

**FIBERGLASS**

**VS**

**CONCRETE**

**TEXAS** **EDITION**

**WHICH POOL MAKES  
SENSE FOR TEXANS**



**LATHAM**<sup>®</sup>  
*behind every pool*

# Concrete **vs.** Fiberglass Pools: What's the Best Choice for Texans?

Although the decision to install an in-ground swimming pool may be a no-brainer in most areas of Texas, the details of that are anything but cut and dried. Gunitite seems to be the favored, “go-to, tried and true” pool material for Texans, but when you take a closer look at fiberglass composite, you may decide that “just because it’s always been done that way” doesn’t make Gunitite the best choice.

By weighing and comparing all the facts about costs, installation, durability and features for both Gunitite and fiberglass pools, Texas homeowners can make logical and informed decisions that are right for their families. Let’s start with an overview of these two pool options.



# The Basics about **Concrete** pools

Concrete, often referred to as Guniting, as a pool building material has been a popular choice in Texas until recent years. Guniting is a mixture of sand and concrete that is sprayed onto surfaces at high velocity. It is helpful to understand the steps for installing a concrete/Guniting pool as part of the decision-making process:

- 1.** The installation process starts by excavating the pool area of the yard per the pool design, allowing an extra 9 to 12 inches in all directions for surfacing the bottom of the pool and to allow a lip around the perimeter for a work area.
- 2.** Plumbing should next be installed, including a drain at the bottom of the pool and the correct layout to ensure water flow throughout the pool. All plumbing must be hydrostatically pressure tested for leaks by a plumber before continuing.
- 3.** Next, a steel rebar grid is installed around the entire inside of the pool, defining any steps, benches, spas and other features. The rebar frame provides stability for the concrete.



# The Basics about **Concrete** pools

4. Now it's time to build the walls and floor with Guniting. The Guniting is a dry mixture of sand and concrete that is mixed in a cement mixer and then combined with water as it is sprayed in such a way as to encapsulate the rebar frame. This process will take the better part of a day. Although 6 to 8 inches is typical, Guniting thickness can vary based on size, shape, and depth of the pool, and workers will smooth and shape it to achieve smooth walls, seats, steps, and floor.
5. Guniting needs to cure for a period of time. Depending on the installer, this will take up to a month, during which time the Guniting will need to be hosed down *daily* with water in order to assist the curing process.
6. After the Guniting has cured, decking, plumbing, pool equipment, and decorative touches can be worked on. Features such as a 6-inch tiled band are set, and the pool's decorative edge, known as coping, is then added, eventually blending with the pool's finished interior to give it a seamless, polished look.



# The Basics about **Concrete** pools

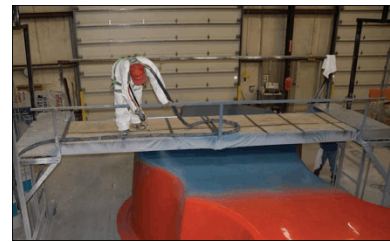
7. Adding plaster to the final major step. Most often, this involves using a plaster with either a traditional white plaster coat or a finish containing various types/colors of aggregate. The plaster waterproofs the pool and helps create a smoother surface than the course concrete.

Note: From excavation through curing to finishing touches, Gunite pool construction can take anywhere from 75 to 90 days, depending on local specifications and the pool installer's standards. And that's not accounting for any weather delays that happen in the area.



# The Basics about Fiberglass pools

Fiberglass is a type of sturdy, resin mix that is reinforced with composite glass fibers. It is an ideal material for swimming pools because it is smooth, non-porous, strong and flexible. Fiberglass Composite pools are precision-made by applying resin, fiberglass and other composite strengtheners in layers to a prefabricated mold. As an example, Viking Pools, one of the leading manufacturers of fiberglass swimming pools, creates its pools using a 10-stage process that layers fiberglass multiple times with Vinyl Ester Resin (for durability and strength), a sturdy core of ceramic, carbon fibers or more fiberglass (for added strength), and embedded vertical support beams (for structure, strength and ease in lifting). The finished pools are shipped in one piece to the installation site.



# The Basics about Fiberglass pools

A quick overview of their installation reveals both similarities and differences between fiberglass and Gunitite pools:

1. The installation process begins by carefully and precisely marking the pool layout on the ground with spray paint.
2. The pool area of the yard is excavated, and the hole is carefully prepared to achieve the proper shape and depth. The excavation crew refers to a “dig sheet,” which provides the exact specifications for depth and width when creating the hole.
3. A two-inch base of gravel or sand is laid in the excavated hole to create a bed for the fiberglass pool. Depending on the builder, the base may use gravel while sand is used to backfill the walls.
4. The pool is set in place using an excavator or a crane. The installation crew will carefully work to insure that the pool is resting on a solid foundation and level to prevent it from shifting over time.

# The Basics about Fiberglass pools

5. The installation crew now begins working on finishing steps! The pool is filled with water and the space beneath and around the pool is plumbed before beginning to backfill it with gravel or sand. The crew will take care to raise the water and gravel or sand levels together in order to equalize the pressure.
6. The final step of installation is pouring the pool deck! Once the pool is backfilled, , the crew is ready to pour concrete for the patio and install the coping, which is the lip that finishes off the edge of the pool and connects it to the patio. Installing the patio can take from two to five days, depending on the complexity of the job.





# Weighing the options: fiberglass vs. Gunitite pools

A side-by-side general comparison of factors relating to Gunitite and composite fiberglass pools helps to provide a clearer picture of both types of pools. \*

Features	Gunitite Pool	Fiberglass Pool
Design options	Unlimited but most builders & buyers prefer standard shapes	Limited designs but numerous customization features
Typical structural guarantee	1 Year	Lifetime
Installation time	6-12+ Weeks	3-5 Days
Maintenance	8 Hours/Week	1 Hour/Week
Surface	Smooth to rough, often abrasive	Smooth, non-porous, but with slip-resistant texture on seats and steps.
Estimated cost of chemicals and cleaning over 10 years	\$11,400	\$4,800
Algae penetration	The porous Gunitite harbors algae and promotes its growth. Acid baths and scrubbing are required to remove algae.	None
Renovations	Re-marcite or re-plaster every 5-7 years	None
Pool relocation	No	Yes

\*The facts and comparisons cited here were found at poolpricer.com, swimmingpool.com, lathampools.com, pegrup.com, and aquapools.com.

# “Must-Know” Lists

In addition to the comparisons outlined above there's a list of notable points to also be aware of for both concrete/Gunite and fiberglass pools.

## Gunite

- Gunite pools are versatile with infinite design options because every pool is built from scratch.
- Gunite's porous surface makes it prone to algae growth
- Gunite pools must be drained to perform acid washes/baths.
- Gunite pools require resurfacing every 5-7 years due to cracking and damage from prolonged exposure to chemicals. This can be accelerated if the plaster materials applied to the Gunite are inferior or are mixed improperly.
- Hidden costs associated with Gunite pools include monthly chemicals, cleaning and future maintenance.

# “Must-Know” Lists

## Fiberglass

- Fiberglass pools do not deteriorate.
- The pool’s color finish is a very durable gelcoat product, with UV inhibitors built in to protect the surface’s bright finish.
- Fiberglass pools will not shift under normal conditions when properly set and backfilled by expert builders following the manufacturer’s instructions and industry guidelines. This is important when factoring in the shifting soils in various parts of Texas.
- Because Fiberglass is non-porous, algae growth is not an issue. However, if an algae bloom ever does occur, cleaning a fiberglass pool is much easier than cleaning a concrete shell.
- Fiberglass pools do not need to be drained for cleaning.

# Texas-Size Considerations

Everything is bigger in Texas, including the considerations for installing a pool! Let's boil down all this information into some points for Texas residents to contemplate when deciding whether to install a pool. Whether Gunitite or fiberglass, here's the good, the bad and everything in between.

## Why has Gunitite been so widely used?

The main reason that people in Texas love their Gunitite pools is simply tradition. "That's just the way it's done in Texas!" All Gunitite pools are custom-built, so they can be bigger and more elaborate than fiberglass pools, which are shipped intact from a factory. And, there is a misconception that fiberglass is flimsy and cheap.





# Texas-Size Considerations

## The issue of strength

When it comes to the topic of strength, the comparison between concrete/Gunite and fiberglass cannot be made at face value although it too often is. In fact, concrete alone is *not* enough, as steel is also required as a material component. This may appear to stack the deck unfairly against fiberglass; however, the real consideration isn't purely *what* material is used but rather *how* the pool is constructed.

Concrete construction requires steel rebar placed accordingly to achieve a certain tensile strength in order to carry heavy load requirements. What you've probably noticed, however, while walking across heavily engineered projects like bridges and parking ramps are stress fractures running through the concrete. This might seem like a reason to panic, but you don't because fundamentally the steel is carrying the weight more than the concrete. Cracks in a pool are another matter, which is why buyers need to pay attention to how rebar is spaced in order to mitigate this problem.

# Texas-Size Considerations

The issue of “how” extends to other areas too such as how well concrete/Gunite materials are mixed and how experienced is the person shooting these materials into place over the rebar. In both cases there is a human factor involved that can make or break your pool—literally!

In making comparisons here, ask yourself the question: What weighs more, 10 pounds of feathers or 10 pounds of rocks? The answer, of course, is neither because they both are 10 pounds. The principle also holds true in the sense that fiberglass pools must contain the same amount of water as a concrete pool. Like concrete, fiberglass also relies on two materials—a high-quality resin gel coat applied over glass fibers to form a fiberglass composite. The difference, however, is that the glass fibers have a tensile strength of roughly 260,000 psi, and because of their layered density, this results in a better load transfer than concrete and a very high strength-to-weight ratio. This is why composite materials are used to build airplanes, windmill blades, and bullet-proof vests.

# Texas-Size **Considerations**

Keep in mind too, that concrete/Gunite pool shells are manufactured in the backyard where they are subject to variables related to experienced crews, material mixtures, and environmental factors. Fiberglass pools, by contrast, are precision-made in a climate-controlled environment with tooling and instrumentation to measure the use of raw materials and to monitor the overall quality of the product before it even shows up in your backyard.



# Texas-Size Considerations

## The Truth behind Pool Popping

A common myth associated with fiberglass pools claims that they are prone to “pool popping.” Here are the facts: any in-ground pool (including Gunitite or fiberglass) can pop out of the ground unless proper precautions are taken. According to The Pepper Engineering Group, “Hydrostatic forces from elevated ground water have the potential to cause an in-ground swimming pool to pop out of the ground and create significant damage. When soils are saturated with water, in-ground pools are susceptible to float out of the ground after they are fully or partially emptied of water.”

The physics of it are simple: once the pressure outside of the pool is equal to or greater than the water inside the pool, the pool will float! Pool installers should install a “sump crock De-Watering System” to prevent ground water and to keep the pool from popping out of the ground.



# Texas-Size Considerations

Fiberglass pools are actually less prone to popping than are Gunite pools because they never need to be drained. Gunite pools are in fact, actually *more* susceptible to problems caused by improper pressure because they require draining in order to be properly cleaned. And assuming your in-ground pool did pop, which of the two do you think will be the easiest and least expensive to reset?



# Texas-Size Considerations

## Soil considerations

A significant factor to discuss with a pool dealer is how local soil conditions can effect pool installation. Will the rocky soil around Austin and San Antonio, the shifting soil around Houston or the clay-like soil in the Dallas area increase the likelihood of a Gunite pool cracking? Because fiberglass pools are flexible, they are not nearly as susceptible to these well-known soil conditions.





# Texas-Size **Considerations**

## **Permits and Licenses**

While most jurisdictions enforce permitting standards, what many buyers may not be aware of is that Texas has no formal construction licensing process for installing pools. With this in mind, it is wise to ask your Texas builder whether they adhere to the International Swimming Pool and Spa Codes established by the International Code Council (ICC) which are much more comprehensive than permit requirements. Reputable dealers will adhere to the ICC's stringent standards, and top quality manufactures such as Viking Pools, Trilogy Pools, and Blue Hawaiian Pools incorporate these standards into their regular installation guidelines, specifically to provide Texas homeowners peace of mind.



# What to Discuss with **Builders**

Based on this information, homeowners can knowledgeably contemplate a variety of factors before deciding on the perfect pool for their families. An in-ground swimming pool is a considerable investment that requires a great deal of forethought and long-term commitment for regular use in the Texas heat.

When making a decision, there are several key factors to consider and discuss with your local builder:

- **Cost**

In addition to the cost of delivery, installation, and possible damage to landscaping, buyers need to also factor in the fluctuating cost of commodity materials such as steel and concrete as they evaluate their pool choices. When it comes to costs considerations, it's imperative to think past the up-front price and evaluate the factors related to the total cost of ownership, such as maintenance.





# What to Discuss with **Builders**

- **Environmental impact**

Pools do have an impact on the environment. For example, because Gunite pools are porous, they require more chemicals to prevent algae growth. Fiberglass pools, on the other hand, require fewer chemicals... and the spray foam used when backfilling the fiberglass structure has insulating properties that help retain the correct water temperature, reducing possible utility costs. (Adding an auto cover can further retain the heated water and keep associated utility costs lower.)

- **Customization options**

Gunite pools offer limitless designs, as each pool is individually designed per the customer's specifications. This naturally lends itself to many creative possibilities, but even so, most people tend to stick with conventional shapes. Fiberglass, of course, offers these same shapes as well as others, but beyond this, it's true there are a few limitations. Features, however, are what catch people's attention, and the wide array of choices available with fiberglass – benches, steps, spas, tanning ledges, various tiles, adjustable streams, LED lighting, automatic safety covers, in-floor cleaning, and more – create a unique look with dramatic flair making this virtually a non-issue.

# What to Discuss with **Builders**

- **Installation**

Gunite installation will entail multiple crews to excavate the land and then pour or “shoot” the Gunite, which means a lot of traffic and equipment moving back and forth through your fence and across the lawn. As with most construction in Texas, builders rely heavily on sub-contractors which means not having total control over these crews who often work simultaneously on other pools for multiple competing builders. Due to the labor- and material-intensive nature of their installation, Gunite pools, on average, take 6-12 weeks to install and cure. With fiberglass, fewer crews are required as the pools are, in the majority of cases, set in with a crane which is less invasive and can minimize damage to fences and landscaping. Amazingly, fiberglass pool installation generally takes 3-5 days, which means your family can be splashing and laughing in less than a week.



# What to Discuss with **Builders**

- **Upkeep, maintenance and performance**

Gunite pools require frequent sweeping with a pool broom to remove built-up algae. Gunite, as mentioned before can crack, and will require resurfacing or retiling every 5-7 years. In contrast, fiberglass pools require virtually no maintenance or upkeep to this scale, and algae growth is not an issue.

- **Relocation**

A Gunite pool will live and die where it is placed. Not so with composite fiberglass pools, which, believe it or not, can be removed and relocated, if a homeowner needs to move.





# Conclusion

Smart pool buyers know there is truly more to installing and maintaining a swimming pool than “just adding water”! It is wise to consult with an expert, local pool builder who will present all the facts relating to concrete/Gunite and fiberglass pools, and provides advice on which is a better choice for you. By taking the time to investigate and weigh all the facts, you will enjoy your in-ground pool much more and will also have greater peace of mind.





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