MicroGlass

PROLONG & PROTECT

Guide to Protecting & Prolonging Pool Finishes

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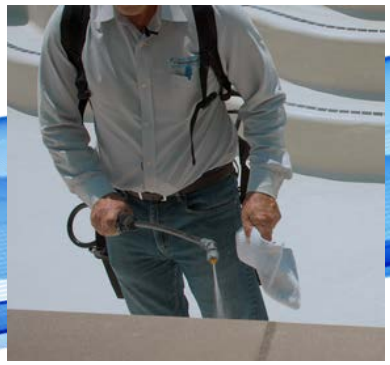
MicroGlass

As a pool professional, your goal is to build, service, or maintain your clients pool in a way that exceeds their expectations. This can be difficult when the cement paste within our pool finishes is not strong enough to withstand the damaging pool chemicals and normal wear and tear that weakens the pool's surface.

Everyone loves the creative flexibility of gunite/concrete swimming pools, in large part because the versatile interior pool finishes such as plaster, quartz, pebble, make a stunningly beautiful pool for customers to enjoy. Unfortunately, the natural porosity of these interior finishes and the natural cement hydration process leads to chemical reactions that microcrack the finish, complicate water chemistry, and create headaches for you and your pool customer.



These common headaches range from color loss, craze-cracking, and efflorescence, to etching, calcium nodule growth, and cloudy water from new plaster dust.

At MicroGlass we believe knowledge is power. Regardless if you use our product in the future or not, hopefully this document gives some new insight (or is at least a good reminder) about what causes these problems. We also provide some tips on how to avoid these problems, and how MicroGlass might be worth some investigation to save you time and money. Keep reading this guide and discover the science behind the first of its kind pool plaster preservation system: MicroGlass.

What is MicroGlass?

MicroGlass is a technologically advanced pool and spa plaster hardener that improves plaster appearance, durability, and pool chemical resistance.

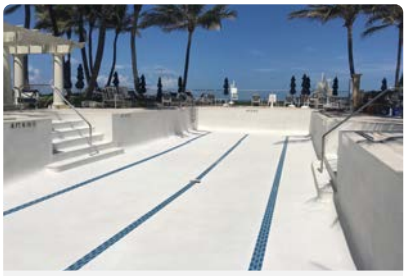
What causes common plaster-problems and how can MicroGlass help?

The breakdown of cement paste within your plaster, quartz, and pebble pool finishes is the single leading cause of the common cosmetic problems you regularly face as a pool professional. This section unpacks some of the most reported plaster-related frustrations and explains how MicroGlass scientifically reduces these problems.

MicroGlass was applied in 2020 to protect the finishes of 3 Pools at The Breakers, a Luxury 5 Star Resort in Palm Beach, FL.

The exposed aggregate finishes of Breakers' pools were badly stained and full of loose rock due to wear and chemical abuse. MicroGlass was applied after the pools were drained, repaired, and cleaned.

MicroGlass Application on Breakers' Lap Pool

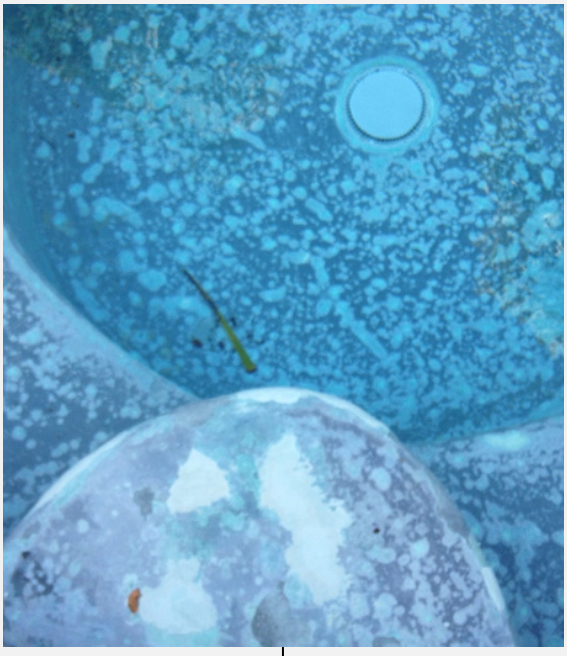


Breakers' Lap pool following MicroGlass Application

Breakers' Lap pool filled and water chemistry balanced

Color Loss

The Problem:

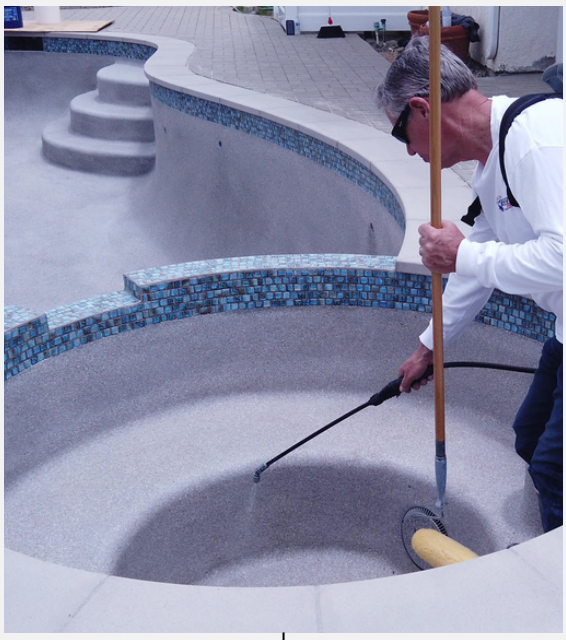


Discoloration seen on an unprotected dark grey plaster spa. Spalling is also seen on the top step.

It is important to understand that the color pigment in colored plaster (and around the aggregate of a quartz or pebble finish), relies on the cement paste to keep the color in the finish. From the moment your pool is filled with water, your colored finish starts to interact with pool water. Over time, this water interaction weakens the pigmented cement paste. Adding pool chemicals like salts, chlorine, and acids further degrade the cement paste, and with it, the colored cement paste that gives your pool its vibrant color. To make matters worse. When the pool water is not properly balanced, it is more likely to accelerate the color degradation.

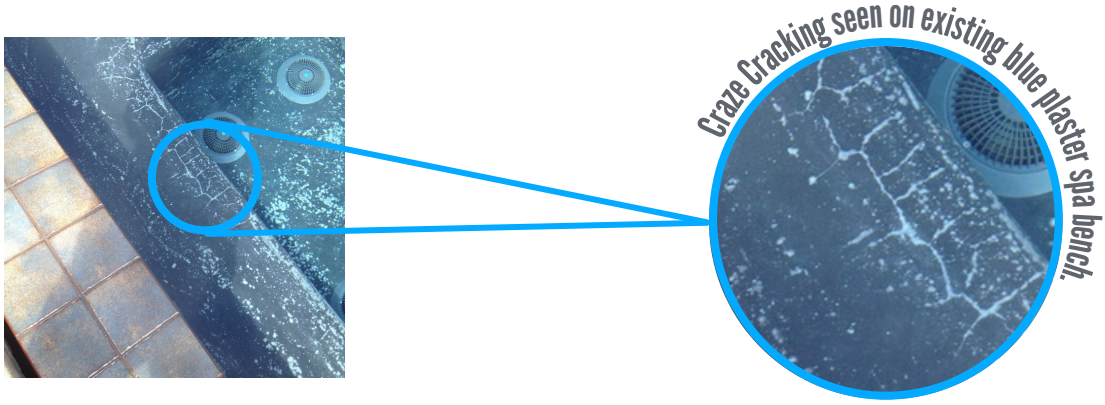
The MicroGlass Solution to Reduce Color Loss:

MicroGlass deeply penetrates the pool finish and goes to work strengthening the microstructure of plaster, quartz and pebble finishes. MicroGlass reduces color loss by improving the structural integrity of the very cement paste that holds your color. This means your pigmented cement paste stays in your pool wall and floors, and is less likely to be extracted by aggressive pool water. And because MicroGlass is not a sealer or a coating, you won't see MicroGlass on the surface. Want to see MicroGlass in action as it reduces color loss? Check out this video.



MicroGlass being applied to a protect the colored cement paste of an existing pebble pool.

Craze Cracking | Shrink Cracking | Egg Shelling | Check-Cracking | Spider Cracking



The Problem:

Craze cracking is a natural occurrence that takes place during the hydration process (or hardening/curing) of all cement. The hydration process is critical for cement health, because cement hardens as the water in the cement dries or exits the finish

If you look closely– all cement, from cement sidewalks, to the cement in your pool finish, has craze cracking. When these cracks get large enough, particularly in pool finishes, the cracks turn white as they naturally fill with a weak substance called calcium hydroxide. These cracks are even more visible on colored pool finishes.

To make matters worse, weather events also play a large role in producing craze cracking. As the cement within your pool finish cures in the natural environment, high temperatures, direct sun-light, and/or dry winds accelerate the craze cracking problem. These events cause an uneven or accelerated rate of water-loss, which further highlights the cracking.

In the pool industry, craze cracking leads to a common complaint from pool owners of unsightly aesthetics of the pool finish. This is a particular problem for colored pool finishes (especially when excessive calcium chloride set accelerators are used in the mix design). Regardless of the pool owner's request – or the builder's response– craze cracking leads to a dissatisfied customer and can mean a lot of call-backs, conflict and possibly the dreaded re-plaster.

MicroGlass in action: 14 days after a quartz resurface, an unhappy customer complained of top-step craze cracking on both the new Pool (Left) and new Spa (Right).

To test the power of MicroGlass, the Spa (Right) was treated first. The builder drained the spa, applied MicroGlass, and re-filled.

Notice how MicroGlass filled in the craze cracks on the top-stair (Right) vs. the still visible craze cracks on the untreated Pool (Left).

The MicroGlass Solution to Reduce Craze Cracking:

When applied to newly installed cement-based finishes, MicroGlass acts as a curing agent and helps to slow the rate of water loss, and minimizes craze-cracking. After hitting the surface, MicroGlass deeply penetrates the cement microstructure and densifies the void spaces which helps reduce unsightly craze cracking.

MicroGlass also reduces craze cracking on existing finishes. Once applied, MicroGlass permeates these existing craze cracks and converts the soft calcium hydroxide into a densified silicate. Pool service professionals and renovation companies consistently report a drastic reduction in the visibility of craze cracking after applying MicroGlass to an existing finish.

MicroGlass

Efflorescence

MicroGlass is a great tool for protecting against effloresence when applied to new finishes.

The Problem:

Efflorescence is generally caused by the movement of calcium hydroxide from within the pool finish as it migrates to the plaster surface. Water chemistry, different hydration rates of the cement paste within the sub-boundary, and plaster age can all contribute to efflorescence rates. Efflorescence becomes visible on the pool finish surface and causes a whitening effect that looks like salt.

The MicroGlass Solution to Reduce Efflorescence:

After entering the pool finish, MicroGlass nanoparticles “plug” the common pathways through which the efflorescence-causing minerals travel. Converting the soft calcium hydroxide into calcium silicate hydrate reduces the unsightly white spots on your finish.

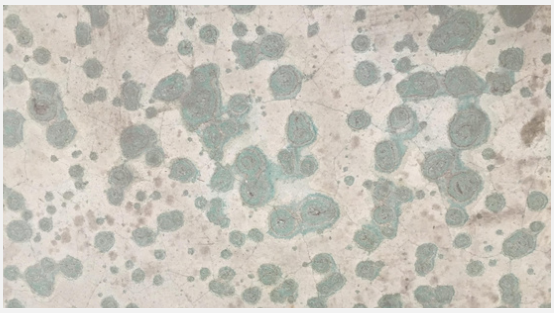
Efflorescence and staining in this existing pebble pool (left) was tackled by an acid wash followed by a MicroGlass application to reduce future effloresence.

Etching

Image of chemical etching on a plaster pool. This damage is commonly found in areas where pool chemicals are frequently added or around chlorinators.

The Problem:

Etching (Spot Etching / Etching Deterioration) occurs when the pool water dissolves away soft calcium hydroxide from the pool surface. Etching often looks like splotching, spotting, or etched streaks. Etching is a direct result of pool water dissolving soft calcium from the pool finish or damage caused by treatments like an acid wash.



"Spot" etching typically occurs as calcium hydroxide is extracted around a sand particle. The minerals in the pool water (eg copper sulfate) will then attach to the porous white calcium hydroxide, leaving a blue or green hue.

The MicroGlass Solution to Etching:

MicroGlass being applied to a newly plastered pool to prevent etching.

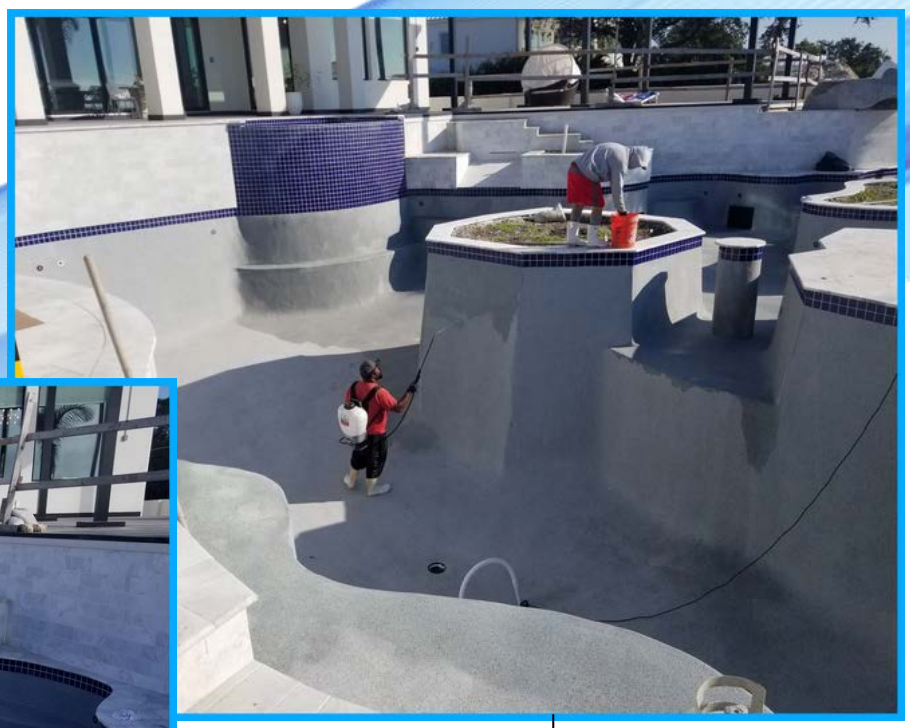
MicroGlass greatly reduces spot etching, etching deterioration, and chemical etching. MicroGlass is laboratory engineered to carry hardening particles and densifiers deep within your pool finish. The result is a densified and tightened microstructure which protects the cement from etching. MicroGlass greatly reduces the damage caused by pool water and also strengthens the finish to better withstand future muriatic acid cleaning, polishing, or sanding treatments.

Pebble Loss
(Rock Loss | Rock Popping)

The Problem:

Many people prefer a pebble surface as opposed to regular plaster. Exposed aggregate finishes are more durable than traditional plaster because the finish contains rocks that don't break down in water or chemicals. However, the weak link in all exposed aggregate finishes like pebble is the very cement paste that holds the pebble in place. And as discussed, over time the cement paste breaks down in the pool water and chemicals over time. Like with other issues, this cement paste breakdown is accelerated by out-of-balance water chemistry management. While the rock itself is strong, pebble finishes are susceptible to pebble's breaking away from the cement paste. Pebble loss happens during normal pool use and maintenance that may include scrubbing, pressure-washing, or acid washing.

Notice the pebble loss along the walls of this unprotected spa and pool.



MicroGlass will protect the cement paste of this new pebble finish for years to come, reducing rock loss and pesky discoloration.

The MicroGlass Solution to Pebble Loss:

MicroGlass hardens and densifies the cement paste at the cement-pebble intersection. By strengthening the cement paste around the pebble, MicroGlass treated pebble pools retain more cement paste, and therefore retain more pebble. MicroGlass customers who treat pebble pools report seeing a reduction in pebble loss, particularly around common wear areas like stairs, seats, and sun shelfs.

Scaling and Staining

Water chemistry swings led to heavy scaling, algae growth, and damaging stains on this 10 year old unprotected residential pool and spa. See image below for how MicroGlass revived this finish.

The Problem:

When any materials are in a water-contact environment, they are subject to mineral scale, as well as organic or metal stain precipitation. Think of the calcium or salt buildup in your shower, or maybe a rust-ring on your tub near your drain. Concrete swimming pools are no exception as they are subject to salt scale, calcium buildup, or staining from minerals or metals in the pool water. Stains on the pool surface are also common when leaves or debris lands in the pool, or metals found in aging return lines, enter the pool, and settle on the finish for too long before being brushed.

Surface scaling often appears as a white or light-colored film or layer, which can dull or completely change the pool finish color. Scale often has a stucco-like and rough feeling when touched.

Surface stains create discoloration depending on what caused the stain; for example:
Leaves may cause greenish or brown spots and purple or brownish stains may be from minerals from well water or tap-fill water.

Example of stubborn scale buildup on an unprotected pool. Protecting a pool with MicroGlass makes this naturally occuring problem dramatically easier to clean.

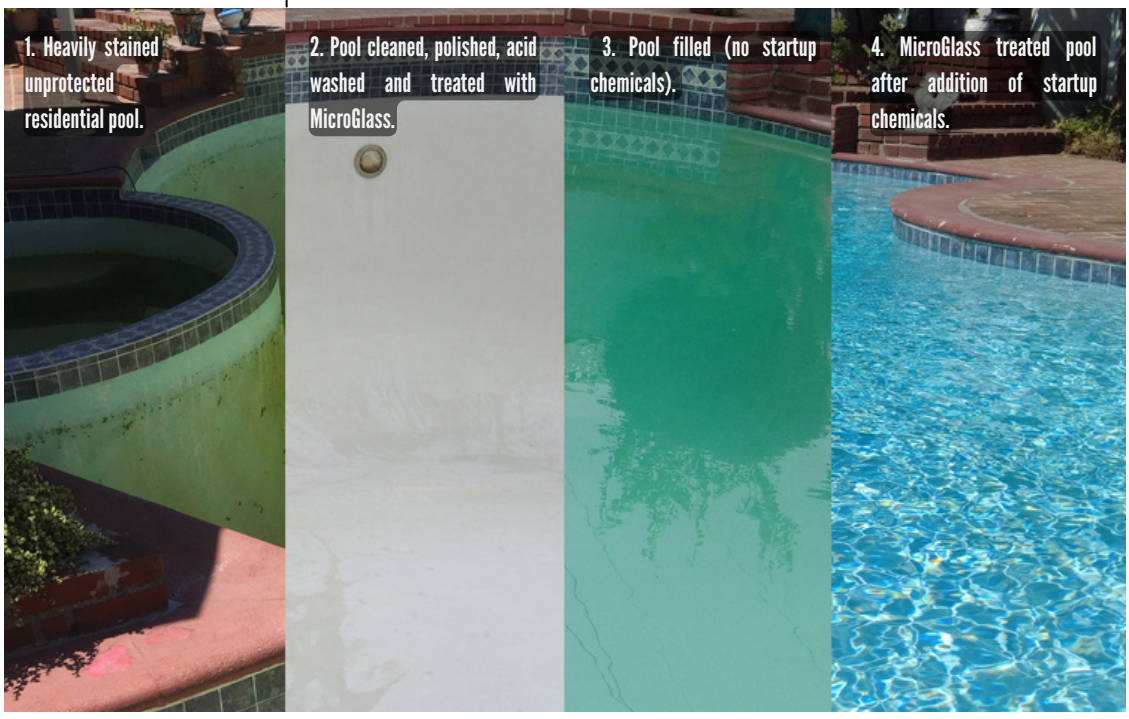
The MicroGlass Solution to Scaling & Staining:

MicroGlass will not eliminate stains from ever occurring on your finish, but it will make stains less stubborn to remove, and will actually better protect the cement in the event that you do need to clean stains. Also, MicroGlass will not do away with scale buildup on your pool finish, as this is a natural occurrence for any materials in water-contact environments (as a reminder, scale also happens in your shower or bath-tub simply because of the calcium present from your tap).

In the event your finish gets stained by organic plant matter (such as leaves) or inorganic deposits (metal particles etc.), MicroGlass treated pool finishes are much easier to clean compared to untreated pools. This is because MicroGlass densifies the underlying cement surface, which reduces the stains ability to penetrate as deeply– which ultimately makes the stains easier to remove by acid washing or target cleaning/scrubbing.

MicroGlass also dramatically increases the pool finish's chemical resistance to harsh acids, meaning when an acid wash is used to remove scale or buildup, the surface is more protected from acid damage. Check out this video for an example of how MicroGlass will help increase the strength of your pool finish against muriatic acid.

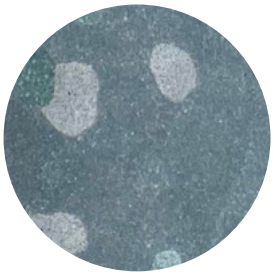
MicroGlass Stain/Scale Rescue:
MicroGlass rescued this badly stained and scaling residential pool and spa.



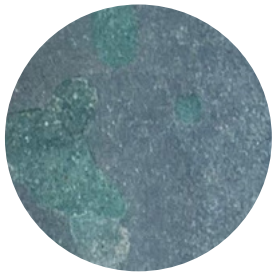
Spalling

Spalling on top step of unprotected gray plaster finish. The lighter color semicircles are good examples of older spalling, which have more leeched gray pigment. The darker semi-circles are just beginning to loose their color.

Older Spalling



Newer Spalling



The Problem:

Spalling occurs as soft and soluble calcium hydroxide is extracted from the surface layer of plaster. As the surface layer weakens, this can lead to a thin layer in the pool or spa finish to peel off and detach. Spalling is identified by the flaking-off or peeling of the plaster.

The MicroGlass Solution to Spalling:

Using incredibly small nanoparticles, MicroGlass penetrates the tiny voids and capillaries in the pool plaster, and chemically convert the soft and soluble calcium into a dense and glass-like silicate that strengthens, hardens and protects the plaster from dissolving.

This is what calcium hydroxide looks like under a microscope (circled). Calcium hydroxide has a plate-like structure, which allows chemicals and water to infiltrate and damage the cement paste. The 'tighter' structure to the left of the circle is calcium silicate hydrate.

Cloudy Water from New Plaster Dust & Chemical Startup Headaches

The Problem:

A freshly plastered pool will often have you chasing your tail trying to stabilize the pH and total alkalinity as plaster dust is fine material that sheds from a pool's walls and creates a cloudy/gray effect in the water.

The MicroGlass Solution to Plaster Dust:

You guessed it– MicroGlass tackles plaster dust and pH balance by targeting the weak and soluble calcium hydroxide. After entering the surface, MicroGlass densifies, hardens, and then converts this soft calcium into a dense silicate. This means fresh fill water (especially low calcium hardness fill) has a difficult time extracting the calcium-based plaster dust out of the surface as the water tries to balance. MicroGlass users report achieving a balanced pH in 1 to 2 days, as well as a 90% reduction in plaster dust for new pools.

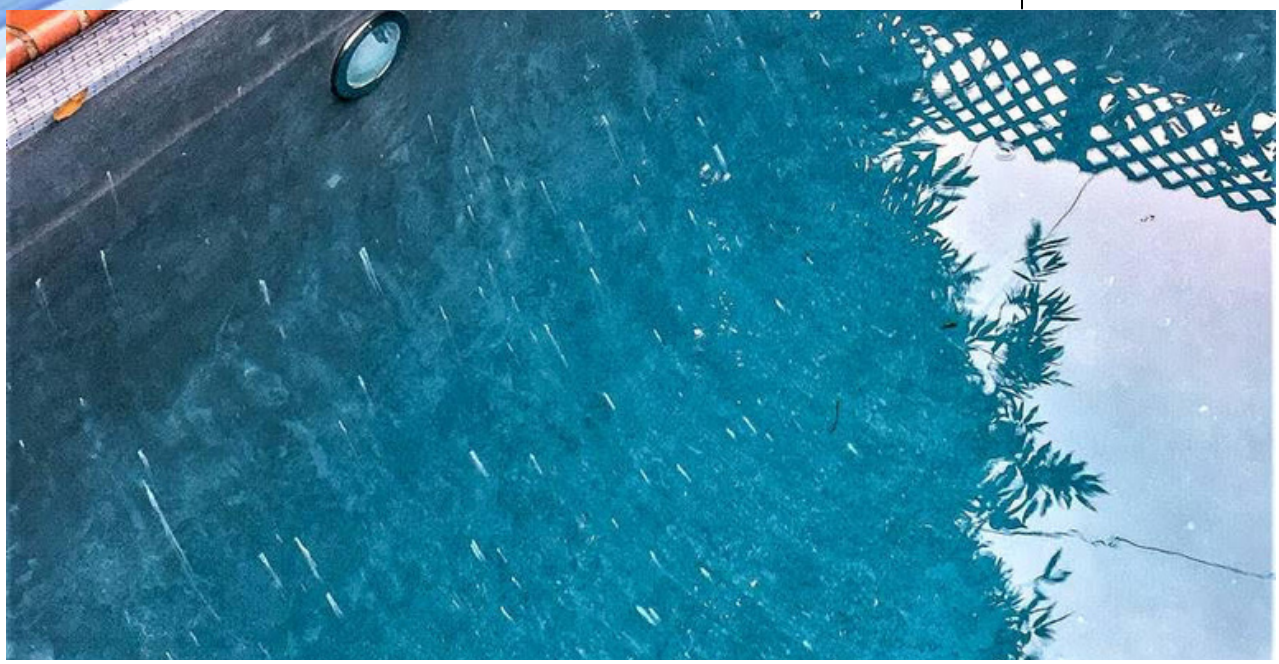
Calcium Nodule Growth

The Problem:

Calcium nodules are small bits of calcium carbonate or other salts of calcium that protrude out of the finish and appear and harden on the pool's surface. While the cause of calcium nodules can vary, calcium nodules are usually a direct result of pool water interacting with the cement elements in larger microcracks or spores. Pool water that has been found to promote calcium nodule growth is either low calcium, low carbonated alkalinity, or low pH. This kind of pool water attacks larger microcracks and accelerates calcium nodule growth.
Keeping your pool water as close to 0 on the saturation index gives you the best chance at preventing calcium nodules, but this is extremely difficult to achieve in the real-world.

Calcium nodules are easy to spot because they appear as unsightly small mounds or scars of mineral buildup. They are usually whitish in color and sometimes have a “black-head”. Calcium Nodules can feel like small and sharp barnacles on your feet. The severity of Calcium Nodules varies from region to region, and they can be present as a few individual nodules or with infestations in the thousands.

Calcium nodules on a blue plaster pool. Note how calcium nodules form and extracted minerals are "bleeding" down the wall.



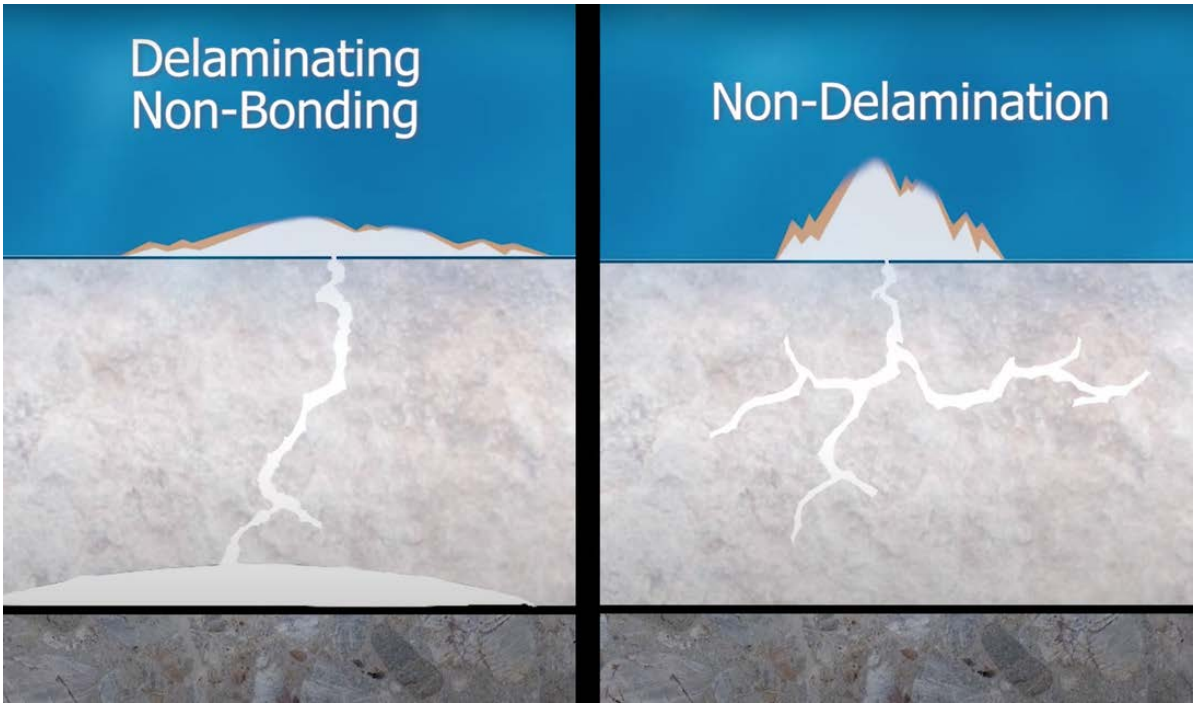
Identifying your nodule type...

Two types of Calcium Nodules:

DELAMINATING & NON-DELAMINATION

Delaminating Calcium Nodules are mineral deposits that seep to the surface, and cause the plaster to un-bond from the pool's gunnite or other layer of plaster.

Non- Delamination nodules occur from within the plaster, and do not result in delimitation. When tapping around a nodule, if a hollow sound is heard, it most likely indicates a delimitation which needs to be repaired before applying MicroGlass.



Applying MicroGlass on a new finish, as seen here, is a great way to reduce the probability of calcium nodule formation.

MicroGlass Solutions and Advice for Calcium Nodules:

Applying MicroGlass to a brand-new pool greatly improves your chances at stopping calcium nodules before they even form. This is particularly helpful in areas of the country that are reporting more and more calcium nodules in recent years. Remember, MicroGlass deeply penetrates a new pool finish and acts as a curing agent, thereby reducing micro-cracks, capillaries, and void spaces. MicroGlass essentially locks up the pathways used by your pool water to extract minerals from your finish and cause nodule growth. For this reason, MicroGlass greatly reduces the probability of nodule formation.

MicroGlass can also be used to reduce the chances of calcium nodule return on an existing pool after sanding calcium nodules and applying MicroGlass. Because the source of calcium nodules vary, we cannot guarantee that MicroGlass will eliminate the return of calcium nodules on old finishes– particularly when the infestation is in the hundreds or thousands of nodules or if the nodule cavity beneath the surface is too large (aka Delaminating Non-Bonding Calcium Nodules).

See the FAQs below for more information on using MicroGlass to prevent or slow the return of calcium nodules on existing finishes.

Calcium Nodule formation on a pool finish. Most likely due to water entering a pinhole, micro-crack, or fissure which caused the pool water to extract minerals.

MICROGLASS SOLUTION RECAP

As you can see, MicroGlass addresses these problems and more on new and existing finishes. Upon application on new finishes, MicroGlass interacts with and strengthens the fresh finish, to immediately and permanently minimize the chemical reactions between the water and the cement material within the interior finish. The annoying "dusting" that typically occurs with a new plaster finish is virtually eliminated.

Using incredibly small nanoparticles, the MicroGlass product will penetrate the tiny voids and capillaries in the pool plaster, and chemically convert the soft and soluble calcium hydroxide into a dense and glass-like silicate. This chemical change strengthens and hardens the cement paste, assists with the curing process, and also protects the pool finish from chemical attack.

Applying MicroGlass on an existing finish also converts the soft and soluble calcium hydroxide and fills most of the voids and capillaries with MicroGlass. Like with new finishes, the product greatly minimizes the chemical interactions between the plaster and the pool water. MicroGlass plugs your existing microstructure with non-reactive silicates and creates a strong, dense, and chemically resistant barrier that will protect against pool chemicals and defend the finish during future maintenance.

In conclusion, MicroGlass is trusted by top-tier commercial and residential Pool Professionals to expedite pool startups & add years of additional service life to pool & spa finishes.

MicroGlass

Frequently Asked Questions About MicroGlass

Here are the simple answers to the most commonly asked questions about how MicroGlass protects and prolongs the life of new and existing finishes.

NEW POOL PLASTER FAQS

1 **Is this for plaster only? Or can it also be used on pebble and other aggregate interior finishes?**

a The unique technology of MicroGlass works on:

- **i** Essentially all brands and configurations of white pool plaster(marcite).
- **ii** Essentially all brands and variations of polished quartz and other polished finishes.
- **iii** Essentially all brands and variations of exposed aggregate interior finishes, including pebble and quartz.

2 **Will this affect the warranty from the plaster or aggregate interior manufacturer?**

a Interior finish manufacturers should be delighted to have you apply our product, because it will certainly increase the lifetime and enjoyment of their product, while also reducing the likelihood of plaster damage or problems during chemical startup.

b After discussions with many leading pool finish manufacturers, we have yet to hear a firm say that MicroGlass will negatively affect their warranty. This is because MicroGlass addresses the betterment of the soft and soluble elements in the cement that make up all pool finishes. MicroGlass does not affect the marble, quartz, or pebble aggregate (which is usually what the manufacturers actually warrant). Nonetheless, you should check with your manufacturer to see if an application of MicroGlass will have any effect on their warranty.

NEW POOL PLASTER FAQS

3 **Who can apply this product?**

- **a** We strongly suggest MicroGlass is applied by qualified pool professionals or contractors.
- **b** MicroGlass may seem simple to install but preparing the pool finish (acid washing, sanding, polishing, repairing cracks or spalling) requires a skilled expertise that is best done by a professional. Note – instructions are available in English and Spanish.

4 **Is MicroGlass visible on the surface after fill?**

- **a** No. MicroGlass deeply penetrates and permeates the pool finish– meaning it densifies and protects the cement paste from the inside.

5 **How much longer will plaster last?**

- **a** This is somewhat challenging to answer because pool plaster lifetimes tend to vary based on composition, manufacturer, maintenance, geography, and other factors. For example, pool finishes in Southern California tend to last longer than on pools in the northeast. However, generally, MicroGlass will typically enable your pool interior to last roughly 50% longer than it would have under identical conditions without MicroGlass.
- **b** In general terms, here is an example of the 50% life extension expected for MicroGlass treated pools in the US:
  - **i** A typical pool plaster will normally last 8 to 12 years. If conditions are kept the same, the 8-year plaster should now last at least 12 years, and the 12-year plaster should now last at least 18 years.
  - **ii** A typical pebble finish will normally last 10 to 15 years. If conditions are kept the same, the 10-year pebble finish should now last at least 15 years, and the 15-year pebble finish should now last at least 22.5 years.

NEW POOL PLASTER FAQS

6 **Have there been issues reported and what troubleshooting tips can you offer?**

- **a** We encourage you to speak to others in the industry who have used MicroGlass, with some users applying the product since 2002! MicroGlass has been correctly applied to thousands of pools without issue. If applied incorrectly, one issue that seldom occurs but has been mentioned is the presence of a slight clouding or whitening on the finish or slight clouding on tile.
- **b** Preventing these types of issues are clearly outlined in the installation guideline. However, some common mistakes are:
  - **i** Over application of MicroGlass (Approximate coverage rate: 1 Gallon/250 Sq. Ft.)
  - **ii** Not Back-Rolled (Meaning product dried on itself and was not spread to allow it to enter the finish)
  - **iii** MicroGlass not back-rolled (meaning product dried on itself)
  - **iv** The tile was not wiped with a cloth
- **c** Again, these are rare examples, but issues that can be corrected with a focused acid wash. As always–we strongly recommend following the MicroGlass install guide and always spot-testing MicroGlass in an inconspicuous area before a complete install.
- **d** In the rare event some other cosmetic issue occurs, just contact our staff at 941-208-0777 and we'll help you troubleshoot or advise on a solution.

MicroGlass

EXISTING POOL PLASTER FAQs

1 **Can MicroGlass be used on any type of existing pool interior finish?**

a Any cement-based pool interior finish (e.g color plaster, white plaster, exposed pebble or quartz aggregate interiors, etc.) is a good candidate for this product. It is NOT appropriate for any plastic, vinyl, fiberglass or other pool finish not containing cement paste.

b NOTE – Apply MicroGlass to an existing finish once stains and scale have been removed. Depending on the damage, this may be achieved with a pressure wash or polishing. If an acid-wash service is performed to prepare the surface, the plaster finish must then be NEUTRALIZED with a baking soda (sodium bicarbonate) or soda ash (sodium carbonate) solution before applying MicroGlass. Click here for an example of a neutralization bath.

2 **How old can the plaster be for this to still work?**

a The age of the plaster really doesn't matter–what matters is the overall condition of the plaster. MicroGlass works best when cement paste is still present in the finish. For example, if the plaster has worn down to the gunite, or is otherwise severely chipped, spalling, or damaged, MicroGlass won't help.

b Similarly, if the plaster has become overly porous (what the plaster industry often refers to as "soft") due to chemical abuse or other problems, it may be too late for a MicroGlass application to perform at its maximum potential (although we have heard reports of users seeing a prolonging of life on severely damaged finishes by infusing the MicroGlass silicate).

c But if the pool plaster is experiencing typical microcracking, this product has been known to extend the life of the remaining plaster.

3 **How much more life can we get out of an existing plaster finish when we apply this product?**

a There is no specific guarantee on how much longer the plaster will last, but in our 20+ years of experience, we've gained at least an additional five years of service life. In most scenarios, MicroGlass treated pools see an additional 10 years or more of usable life in the finish.

b Note that this is based on MicroGlass hardening the existing finish by filling voids, capillaries, and micro-cracks. If the plaster finish is spalling, flaking, soft, heavily stained, or otherwise damaged beyond basic microcracks, then the interior finish is compromised, and MicroGlass is unlikely to extend the lifetime by a significant degree. (In these cases, you should probably re-plaster the pool, and apply MicroGlass to the new finish.)

EXISTING POOL PLASTER FAQs

4 **When is MicroGlass NOT a good idea for an existing pool?**

a. If your plaster is noticeably damaged, soft, or spalling, or your pool finish is not a cement-based product, then MicroGlass is NOT a good choice for you.

b. If your gunite pool shell is physically damaged, such as with a structural crack or leak, you will need to repair the structural damage first. Simply hardening / densifying the pool finish with MicroGlass will not fix a damaged shell!

c. If the finish is severely stained, it may require highly aggressive measures to restore the finish. At some point, there may not be enough plaster remaining for MicroGlass to do any good.

d. Ultimately, it depends on the condition of the existing plaster.

5 **Is this product safe around plants and grass?**

a. MicroGlass is water-based, non-toxic, and environmentally safe. In fact, it's FDA rated the primary MicroGlass ingredient as "GRAS" (Generally Recognized As Safe). However, to be extra safe and to avoid any cosmetic issues, it's smart to minimize and wipe up or rinse off any overspray on non-concrete-based materials such as wood, plastic, metal, fabric or plants before it dries.

6 **Can MicroGlass be used to try to prevent the return of calcium nodules on an existing finish?**

a. Yes. While the cause and depth of your calcium nodules will vary (with some nodules originating in the gunite itself) in our opinion, MicroGlass is worth a try to either eliminate or slow the return of calcium nodules on an existing finish. We suggest this because to date, our industry does not have a clear-cut and fail-proof procedure to stop the return of calcium nodules.

b. If you haven't done so already, we suggest you read the discussion on Calcium Nodule Growth on page ___ above for some valuable information.

c The success rate of using MicroGlass to stop nodule return on existing finishes ranges from highly successful, to moderate, to ineffective (especially on highly damaged pools).

d For example, we more frequently hear success stories from service providers and renovation techs that report MicroGlass completely prevented the return of calcium nodules on existing finishes! We have also heard results of MicroGlass being applied to an existing finish with thousands of calcium nodules, with a few returning after 6 months. One or two examples have been reported where the calcium nodule infestation was so severe that MicroGlass did not succeed in preventing the nodule return. In these scenarios, MicroGlass most likely traveled through the calcium nodule into a cavity that was either too large to fill with a nano-silicate, or MicroGlass percolated into the gunite or into a cavity of delamination.

7 If I wanted to try MicroGlass on an existing finish with calcium nodule problems, what is the general procedure?

a Further instructions will be made available upon purchase, but here is the general procedure to treat a calcium nodule problem on an existing finish:

i Drain pool, make any needed repairs to the pool at large, and sand calcium nodule(s).

ii If the nodule is located in an area of delamination, the "hollow" area of pool finish and surrounding area must be repaired before applying MicroGlass.

iii Follow the standard MicroGlass application procedures for existing finishes on the entire pool. In the areas where calcium nodules were sanded, slowly saturate the nodule epicenter to ensure product penetration as deep into the nodule as possible. Slowly apply coats of MicroGlass in these nodule areas until the finish no longer absorbs MicroGlass product. Do not fill the pool until MicroGlass has had ample time to dry.

iv FYI– more install tips, recommend sprayer types, and other application advice is available to all MicroGlass customers.

8 Will MicroGlass affect the chemistry and / or maintenance of the water?

a After MicroGlass has been applied, the pool finish will be more impervious to chemicals. As a result, users report less fluctuations in pH and an overall reduction in chemical usage (because we've minimized the reactions with the pool finish).