

5 Fiberglass Pool Installation PROBLEMS – and SOLUTIONS

EASE OF INSTALLATION IS ONE OF THE BIG SELLING POINTS FOR FIBERGLASS POOLS. YET ACCORDING TO JASON HUGHES, AN EXPERIENCED INSTALLER OF THESE PRE-FABRICATED VESSELS, THEY CAN BE TRICKIER THAN SOME PEOPLE MAY THINK, AND REQUIRE CAREFUL OBSERVANCE OF A NUMBER OF KEY ISSUES TO AVOID TROUBLE DOWN THE LINE.



BY JASON HUGHES

“Fiberglass pools are a breeze to install, right? Just dig a hole and drop it in!” Ever heard that one? Well, if you’ve installed any number of fiberglass pools and found that statement to be true, move on to the next article, because there’s nothing for you to learn here. If you’re like the rest of us, however, and find the nuances of a quality fiberglass pool installation a little more involved than you first suspected, hang on because I’m going to share with you five things I would love to have known before installing my first fiberglass pool more than 12 years and 700 projects ago.

The following are five problems that have literally cost us at River Pools (Warsaw, Va.) hundreds of thousands of dollars, many long hours away from our families, and yes, even blood, sweat and tears. We started from scratch, learned the hard way and managed to make just about every mistake known to man. Notwithstanding, we managed to confront these problems head on, find solutions and yes, even keep all of our customers happy in the process.

With that backstory in mind, I want to share with you what we’ve learned so you can hopefully avoid some of the same pitfalls we encountered, become more profitable and better the fiberglass pool industry.

So let’s get started!

PROBLEM #1: Un-Level Pools

We’ve all accepted the fact that rarely, if ever, is a fiberglass pool installed perfectly level. In fact, the industry has even given us an accepted tolerance of one inch in 40 feet.

However, there are many instances where the contractor, for whatever reason, is unable to reach that standard and it’s not uncommon to see pools as much as two or three inches out of level. But why does this happen?

Based on my experience, there are two predominant causes of un-level fiberglass pools: improper leveling of the pool, and pool shell settlement.

SOLUTION: Properly Level The Pool

Upon setting a pool shell we follow a simple, three-step process:

1. Check setbacks and measurements to ensure the pool is in the correct location.
2. Walk the pool floor to ensure the entire pool is resting firmly on the base.
3. Check the level of the pool shell. Our goal is to get every pool within 1/2 inch of level.

If the rigid parts of the pool shell (parts that don’t flex) are within that range, and the flexible parts of the pool can be adjusted to become within that range, we begin the backfill process. If not, we lift the pool and adjust the pool base accordingly, following the three-step process each time the pool is re-set.

SOLUTION: Prevent Pool Shell Settlement

Fiberglass pools settle because the foundation under the pool moves, plain and simple. There are two causes. First, the material under the pool can settle. Common culprits include disturbed soil, organic material and

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improperly compacted base material beneath the pool. The second cause is displacement of the material under the pool.

This leads me into the ongoing sand versus gravel debate within the fiberglass pool industry. I am a huge proponent of gravel as a pool base material because unlike sand, it does not liquefy when saturated with water. A fiberglass pool set on good soil with a gravel base will not move – period.

PROBLEM #2: Leaks From Plumbing Settlement

If someone asked, “What is the No. 1 cause of leaks in fiberglass pools?” what would you say? Without hesitation my response would be leaks in the return fittings. Once again we have to ask ourselves, “Why is this happening?” I can see two reasons: use of inadequate return fittings and plumbing settlement resulting from pressures from the backfill material.

SOLUTION: Use the Correct Return Fitting for a Fiberglass Pool

Do you know where the traditional fiberglass pool return fitting originated? We stole it from aboveground vinyl liner pools. What’s wrong with this picture? That fitting is not nearly strong enough and consequently fails when placed under pressure from settling plumbing.

We use a fitting made by Waterway, part #25523-701-000. It’s made for fiberglass pools and is extremely strong. If you’re using the old fitting, this is a no-brainer. Switch now!

SOLUTION: Prevent Backfill Settlement

In fairness, it’s tough to blame an innocent return fitting for the problem when, in fact, it’s the pressure from settling plumbing that’s the real culprit. We do two things to prevent plumbing settlement around our fiberglass pools:

1. We strap the plumbing to the pool shell with 3/8-inch zip ties about every 6 to 8 feet.
2. We use gravel backfill. Using clean, crushed stone as backfill has many advantages, not the least of which is that it compacts on placement. This prevents backfill settlement, which is the real reason plumbing settles, and ultimately the cause of leaks in return fittings.

I’m almost embarrassed to admit how many pool decks I’ve jacked up or tunneled under to fix leaks of this kind. There are certainly more enjoyable things to do. I can honestly say, however, that since we made these three improvements roughly 400 pools ago, we have not had a single return fitting leak or any other type of leak around the outside of our pools.

PROBLEM #3: Bulges in Pool Walls

I received a phone call just this morning from a guy named Gene in Maryland looking for help. His fiberglass pool is six years old and has developed substantial bulges in the sidewalls.

Here’s how the conversation went:

Me: “So Gene, I understand you have bulges in the side walls of your pool?”

Gene: “Yep.”

Me: “Is your pool losing water?”

Gene: “Yep, I found major leaks in two return fittings.”

Me: “I’m guessing your contractor

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used sand?”

Gene: “Yes, he did.”

Me: “What kind of soil do you have?”

Gene: “Clay, and it holds water like a bowl. I wish I understood how important this sand versus gravel thing was six years ago when this pool was installed. As the leak worsened, it saturated the sand and caused more settlement, which in turn made the bulges worse and put even more pressure on the plumbing. It was a vicious cycle.”

I proceeded to explain the daunting task that lay before him if he wanted to bring his pool back to working order. But I have literally had dozens and dozens of conversations of the same kind, not to mention the wall bulges encountered in our own pools before we made the necessary adjustments.

In my opinion, if a fiberglass pool full of water develops wall bulges, it is always the result of one thing: using improper backfill material.

SOLUTION: Choose Backfill Material Based on Soil Condition

When it comes to selecting a backfill material, the soil condition of the site is everything. As a general rule, it's fine to use sand when installing in sand. In any other case, use gravel.

Why? Imagine the tremendous pressure exerted on the sidewall of a fiberglass pool by a column of liquefied sand. In cases where the cavity around the pool stays wet and the native soil holds its shape, many pools will develop wall bulges – in our case, around five percent of our first 300 installations. Since we switched to gravel 400 pools ago, we haven't had a single wall bulge.

This is due to the fact that clean, crushed gravel doesn't change properties when wet — the point-on-point friction between the pieces of gravel lock them in place on the sidewall of the pool — and it drains extremely well. Looking back, if I could give myself one word of advice before my first installation, it would be to use gravel because it made so many of the fundamental problems in our installations disappear.

PROBLEM #4: No Dewatering System

Many of the issues in our industry result from short-term thinking, and not installing some form of dewatering system around a fiberglass pool is a

perfect example.

It took me a while to realize this undeniable fact: At some point every fiberglass pool will be drained, even if it's 50 years from now. And when that inevitable day arrives, if there is no way to remove the groundwater from the outside of that pool, there could likely be disastrous results.

SOLUTION: Install a Dewatering System

Every fiberglass pool should have a

dewatering system – no exceptions.

Here are two reasons why:

1. It's inexpensive; costs less than \$100 per pool. We use an 8-inch PVC pipe and a skimmer lid, that's it.

2. It's easy; takes less than 10 minutes. We place one end of the pipe at the bottom of the excavation in the deep end and the other end extends to the top of the pool deck and gets cut off flush and is capped with the skimmer lid. The gravel backfill allows

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the water to flow up into the pipe. To remove the ground water, simply drop a pump down the pipe and plug it in.

Considering how much heartache we could save our customers and the good it would do the industry, why not be good stewards and spend a couple bucks and a few minutes per pool to ensure that when the time comes, the pool can be safely drained?

PROBLEM #5: Not Bonding the Water in a Fiberglass Pool

Over the past decade, the vast majority of fiberglass pool contractors have phased out many of the metal components within the pool that require bonding, such as wet niches and ladders. These components provided the essential means to bond the water in the pool.

As a natural consequence, the water in many fiberglass pools installed today is not bonded. This results in nuisance voltage issues that cause customers discomfort and give them legitimate reason for concern. It's important to understand what equipotential bonding is and why it is such an

important factor in pool installation.

What is equipotential bonding? It's an electrical connection putting various exposed conductive parts and extraneous conductive parts at the same voltage potential.

To better understand this, consider that electricity flows just like water, from areas of higher pressure to lower pressure. By equalizing the pressure, or potential, the bonding grid around the pool eliminates nuisance voltage issues. But if we fail to include the water in the pools bonding grid, a certain percentage of our customers will get shocked, and, best I can tell, customers that don't get shocked are typically happier.

SOLUTION: Bond the Water in your Fiberglass Pool

By code, a pool needs 9 square inches of bonded metal touching the water of the pool. There are two products I've used that are designed specifically to achieve this:

Bondsaf 680 is basically a metal plate designed for installation in a skimmer. The plate sits flush with

the inside of the skimmer body with a threaded rod that goes through the skimmer and is fastened on the outside with a nut where the bonding wire attaches.

Pool Bond by Permacast is an all-metal fitting that screws into a one inch female thread and can be installed anywhere in the pool plumbing so long as it is no less than 3 inches below the water level in the pool. One end extends into the water and the other protrudes out from the fitting where a bonding lug attaches.

Well, there you have it. Hopefully you'll take something away from this article that will help your fiberglass pool installations run smoother, make your customers happier and ultimately make our industry stronger. Despite the struggles of the past few years, the future of fiberglass pools is indeed a bright one.

Let's all commit to making 2013 a breakthrough year!

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