gelcoat during the spraying process.

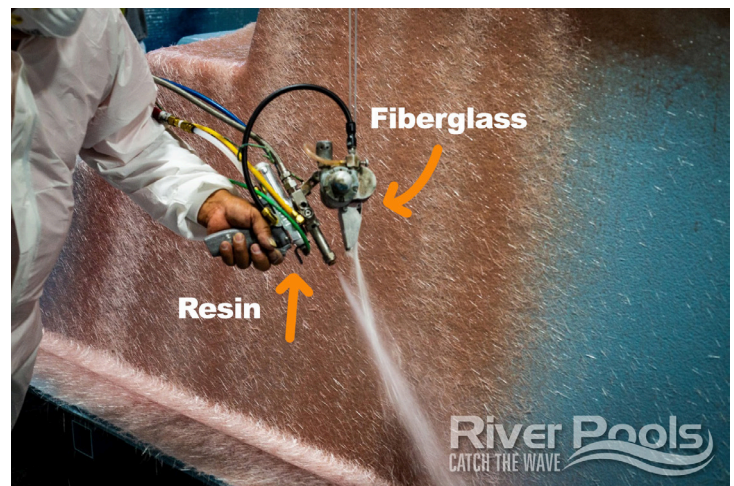
The ratio of catalyst to gelcoat is critical! Too much catalyst makes the gel set too quickly. If there's not enough catalyst, the gelcoat won't cure properly.

2. Vinyl ester resin (blister and corrosion resistance)

The second layer of our fiberglass pool shells is a layer of vinyl ester resin. Vinyl ester is a premium resin we use in the production of our pools to prevent osmotic blistering -- an unwanted side effect of shoddy manufacturing that can cause gelcoat surfaces to form blisters and separate from this second layer.

Vinyl ester resin prevents blistering by forming a watertight barrier.

There are many blended vinyl esters available to manufacturers. By law, a manufacturer only needs to use small amounts of vinyl ester to call a product "vinyl ester resin." The vinyl ester used in our pools is specially blended to produce the best blister protection available.



The vinyl ester resin application process in River Pools pools

The vinyl ester layer in our pools also helps the gelcoat cure properly. As soon as the gelcoat sets, a layer of vinyl ester resin is applied, which acts like a heated blanket for the gelcoat layer.

The manufacturing process that produces our pools uses the heat of each additional layer to drive the curing and cross-linking process in all previous layers. Everything works better together!

3. Chopped fiberglass for strength



After applying the gelcoat surface and adding vinyl ester for corrosion and blister resistance, the next point of focus is on building strength into the pool shell with chopped fiberglass.

This material is applied with a “chopper gun” that cuts long strands of glass fiber into pieces about an inch long. The gun also sprays resin and catalyst onto the mold while it chops fiberglass. Once chopped and sprayed, the fiberglass layer is rolled out to strengthen it by removing any potential air bubbles.

4. Hand-laid woven fiberglass roving at stress points



Areas subject to the most bending stresses are reinforced -- primarily where the shell transitions from a flat surfaces (floors) to upright (walls) -- with a layer of woven roving fiberglass for additional strength.

Chopped vs. hand-laid fiberglass: Why do we use each of these materials where we do?

Our pools actually use a combination of both types of fiberglass layers, as each serves its own benefit and purpose.

Here's a bit about the benefits of using chopped fiberglass:

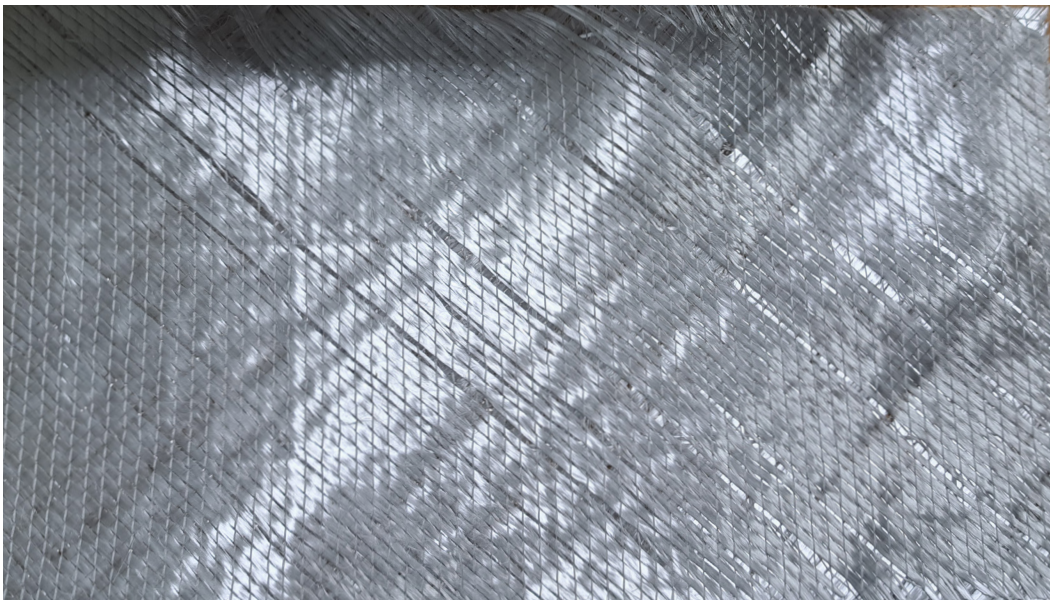
- **Chopped glass has a perfect balance of flexibility and strength.**

Pool shells with all hand-laid fiberglass tend to be too flexible. The shell needs to be strong enough to be lifted, transported, and set while holding its shape. Chopped fiberglass simply checks these boxes better than hand-laid fiberglass when it comes to the rigidity department.

- **The team manufacturing our pools has the experience to lay chopped fiberglass properly.**

When using chopped fiberglass, a manufacturer must have highly skilled technicians working the chopper guns if they want consistent thickness throughout the layer. Hand-laid fiberglass isn't as demanding.

Custom stitch mats



We use a custom-produced stitch mat material for additional reinforcement. This aids in keeping the other materials in place and creates even greater integrity in the pool's structure.

5. Structural honeycomb supports



Fiberglass is naturally flexible. But sometimes, we just want it to stay put. Structural comb ribs and support layers are used throughout our pool shells to stiffen and strengthen certain areas.

Structural comb supports are used under all steps, benches, and tanning ledges. Structural comb ribs along the side walls of the pool shell are also used.

The structural comb material adds incredible strength to our pool shells when sandwiched between layers of fiberglass.

6. Final chopped fiberglass strength layer

A final layer of chopped fiberglass is added for greater shell strength. Heat from this outer layer helps maximize cross-linking throughout the five previous layers so the shell can properly and fully cure.

The pool's lifting points are also reinforced (where the shell is attached to a crane so it can be moved) during the application of this last layer of fiberglass.

When it's cured, the shell is removed from its mold, trimmed and detailed, and put it on the back of a truck so it can be installed in another beautiful backyard.



What you need to know about fiberglass pool warranties

Fiberglass pool warranties might look the same to most pool buyers... but they're not.

A fiberglass pool shell is the single largest and most important piece of any pool installation project. We encourage everyone to read the fine print in every warranty, on any design, from any manufacturer or brand you might want to buy from.

Questions to ask about fiberglass pool warranties:

- **Is it transferable?**
- **Does warranty's language match whatever its name suggests?**
- **Are the company's warranties readily available online?**

Fiberglass pool warranties come in twos

Fiberglass pool manufacturers typically offer two warranties for each pool shell: one covers the structure of the shell, and another covers its surface.

The structural warranty typically remains active much longer, but it's usually straightforward in other respects. Different manufacturers/brands offer different surface warranties -- this is where reading the fine print can really help you over the long run.

Our Limited 35-Year Structural Warranty

- **Covers structural failures due to defects in workmanship or materials**
- **Is transferable**
- **We cover costs of draining and bracing the pool if it requires covered repairs**

Our Limited 15-Year Surface Warranty

- Covers osmotic blisters for 15 years
- Is transferable

[Click here to read our entire warranty!](#)

We hope this guide has given you the tools you need to make a sound decision.

We wish you the best of luck, and happy swimming!

[CLICK HERE TO START YOUR POOL PROJECT TODAY!](#)

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