

# Orenda Startup™ 30-day Guide



## CEMENT CHEMISTRY

Cement hydration begins when water mixes with cement on the truck, and continues for over 30 days. Langelier Saturation Index (LSI) balance is essential during this time. LSI balance prevents water from leaching calcium hydroxide from the new cement, which can prevent plaster dust and pH spikes in the water. This guide is just a summary of the Orenda Startup™ procedure. Full details and our walkthrough videos are available on our website and in Orenda Startup Academy™.

## YOU WILL NEED

1. Test kit and thermometer
2. Startup Barrel™ and fittings, or multiple clean buckets
  - The Orenda Startup Barrel™ does not include a standard pool vacuum hose and 2" hose clamp, and an additional clean garden hose.
3. The **Orenda** mobile app, available in iOS App Store and GooglePlay. Scan here to download:



Orenda



5. Calcium chloride
6. Sodium bicarb
7. Orenda SC-1000 and CV-600
8. Muriatic Acid
9. Safety glasses and gloves
10. Plastic tarp

For more information,  
[www.orendatech.com](http://www.orendatech.com), or call  
866-763-4269.

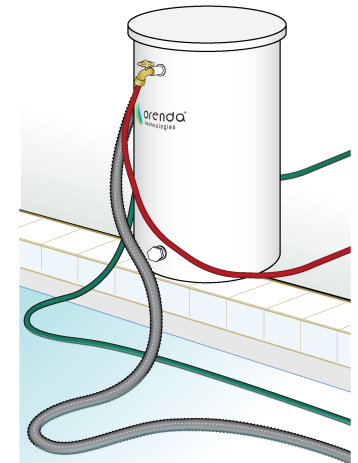
<https://info.orendatech.com/the-orenda-startup>

## OVERVIEW

The Orenda Startup™ is all about filling a newly-surfaced pool with slightly-positive LSI-balanced water (+0.20 to +0.30). The process depends on the chemistry of the fill water, and how you fill the pool. Normally the Orenda Startup™ entails adding pre-dissolved and chelated calcium (or in rare cases, sodium bicarb) as the pool is filling. Positive-LSI water prevents the loss of calcium hydroxide from cement, which in turn can prevent plaster dust and pH spiking. Sometimes circumstances force you to adapt, but this procedure is a general overview.

## CONSIDERATIONS

- Source water chemistry varies. Always test the water that fills the pool before beginning this process. Measure the source water temperature. If the water is colder than 55°F, warm the water sample before testing its chemistry.
- Always record source water chemistry (including temperature) and the chemical adjustments you plan to make. The Orenda App allows emailing dosing calculations and results. Email them to keep a record.
- Take photos before filling the pool. Document any marks (streaks, puddles, etc.) before turning the water on. Most blemishes can be addressed after 30 days, *but do not overload the pool with acid within the first 30 days*. Early acid can ruin surfaces.
- Fill the pool without interruption. If using water trucks, be sure to have garden hoses in the pool to keep the water filling in between trucks. Pausing water flow can cause a permanent bowl ring.
- Bind all hoses together, wrapped in a cloth or sock, and tape them to an empty bottle for floatation. Do not let hoses stay on the bottom of the pool during fill.
- Do not allow people or pets in the pool during fill, or within the first week of plastering until the pool is properly sanitized.
- We recommend testing for metals. If your fill water contains metals, or you are filling from a well, consider doubling the purge dose of SC-1000 to account for the metals.
- You must maintain an LSI target, *not* specific chemistry ranges such as pH and alkalinity. The total of all these chemistry factors matters more than any single factor itself. The LSI targets to maintain are critical:
  - **Maintain the LSI for the first three (3) days between +0.20 and +0.30.**
  - **Maintain the LSI from day 3 to 30 between 0.00 and +0.30.**
  - **After day 30, maintain the LSI between -0.30 and +0.30, ideally near 0.00**, which is considered perfect balance.
  - **Never let the LSI dip below -0.30.** Water will be aggressive and damage surfaces and equipment.
- Do not add cyanuric acid (CYA) until day five (5) or later.
- Do not use or install wheeled vacuum cleaners until after 28-30 days.
- Do not add salt until after 28-30 days.
- Do not conduct a "hot start", or "low alkalinity" acid treatment until after 28-30 days or longer.
- Brush thoroughly for the first five (5) days, though you should not have much (if any) plaster dust.
- Warm tap water (75°F +) may require more SC-1000 and muriatic acid. Some pools have success with 1.5x SC-1000 purge dose and 18-24 fl.oz. muriatic acid per quart to neutralize instead of 12 fl.oz. It depends on your tap water and its alkalinity.
- High alkalinity (120+ ppm) may need to be reduced with additional acid in the barrel, but does not need to happen all on the first day. Alkalinity can be gradually reduced over several days.



## STEP-BY-STEP PROCESS

### Preparation

1. Test the fill water from any and all sources. Input test results into the Orenda App under “current levels”. Then adjust “desired levels” (on the right side) to an **LSI between +0.20 and +0.30**. Tap **Get Dosage**.
  - The dosing results tell you exactly how much of each chemical you will need for the startup. Note, if it recommends soda ash to raise pH, disregard it. Most startups only use calcium chloride, sodium bicarb, and a small amount of muriatic acid, as well as Orenda SC-1000 scale & metal control, and CV-600 enzymes.
2. Place a plastic tarp on the deck next to the pool edge while the plaster crew is still working. Assemble the Orenda Startup Barrel™ or multiple clean buckets and fill about halfway with water.
3. Begin dissolving the app-prescribed calcium chloride\* (or bicarb, in rare cases) in the barrel or buckets. Never mix sodium bicarb and calcium chloride together.\*\*
  - Add part of the SC-1000 purge dose† into the dissolving calcium to pre-chelate. If the tap water is colder than 60°F, use roughly one-half of the SC-1000 purge dose to dissolve the calcium. Pour the other half of the purge dose directly into the pool as soon as the water turns on. If source water is warmer than 60°F, use about 16 fl.oz. of SC-1000 in the barrel (or buckets), and the rest in the pool.
4. For each quart (32 fl.oz.) of SC-1000 used, use 12 fl.oz. of 31.45% muriatic acid to neutralize the pH of SC-1000. Add all of this acid to the Startup Barrel™ or divide it up amongst the buckets.
5. Stir until calcium is completely dissolved *and* clear enough to see the bottom of the barrel (or buckets). Only begin filling the pool *after* the barrel/buckets are clear and completely dissolved.

### Filling the Pool (Day Zero)

1. Tie all fill hoses together, wrap in a sock or cloth, and tape the bundle to an empty bottle (float). Lower this bundle of hoses to the bottom of the pool, then turn the water on.  
—POOL IS NOW FILLING—
2. Within moments of turning the water on, add the rest of the SC-1000 purge dose to the first few inches of water.
3. If using the Startup Barrel™, treated water must rise no higher than halfway up the overflow hole. If using buckets, put sponges on your feet and carry the first bucket of pre-dissolved, chelated calcium to the bottom of the pool. Pour in half the bucket within the first 2-3 inches of water. Finish that bucket after waiting another 5-10 minutes.
4. Depending on the fill rate, consistently add pre-dissolved and chelated calcium to the water. All calcium should be added within the first 36 inches of water. If using buckets, ensure that no undissolved calcium granules sit on the surface of the pool. Then brush to mix the water.

—CONTINUE FILLING THE POOL, UNINTERRUPTED UNTIL FULL (half the height of the skimmer and tile line)—

### Completing the Fill (Day One)

1. Once the pool is full, turn on the equipment and begin circulation.
2. Adjust alkalinity (or in rare cases, calcium hardness) at least a few hours after the last of the calcium (or bicarb) has been added to the water. This can be done before the pool is full, but add it slowly to avoid clouding. If the water clouds up, slow down and give the pool more time. It may require lowering pH slightly with diluted acid to accept new bicarbonate without clouding.
3. Test the water chemistry for temperature, pH, total alkalinity, and calcium hardness. Input these results into the Orenda App and check the LSI of the water. Most startups will require a small amount of diluted muriatic acid to bring pH down just below 8.0, to about 7.8. Correct the water to maintain an LSI between **+0.20 and +0.30**. *Do NOT over-correct pH too low! The LSI is the priority, not the pH.*
4. Brush the entire pool for dirt and debris. There should only be very minimal (if any) plaster dust to brush.
5. Purge the pool with CV-600 enzyme around the perimeter, or into the skimmer. The purge dose is 32 fl.oz./10,000 gallons. The Orenda App will also give you the specific purge dose for the volume of your pool.

### Days 2-4

1. Brush, then test water chemistry. Adjust as necessary to maintain an **LSI between +0.20 and +0.30**.
2. On **day 3**, chlorinate no more than 5 ppm with non-stabilized chlorine (liquid or pre-dissolved calcium hypochlorite).

### Day 5

1. Brush, then test water chemistry. Adjust as necessary to maintain an **LSI between 0.00 and +0.30**.
2. If applicable, add 15-20 ppm of CYA. Never put trichlor in the skimmer!

### Days 5-30

1. Maintain an **LSI between 0.00 and +0.30**. *After 30 days, maintain an LSI anywhere between -0.30 and +0.30.*
2. After day 30, you may add salt, a wheeled vacuum cleaner, and if necessary, diluted acid to clean up the surface. You can also increase CYA up to 30-50 ppm.

\* **CAUTION:** Dissolving calcium chloride gets very hot. Wear safety glasses and gloves, and avoid splashing. Calcium and muriatic acid can burn you.

\*\* **NOTE:** Do NOT add calcium and sodium bicarbonate together or soon after one another. They will react together and cause severe clouding. Add only SC-1000 and calcium on fill-up day, or in rare cases where tap water calcium hardness is >250 ppm, add SC-1000 and sodium bicarbonate. Adjust the rest of the chemistry the second day, or when the pool is full (in the case of a rapid fill, like trucks or hydrant).

† **PURGE DOSE:** the initial dose of Orenda products is called the ‘purge dose’. For SC-1000 and CV-600, the dose is one quart (32 fl.oz.) per 10,000 gallons of water (0.94 L per 37,900 L). The exact purge dose for your pool will be in the Orenda App’s calculator results screen, based on the volume of your pool. **Some pools may require 1.5 or even 2 quarts per 10,000 gallons of SC-1000, and additional acid accordingly.**

**DISCLAIMER:** This procedure may need to be modified based on water temperature, tap water considerations, and other factors. Contact Orenda if you need specific guidance. Orenda is not involved with (nor responsible for) the quality of the plaster surface, its installation, its outcome, or other outside factors. Our startup method is to be used for guidance purposes. Use caution when handling chemicals and always follow the chemical manufacturers’ SDS instructions for safety and handling. Orenda is not liable for misuse of chemicals of any kind.

Scan to read the full  
Orenda Startup™ procedure  
(with walk-through video!)



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